AN ABSTRACT OF THE THESIS OF

Ray B. Harmon (name of student) for the Master of Science (degree)

in Psychology (major) presented on December 12, 1980 (date)

Title: THE MENTAL AND PSYCHOLOGICAL ATTITUDES OF SUCCESSFUL, OBESE AND NORMAL WEIGHT WOMEN IN RELATION TO SELF, OTHERS, FAMILY AND WORK

Abstract approved: [signature]

Mental and psychological attitudes of successful*, obese and normal weight women were investigated in this study. A total of four hundred ninety-seven women participated in the study, and an attitude questionnaire was utilized in evaluation of attitudes in relation to self, others, family and work.

Related studies have largely been experimental types of investigations, while the present study was non-experimental. A very limited amount of research has focused on the attitudes that successful, obese and normal weight women have toward self, others, family and work.

The results of the statistical analysis, the one-way between subjects analysis of variance, revealed there were significant

*Successful refers to those women who were formerly in a weight reduction program and had successfully lost weight.

differences in attitudes toward self when comparing the successful, obese and normal weight groups of women. Analyses of the obese and successful weight groups revealed there were also significant differences among the subdivisions of these groups. When comparing responses to each item, analyses revealed that the successful, obese and normal groups responded differently to a small percentage of the items.

Conclusions were made concerning the study. Out of the fifty total items in the questionnaire, only thirteen of them (twenty-six percent) showed any significant differences between the responses when comparing the successful, obese and normal groups. A majority of the null hypotheses were retained in this study. Only a few were rejected.

Recommendations were also made for future research. It was recommended that future research include variables such as age, sex, number of children, type of employment and so on. Participants are also needed from several types of diet institutions. It was suggested that any further research give more attention to attitudes toward others, family and work.

THE MENTAL AND PSYCHOLOGICAL ATTITUDES OF SUCCESSFUL, OBESE AND NORMAL WEIGHT WOMEN IN RELATION TO SELF, OTHERS, FAMILY AND WORK

A Thesis

Presented to

the Department of Psychology

Emporia State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Industrial Psychology

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by

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December 1980

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ACKNOWLEDGEMENTS

I wish to thank Mr. Carvajal, Dr. Walters and Ms. Pat McDonald, my committee members, for their assistance, patience and guidance in my work. I also wish to thank very much my advisor, Dr. Amburn, for his unfailing advice, his understanding and his availability.

I want to thank Mrs. Isabelle Stambaugh for the great amount of work she has done in locating participants for the study through the Conway Diet Institute. I also thank Mr. Conway for his financial support which enabled me to carry out the study.

Finally, I want to thank my brothers and sisters in Christ for encouragement which they have given to me.

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Chapter 1

INTRODUCTION

The present study investigated the mental and psychological attitudes, based on a written questionnaire, of women weighing from eleven to over seventy-five pounds above the normal weight. Attitudes in relation to self, others, family and work were compared to a similar control group of women in the normal weight range. A group of women who successfully lost from eleven to over seventy-five pounds were also compared to the normal control group. The purpose of the following chapter has been to discuss a brief theoretical formulation of the problem, the statement of the problem, the purpose of the study and the significance of the study. Limitations imposed on this study by uncontrolled variables were also discussed, and relevant terms have been defined.

Theoretical Formulation

Obesity is considered to occur in at least twenty-five percent of the American adult population and has been implicated as a contributing factor in a wide array of life-threatening physical disorders.[1] Earlier studies have indicated that a number of factors appear to be related to obesity: sex, socioeconomic class,

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[1]Ina Brenda Weitzman, "Weight Loss Maintenance: Personality Factors and Demographic Determinants," Dissertation Abstracts International, 37:1977-78B, October, 1976.

physiological activities, psychological characteristics and family. With regard to such factors, Plutchik found that personality is related less clearly to obesity.[2]

Diet can also be influenced by many factors. Shipman and Plesset studied one hundred dieters in both private and clinical settings to determine if initial anxiety and depression, age, socio-economic status, degree of obesity, marital status, race and referred source were related to dieting success. They found that all factors had some predictive power.[3]

Kiefer has reported that psychology may become important in the area of obesity. Bariatric medicine, a specialty area dealing with weight reduction, has concentrated much of its efforts on the attitudes of the patients. Journals for doctors in this important area have had approximately half of their articles dealing with psychological factors in dieting.[4]

McCall, Siderits, and Fadden studied nineteen TOPS ("Take Off Pounds Sensibly") Chapter meetings to determine the connection of psychological factors with the success groups. They found that attitudinal variables significantly differentiated the successful groups from the unsuccessful groups.[5]

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[2]Robert Plutchik, "Emotions and Attitudes Related to Being Overweight," Journal of Clinical Psychology, 32:21-24, January, 1976.

[3]W. G. Shipman and M. R. Plesset, "Predicting the Outcome for Obese Dieters," Journal of American Diet Association, 42:383, May, 1963.

[4]Helen Chilton Kiefer, "An Introduction to Dieting and Weight Control," Sourcebook on Food and Nutrition, ed. Ioannis S. Scarpa and Helen Chilton Kiefer (Marquis Academic Media, 1978), p. 177.

[5]Raymond J. McCall, Mary Anne Siderits, and Thomas F. Fadden, "Differential Effectiveness of Informed Group Procedures in Weight Control," Journal of Clinical Psychology, 33:351-55, April, 1977.

The Problem

Although it has been reported that the obese are less satisfied with their appearance than the non-obese[6], a paucity of research has determined differences between mental and psychological attitudes of the overweight person as compared to those attitudes of the person in a normal weight range. It is on this basis that three groups of women, those who have successfully lost weight, those who are obese and those who are in a normal weight range, have been tested to determine if there is a significant difference between the mental and psychological attitudes in relation to self, others, family and work between the three groups.

Statement of the Problem

Is there a significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range?

Is there a significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range?

Is there a significant difference between the mental and psychological attitudes, in relation to family (as measured by a written

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[6]Myrna Sue Green, "A Comparison of Obese and Normal Subjects on Image Boundary, Locus of Controls, and Hypnotic Susceptibility," Dissertation Abstracts International, 35:6094B, May, 1975.

questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range?

Is there a significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range?

Is there a significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes, in relation to family (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who have successfully lost eleven to twenty

pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes, in relation to family (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over?

Is there a significant difference between the mental and psychological attitudes in relation to self, others, family and work (as measured by a written questionnaire), of women who are presently obese and women who are normal weight?

Is there a significant difference between the mental and psychological attitudes in relation to self, others, family and work (as measured by a written questionnaire), of women who are presently obese and women who have successfully lost weight?

Is there a significant difference between the mental and psychological attitudes in relation to self, others, family and work (as measured by a written questionnaire), of women who have successfully lost weight and women who are normal weight?

Statement of the Hypotheses
(Null Form)

There is no significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

There is no significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

There is no significant difference between the mental and psychological attitudes, in relation to family (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

There is no significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

There is no significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes, in relation to family (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds,

forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes, in relation to family (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

There is no significant difference between the mental and psychological attitudes in relation to self, others, family and work (as measured by a written questionnaire), of women who are presently obese and women who are normal weight.

There is no significant difference between the mental and psychological attitudes in relation to self, others, family and work (as measured by a written questionnaire), of women who are presently obese and women who have successfully lost weight.

There is no significant difference between the mental and psychological attitudes in relation to self, others, family and work (as measured by a written questionnaire), of women who have successfully lost weight and women who are normal weight.

Assumptions of the Study

This study was designed to investigate the mental and psychological attitudes that successful, obese and normal weight people have in relation to self, others, family and work. It was assumed that this study's population sample represented the successful, obese and normal weight women in the United States. This assumption allowed for proper treatment and analyzation of data in the following chapters.

It has also been assumed that attitudes in relation to self, others, family and work are a function of several factors: sex, age, family size, number of parents, family background, type of job and various individual characteristics. It was also assumed that mental and psychological attitudes in relation to self, others, family and work can be measured and clarified by means of a written questionnaire.

Purpose of the Study

The purpose of this study was to investigate and determine the mental and psychological attitudes that successful, obese and normal weight women have in relation to self, others, family and work. The weight groups were established by means of an insurance company's standardized weight scale.[7] The attitudes were determined by means of a written questionnaire.

Significance of the Study

In the past several years clinicians, psychologists, therapists, dieticians and physicians have studied the overweight people in terms of cause and control, but research has been meager in the area of attitudes. The present study has been unique in that it was a non-experimental, opinionnaire-type study designed to investigate differences between successful, obese and normal women's attitudes toward themselves, others, family and work. Results gained from such research may be useful in determining why some clinical programs for weight reduction may be unsuccessful. Relationships at home and at work may also be improved as a result of working with such findings as were found in the present study. This study may be useful for psychologists or clinicians in various areas when working with obese individuals. It is hoped that the present study will add to previous research in the area of obesity.

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[7]Helen Chilton Kiefer, "An Introduction to Dieting and Weight Control," Sourcebook on Food and Nutrition, ed. Ioannis S. Scarpa and Helen Chilton Kiefer (Marquis Academic Media, 1978), p. 177.

Definitions of Terms

Because studies have been concerned with a variety of areas in the topic of obesity, relevant terms in this study need to be clarified and defined. The following terms are defined as used in this study:

Attitudes

L. L. Thurstone defines attitudes as the sum total of a man's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats and convictions about a specified topic.[8]

Mental/Psychological (attitudes)

Mental/psychological attitudes are various aspects of one's personality, such as goals, values and wants, organized together with his beliefs, feelings and action tendencies in some stable configuration (which may 'cause' or 'determine' behavior). Thus, goals, values and wants may be regarded as in some sense psychological "entities" that have motivational power.[9]

Obesity

Obesity refers to an accumulation of excess body fat. Obesity is measured as ten percent over the normal weight as determined by an insurance company's weight scale.[10]

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[8]L. L. Thurstone, "A Law of Comparative Judgement," Psychological Review, 34, No. 1 (1927), 273-86, cited by Forrest R. Chisman, Attitude Psychology and the Study of Public Opinion, (University Park and London: The Pennsylvania State University Press, 1976), p. 24.

[9]Sherif and Cantril, Opinions and Personality, (New York: Wiley, 1956), pp. 1-28, cited by Chisman, p. 28.

[10]Kiefer, p. 177.

Limitations of the Study

This study has been limited to the measurement of mental and psychological attitudes of four hundred ninety-seven women identified as successful, obese and normal. The study was further limited to attitudes in relation to self, others , family and work. Another limitation imposed was the amount of research done in the area of attitudes of successful, obese and normal weight women. A very limited amount of material has been found that refers to women's attitudes in relation to self, others, family and work.

The study was limited to participants from only one diet institution. Also, the study was limited to mailed questionnaires and little personal contact was involved. A final limitation concerns the distribution of items. The largest portion of items measured attitudes toward self. Only a small portion of the items measured attitudes toward others, family and work.

Chapter 2

REVIEW OF RELATED LITERATURE

Literature has revealed that few studies have been conducted that have investigated the relationship of obesity and attitudes toward self, others, family and work. Among the studies that have been explored, the majority of them were done in the area of self concept and weight reduction and control. A very limited number and type of studies have been done in relation to mental and psychological attitudes of obese subjects, and results have varied. There is a need for further research in this area.

Self

Meeker[11] conducted a study to determine the significant differences between the obese and normal weighted females, to evaluate how these differences changed with weight fluctuation, and to determine whether measures showing such differences could be utilized to successfully predict weight loss. One hundred female volunteers, eighty obese and twenty normal, were measured with the Activity Level Log, the Draw-A-Person Scale, the Self-Concept Incongruency Scale and the Masculine-Feminine Body Concept over an eight-month period. The

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[11]Paul Rusley Meeker, "Weight Loss as a Function of Concept of Activity, Body, and Self," Dissertation Abstracts International, 39:2995B, December, 1978.

obese women were all participating in weight reduction programs, and their actual weight was monitered.

The significant differences out of thirty variables were that obese women dislike their bodies more, are less congruent in self-ideal self-concept, especially on activity factors, and draw less detailed faces on Draw-A-Person than normal weight women. These measures showed no significant relationship with weight change and were not useful for predicting weight loss.

Green[12] used fifty obese and fifty normal weight women to compare four measures: (1) a questionnaire which assessed demographic variables, attitudes toward obesity, diet history and self-ratings, (2) Rotter's Locus of Control Scale, (3) the Barrier index of body image boundary definiteness, and (4) the Harvard Group Scale of Hypnotic Susceptibility.

Obese was defined as being at least fifteen percent overweight according to the Metropolitan Life Insurance tables of average weights for women of given heights and ages. Normal was defined as less than ten percent overweight.

The two groups varied in their perception of themselves as overweight. While all of the obese subjects saw themselves as overweight, forty-two percent of the "normals" also perceived themselves as overweight. The obese reported less satisfaction with their appearance than did normals.

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[12]Myrna Sue Green, "A Comparison of Obese and Normal Subjects on Image Boundary, Locus of Control, and Hypnotic Susceptibility," Dissertation Abstracts International, 35:6094B, May, 1975.

Gestalt therapy theory postulates that one of the major characteristics of psychologically healthy individuals is the ability to maintain a heightened awareness of themselves and the world around them. In accordance with this, Kramer[13] investigated the relationship between the degree of body awareness and level of psychological health.

Kramer asked fifty subjects, thirty females and twenty males, to verbalize their present bodily experiences in detail. This was scored by two raters on five different dimensions of body awareness: Silence, Depth of Awareness, Interruption of Contact, Vividness and Degree of Involvement Scores were correlated with scores on a measure of psychological health, the Personal Orientation Inventory (Shostrom, 74).

Data were analyzed to test the following: (1) that there would be a significant positive correlation between the scores on the five body awareness measures and the Personal Orientation Inventory, (2) healthier subjects would show less decrease in their level of body awareness over time than less healthy subjects, and (3) females would display greater body awareness than males.

Results lent support to the major hypothesis of the study since two of the body awareness variables were significantly correlated with the Personal Orientation Inventory. The latter two hypotheses were not supported.

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[13]Donald Joseph Kramer, "Body Awareness and Psychological Health: The Testing of A Gestalt Assumption," Dissertation Abstracts International, 38:5576B, May, 1978.

Fitzpatrick[14] investigated body image in adolescent girls as a function of chronicity of the obese condition. He hypothesized that (1) chronically obese adolescents would show more severely negative body images and body-self attitudes than would late-onset obese adolescents or normal weight adolescents, (2) weight loss would modify these attitudes more in late-onset obese than in chronically obese, and (3) that success in reduction would occur differentially as a function of chronicity of obesity and type of treatment. The findings of this study tended to support the proposition that adolescent obese girls have more disturbed body images than girls of normal weight.

Klein[15] found that empirical as well as clinical evidence suggests that overweight individuals internalize society's negative stereotypes about physical appearance. It was hypothesized that a person's negative expectations, whether they are due to society's negative reactions to stereotypes or due to low self-esteem, would have similar effects on social perception. Thus, low self-esteem individuals were expected to react to evaluations in the same manner as the overweight individuals.

The subjects were undergraduate females at least fifteen percent above the normative weight for their height. Subjects were asked to respond to hypothetical social situations. They then answered questions about their reaction to the evaluation and evaluator.

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[14]Virginia Briggs Fitzpatrick, "Body Image and Weight Loss in Chronically Obese and Late-Onset Obese Black Lower Socioeconomic Status Adolescent Girls," Dissertation Abstracts International, 36:6377B, June, 1976.

[15]Jeffrey Mark Klein, "The Effect of Overweight Self Esteem, and Evaluative Feedback on Social Perception," Dissertation Abstracts International, 38:2371B, November, 1977.

Strong self-esteem main effects were found. The overweight group differences were primarily due to overweight individual's self-consciousness about physical appearance. Low self-esteem individuals tended to filter information in a way which tended to confirm their own negative views of themselves.

Others

Kantor[16] expanded upon the reference group theory and self theory as proposed by Munford Kuhn's Twenty Statements Test, a projective technique used to empirically measure the self. Kantor focused on a reference-other dimension comprised of three components: the individual, his reference-others and his reference relationships.

Through administration of the "Who Am I-Who Are They?" (WAI-T) test, a reference-other dimension was empirically investigated. The WAI-T also explores an individual's reference relationships. The test was administered to a heterogeneous college student sample of three hundred five students. The findings were numerous. Males cited more occupational, educational and religious references to the WAI-T. Females cited more family-type reference other relationships. Employers and employees were seen as positive reference others by more males. Family members were seen by females. Females made more reference group responses, while males made more reference individual responses.

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[16]Irwin Henry Kantor, "Who Am I-Who Are They?: An Extension of the TST," Dissertation Abstracts International, 38:1060A, July, 1977.

McCall, Siderits and Fadden[17] rated nineteen TOPS (Take Off Pounds Sensibly) chapter meetings on eighteen scales descriptive of member interaction, leader behavior, stress on nutrition, exercise, psychological factors in weight control and group and individual attitudes toward each other and toward the organization. Twelve of the scales showed significant interjudge reliability, and for ten chapters on which complete data were available (N=180), five of these twelve scales significantly differentiated relatively successful from unsuccessful chapters. These five were attitudinal or interactional variables.

Family

The purpose of Unger's[18] study was to examine the relationship between family concept and the development and maintenance of obesity. The basic goal of the study was to demonstrate that there are differences in family perceptions between obese individuals and their non-obese siblings. The study investigated the differences between obese subjects and their non-obese siblings on Dimensions of the Family Unit Inventory (a measure of family concept). The hypothesis was that there would be significant differences between obese subjects and their non-obese siblings in the following areas: locus of control, importance of family, communication and satisfaction with family.

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[17]Raymond J. McCall, Mary Anne Siderits, and Thomas F. Fadden, Differential Effectiveness of Informal Group Procedures in Weight Control," Journal of Clinical Psychology, 33:351-55, April, 1977.

[18]Ruthellen Bunis Unger, "Relationship of Obesity to the Family Concept of Obese and Non-Obese Siblings," Dissertation Abstracts International, 38:3420B, January, 1978.

Fifty obese individuals between seventeen and twenty-three years old, who responded to classified ads, and fifty of their nearest age non-obese siblings over twelve served as subjects. They were weighed and measured prior to the administration of the Real and Ideal forms of the Family Unit Inventory. There were three criteria for subject selection: (1) acturial-percentage of overweight, (2) external-usual rating by three raters, and (3) phenomenological--the self-selection process. Obesity was defined by three criteria: (1) exceeding the upper limit of a person's weight range by at least twenty percent, (2) agreement in judgment among three raters that the subject was obese, and (3) the individual's self-perception and subsequent self-selection.

Results did not confirm the hypothesis. No significant differences were found in any of the five areas. There was a significant difference on another Dimension-Conflict vs. Consideration; this might warrant further exploration.

Work

Trefton[19] attempted to measure and investigate the relationships among satisfaction with life, work, family and leisure in a sample of one hundred fifteen midwest factory workers. Data was collected from a newly developed Life Satisfaction Questionnaire (LSQ), the Job Description index (JDI), the Minnesota Avocational Satisfaction Questionnaire (MASQ), the Dydadic Adjustment Scale (DAS), global

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[19]Richard S. Trefton, "Measuring Life Satisfaction and Its Relation to Satisfaction with Work, Family, and Leisure," Dissertation Abstracts International, 38:5081B, April, 1978.

satisfaction items and semantic differential scales. These data were subjected to a multi-trait-multimethod analysis. The low validity of the MASQ and the DAS precluded their use in subsequent analyses.

The LSQ and the JDI evidenced adequate reliability and validity. Using these measures it was found that job satisfaction was significantly related to life satisfaction in this sample. It was concluded that job satisfaction should be considered as a salient variable for counselors since it was found to be related to life satisfaction. It was also concluded that life satisfaction should be used as an organizational variable by researchers since it was related to job satisfaction.

Mandilovitch[20] dealt with the integration of contemporary systems of work and education. The effects of these two systems upon the attitudes of workers were examined using data obtained from American workers in different occupational statuses and industries.

Special attention was given to: (1) the extent and distribution of alienation among the labor force, (2) the linkages among attitudes toward work, self and life, (3) the magnitude of the association between education and attitudes toward work, (4) the lack of congruence between systems of work and education, (5) variations in these discrepancies, and (6) the association between the discrepancies and worker's alienation.

Data were obtained from a national probability sample of one thousand four hundred ninety-six American workers. The data were

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[20]Martha Susana Baldi de. Mandilovitch, "Workers' Attitudes Toward Work, Self, and Life: The Effects of Work and Education," Dissertation Abstracts International, 38:5738A, March, 1978.

collected in 1973 by the Survey Research Center of The University of Michigan. Alienation was found to be widespread among the American work force, and attitudes toward both self and life were found to be associated with attitudes toward work. The association between levels of education and job satisfaction was quite low. Other significant factors were found.

Summary

Studies reported in this chapter have emphasized the obese person's attitude in terms of physical appearance and concept of self. Results have been significant in determining weight loss maintenance. Some studies were found to be significant in determining the types of personal relationships that obese subjects have and the kind of interaction that they have with others.

A study which explored the obese subject's concept of his/her family found no significant results. Some significant results were obtained in a study investigating job satisfaction and life satisfaction. Also, attitudes toward work have been found to be associated with attitudes toward self.

The majority of studies reported in this chapter were experimental types of studies. The studies focused on attitudes toward the physical self and how these might affect weight loss maintenance, personal relationships or work. The present study is non-experimental and focuses on mental and psychological attitudes toward self, others, family and work.

Chapter 3

METHODS AND PROCEDURES

The following chapter presents a complete description of what was done in order to complete the study. The methods and procedures used in collecting and analyzing the data are discussed. Major elements of the chapter include population and sampling, materials and instrumentation, design of the study, data collection and data analysis.

Population and Sampling

The population of the problem was representative of all adult women living in the United States. The samples for this study were chosen from the population by the Conway Diet Institute. The first sample was selected from Conway diet centers in Ohio, Indiana and Pennsylvania since Conway classes in these areas were the first to be established in the company and had been in existence from five to ten years. Twenty-eight lecturers were asked to send the weekly weight loss records of anyone in their classes who had successfully finished the Conway program and had reached their goal weight. Four hundred ninety-two letters were sent to selected women who had lost weight. Two hundred two women agreed to complete a questionnaire, an unequal number in each of six weight groups: forty-five, thirty-one, twenty-five, thirty-six, thirty-nine and twenty-six.

The second sample was also selected from Ohio, Indiana and Pennsylvania. Approximately twenty-five Conway lecturers with classes

in these areas were contacted and asked to randomly select two hundred forty of their new members. Forty women were selected from each of six weight groups.

A third sample was also selected. Two hundred fifty adult women were selected from a medium sized college area in Kansas. This sample was selected for the normal (control) group.

Materials and Instrumentation

A written questionnaire was designed for use in this study to investigate the attitudes that successful, obese and normal weight women have toward self, others, family and work. The questionnaire consisted of fifty statements relative to self, others, family and work. Items were designed so that some could be responded to without hesitation, while others required somewhat more time for the subject to respond. The questionnaire was designed to be completed in thirty minutes. A personal data form and instructions preceded the items. The questionnaire could be self-administered in the home.

The questionnaire was shown to have an internal consistency reliability of .65 using the Spearman-Brown prophecy formula for estimating reliability from two comparable halves of a test.[21] According to Truman L. Kelley,[22] the minimal requirement for the reliability coefficient for determining the status of a group in some subject or group of

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[21]Henry E. Garrett, Statistics in Psychology and Education, (New York: David McCay Company, Inc., 1966), p. 339.

[22]Truman L. Kelley, Interpretation of Educational Measurements, (New York: World Book Company, 1927), p. 196, cited by Julian G. Stanley, revision, Measurement in Today's Schools, by C. C. Ross (3rd ed., Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1954), pp. 124-25.

subjects is .50. According to Garrett,[23] there is fairly good agreement among workers with psychological and educational tests that a reliability coefficient from .40 to .70 denotes substantial or marked relationship. The size of a reliability coefficient depends upon the nature of the test, the size and variability of the group and the purpose for which the test was given.[24]

Design of the Study

This study was designed to investigate the mental and psychological attitudes that successful, obese and normal weight women have in relation to self, others, family and work. A questionnaire was developed to determine the attitudes. Two hundred two women who successfully lost weight in the Conway diet program were identified in this study as sample one. Two hundred forty overweight women who were presently enrolled in the Conway diet program were identified in this study as sample two. Two hundred fifty normal weight women were identified in this study as sample three as a control group.

Sample one was selected in such a manner that each of six weight groups was represented by forty-five, thirty-one, twenty-five, thirty-six, thirty-nine and twenty-six women, respectively. Sample two was selected in such a manner that each of six weight groups was represented by forty women.

The dependent variable was the attitudes that those women in each of the three weight groups had given in terms of scores on response groups (self, others, family and work). The independent or subject

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[23]Garrett, p. 176.

[24]Ibid., p. 351.

variable was weight group-successful and obese. The control group was the normal weight women.

A one-way between subjects design was used for the analysis of scores given on the women's responses. The independent or subject variable was weight group. The two levels of the subject variable were obese and successful groups. A third "zero" level or control variable was the normal weight group. The criterion measure or dependent variable was the responses to the questionnaire items. The four levels of the dependent variable were self, others, family and work. Analyses were also made within the two levels of the independent variable for the different weight amounts.

Data Collection

The data for the study were collected from adult women living in the United States who were randomly selected throughout Ohio, Indiana, Pennsylvania and Kansas. In order to collect data for the first sample, twenty-eight lecturers were contacted and instructed to mail the weekly weight loss records of anyone in their classes who had successfully reached their goal weight. Weight losses were calculated for the total amount of weight each woman had lost. These were then grouped according to weight losses and coded I, II, III, IV, V and VI depending on the amount of weight lost: eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds and seventy-five pounds and over, respectively. A letter explaining the research project was sent to the women identified by the search (Appendix A, p. 53). They were asked to participate in the study and were assured of anonymity. If they agreed

to complete a questionnaire, they were asked to fill out a postcard indicating their willingness to participate in the study. The questionnaire and a pre-addressed stamped envelope were then sent to each woman who had agreed to participate in the study. Three weeks after the initial mailing a postcard was sent to those who had not yet responded asking them to complete their questionnaires as soon as possible.

In order to collect data for the second sample, approximately twenty-five lecturers were contacted and instructed to review their class enrollments and tally the number of new members they had and the total amount of weight each new member had to lose to reach her correct weight. An instruction sheet was mailed to those lecturers which asked them to distribute before or after their regular Conway class a specified number of questionnaires to class members within various weight loss groups: eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds and seventy-five pounds and over. In order to differentiate the returned questionnaires in sample one from those returned in sample two, the questionnaires for this second sample were coded by the lecturers with the amount of weight each woman had to lose: I^*, II^*, III^*, IV^*, V^* and VI^*, respectively.

Data for the control sample were collected by personal contact. If women had not filled out the questionnaires after two weeks, they were asked to finish as quickly as possible. The questionnaires were handed out to adult women.

Data Analysis

For the present study a one-way between subjects analysis of variance was used to analyze the data. The subject variable was identified as weight group which had two levels: successful and obese. A third level was identified as a "zero" level or control variable. This was the normal weight group. The successful and obese weight groups were subdivided into eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds and seventy-five pounds and over. The dependent variable was divided into self, others, family and work.

The Scheffé test[25] was also calculated when any significant difference existed between the means. The test was used to determine any actual differences within the levels of the subject variable. A T-value was calculated for each item to determine any differences between group responses.

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[25]N. M. Downie and R. W. Heath, Basic Statistical Methods, (4th ed., New York: Harper and Row, Publishers, 1974), pp. 211-213.

Chapter 4

ANALYSIS OF DATA

This study was designed to investigate the mental and psychological attitudes of women in various categories: those who had been involved in a weight reduction program and had successfully lost weight; those who were presently in a weight reduction program and needed to lose weight; and those who were in a normal weight range. The study was primarily designed to determine if there were significant differences in the attitudes of women in these groups in relation to self, others, family and work. The study was also designed to investigate the mental and psychological attitudes of women in various weight groups, each group pertaining to whether each woman had already lost or needed to lose a certain amount of weight.

A self-administering attitude questionnaire was designed to determine if there were any significant differences between the groups. Analysis of Variance was used to determine the level of any differences. Results which may have given merit to further analyses were more closely analyzed by use of the Scheffé test and the T test. Results of the statistical analyses and a summary are presented in this chapter.

Analysis of Variance

Procedure for carrying out the statistical analysis of variance for the groups in this study was discussed in chapter 3, page 27. Table 1 (Appendix C, p. 68) presents the comparison of weight groups

with mental and psychological attitudes for those items relating to self. An F-value of 6.39 was obtained when comparing the means of these groups. This obtained F-value exceeded the tabled F(2, 495) value of 3.02 at the .05 level of confidence and also exceeded the tabled F(2, 495) value of 4.66 at the .01 level of confidence (all tabled values were obtained from Downie and Heath).[26] The following hypothesis was rejected: There is no significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

Table 2 (Appendix C, p. 69) reveals the comparison of weight groups with mental and psychological attitudes for those items relating to others. The obtained F-value of 0.23 was less than the tabled F(2, 495) value of 3.02 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

Table 3 (Appendix C, p. 70) shows the comparison of weight groups with mental and psychological attitudes for those items relating to family. The obtained F-value of 0.54 was less than the tabled F(2, 495) value of 3.02 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to family (as

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[26]Downie and Heath, pp. 308-313.

measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

Table 4 (Appendix C, p. 71) presents the comparison of weight groups with mental and psychological attitudes for those items relating to work. The obtained F-value of 0.14 was less than the tabled F(2, 495) value of 3.02 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who have successfully lost weight, of women who are presently overweight and of women in the normal weight range.

Table 5 (Appendix C, p. 72) shows the comparison of weight groups with mental and psychological attitudes for those items not categorized. Although no hypothesis was tested for these items, the analysis of variance showed that the obtained F-value of 1.35 was less than the tabled F(2, 495) value of 3.02 at the .05 level of confidence. There was no significant difference between responses to these items when comparing weight groups and mental and psychological attitudes.

Table 6 (Appendix D, p. 74) presents the comparison of the successful weight loss groups with mental and psychological attitudes for those items relating to self. The obtained F-value of 1.51 was less than the tabled F(5, 164) value of 2.27 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds,

thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 7 (Appendix D, p. 75) reveals the comparison of the successful weight loss groups with mental and psychological attitudes for those items relating to others. The obtained F-value of 0.83 was less than the tabled F(5, 164) value of 2.27 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 8 (Appendix D, p. 76) shows the comparison of the successful weight loss groups with mental and psychological attitudes for those items relating to family. The obtained F-value of 0.72 was less than the tabled F(5, 164) value of 2.27 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to family (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 9 (Appendix D, p. 77) reveals the comparison of the successful weight loss groups with mental and psychological attitudes for those items relating to work. The obtained F-value of 2.58 exceeded the tabled F(5, 164) value of 2.27 at the .05 level of confidence. The following hypothesis was rejected: There is no significant difference

between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who have successfully lost eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 10 (Appendix D, p. 78) shows the comparison of the successful weight loss groups with mental and psychological attitudes for those items not categorized. Although no hypothesis was tested for these items, the analysis showed that the obtained F-value of 1.33 was less than the tabled F(5, 164) value of 2.77 at the .05 level of confidence. There was no significant difference between responses to these items when comparing successful weight loss groups and mental and psychological attitudes.

Table 11 (Appendix D, p. 79) presents the comparison of the obese groups with mental and psychological attitudes for those items relating to self. The obtained F-value of 1.44 was less than the tabled F(5, 167) value of 2.27 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to self (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 12 (Appendix D, p. 80) shows the comparison of the obese weight groups with mental and psychological attitudes for those items relating to others. The obtained F-value of 0.34 was less than the tabled F(5, 167) value of 2.27 at the .05 level of confidence. The

following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to others (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 13 (Appendix D, p. 81) reveals the comparison of the obese weight groups with mental and psychological attitudes for those items relating to family. The obtained F-value of 0.76 was less than the tabled F(5, 167) value of 2.27 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to family (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 14 (Appendix D, p. 82) presents the comparison of the obese weight groups with mental and psychological attitudes for those items relating to work. The obtained F-value of 0.83 was less than the tabled F(5, 167) value of 2.27 at the .05 level of confidence. The following hypothesis was retained: There is no significant difference between the mental and psychological attitudes, in relation to work (as measured by a written questionnaire), of women who are presently overweight eleven to twenty pounds, twenty-one to thirty pounds, thirty-one to forty pounds, forty-one to fifty pounds, fifty-one to seventy-four pounds, and finally, seventy-five pounds and over.

Table 15 (Appendix D, p. 83) shows the comparison of the obese groups with mental and psychological attitudes for those items not categorized. Although no hypothesis was tested for these items, the analysis showed that the obtained F-value of 2.98 exceeded the tabled F(5, 167) value of 2.27 at the .05 level of confidence. There were significant differences between responses to these items when comparing obese weight groups and mental and psychological attitudes.

Scheffé Test

The F test furnishes a comprehensive or over-all test of the significance of the difference between the means. A significant F does not identify the means that are significant.[27] It would be possible to obtain a highly significant F-value with a large sample size, but the actual difference between each group may be quite small.[28] The Scheffé test was applied to the data in this study to determine any actual differences between the means.

Tables 1-5 (Appendix C, pp. 68-72) present the comparison of successful weight loss, obese and normal groups with mental and psychological attitudes for those items relating to self, others, family and work. Those items not categorized were also included. Multiple comparisons were made between the weight groups to determine any significant differences. The .05 level of confidence of F(2, 495) was earlier in this study found to be 3.02 (Chapter 4, p. 29). The Scheffé test

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[27]Henry E. Garrett, Statistics in Psychology and Education, (New York: David McCay Company, Inc., 1966), p. 339.

[28]Robert Plutchik, Foundations of Experimental Research, (New York: Harper and Row, 1974), pp. 148-49.

then requires this value to be multiplied by (k-1) where k is the number of groups.[29] In this case it is (3-1)•(3.02), which equals 6.04. None of the obtained values exceeded Scheffe's value at the .05 level of confidence.

Tables 6-10 (Appendix D, pp. 74-78) reveal the comparison within the successful weight loss groups with mental and psychological attitudes for those items relating to self, others, family and work. Those items not categorized were also included. The .05 level of confidence of F(5, 164) was found to be 2.27 (Chapter 4, p. 30). Multiplying this value by (k-1) or 5 gives a value of 11.35. None of the obtained values exceeded this value.

Tables 11-15 (Appendix D, pp. 79-83) show the comparison within the obese weight groups with mental and psychological attitudes for those items relating to self, others, family and work. Those items not categorized were also included. The .05 level of confidence of F(5, 167) was found to be 2.27 (Chapter 4, p. 32). Multiplying this value by (k-1) or 5 gives a value of 11.35. None of the obtained values exceeded this value.

T test

Comparison was next made between pairs of groups' responses by testing the mean differences with the use of a T test. Table 16 (Appendix E, pp. 85-93) shows the comparison of obese and normal group responses for each item in the questionnaire. The obtained T-value of 2.03 for item number two exceeded the tabled T(df=211.56) value of 1.96

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[29]N. M. Downie and R. W. Heath, Basic Statistical Methods, (4th ed., New York: Harper and Row, Publishers, 1974), pp. 212-213.

at the .05 level of confidence (all T-values were obtained from Downie and Heath).[30] There was a significant difference at the .05 level of confidence between responses to item number two when comparing obese and normal groups.

The obtained T-value of 2.58 for item number eight exceeded the tabled T(df=218.28) value of 1.96 at the .05 level of confidence and also exceeded the tabled T(df=218.28) value at the .01 level of confidence. There was a significant difference at the .01 level of confidence between responses to item number eight when comparing obese and normal groups.

The obtained T-value of 2.54 for item number ten exceeded the tabled T(df=203.35) value of 1.96 at the .05 level of confidence. There was a significant difference at the .05 level of confidence between responses to item number ten when comparing obese and normal groups.

The obtained T-value of 3.05 for item number twenty-four exceeded the tabled T(df=218.96) value of 1.96 at the .05 level of confidence and also exceeded the tabled T(df=218.96) value of 2.58 at the .01 level of confidence. There was a significant difference at the .01 level of confidence between responses to item number twenty-four when comparing obese and normal groups.

The following hypothesis was rejected for items two, eight, ten and twenty-four when comparing obese and normal groups: There is no significant difference between the mental and psychological attitudes, in relation to self, others, family and work (as measured by a written

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[30]Downie and Heath, p. 306.

questionnaire), of women who are presently obese and women who are normal weight. These items represent only eight percent of the total fifty items in the questionnaire. The remaining ninety-two percent of the items showed no significant differences when comparing obese and normal group responses.

Table 17 (Appendix E, pp. 94-102) presents the comparison of successful and obese group responses for each item. The obtained T-value of 2.45 for item number one exceeded the tabled T(df=212.74) value of 1.96 at the .05 level of confidence. There was a significant difference at the .05 level of confidence between responses to item number one when comparing successful and obese groups.

The obtained T-value of 2.64 for item number two exceeded the tabled T(df=192.79) value of 1.96 at the .05 level of confidence and also exceeded the tabled T(df=192.79) value of 2.58 at the .01 level of confidence. There was a significant difference at the .01 level of confidence between responses to item number two when comparing successful and obese groups.

The obtained T-value of 2.67 for item number twenty-four exceeded the tabled T(df=240.70) value of 1.96 at the .05 level of confidence and also exceeded the tabled T(df=240.70) value of 2.58 at the .01 level of confidence. There was a significant difference at the .01 level of confidence between responses to item number twenty-four when comparing successful and obese groups.

The obtained T-value of 2.20 for item number thirty-three exceeded the tabled T(df=213.51) value of 1.96 at the .05 level of confidence. There was a significant difference at the .05 level of

confidence between responses to item number thirty-three when comparing successful and obese groups.

The obtained T-value of 1.98 for item number thirty-nine exceeded the tabled T(df=227.57) value of 1.96 at the .05 level of confidence. There was a significant difference at the .05 level of confidence between responses to item number thirty-nine when comparing successful and obese groups.

The following hypothesis was rejected for items one, two, twenty-four, thirty-three and thirty-nine when comparing successful and obese groups: There is no significant difference between the mental and psychological attitudes, in relation to self, others, family and work (as measured by a written questionnaire), of women who are presently obese and women who have successfully lost weight. These items represent a mere ten percent of the total fifty items in the questionnaire. The remaining ninety percent of the items showed no significant differences when comparing successful and obese groups.

Table 18 (Appendix E, pp. 103-111) reveals the comparison of successful and normal group responses for each item. The obtained T-value of 2.02 for item number six exceeded the tabled T(df=237.93) value of 1.96 at the .05 level of confidence. There was a significant difference at the .05 level of confidence between responses to item number six when comparing successful and normal groups.

The obtained T-value of 2.68 for item number fourteen exceeded the tabled T(df=234.78) value of 1.96 at the .05 level of confidence and also exceeded the tabled T(df=234.78) value of 2.58 at the .01 level of confidence. There was a significant difference at the .01 level of

confidence between responses to item number fourteen when comparing successful and normal groups.

The obtained T-value of 3.30 for item number thirty-nine exceeded the tabled T(df=229.13) value of 1.96 at the .05 level of confidence and also exceeded the tabled T(df=229.13) value of 2.58 at the .01 level of confidence. There was a significant difference at the .01 level of confidence between responses to item number thirty-nine when comparing successful and normal groups.

The obtained T-value of 2.35 for item number forty-one exceeded the tabled T(df=213.14) value of 1.96 at the .05 level of confidence. There was a significant difference at the .05 level of confidence between responses to item number forty-one when comparing successful and normal groups.

The following hypothesis was rejected for items six, fourteen, thirty-nine and forty-one when comparing successful and normal groups: There is no significant difference between the mental and psychological attitudes, in relation to self, others, family and work (as measured by a written questionnaire), of women who have successfully lost weight and women who are normal weight. These items represent only eight percent of the total fifty items in the questionnaire. The remaining ninety-two percent of the items showed no significant differences when comparing successful and normal groups.

Summary

The results of the statistical analyses of the data were discussed in this chapter. A one-way analysis of variance was used in determining significant results from the data. The Scheffé test and

the T test were used to determine the location of any significant differences. The purpose of the study was to determine if there were any significant differences between successful, obese and normal women's responses to items relating to self, others, family and work.

As determined by the analysis of variance, statistical significance was obtained for several comparisons. There was a statistically significant difference between the successful, obese and normal groups' responses to those items relating to self (Appendix F, p. 113). Significance was also found within the successful weight group. When comparing the six sub-weight divisions, the responses to those items relating to work were statistically different (Appendix F, p. 113). Comparison within the obese weight group also resulted in statistical significance. When comparing the six sub-weight divisions, the responses to those items not categorized were statistically different (Appendix F, p. 113).

As determined by the analysis of variance, there was no statistical significance between successful, obese and normal groups when comparing items relating to others, family, work and those items not categorized. There was also no significance found within the successful weight group when comparing those items relating to self, others, family and those items not categorized. There was also no significance found within the obese weight group when comparing those items relating to self, others, family and work.

As determined by the Scheffe test, there were no statistically significant differences between the responses of the successful, obese and normal weight groups. There were also no significant differences within the successful and obese weight groups.

As determined by the T test, when comparing the obese and normal groups, there was a statistically significant difference in the responses to items two, eight, ten and twenty-four. These items represent only eight percent of the total fifty items in the questionnaire. The remaining ninety-two percent of the items showed no significant differences when comparing the obese and normal groups. When comparing the successful and obese groups, there was a statistically significant difference in the responses to items one, two, twenty-four, thirty-three and thirty-nine. These items represent only ten percent of the total fifty items in the questionnaire. The remaining ninety percent of the items showed no significant differences when comparing the successful and obese groups. When comparing the successful and normal groups, there was a statistically significant difference in the responses to items six, fourteen, thirty-nine and forty-one. These items make up a mere eight percent of the total fifty items in the questionnaire. The remaining ninety-two percent of the items showed no significant differences when comparing the successful and normal groups.

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A summary of the problem, investigation, results and findings in this study is presented in this chapter. Conclusions and recommendations for further research are also included.

Summary

Because so little research has been done in relation to obese individuals' attitudes, this study investigated mental and psychological attitudes of women who are obese and women who have successfully lost weight. Participants included present or former members of Conway diet centers. Attitudes of these obese and successful women were compared to attitudes of women in the normal weight range. A total of four hundred ninety-seven subjects were used in this investigation.

A self-administering attitude questionnaire was the instrument designed to measure the attitudes of the women in each weight group. In addition to the questionnaire item responses, data relative to age, marital status, height, weight and desired weight were also obtained.

A one-way between subjects analysis of variance was computed to test the null hypotheses. Further computational procedures used were the Scheffe' test and the T test. The findings of the statistical analyses of variance showed several significant comparisons. A significant difference between the attitudes of successful, obese and normal weight women was found at the .05 and .01 levels of confidence when

comparing responses to items relating to self (Appendix F, p. 113). There were no significant differences when comparing responses to those items relating to others, family, work and those items not categorized (Appendix F, p. 113).

A significant difference within the successful weight group was found at the .05 level of confidence when comparing responses to those items relating to work (Appendix F, p. 113). There were no significant differences when comparing responses to items relating to self, family, work and those items not categorized (Appendix F, p. 113). A significant difference within the obese weight group was also found at the .05 level of confidence when comparing those items not categorized (Appendix F, p. 113). There were no significant differences when comparing responses to items relating to self, others, family and work (Appendix F, p. 113).

The findings of the Scheffé test identified no actual statistically significant differences between the group means when making paired comparisons. Using Scheffé's formula, it was found that the obtained value must equal or exceed 6.04 to be significant at the .05 level of confidence (Chapter 4, p. 35). The obtained value when comparing obese and normal subjects' responses to those items relating to self was 6.03. Because the obtained value is so close to Scheffé's value the responses may be assumed significantly different. No other comparisons were assumed significant for responses to those items relating to others, family, work and those items not categorized (Appendix F, p. 113).

The findings of the T test also showed significant differences when comparing the responses to each item. Responses to items two,

eight, ten and twenty-four were significantly different at the .05 level of confidence when comparing the obese and normal groups. These items represent only eight percent of the total fifty items in the questionnaire. The remaining ninety-two percent of the items showed no significant differences when comparing the obese and normal groups.

Responses to items one, two, twenty-four, thirty-three and thirty-nine were significantly different at the .05 level of confidence when comparing successful and obese groups. These items make up only ten percent of the total fifty items in the questionnaire. The remaining ninety percent of the items showed no significant differences when comparing the successful and obese groups.

Responses to items six, fourteen, thirty-nine and forty-one were significantly different at the .05 level of confidence when comparing successful and normal groups. These items represent only eight percent of the total fifty items in the questionnaire. The remaining ninety-two percent of the items showed no significant differences when comparing the successful and normal groups.

Conclusions

Analysis of data indicated that successful, obese and normal weight women responded differently to the items relating to self (Appendix F, p. 113). The differences were greatest when comparing the obese and normal groups (Appendix C, p. 68).

Data also indicated that women who had successfully lost various amounts of weight differed in their responses to the items relating to work (Appendix F, p. 113). The greatest difference occurred between those who had lost eleven to twenty pounds and those who had lost

forty-one to fifty pounds (Appendix D, p. 77). Some items in the questionnaire were not categorized. The obese women responded quite differently from one another to these items (Appendix F, p. 113). Those women weighing fifty-one to seventy-four pounds over the normal weight differed greatest from those women weighing seventy-five pounds and over the normal weight when responding to the items not categorized (Appendix D, p. 83).

Further analysis of the data indicated that obese and normal women responded differently to several of the items (Appendix E, pp. 85-93). For example, item number eight read as follows: I am most interested in _____. The options were things, ideas, people or myself. The mean response for the obese women was that they were most interested in ideas. The mean response of the normal women was that they were most interested in things. Another example is item number twenty-four which read: I _____ wish I could visit my family more than I do. The options were always, frequently, sometimes and never. The mean response for the obese women was that they sometimes wished they could visit their family more than they do. The mean response for the normal women was that they frequently wished they could visit their family more than they do.

The successful women also responded differently than the obese women for several items (Appendix E, pp. 94-102). An example is seen in item number twenty-four for this comparison. Again, the mean response for the obese women was that they sometimes wished they could visit their family more than they do, while the mean response for the successful women was that they frequently wished they could visit their family more than they do.

The successful women also responded differently from the normal women for several items (Appendix E, pp. 103-111). Item number thirty-nine read as follows: I am _____ known as a good worker. The options were always, frequently, sometimes and never. The mean response for the successful women was that they were always known as good workers. The mean response for the normal women was that they were frequently known as good workers.

Out of the fifty total items in the questionnaire, only thirteen of them (twenty-six percent) showed any significant differences between the responses when comparing the successful, obese and normal groups (Appendix E). A majority of the null hypotheses were retained in this study. Only a few were rejected (Chapter 4).

Recommendations

It is hoped that this study has added a better understanding of the attitudes that obese women have. It is also hoped that this study may be helpful in determining how to work with obese people in diet programs, clinics, the workplace or the home. The results of this study were based upon a limited sample and were also limited to a single diet institution.

The amount of time and cost involved in this study did not permit the inclusion of various related factors. It is recommended that future research include variables such as age, sex, number of children, type of employment and so on. Future studies should also include participants from several types of diet institutions.

In the present study items were unequally distributed between the subdivisions. A large proportion of the items were designed to

measure the attitude toward self. It is suggested that any further research give more attention to attitudes toward others, family and work.

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APPENDICES

APPENDIX A

WRITE-UP OF THE PROCEDURES FOLLOWED TO OBTAIN DATA FOR OBESE AND SUCCESSFUL GROUPS

2301 Woodstock Road
Columbus, Ohio 43221
May 27, 1980

Dear Dr. Amburn,

Enclosed is the write-up of the procedures I followed to obtain the completed questionnaires I have sent to you via U.P.S..

If you have any questions concerning the study, please call me before 2:00 P.M. on Tuesday, June 3. After that time, you can reach me by writing to 5 Castlehill Road, Ayr, Scotland, KA7 2HX (zip code), where I will be joining my husband who is presently on sabbatical from Ohio State. I will be returning to Columbus on December 3. My phone number in Scotland is country code 44, city code 292 and local number 62425.

Mr. Conway has closely followed my work at this end and should be able to answer any questions you might have.

I have enjoyed working with you and hope that the data will prove fruitful for both you and the Conway Diet Institute.

My best to both you and Nell!

Sincerely,

Isabelle

Data Collection Procedure in Columbus

During my meeting with Dr. Amburn in Kansas in August of 1979, the basic plan for the research study was formulated. It was decided that a questionnaire covering four basic areas, food habits, behavioral modification, physical activity, and psychological profile, be administered to distinct groups, individuals who had successfully lost weight on the Conway program and were presently at their goal weight, individuals who were just beginning the Conway program, and individuals who had never had a weight problem who would serve as a control group.

I was assigned the task of identifying individuals for the first two groups mentioned above while Dr. Amburn and his students were to identify the third group. In each of my two groups, I was to locate 30 individuals who had lost or needed to lose 10-19 lbs., 20-29 lbs., 30-39 lbs.,40-49 lbs., 50-74 lbs., 75-100 lbs., and 100 lbs. or more. To simplify my work, I assigned the following codes to the groups mentioned above

10-19 lbs. --- I
20-29 lbs. --- II
30-39 lbs. --- III
40-49 lbs. --- IV
50-74 lbs. --- V
75-100 lbs. -- VI
100 or more -- VII

Since Conway classes in Ohio, Indiana, and Pennsylvania were the first to be established in the company and had been in existance from 5 to 10 years, I selected experienced lecturers in these areas to aid me in my search for individuals who had successfully lost weight on the Conway program. I contacted 28 lecturers and instructed them to mail to me the weekly weight loss records of anyone in their classes who had successfully finished the Conway program and had reached their goal weight (a weight formulated from their height and frame size using a standard insurance actuary chart for weight).

Once these record cards were forwarded to me, I xeroxed them and calculated for each card the total amount of weight each individual had lost and the amount of time it had taken for their total weight loss to occur. The cards were then grouped according to weight losses and were coded from I - VII depending on the amount of weight lost. Since there were still a relatively small number of individuals identified who had lost 50 lbs. or more, I contacted additional lecturers and asked them to send me their records for individuals who had lost in excess of 50 pounds to reach their goal weights.

After processing these additonal cards, I realized that the number of individuals in groups VI and VII were not sufficient to supply 30 subjects per group. I contacted Dr. Amburn and explained my problem. We agreed that the last two groups could be combined and from that point on group VI consisted of individuals who had lost 75 pounds or more.

A letter explaining the research project was sent to the individuals identified by my search. They were asked to participate in the study and were assured of anonymity. If they agreed to complete a questionnaire, they were asked to fill out a postcard and return it to me. Listed below are the number of letters sent and the number of positive responses for each group.

Group	Letters Sent	Positive Responses	% of Positive Responses
I	104	45	43%
II	100	31	31%
III	81	25	31%
IV	86	36	42%
V	74	39	53%
VI	47	26	55%

Since some of the individuals whose weight loss records were forwarded to me had lost their excess weight as long as five years ago, we felt that the number of positive responses we received reflected the fact that some indivuals had moved and could not be contacted, some individuals had regained some or all of their excess weight (we specified in our letter that they be within 10% of their correct weight), and some individuals simply were not interested in participating in the research project. It was interesting to me that those individuals who had lost the greatest amounts of weight were the most willing to participate in the study.

Once I received the questionnaires from Kansas, a cover letter explaining how to complete the questionnaire, the questionnaire, and a pre-addressed stamped envelope were sent to each individual who had agreed to participate in the study. Three weeks after this initial mailing with approximately 70% of the questionnaires returned, I sent a postcard to those who had not yet responded asking them to complete their questionnaires as soon as possible. The return envelopes for all questionnaires had been coded with the appropriate Roman numeral signifying the amount of weight each individual had lost to reach their goal weight. This code was copied onto each questionnaire as it was received.

Listed below are the data on the number ofquestionnaires sent and received.

Group	No. Questionnaires Sent	No. Received	% Received
I	45	32	71%
II	31	28	90%
III	25	22	88%
IV	36	34	94%
V	39	32	82%
VI	26	24	92%

After receiving the questionnaires from Kansas, I also contacted approximately 15 Conway lecturers with classes in Ohio and Indiana and asked

em to review their class enrollments and tally for me the number of new mbers they had and the total amount of weight each new member had to se to reach their correct weight. I then mailed to these lecturers an nstruction sheet which asked them to distribute before or after their regar Conway class a specified number of questionnaires to class members thin various weight loss groups, e.g., 3 in group I, 4 in group V, and in group VI. I mailed out 40 questionnaires per group I - VI. When the cturers began returning the completed questionnaires to me, I realized at some of them had not been able to provide the number of questionnaires had requested in each group (some members who had initially been identied had not returned to class the following week, some members did not nt to take the time to complete the questionnaire, and some members did ot want to provide personal data even though they were assured of anonyity). I then mailed out questionnaires to another 10 lecturers in Ohio nd Indiana.

The number of questionnaires returned to me in each of the six weight oss groups is listed below.

Group	No. of Questionnaires Returned
I	30
II	31
III	34
IV	18
V	30
VI	39

In order to differentiate the questionnaires in this second group (those who were just beginning to diet) from those in the first group (those who had successfully dieted and were at their goal weight), the questionnaires in the second group were coded by the lectureres with the amount of weight each individual had to lose (as determined by the height-weight chart) and were also coded with a star when they were received by me. For example, a questionnaire coded I* means that the individual must lose 10-19 lbs. to reach their correct weight while a questionnaire coded I means that the individual has already lost 10-19 lbs. and is at their goal weight.

Once most of the questionnaires were received in both groups, they were boxed and shipped by U.P.S. to Dr. Amburn in Kansas.

APPENDIX B

SELF-ADMINISTERING ATTITUDE QUESTIONNAIRE

SELF-ADMINISTERING ATTITUDE QUESTIONNAIRE
(50 items)

Name _____
Last First MI

Address _____
Street or P.O. Box

_____
City State Zip

Phone _____

Birthdate _____ Sex _____
Month Day Year

Marital Status check one : single( ) married( ) divorced( )

mate deceased _____

number of children _____

age of each child _____ _____ _____

_____ _____ _____ _____ _____

Height _____

Weight _____

According to your family physician, state the number of pounds you are presently overweight. _____

What is the desired weight you would like to reach and maintain? _____

Please turn the page and
carefully read the instructions.
It will take approximately
thrity minutes to complete the
questionnaire.

Below is a list of statements. Please read each statement carefully and choose the option that most nearly describes your attitude at this time. There are no right or wrong answers. Try to choose an option for each statement. Choose only one option for each statement and circle it.

1. I _____ maintain a thoughtful point of view.

    1. always
    2. frequently
    3. sometimes
    4. never

2. I _____ experience difficulty following through with my decisions.

    1. always
    2. frequently
    3. sometimes
    4. never

3. I _____ feel that others in my group or organization get all the breaks.

    1. always
    2. frequently
    3. sometimes
    4. never

4. I _____ try to cover up or alibi instead of admitting mistakes.

    1. always
    2. frequently
    3. sometimes
    4. never

5. My parents are _____ the cause of my problems.

    1. always
    2. frequently
    3. sometimes
    4. never

6. I _____ maintain a cheerful point of view.

   1. always
   2. frequently
   3. sometimes
   4. never

7. What is your reaction to regularity of routine and sometimes monotonous details?

   1. I must have it to do satisfactory work.
   2. I do not particularly object to it.
   3. It frustrates me.
   4. I cannot do it.

8. I am most interested in _____

   1. things.
   2. ideas.
   3. people.
   4. myself.

9. I _____ have difficulty facing facts.

   1. always
   2. frequently
   3. sometimes
   4. never

10. I _____ experience periods of anxiety.

    1. always
    2. frequently
    3. sometimes
    4. never

11. I can _____ make up my mind without making mistakes.

    1. always
    2. frequently
    3. sometimes
    4. never

12. My family _____ calls or writes me to see how I am doing.

    1. always
    2. frequently
    3. sometimes
    4. never

13. I have very close relations with _____ people.

    1. ten or more
    2. seven to ten
    3. four to six
    4. one to three

14. I _____ feel that life is simply great.

    1. always
    2. frequently
    3. sometimes
    4. never

15. I _____ feel that my superior associates pick on me.

    1. always
    2. frequently
    3. sometimes
    4. never

16. I _____ maintain an objective point of view.

    1. always
    2. frequently
    3. sometimes
    4. never

17. If given in a courteous and friendly manner, what is your usual reaction to criticism and suggestions regarding personal conduct and improvement in procedure of work?

    1. I try to find excuses in support of my views.
    2. I listen courteously and do little about it.
    3. I accept it and try to use it.
    4. I resent it but say little.

18. I _____ feel lost without my friends.

    1. always
    2. frequently
    3. sometimes
    4. never

19. I _____ wonder if other people believe the way I do about a topic.

    1. always
    2. frequently
    3. sometimes
    4. never

20. I _____ postpone or evade difficult problems that may be harmful to my own interests.

    1. always
    2. frequently
    3. sometimes
    4. never

21. I _____ feel that people with whom I work do not like me.

    1. always
    2. frequently
    3. sometimes
    4. never

22. I _____ feel that I am not getting ahead.

    1. always
    2. frequently
    3. sometimes
    4. never

23. I recognize my place in life and I _____ feel that it is the right place for me.

    1. always
    2. frequently
    3. sometimes
    4. never

24. I _____ wish I could visit my family more than I do.

    1. always
    2. frequently
    3. sometimes
    4. never

25. I _____ experience periods of fear.

    1. always
    2. frequently
    3. sometimes
    4. never

26. I _____ have difficulty making decisions.

    1. always
    2. frequently
    3. sometimes
    4. never

27. I _____ experience feelings of wanting to be alone.

    1. always
    2. frequently
    3. sometimes
    4. never

28. I am _____ closer to other people than to my family.

    1. always
    2. frequently
    3. sometimes
    4. never

29. I _____ experience periods of worry.

    1. always
    2. frequently
    3. sometimes
    4. never

30. I can _____ admit my own mistakes.

    1. always
    2. frequently
    3. sometimes
    4. never

31. I am _____ reluctant or afraid to express my ideas to my superiors.

    1. always
    2. frequently
    3. sometimes
    4. never

32. I can _____ laugh at myself.

    1. always
    2. frequently
    3. sometimes
    4. never

33. I _____ used to get more attention than my brothers and/or sisters.

    1. always
    2. frequently
    3. sometimes
    4. never

34. I _____ worry about the future.

1. always
2. frequently
3. sometimes
4. never

35. I _____ feel frustrated about my work.

1. always
2. frequently
3. sometimes
4. never

36. I _____ resort to self pity.

1. always
2. frequently
3. sometimes
4. never

37. When in a group I am _____ afraid to really let myself go.

1. always
2. frequently
3. sometimes
4. never

38. I _____ wonder what the real me is like.

1. always
2. frequently
3. sometimes
4. never

39. I am _____ known as a good worker.

1. always
2. frequently
3. sometimes
4. never

40. I _____ go to social events with my friends.

1. always
2. frequently
3. sometimes
4. never

41. I _____ wonder if my parents agree with the way I am spending my life.

    1. always
    2. frequently
    3. sometimes
    4. never

42. I am _____ in need of more self-confidence.

    1. always
    2. frequently
    3. sometimes
    4. never

43. I am _____ willing to spend a lot of time in planning and searching for materials necessary to complete a task.

    1. always
    2. frequently
    3. sometimes
    4. never

44. I _____ experience periods of conflicts in personal desires.

    1. always
    2. frequently
    3. sometimes
    4. never

45. I _____ take advice from my friends, relatives, or co-workers.

    1. always
    2. frequently
    3. sometimes
    4. never

46. I consider myself to be _____ at budgeting time and organizing.

    1. excellent
    2. good
    3. fair
    4. poor

47. I _____ feel that other people do things much better than I do.

    1. always
    2. frequently
    3. sometimes
    4. never

48. I _____ feel lonely.

1. always
2. frequently
3. sometimes
4. never

49. I _____ put forth little or no effort to do more than seems necessary to secure approval.

1. always
2. frequently
3. sometimes
4. never

50. I _____ feel life is going to get better.

1. always
2. frequently
3. sometimes
4. never

APPENDIX C

A COMPARISON OF SUCCESSFUL WEIGHT LOSS, OBESE AND NORMAL WEIGHT GROUPS OBTAINED FROM ANALYSIS OF VARIANCE FOR THOSE ITEMS RELATING TO SELF, OTHERS, FAMILY AND WORK

Table 1

A Comparison of Successful Weight Loss, Obese and Normal Weight Groups Obtained From Analysis of Variance for Those Items Relating to Self

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	2	449	224.50	6.39	.01
Within Groups	495	17389	35.13		
Total	497	17838			

Grouped Data

Group	Successful	Obese	Normal
Mean	78.60	77.05	79.32
Standard Deviation	5.62	6.79	5.17
N	170	173	155

Scheffé Test for Multiple Comparisons

Group	Successful	Obese	Normal
Successful	0.00	2.95	0.60
Obese	2.95	0.00	6.03
Normal	0.60	6.03	0.00

Table 2

A Comparison of Successful Weight Loss, Obese and Normal Weight Groups Obtained From Analysis of Variance for Those Items Relating to Others

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	2	1.75	0.88	0.23	none
Within Groups	495	1888.06	3.81		
Total	497	1889.81			

Grouped Data

Group	Successful	Obese	Normal
Mean	17.84	17.77	17.92
Standard Deviation	1.83	1.99	2.04
N	170	173	155

Scheffe Test for Multiple Comparisons

Group	Successful	Obese	Normal
Successful	0.00	0.05	0.07
Obese	0.05	0.00	0.23
Normal	0.07	0.23	0.00

Table 3

A Comparison of Successful Weight Loss, Obese and Normal Weight Groups Obtained From Analysis of Variance for Those Items Relating to Family

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	2	5.56	2.78	0.54	none
Within Groups	495	2554.25	5.16		
Total	497	2559.81			

Grouped Data

Group	Successful	Obese	Normal
Mean	17.99	17.75	17.79
Standard Deviation	2.22	2.44	2.12
N	170	173	155

Scheffé Test for Multiple Comparisons

Group	Successful	Obese	Normal
Successful	0.00	0.49	0.30
Obese	0.49	0.00	0.02
Normal	0.30	0.02	0.00

Table 4

A Comparison of Successful Weight Loss, Obese and Normal Weight Groups Obtained From Analysis of Variance for Those Items Relating to Work

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	2	0.35	0.18	0.14	none
Within Groups	495	625.69	1.26		
Total	497	626.04			

Grouped Data

Group	Successful	Obese	Normal
Mean	7.54	7.58	7.60
Standard Deviation	1.06	1.15	1.17
N	170	173	155

Scheffe Test for Multiple Comparisons

Group	Successful	Obese	Normal
Successful	0.00	0.06	0.13
Obese	0,06	0.00	0.02
Normal	0.13	0.02	0.00

Table 5

A Comparison of Successful Weight Loss, Obese and Normal Weight Groups Obtained From Analysis of Variance for Those Items Not Categorized

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	2	10.46	5.23	1.35	none
Within Groups	495	1920.04	3.88		
Total	497	1930.50			

Grouped Data

Group	Successful	Obese	Normal
Mean	10.84	11.08	10.73
Standard Deviation	1.94	2.05	1.91
N	170	173	155

Scheffé Test for Multiple Comparisons

Group	Successful	Obese	Normal
Successful	0.00	0.64	0.12
Obese	0.64	0.00	1.26
Normal	0.12	1.26	0.00

APPENDIX D

A COMPARISON WITHIN SUCCESSFUL AND OBESE WEIGHT GROUPS OBTAINED FROM ANALYSIS OF VARIANCE FOR THOSE ITEMS RELATING TO SELF, OTHERS, FAMILY AND WORK

Table 6

A Comparison of Successful Weight Loss Groups Obtained From Analysis of Variance For Those Items Relating to Self

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	235	47.00	1.51	none
Within Groups	164	5014	31.12		
Total	169	5339			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	78.49	78.08	81.14	78.64	78.00	76.75
Standard Deviation	5.12	4.96	4.58	5.92	6.50	5.86
N	35	26	21	33	31	24

Scheffe Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.03	0.60	0.00	0.02	0.28
21-30 pounds	0.03	0.00	0.32	0.02	0.11	0.43
31-40 pounds	0.60	0.32	0.00	0.52	0.79	1.39
41-50 pounds	0.00	0.02	0.52	0.00	0.04	0.32
51-74 pounds	0.02	0.11	0.79	0.04	0.00	0.14
75 pounds and over	0.28	0.43	1.39	0.32	0.14	0.00

Table 7

A Comparison of Successful Weight Loss Groups Obtained From Analysis of Variance For Those Items Relating to Others

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	14.02	2.80	0.83	none
Within Groups	164	552.69	3.37		
Total	169	556.71			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	17.51	17.77	18.43	17.64	17.90	18.08
Standard Deviation	1.58	1.17	1.43	1.95	1.97	2.19
N	35	26	21	33	31	24

Scheffe Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.06	0.65	0.02	0.15	0.27
21-30 pounds	0.06	0.00	0.30	0.02	0.02	0.07
31-40 pounds	0.65	0.30	0.00	0.48	0.21	0.08
41-50 pounds	0.02	0.02	0.48	0.00	0.07	0.16
51-74 pounds	0.15	0.02	0.21	0.07	0.00	0.03
75 pounds and over	0.27	0.07	0.08	0.16	0.03	0.00

Table 8

A Comparison of Successful Weight Loss Groups Obtained From Analysis of Variance for Those Items Relating to Family

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	17.84	3.57	0.72	none
Within Groups	164	818.13	4.99		
Total	169	835.98			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	18.00	17.77	18.38	17.48	18.39	18.04
Standard Deviation	2.01	2.05	2.82	2.36	1.71	2.56
N	35	26	21	33	31	24

Scheffé Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.03	0.08	0.18	0.10	0.00
21-30 pounds	0.03	0.00	0.17	0.05	0.22	0.04
31-40 pounds	0.08	0.17	0.00	0.41	0.00	0.05
41-50 pounds	0.18	0.05	0.41	0.00	0.52	0.17
51-74 pounds	0.10	0.22	0.00	0.52	0.00	0.06
75 pounds and over	0.00	0.04	0.05	0.17	0.06	0.00

Table 9

A Comparison of Successful Weight Loss Groups Obtained From Analysis of Variance For Those Items Relating to Work

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	13.75	2.75	2.58	.05
Within Groups	164	174.54	1.06		
Total	169	188.29			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	7.74	7.58	7.81	7.06	7.77	7.29
Standard Deviation	0.92	0.81	0.81	1.14	1.20	1.16
N	35	26	21	33	31	24

Scheffé Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.08	0.01	1.49	0.00	0.54
21-30 pounds	0.08	0.00	0.12	0.73	0.10	0.19
31-40 pounds	0.01	0.12	0.00	1.35	0.00	0.56
41-50 pounds	1.49	0.73	1.35	0.00	1.53	0.14
51-74 pounds	0.00	0.10	0.00	1.53	0.00	0.59
75 pounds and over	0.54	0.19	0.56	0.14	0.59	0.00

Table 10

A Comparison of Successful Weight Loss Groups Obtained From Analysis of Variance for Those Items Not Categorized

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	24.63	4.93	1.33	none
Within Groups	164	608.76	3.71		
Total	169	633.39			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	10.86	10.85	10.71	10.30	10.84	11.63
Standard Deviation	1.70	2.20	1.90	2.08	1.61	2.08
N	35	26	21	33	31	24

Scheffé Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.00	0.01	0.28	0.00	0.45
21-30 pounds	0.00	0.00	0.01	0.23	0.00	0.41
31-40 pounds	0.01	0.01	0.00	0.12	0.01	0.50
41-50 pounds	0.28	0.23	0.12	0.00	0.25	1.31
51-74 pounds	0.00	0.00	0.01	0.25	0.00	0.45
75 pounds and over	0.45	0.41	0.50	1.31	0.45	0.00

Table 11

A Comparison of Obese Weight Groups Obtained From Analysis of Variance for Those Items Relating to Self

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	327.31	65.46	1.44	none
Within Groups	167	7602.38	45.52		
Total	172	7929.69			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	77.32	79.41	77.13	76.29	74.71	76.97
Standard Deviation	5.54	5.91	7.17	8.67	5.37	7.96
N	34	29	31	17	28	34

Scheffé Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.34	0.00	0.05	0.46	0.01
21-30 pounds	0.30	0.00	0.34	0.46	1.38	0.41
31-40 pounds	0.00	0.34	0.00	0.03	0.38	0.00
41-50 pounds	0.05	0.46	0.03	0.00	0.12	0.02
51-74 pounds	0.46	1.38	0.38	0.12	0.00	0.34
75 pounds and over	0.01	0.41	0.00	0.02	0.34	0.00

Table 12

A Comparison of Obese Weight Groups Obtained From Analysis of Variance For Those Items Relating to Others

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	6.85	1.37	0.34	none
Within Groups	167	675.36	4.04		
Total	172	682.21			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	17.88	17.93	17.39	17.88	17.68	17.91
Standard Deviation	1.79	1.79	2.53	1.96	1.93	1.96
N	34	29	31	17	28	34

Scheffe Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.00	0.20	0.00	0.03	0.00
21-30 pounds	0.00	0.00	0.22	0.00	0.04	0.00
31-40 pounds	0.20	0.22	0.00	0.13	0.06	0.22
41-50 pounds	0.00	0.00	0.13	0.00	0.02	0.00
51-74 pounds	0.03	0.04	0.06	0.02	0.00	0.04
75 pounds and over	0.00	0.00	0.22	0.00	0.04	0.00

Table 13

A Comparison of Obese Weight Groups Obtained From Analysis of Variance For Those Items Relating to Family

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	22.95	4.59	0.76	none
Within Groups	167	1001.87	5.99		
Total	172	1024.81			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	17.44	17.48	17.97	18.71	17.61	17.71
Standard Deviation	2.71	2.28	2.36	1.99	2.67	2.41
N	34	29	31	17	28	34

Scheffé Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.00	0.15	0.60	0.01	0.04
21-30 pounds	0.00	0.00	0.12	0.53	0.01	0.03
31-40 pounds	0.15	0.12	0.00	0.20	0.06	0.04
41-50 pounds	0.60	0.53	0.20	0.00	0.43	0.00
51-74 pounds	0.01	0.01	0.06	0.43	0.00	0.00
75 pounds and over	0.04	0.03	0.04	0.38	0.00	0.00

Table 14

A Comparison of Obese Weight Groups Obtained From Analysis of Variance For Those Items Relating to Work

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	5.56	1.11	0.83	none
Within Groups	167	222.64	1.33		
Total	172	228.19			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	7.41	7.72	7.55	7.65	7.32	7.82
Standard Deviation	1.16	1.13	0.96	1.27	1.28	1.17
N	34	29	31	17	28	34

Scheffé Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.23	0.05	0.09	0.02	0.43
21-30 pounds	0.23	0.00	0.07	0.01	0.35	0.02
31-40 pounds	0.05	0.07	0.00	0.02	0.11	0.18
41-50 pounds	0.09	0.01	0.02	0.00	0.17	0.05
51-74 pounds	0.02	0.35	0.11	0.17	0.00	0.58
75 pounds and over	0.43	0.02	0.18	0.05	0.58	0.00

Table 15

A Comparison of Obese Weight Groups Obtained From Analysis of Variance For Those Items Not Categorized

Sources of Variation	df	Sum of Squares	Mean Squares	F-Ratio	level of significance
Between Groups	5	59.52	11.90	2.98	.05
Within Groups	167	666.50	3.99		
Total	172	726.02			

Grouped Data

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
Mean	10.91	11.41	10.77	11.76	11.89	10.21
Standard Deviation	1.99	2.16	1.78	2.02	2.38	1.67
N	34	29	31	17	28	34

Scheffe Test for Multiple Comparisons

Group	11-20 pounds	21-30 pounds	31-40 pounds	41-50 pounds	51-74 pounds	75 pounds and over
11-20 pounds	0.00	0.20	0.02	0.41	0.74	0.42
21-30 pounds	0.20	0.00	0.31	0.07	0.16	1.14
31-40 pounds	0.02	0.31	0.00	0.54	0.92	0.26
41-50 pounds	0.41	0.07	0.54	0.00	0.01	1.38
51-74 pounds	0.74	0.16	0.92	0.01	0.00	2.19
75 pounds and over	0.42	1.14	0.26	1.39	2.19	0.00

APPENDIX E

ANALYSIS OF VARIANCE BETWEEN SUCCESSFUL, OBESE AND NORMAL WEIGHT GROUPS AND T-VALUES FOR EACH INDIVIDUAL ITEM COMPARISON

Table 16

Analysis of Variance Between Obese and Normal Groups and T-Value for Each Individual Item Comparison

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
001							
Obese	112	2.02	0.72	0.07			
					1.53	1.76[31]	211.99
Normal	109	1.86	0.59	0.06			
002							
Obese	112	2.81	0.61	0.06			
					1.55	-2.03*	211.56
Normal	109	2.96	0.49	0.05			
003							
Obese	112	3.26	0.65	0.06			
					1.55	-0.20	211.36
Normal	109	3.27	0.53	0.05			
004							
Obese	112	3.14	0.55	0.05			
					1.10	-1.32	218.91
Normal	109	3.24	0.53	0.05			

*Significant at the .05 level of confidence
**Significant at the .01 level of confidence

[31] F. E. Satterthwaite, "An Approximate Distribution of Estimates of Variance Components," Biometrics Bulletin, 2nd ed. 1946, pp. 110-114.

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
005							
Obese	112	3.64	0.58	0.06			
					1.38	-0.87	215.22
Normal	109	3.71	0.49	0.05			
006							
Obese	112	1.98	0.68	0.07			
					1.88	-0.56	203.17
Normal	109	2.03	0.49	0.05			
007							
Obese	112	2.04	0.59	0.06			
					1.03	-0.25	218.97
Normal	109	2.06	0.58	0.06			
008							
Obese	112	1.68	0.85	0.08			
					1.19	2.58**	218.28
Normal	109	1.39	0.78	0.08			
009							
Obese	112	3.04	0.61	0.06			
					1.81	0.37	205.02
Normal	109	3.02	0.45	0.04			
010							
Obese	112	2.64	0.61	0.06			
					1.87	-2.54*	203.35
Normal	109	2.83	0.45	0.04			

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
011							
Obese	112	2.37	0.50	0.05			
					1.09	-0.28	217.85
Normal	109	2.39	0.53	0.05			
012							
Obese	112	2.01	0.88	0.08			
					1.18	-0.81	218.30
Normal	109	2.10	0.80	0.08			
013							
Obese	112	2.31	1.08	0.10			
					1.13	-0.42	217.23
Normal	109	2.38	1.15	0.11			
014							
Obese	112	2.04	0.76	0.07			
					1.47	-1.29	213.36
Normal	109	2.16	0.63	0.06			
015							
Obese	112	3.54	0.64	0.06			
					1.25	-1.08	217.41
Normal	109	3.62	0.57	0.06			
016							
Obese	112	2.04	0.70	0.07			
					1.27	-0.63	217.13
Normal	109	2.10	0.62	0.06			

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
017							
Obese	112	2.97	0.58	0.05			
					1.48	0.79	213.05
Normal	109	2.91	0.47	0.05			
018							
Obese	112	2.85	0.76	0.07			
					1.06	-0.40	218.26
Normal	109	2.89	0.79	0.08			
019							
Obese	112	2.66	0.69	0.07			
					1.22	1.22	215.55
Normal	109	2.89	0.56	0.05			
020							
Obese	112	2.82	0.70	0.07			
					1.56	-0.91	211.14
Normal	109	2.89	0.56	0.05			
021							
Obese	112	3.46	0.57	0.05			
					1.12	-0.91	218.81
Normal	109	3.53	0.54	0.05			
022							
Obese	112	2.96	0.68	0.07			
					1.11	0.42	218.86
Normal	109	2.93	0.65	0.06			

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
023							
Obese	112	2.06	0.94	0.09			
					1.21	-1.08	217.94
Normal	109	2.19	0.86	0.08			
024							
Obese	112	2.75	0.89	0.08			
					1.08	3.05**	218.96
Normal	109	2.39	0.85	0.08			
025							
Obese	112	3.03	0.62	0.06			
					1.55	-0.01	211.41
Normal	109	3.03	0.49	0.05			
026							
Obese	112	2.82	0.63	0.06			
					1.97	-1.05	200.71
Normal	109	2.89	0.45	0.04			
027							
Obese	112	2.84	0.64	0.06			
					1.63	-0.30	209.51
Normal	109	2.86	0.49	0.05			
028							
Obese	112	3.30	0.79	0.08			
					1.03	0.27	218.97
Normal	109	3.28	0.78	0.08			

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
029							
Obese	112	2.61	0.68	0.06			
					1.42	-0.53	214.39
Normal	109	2.65	0.57	0.05			
030							
Obese	112	1.92	0.75	0.07			
					1.29	-0.94	216.86
Normal	109	2.01	0.66	0.06			
031							
Obese	112	2.96	0.78	0.07			
					1.16	-0.81	218.49
Normal	109	3.04	0.72	0.07			
032							
Obese	112	2.01	0.77	0.07			
					1.01	-0.36	218.88
Normal	109	2.05	0.76	0.07			
033							
Obese	112	2.98	0.92	0.09			
					1.66	-1.90	208.65
Normal	109	3.19	0.71	0.07			
034							
Obese	112	2.64	0.76	0.07			
					1.09	0.27	217.87
Normal	109	2.61	0.79	0.08			

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
035							
Obese	112	2.98	0.63	0.06			
					2.00	0.76	200.13
Normal	109	2.93	0.45	0.04			
036							
Obese	112	3.04	0.61	0.06			
					1.09	-1.40	218.94
Normal	109	3.16	0.58	0.06			
037							
Obese	112	2.85	0.88	0.08			
					1.64	0.47	209.33
Normal	109	2.81	0.69	0.07			
038							
Obese	112	3.05	0.89	0.08			
					1.19	-0.81	218.22
Normal	109	3.15	0.82	0.08			
039							
Obese	112	1.59	0.66	0.06			
					1.16	-1.15	218.51
Normal	109	1.69	0.62	0.06			
040							
Obese	112	2.48	0.78	0.07			
					1.16	0.23	218.53
Normal	109	2.46	0.73	0.07			

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
041							
Obese	112	3.38	0.81	0.08			
					1.08	1.48	218.02
Normal	109	3.21	0.84	0.08			
042							
Obese	112	2.36	0.89	0.08			
					1.28	-0.58	216.98
Normal	109	2.42	0.79	0.08			
043							
Obese	112	2.21	0.89	0.09			
					1.07	-0.05	218.99
Normal	109	2.22	0.87	0.08			
044							
Obese	112	2.77	0.67	0.06			
					1.36	0.08	215.64
Normal	109	2.76	0.58	0.06			
045							
Obese	112	2.45	0.71	0.07			
					1.42	0.49	214.46
Normal	109	2.40	0.59	0.06			
046							
Obese	112	2.25	0.73	0.07			
					1.07	1.54	219.00
Normal	109	2.10	0.71	0.07			

Table 16--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
047							
Obese	112	2.63	0.66	0.06			
					1.14	-1.27	218.70
Normal	109	2.73	0.62	0.06			
048							
Obese	112	3.11	0.61	0.06			
					1.28	1.27	217.04
Normal	109	3.01	0.54	0.05			
049							
Obese	112	2.96	0.79	0.08			
					1.17	-1.76	218.44
Normal	109	3.14	0.74	0.07			
050							
Obese	112	2.12	0.89	0.08			
					1.32	0.30	216.25
Normal	109	2.08	0.77	0.07			

Table 17

Analysis of Variance Between Successful and Obese Groups and T-Value for Each Individual Item Comparison

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
001							
Successful	131	1.81	0.58	0.05			
					1.53	-2.45*[32]	212.74
Obese	112	2.02	0.72	0.07			
002							
Successful	131	2.99	0.42	0.04			
					2.09	2.64**	192.79
Obese	112	2.81	0.61	0.06			
003							
Successful	131	3.29	0.61	0.05			
					1.14	0.38	229.82
Obese	112	3.26	0.65	0.06			
004							
Successful	131	3.25	0.55	0.05			
					1.02	1.54	234.41
Obese	112	3.14	0.55	0.05			

*significant at the .05 level of confidence
**significant at the .01 level of confidence

[32]F. E. Satterthwaite, "An Approximate Distribution of Estimates of Variance Components," Biometrics Bulletin, 2nd ed. 1946, pp. 110-114.

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
005							
Successful	131	3.67	0.52	0.05			
					1.27	0.41	224.22
Obese	112	3.64	0.58	0.06			
006							
Successful	131	1.89	0.59	0.05			
					1.34	-1.17	220.84
Obese	112	1.98	0.68	0.07			
007							
Successful	131	1.98	0.56	0.05			
					1.11	-0.91	230.91
Obese	112	2.04	0.59	0.06			
008							
Successful	131	1.55	0.81	0.07			
					1.12	-1.21	230.65
Obese	112	1.68	0.85	0.80			
009							
Successful	131	3.11	0.50	0.04			
					1.47	0.86	215.47
Obese	112	3.04	0.61	0.06			
010							
Successful	131	2.73	0.52	0.05			
					1.37	1.22	219.69
Obese	112	2.64	0.61	0.06			

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
011							
Successful	131	2.31	0.51	0.05			
					1.04	-0.81	236.57
Obese	112	2.37	0.50	0.05			
012							
Successful	131	2.04	0.78	0.07			
					1.26	0.27	224.36
Obese	112	2.01	0.88	0.08			
013							
Successful	131	2.34	1.10	0.09			
					1.03	0.17	236.25
Obese	112	2.31	1.08	0.10			
014							
Successful	131	1.93	0.67	0.06			
					1.28	-1.13	223.58
Obese	112	2.04	0.76	0.07			
015							
Successful	131	3.59	0.61	0.05			
					1.12	0.65	230.27
Obese	112	3.54	0.64	0.06			
016							
Successful	131	2.02	0.66	0.06			
					1.15	-0.33	229.38
Obese	112	2.04	0.70	0.07			

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
017							
Successful	131	2.92	0.59	0.05			
					1.05	-0.66	236.69
Obese	112	2.97	0.58	0.05			
018							
Successful	131	2.85	0.73	0.06			
					1.09	-0.01	231.53
Obese	112	2.85	0.76	0.07			
019							
Successful	131	2.56	0.69	0.06			
					1.00	-1.08	235.17
Obese	112	2.66	0.69	0.07			
020							
Successful	131	2.95	0.64	0.06			
					1.21	1.45	226.60
Obese	112	2.82	0.70	0.07			
021							
Successful	131	3.45	0.56	0.05			
					1.04	-0.19	233.72
Obese	112	3.46	0.57	0.05			
022							
Successful	131	2.94	0.65	0.06			
					1.09	-0.29	231.54
Obese	112	2.96	0.68	0.07			

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
023							
Successful	131	2.00	0.86	0.08			
					1.20	-0.54	226.98
Obese	112	2.06	0.94	0.09			
024							
Successful	131	2.43	1.00	0.09			
					1.28	-2.67**	240.70
Obese	112	2.75	0.89	0.08			
025							
Successful	131	2.99	0.55	0.05			
					1.29	-0.45	223.22
Obese	112	3.03	0.62	0.06			
026							
Successful	131	2.87	0.59	0.05			
					1.16	0.62	228.73
Obese	112	2.82	0.63	0.06			
027							
Successful	131	2.90	0.52	0.05			
					1.48	0.81	215.05
Obese	112	2.84	0.64	0.06			
028							
Successful	131	3.36	0.69	0.06			
					1.31	0.57	222.17
Obese	112	3.30	0.79	0.08			

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
029							
Successful	131	2.64	0.65	0.06			
					1.10	0.40	231.41
Obese	112	2.61	0.68	0.06			
030							
Successful	131	1.98	0.74	0.07			
					1.01	0.68	234.68
Obese	112	1.92	0.75	0.07			
031							
Successful	131	3.09	0.78	0.07			
					1.01	1.36	235.48
Obese	112	2.96	0.78	0.07			
032							
Successful	131	2.05	0.79	0.07			
					1.07	0.37	237.47
Obese	112	2.01	0.77	0.07			
033							
Successful	131	3.22	0.75	0.07			
					1.52	2.20*	213.51
Obese	112	2.98	0.92	0.09			
034							
Successful	131	2.71	0.76	0.07			
					1.00	0.69	235.34
Obese	112	2.64	0.76	0.07			

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
035							
Successful	131	3.02	0.66	0.06			
					1.11	0.49	238.26
Obese	112	2.98	0.63	0.06			
036							
Successful	131	3.15	0.49	0.04			
					1.48	1.40	214.97
Obese	112	3.04	0.61	0.06			
037							
Successful	131	2.79	0.76	0.07			
					1.36	-0.67	220.30
Obese	112	2.86	0.88	0.08			
038							
Successful	131	3.15	0.79	0.07			
					1.28	0.84	223.63
Obese	112	3.05	0.89	0.08			
039							
Successful	131	1.44	0.61	0.05			
					1.19	-1.98*	227.57
Obese	112	1.59	0.66	0.06			
040							
Successful	131	2.30	0.77	0.07			
					1.02	-1.76	234.31
Obese	112	2.48	0.78	0.07			

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
041							
Successful	131	3.45	0.72	0.06			
					1.27	0.76	223.89
Obese	112	3.38	0.81	0.08			
042							
Successful	131	2.47	0.85	0.08			
					1.09	1.03	231.89
Obese	112	2.36	0.89	0.08			
043							
Successful	131	2.14	0.86	0.08			
					1.09	-0.68	231.73
Obese	112	2.21	0.89	0.08			
044							
Successful	131	2.86	0.64	0.06			
					1.09	1.12	231.57
Obese	112	2.77	0.67	0.06			
045							
Successful	131	2.44	0.67	0.06			
					1.12	-0.04	230.55
Obese	112	2.45	0.71	0.07			
046							
Successful	131	2.18	0.74	0.07			
					1.03	-0.79	236.09
Obese	112	2.25	0.73	0.07			

Table 17--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
047							
Successful	131	2.68	0.67	0.06			
					1.04	0.64	236.37
Obese	112	2.63	0.66	0.06			
048							
Successful	131	3.15	0.67	0.06			
					1.22	0.46	240.21
Obese	112	3.11	0.61	0.06			
049							
Successful	131	3.03	0.79	0.07			
					1.01	0.73	234.71
Obese	112	2.96	0.79	0.08			
050							
Successful	131	2.27	0.89	0.08			
					1.00	1.39	235.04
Obese	112	2.12	0.89	0.08			

Table 18

Analysis of Variance Between Successful and Normal Groups and T-Value for Each Individual Item Comparison

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
001							
Successful	131	1.81	0.58	0.05			
					1.01	-0.70[33]	229.92
Normal	109	1.86	0.59	0.06			
002							
Successful	131	2.99	0.42	0.04			
					1.35	0.49	214.32
Normal	109	2.96	0.49	0.05			
003							
Successful	131	3.29	0.61	0.05			
					1.37	0.20	237.81
Normal	109	3.28	0.53	0.05			
004							
Successful	131	3.25	0.55	0.05			
					1.08	0.19	232.96
Normal	109	3.24	0.53	0.05			

*significant at the .05 level of confidence
**significant at the .01 level of confidence

[33]F. E. Satterthwaite, "An Approximate Distribution of Estimates of Variance Components," Biometrics Bulletin, 2nd ed. 1946, pp. 110-114.

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
005							
Successful	131	3.67	0.52	0.05			
					1.09	-0.53	233.29
Normal	109	3.71	0.49	0.05			
006							
Successful	131	1.89	0.59	0.05			
					1.40	-2.02*	237.93
Normal	109	2.03	0.49	0.05			
007							
Successful	131	1.98	0.56	0.05			
					1.07	-1.17	226.94
Normal	109	2.06	0.58	0.06			
008							
Successful	131	1.55	0.81	0.07			
					1.06	1.51	232.43
Normal	109	1.39	0.78	0.08			
009							
Successful	131	3.11	0.50	0.04			
					1.23	1.44	236.43
Normal	109	3.02	0.45	0.04			
010							
Successful	131	2.73	0.52	0.05			
					1.37	-1.48	237.80
Normal	109	2.83	0.45	0.04			

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
011							
Successful	131	2.31	0.51	0.05			
					1.05	-1.07	228.01
Normal	109	2.39	0.53	0.05			
012							
Successful	131	2.04	0.78	0.07			
					1.07	-0.61	227.27
Normal	109	2.10	0.80	0.08			
013							
Successful	131	2.33	1.10	0.09			
					1.10	-0.28	225.87
Normal	109	2.38	1.15	0.11			
014							
Successful	131	1.93	0.67	0.06			
					1.15	-2.68**	234.78
Normal	109	2.16	0.63	0.06			
015							
Successful	131	3.59	0.61	0.05			
					1.11	-0.47	234.01
Normal	109	3.62	0.57	0.06			
016							
Successful	131	2.02	0.66	0.06			
					1.11	-1.04	233.88
Normal	109	2.10	0.62	0.06			

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
017							
Successful	131	2.92	0.59	0.05			
					1.55	0.09	237.73
Normal	109	2.92	0.47	0.05			
018							
Successful	131	2.85	0.73	0.06			
					1.16	-0.43	222.94
Normal	109	2.89	0.79	0.08			
019							
Successful	131	2.56	0.69	0.06			
					1.22	0.25	220.37
Normal	109	2.54	0.76	0.07			
020							
Successful	131	2.95	0.64	0.06			
					1.29	0.61	237.22
Normal	109	2.89	0.56	0.05			
021							
Successful	131	3.45	0.56	0.05			
					1.08	1.15	232.96
Normal	109	3.53	0.54	0.05			
022							
Successful	131	2.94	0.65	0.07			
					1.02	0.15	230.75
Normal	109	2.93	0.65	0.06			

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
023							
Successful	131	2.00	0.86	0.08			
					1.01	-1.73	230.54
Normal	109	2.19	0.86	0.08			
024							
Successful	131	2.43	1.00	0.09			
					1.38	0.28	237.89
Normal	109	2.39	0.85	0.08			
025							
Successful	131	2.99	0.55	0.05			
					1.20	-0.52	236.00
Normal	109	3.03	0.49	0.05			
026							
Successful	131	2.87	0.59	0.05			
					1.70	-0.43	236.50
Normal	109	2.89	0.45	0.04			
027							
Successful	131	2.90	0.52	0.05			
					1.10	0.58	233.64
Normal	109	2.86	0.49	0.05			
028							
Successful	131	3.36	0.69	0.06			
					1.27	0.87	217.94
Normal	109	3.28	0.78	0.08			

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
029							
Successful	131	2.64	0.65	0.06			
					1.29	-0.13	237.26
Normal	109	2.65	0.57	0.05			
030							
Successful	131	1.98	0.74	0.06			
					1.27	-0.27	237.02
Normal	109	2.01	0.66	0.06			
031							
Successful	131	3.09	0.78	0.07			
					1.17	0.57	235.42
Normal	109	3.04	0.72	0.07			
032							
Successful	131	2.05	0.79	0.07			
					1.08	-0.00	233.05
Normal	109	2.05	0.76	0.07			
033							
Successful	131	3.22	0.75	0.07			
					1.10	0.30	233.52
Normal	109	3.19	0.71	0.07			
034							
Successful	131	2.71	0.76	0.07			
					1.09	0.94	226.33
Normal	109	2.61	0.79	0.08			

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
035							
Successful	131	3.02	0.66	0.06			
					2.21	1.34	228.52
Normal	109	2.93	0.45	0.04			
036							
Successful	131	3.15	0.49	0.04			
					1.36	-0.15	214.16
Normal	109	3.16	0.58	0.06			
037							
Successful	131	2.79	0.76	0.07			
					1.21	-0.23	236.05
Normal	109	2.81	0.69	0.07			
038							
Successful	131	3.15	0.79	0.07			
					1.07	-0.02	226.95
Normal	109	3.15	0.82	0.08			
039							
Successful	131	1.44	0.61	0.05			
					1.02	-3.30**	229.13
Normal	109	1.69	0.62	0.06			
040							
Successful	131	2.31	0.77	0.07			
					1.13	-1.58	234.47
Normal	109	2.46	0.73	0.07			

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
041							
Successful	131	3.45	0.72	0.06			
					1.38	2.35*	213.14
Normal	109	3.21	0.84	0.08			
042							
Successful	131	2.47	0.85	0.08			
					1.18	0.48	235.57
Normal	109	2.42	0.79	0.08			
043							
Successful	131	2.14	0.86	0.08			
					1.02	-0.74	229.43
Normal	109	2.22	0.87	0.08			
044							
Successful	131	2.86	0.64	0.06			
					1.24	1.29	236.62
Normal	109	2.76	0.58	0.06			
045							
Successful	131	2.44	0.67	0.06			
					1.27	0.48	236.96
Normal	109	2.40	0.59	0.06			
046							
Successful	131	2.18	0.74	0.07			
					1.09	0.80	233.42
Normal	109	2.10	0.71	0.07			

Table 18--Continued

Item	Number of Cases	Mean	Standard Deviation	Standard Error	F Value	T Value	Degrees of Freedom
047							
Successful	131	2.68	0.67	0.06			
					1.18	-0.65	235.50
Normal	109	2.73	0.62	0.06			
048							
Successful	131	3.15	0.67	0.06			
					1.56	1.75	237.66
Normal	109	3.01	0.54	0.05			
049							
Successful	131	3.03	0.79	0.07			
					1.15	-1.08	234.99
Normal	109	3.14	0.74	0.07			
050							
Successful	131	2.27	0.89	0.08			
					1.32	1.80	237.50
Normal	109	2.08	0.77	0.07			

APPENDIX F

DISTRIBUTION OF ITEMS ACCORDING TO TYPES OF ATTITUDES BEING MEASURED

Self	Others	Family	Work	Not Categorized
1	3	5	31	7
2	5	12	35	8
4	19	24	39	13
6	21	28		17
9	40	33		46
10	45	41		
11				
14				
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