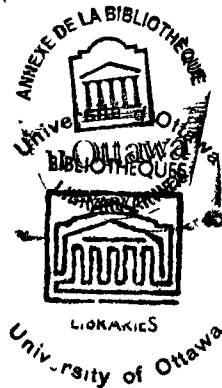


RELATIONSHIPS OF FIELD DEPENDENCE AND SELECTED PERSONALITY  
CHARACTERISTICS TO SUCCESSES AND DROP-OUTS IN A SHORT-TERM  
PSYCHOTHERAPEUTIC INTERVENTION.

by Kenneth E. Breitman

Thesis presented to the School of  
Graduate Studies of the University  
of Ottawa as partial fulfillment of  
the requirements for the degree of  
Doctor of Philosophy



Ottawa, Canada, 1975



UMI Number: DC53577

### INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

**UMI<sup>®</sup>**

---

UMI Microform DC53577  
Copyright 2011 by ProQuest LLC  
All rights reserved. This microform edition is protected against  
unauthorized copying under Title 17, United States Code.

---

ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

## ACKNOWLEDGEMENTS

This thesis was prepared under the supervision of Henry P. Edwards, Ph.D., Dean of the Faculty of Psychology at the University of Ottawa. The writer expresses gratitude for his guidance and continued interest in this project.

The writer also wishes to acknowledge the assistance of Joseph DeKoninck, Ph.D., Assistant Professor of Psychology, who served as a member of his thesis committee. His advice was greatly appreciated. Gratitude is also extended to Mr. E. Achorn for his technical assistance.

## CURRICULUM STUDIORUM

Kenneth E. Breitman was born in Newark, New Jersey, on August 30, 1940. He received the Bachelor of Arts degree from Fairleigh Dickinson University, Madison, New Jersey, in 1964. He received the Master of Arts degree in psychology from Fairleigh Dickinson University, Teaneck, New Jersey, in 1966. The title of his interim thesis was An Examination Of Particularized Aspects Of Field Articulation Style In Chronic Versus Reactive Obese Adult Females.

## LIST OF TABLES

Table	page
I.- Raw Scores on Rod-And-Frame and Group Embedded Figures Tests . . . . .	73
II.- Analysis Of Variance For Per Cent Of Weight Change In Three Treatment Groups With Two Field Dependence Levels . . . . .	93
III.- Summary Of Results Of A Multiple Linear Regression Analysis Of Predictors of Treatment Persistence. . . . .	95
IV.- Summary Of Results Of A Multiple Linear Regression Analysis Of Predictors Of Percent Of Weight Change . . . . .	97
V.- Summary Of Results Of A Multiple Linear Regression Analysis Of Predictors Of Amount Of Pounds Changed. . . . .	99
VI.- Summary Of Results Of A Multiple Linear Regression Analysis Of Predictors Of Subjects' Persisting In Treatment. . . . .	101
VII.- Summary Of Results Of A Multiple Linear Regression Analysis Of Predictors of Pounds Changed By Treatment Stay-Ins . . . . .	103
VIII.- Partial Correlation Matrix: Field Dependence With Other Variables. . . . .	106
IX.- ANOVA Summary Table For Percent Of Weight Change As Dependent Variable . . . . .	107
X.- ANOVA Summary Table For Pounds Of Weight Change As Dependent Variable . . . . .	108
XI.- Partial Table of Intercorrelations; Including Percent Weight Loss, Pounds Lost, Treatment Persistence, and Hope, Gratification and Mastery Scores, and Field Dependence Levels. . .	109a

## LIST OF FIGURES

Figure	page
1.- Vertical Rod and Frame Apparatus . . . . .	46
2.- Head Support Assembly . . . . .	48

## TABLE OF CONTENTS

Chapter	page
INTRODUCTION . . . . .	viii
I.- REVIEW OF THE LITERATURE . . . . .	1
1. Environmental Effects on Behavior in Obese Women . . . . .	1
2. The Potential Relationship Between Field Dependence and Treatment Outcome. . . . .	10
3. The Need For Special Motivational Mea- sures Of Treatment Prediction . . . . .	26
II.- RESEARCH DESIGN. . . . .	34
1. The Sample . . . . .	34
2. The Research Tools . . . . .	43
3. The Procedure. . . . .	61
4. Statistical Analysis . . . . .	89
III.- PRESENTATION AND DISCUSSION OF RESULTS . . . . .	92
1. Presentation of Results. . . . .	94
2. Discussion of Results. . . . .	110
SUMMARY AND CONCLUSIONS. . . . .	127
BIBLIOGRAPHY . . . . .	130
 Appendix	
1. FORMAT OF NEWSPAPER ADVERTISEMENT FOR PROCUR- ING SUBJECTS . . . . .	138
2. TEXT OF THE STANDARDIZED TELEPHONE INTERVIEW . . . . .	140
3. TEXT OF THE TAPE RECORDED ORIENTATION MESSAGE. . . . .	144
4. INSTRUCTIONS FOR ADMINISTRATION OF THE ROD- AND-FRAME TEST . . . . .	148
5. BIOGRAPHICAL QUESTIONNAIRE . . . . .	152
6. ORIENTATION TO TREATMENT . . . . .	158
7. SAMPLE OF THE INFORMED CONSENT SHEET . . . . .	164
8. SAMPLE OF MOUTHFULS CHART. . . . .	166
9. RAW DATA . . . . .	168
10. <u>ABSTRACT OF Relationships Of Field Dependence         And Selected Personality Characteristics To         Successes And Drop-outs In A Short-Term Psy-         chotherapeutic Intervention.</u> . . . . .	173

## INTRODUCTION

Recent researches have reported greater field dependence levels in obese than normal weight women. One characteristic of field dependence appears to be heightened reactivity to social-emotional cues. A repeatedly noted characteristic of obese women was internalization of affects, and accommodation to the wishes, needs, and demands of others; especially to forestall, or preclude their anger and rejection. In this context, it is highly plausible that the field dependent characteristics of obese women may both affect the validity of their psychological test results and their courses of treatment. Such behavioral trends may also bear upon the divergent personality findings obtained from psychological test results and therapists' assessments of the obese. Further, it may contribute to the high failure and dropout rates universally reported in obesity treatment. The literature has, therefore, repeatedly called for diagnostic and predictive tools with the capacity to rectify this costly and, too frequently, frustrating situation.

It was the purpose of this thesis to examine and explain the treatment results of obese adult women (including possible rationales for dropping out of treatment, and achievement of success), with particular emphasis upon the predictive values of field dependence levels and five motivational criteria.

The first chapter presents a review of the literature which describes obesigenesis, and various behaviors of obese individuals. It also examines field dependence as a personality parameter, and reviews research which has applied this construct to treatment-outcome analyses. The chapter concludes with a statement of the hypotheses to be tested.

The second chapter describes the subjects used in the experiment and discusses the experimental tools which were employed. In addition, the experimental procedure and statistical analyses used to test the research hypotheses are presented.

The third and final chapter presents the statistical results of the experiment and discusses their meanings. It also includes recommendations for future research in related areas.

## CHAPTER I

### REVIEW OF THE LITERATURE

The following review of the literature examines field dependence and hope as potential predictors of psychological treatment results. Specific attention is given to the literature concerning personality characteristics of obese women. This is elaborated in three sections, which include: 1. Environmental Effects on Behavior in Obese Women; 2. The Potential Relationship Between Field Dependence And Treatment Outcome; 3. The Need For Special Motivational Measures Of Treatment Prediction. The above points are integrated in a concluding section which presents the research rationale and the hypotheses to be tested.

#### 1. Environmental Effects On Behavior In Obese Women.

This section briefly describes those behavioral characteristics of obese women which are central to the understanding of the effects of field dependence upon their environmental reactivity. These include social submissiveness, identity problems, and feelings of helplessness.

The fact that early family experiences contribute to the development of simple, or non-organic obesity has been a general observation in the literature. Where childhood onset

obesity was observed, characteristic physical inactivity and overeating coexisted, and dependence upon the external environment for need-fulfillment was common. Typically, discouragement of independence strivings, and poor personality differentiation occurred; such persons ultimately possessed poor self-concepts, and lack of awareness of inner strengths and imperatives.<sup>1</sup>

Throughout adolescence and early adulthood, maintenance of obesity and unresolved dependency resulted in feelings of social alienation, shame, self-recrimination, and submissiveness caused by feelings of helplessness related to emotional and physical problems. These feelings often affected motivation and were reflected in psychological and social withdrawal tendencies, which increased the likelihood of an obese physical adjustment.<sup>2</sup> Potentials for adult weight loss, both where continuance of the psychological problems occurred in childhood, and where identity and physical self-image problems failed to be resolved in adolescence, were found to be poor.<sup>3</sup> Apparently, their long-lived perceptions of the world and themselves are what mitigate against good psychological

---

1 Hilde Bruch, Eating Disorders, Basic Books, Inc., New York, 1973.

2 Ibid., p. 149.

3 Myer Mendelson, Norris Weinberg, and Albert J. Stunkard, "Obesity In Men: A Clinical Study of Twenty-Five Cases", Annals Of Internal Medicine, Vol. 54, 1961, p. 668.

treatment results. Conditioning of their cognitive and affective dispositions (as the result of life experiences) may stylize sensory cue perceptions, so that hunger may arise in response to fear, loneliness, and feelings of worthlessness. Such hunger responses may account for overeating and obesity in patients whose appetites are not nutritionally or need-linked.<sup>4</sup>

Understanding the influence of the external environment in shaping the personality of the obese is of critical importance. Conditioning of external cue dependence affects both personality and physical functioning. Mayer<sup>5</sup> theorized that cortical and physiological aspects of eating regulation were subject to psychological shaping, and that this shaping often played a central role in the genesis and maintenance of obesity. Schachter<sup>6</sup>, too, questioned whether biological and psychological aspects of hunger were necessarily positively correlated. By studying small numbers of obese and normal weight subjects under various stimulus conditions, he concluded that for obese individuals, internal physical states were irrelevant in the perception of hunger, and eating

---

<sup>4</sup> Harold I. Kaplan and Helen Singer Kaplan, "The Psychosomatic Concept of Obesity", Journal of Nervous and Mental Diseases, Vol. 125, No. 2, 1957, p. 190.

<sup>5</sup> Jean Mayer, "Genetic, Traumatic, and Environmental Factors in the Etiology of Obesity", Physiological Review, Vol. 33, No. 4, 1953, p. 495.

<sup>6</sup> Stanley Schachter, "Obesity and Eating", Science, Vol. 161, 1968, p. 753.

occurred largely as a result of reactivity to external factors. This was accentuated when, by 'gimmicking' clocks to run half, or twice normal speed, obese and normal weight subjects were significantly different from each other in their identification of biological hunger.<sup>7</sup> The closer the rigged clocks were to traditional mealtimes, the more obese subjects ate or reported hunger. Similarly, in studying 296 observant Jewish college students, this observation was confirmed.<sup>8</sup> The obese students, subjected to virtually no food-relevant external cues on a religious fast day, abstained from food in significantly greater numbers than normal-weight students.

Stunkard<sup>9</sup>, in exploring psycho-biological parameters of these kinds of behavior, inserted tubes into the stomachs of seventeen obese and eighteen non-obese women and inflated them to fifteen centimeters of water. Kymographic recordings were taken by water manometer from the tube, which was anchored at each subject's nose. This procedure yielded information on whether or not verbalization of hunger level

---

7 Stanley Schachter, Op. Cit., p. 754.

8 R. Goldman, Melvyn Jaffa, and Stanley Schachter, "Yom Kippur, Air France, Dormitory Food, and the Eating Behavior of Obese and Normal Persons", Journal of Personality and Social Psychology, Vol. 10, No. 2, 1968, p. 117.

9 Albert Stunkard, "Obesity and The Denial Of Hunger", Psychosomatic Medicine, Vol. 21, 1959, p. 287.

(at fifteen minute intervals) was correlated with actual gastric motility. Obese subjects demonstrated a correlation which showed them to have been less able to match hunger awareness and its biological counterpart than normal weight subjects. Statistically, differences between the obese and the normal groups were significant at the one per cent level. Again, support appeared for the observation that obese women are dependent upon external environmental cues for commencement of eating behavior.

• Further exploration into reasons for the idiosyncratic biologically inappropriate eating behaviors of the obese focused upon emotional dependency. Hughes and Render<sup>10</sup> postulated that obesity often indicated breakdown of perceived relationships between these persons and those who are the object of their dependence. With dependency needs blocked, subjects developed anger, internalized it, and learned to alleviate it by eating. This was thought to be especially true of the emotionally overcontrolled, undifferentiated personality. The authors proposed that this suppressed anger evoked special cognitive reactions to stimuli related to the source of anger arousal. To experimentally test their hypotheses, they measured differences in time estimation

---

10 Rosalie Hughes and Mary E. Render, "Estimates of Psychological Time Among Obese and Non-Obese Women", Journal of Psychology, Vol. 70, 1968, p. 213.

between obese and normal weight subjects. Previous findings, which demonstrated that such judgements were sensitive to emotional states, were documented. They also showed that time filled with conditions productive of anxiety was rated longer than neutrally filled time.<sup>11</sup> Sixteen obese and sixteen normal weight females were then exposed to time judgment tasks. It was hypothesized that: 1. Owing to their generally elevated anxiety levels, obese subjects would more frequently overestimate anxiety-filled time than would their normal weight counterparts, and; 2. Periods filled with dependency-conducive relationships would elicit greater overestimation of time than neutrally filled time, and that; 3. There would be an interaction between type of stimulus activity and obesity. Statistical tests of their data confirmed all hypotheses. This suggested that in particular environmental situations, persons differing in level of external cue dependence (field dependence) were differently affected by stressful stimulation. Such findings may be closely linked to the results of group therapy involvement, since stress, and resultant anxiety, are invariably inherent in such treatments.

Demonstration of the fact that work-task productivity was affected by the interaction of external stress

---

11 R. Hughes and M. E. Render, Op. Cit., p. 213.

and field dependence, was presented by Konstadt and Forman.<sup>12</sup> Thirty-eight children divided into field independent and field dependent groups demonstrated that the latter performed significantly more poorly on a clerical speed and accuracy type task. The result was attributed to the experimenter's covert cues of disapproval, to which the field dependent subjects were more reactive, and aversively affected. As in the present study, subjects were assigned to research groups by someone other than the experimenter. This kept the experimenter naive to the subjects' field dependence levels.

The relationship between the results of the last two studies noted and the present investigation lay in the proposal that when more and less field dependent subjects are confronted by both the psychological and social stresses of problem-oriented group work, predictable differences in drop-out and treatment results will be shown to relate to subjects' levels of field dependence.

In terms of further environment-field dependence interactions, Mc Carrey<sup>13</sup> observed that field dependent subjects rely upon external, environmental information in order to

---

12 N. Konstadt and E. Forman, "Field Dependence and External Directedness", Journal of Personality and Social Psychology, Vol. 1, 1965, p. 490.

13 Michael Mc Carrey, "Attitude Shift, Approval Need and Extent of Psychological Differentiation", unpublished doctoral dissertation, University of Ottawa, 1968.

define, maintain, and/or shift their judgements more notably than do field independent subjects. This was particularly relevant to the writer's last postulation. Mc Carrey's data, although not derived from an obese female population, indicated that, in his sample, either lower attitude shifts or approval needs were related to better Rod-And-Frame test scores. Subjects with both low approval need and less attitude shifts were most field independent. Subjects who demonstrated high shift of attitude and high approval need were, generally, most field dependent.<sup>14</sup> Kingsley<sup>15</sup>, in a preliminary report on a test for evaluating prognosis in group psychological treatment, noted that reaction to authority figures, peer relationships, dependency and independency strivings, thoughts concerning change, and reactions to group pressures exerted important influence upon patients' responses to group therapy. Because of their presumably heightened social cue sensitivities, it was, especially in view of Mc Carrey's findings, expected that these factors should weigh differently upon the more and less field dependent obese subjects.

From inspection of the literature on obesity it was observed that eating behaviors of obese subjects were frequently

---

<sup>14</sup> Michael Mc Carrey, Op. Cit., p. 86.

<sup>15</sup> L. Kingsley, "A Preliminary Report of a test For Evaluation and Prognosis in Group Psychotherapy", Journal of Group Psychoanalysis and Process, Vol. 1, No. 2, 1968, p. 72.

determined by external situations. Bruch<sup>16</sup> accentuated the idea that unlike psychologically well-integrated non-obese persons, the obese have grown up in bodily size and physical maturation, but not in terms of independence and responsibility. Thirty-years subsequent to the presentation of these observations, Bruch reported:

(...) it was recognized that there were (...) serious perceptual and conceptual disturbances which were also related to disturbances in the early learning experiences, due to abnormal transactional processes in the family.<sup>17</sup>

It has regularly been noted that behavior is influenced in large part by external cues. It follows, therefore, that subjects who were particularly sensitive to external cues could be considered field dependent. Persons who demonstrated that they were more reliant upon and influenced by internal cues were described as field independent. Each of these perceptual styles has been found to be differentially represented in the various nosologies of the diagnostic nomenclature. Field dependence was found to inhere in the simple obesity

---

16 Hilde Bruch, "Obesity In Childhood and Personality Development", American Journal of Orthopsychiatry, Vol. 11, 1941, p. 467.

17 Hilde Bruch, "Family Transactions In Eating Disorders", Comprehensive Psychiatry, Vol. 12, No. 3, 1971, p. 239.

syndrome.<sup>18</sup>

It was from the various research results that were noted, that the writer generated the view that if field dependence were examined as it related to treatment criteria, such as drop-out and weight change behaviors, it would demonstrate predictive usefulness.

The following section of this chapter further examines and classifies the nature and behavioral role of field dependence in obese women. Here it was the writer's intention to demonstrate the special pertinence of field dependence to psychosomatically distressed persons. The appropriateness of using the concept of field dependence in studying psychological group treatment results with obese women is subsequently explained.

## 2. The Potential Relationship Between Field Dependence And Treatment Outcome.

This section examines the concept of field dependence, elaborates its apparent shaping influence in intra- and interpersonal relations, and demonstrates its potential usefulness as a treatment predictor in samples of obese women.

Field articulation style was originally described by

---

<sup>18</sup> Stephen A. Karp, and Herbert Pardes, "Psychological Differentiation (Field Dependence) in Obese Women", Psychosomatic Medicine, Vol. 27, No. 3, 1965, p. 238-244.

Witkin,<sup>19</sup> and was reported to reflect whether individuals approached the environment dependently (unarticulated, or global) or independently (articulated, or differentiated). Indices of individuals' styles of environmental response were derived from performances on tests of perception of visual cues. Predisposition to a perceptual style was related to one's interactions with the external environment during early life. As the individual explored his surroundings and gained various cognitive and motor proficiencies, the self was expected to become progressively more differentiated and independent. Lack of sufficient experiences decreased the opportunity to become differentiated, producing field dependence, and was reflected in poorer performance on field articulation tests.<sup>20</sup> Articulated, or field independent persons demonstrated more accurate performances and, consequently, better scores. These facets of the ontogenesis of field dependence show definite parallels with the development of childhood obesity.

From field articulation evaluation, not only was the manner of a person's visual-perceptual approach to his environment obtained, but cognitive criticality was also revealed. For example, field dependent persons were found less able to

---

19 Herman A. Witkin, et al., Psychological Differentiation, New York, Wiley and Son, 1962, p. 13, 14.

20 These tests are described in Chapter II in the section concerning research tools.

solve problems which necessitated location of pertinent elements within a visual context and to use this information in other contexts.<sup>21</sup>

As a consequence of their adaptational predispositions, field independent and field dependent individuals adapt to life's psychological stresses differently. The formers' defense mechanisms tended to be specialized, and included isolation and intellectualization, and other techniques which demanded developed differentiation. The latter group tended to reflect less differentiation, with global, or unarticulated techniques, such as denial and repression, identified.<sup>22</sup> Further, it was found that along with an unarticulated cognitive style, Ss' feelings directly influenced perceptual discrimination, and mentation. The affective stimulus values of perceptual inputs were inseparable from thoughts. It was seen that field independent people, by use of isolation as one characteristic defense mechanism, were presumably able to separate feelings from ideas; whereas in repression or denial, affect and thought were intertwined.<sup>23</sup>

---

21 H. A. Witkin, "Psychological Differentiation and Forms of Pathology", Journal of Abnormal Psychology, Vol. 70, 1965, p. 319.

22 Ibid. Also, H.A. Witkin, D.R. Goodenough, And S.A. Karp, "Stability of Cognitive Style From Childhood To Young Adulthood", Journal of Personality and Social Psychology, Vol. 7, No. 3, 1967, p. 291.

23 H. Witkin, et al., Psychological Differentiation, Op. Cit., p. 206.

Psychological defense mechanisms appeared to be influenced by individuals' perceptual styles. With regard to these adjustments in field dependent subjects, "it may be (...) accurate to state that (they react) with disruption and ineffectiveness in the face of strange or unstructured stimulus configurations."<sup>24</sup> Recovery from such situations was seen as overly dependent on the external environment. This was generally related to their relative inability to autonomously bring forth internally derived cues and give them adequate social structure. Instead, they remained disrupted, or continued seeking order from others to structure their reactions.<sup>25</sup> If such behavioral patterns were classified as dynamic processes of the personality, then environmental and situational dependency could be taken as constructs which complimented Witkin's view:

---

<sup>24</sup> Rogers Elliott, "Interrelationships Among Measures of Field Dependence Ability and Personality Traits", Journal of Abnormal and Social Psychology, Vol. 63, No. 1, 1961, p. 28.

<sup>25</sup> Rogers Elliott, Op. Cit., p. 34.

To the extent that a given symptom is an end-product of particular dynamic processes, it may serve to identify these processes. Classification in terms of particular symptom pictures is therefore likely to bring together persons with common underlying dynamic processes.<sup>26</sup>

Further, the literature indicated that field articulation and its behavioral artifacts were clearly related to subjects' ability to adjust to and manage their environments. Witkin identified field dependent subjects as tending "(...) to use the social context in which they find themselves for definition of attributes of the self."<sup>27</sup> He and his colleagues identified the described behavior as representative of a deficiency in the development of separate psychological identity. Furthermore, it was taken as reflective of selves which were, to a limited degree, differentiated.

The development of personality disturbances amongst persons who demonstrated a global style of cognition was related to the production of severe identity problems.<sup>28</sup> Along with such characteristics were symptoms reflective of deeply entrenched dependency, poorly developed controls (which were manifest in subjects' immature environmental coping styles),

---

<sup>26</sup> H. A. Witkin, et al., Psychological Differentiation, Op. Cit., p. 206.

<sup>27</sup> H. A. Witkin, D. Goodenough, and S. Karp, Op. Cit., p. 291.

<sup>28</sup> H. A. Witkin, "Psychological Differentiation And Forms of Pathology", Op. Cit., p. 324.

and strong indications of passive-helpless attributes. On the other hand, people with articulated styles of cognition appeared to have a more mature sense of separate identity. This was reflected in a better awareness of their personal needs, their feelings, and their attributes of self; as separate from others.<sup>29</sup> Many implications concerning separate identity and segregation of the self from the environment at large have been noted. Having a knowledge of one's self as a structured being, and moreover, having developed a sense of reliance upon self-generated behavioral guidelines were characteristics generally found to have been possessed by the articulated (i.e. field independent persons), but not by the global perceivers (i.e. field dependent persons).

Psychosomatic literature between 1950 and 1966 emphasized the fact that environmental cues perceived by sufferers of psychosomatic disorders made particularly deep impressions on them; especially so were other persons' perceptions of them.<sup>30</sup> There was a notable similarity between the description of basic traits of psychosomatic reactors and those inherent in field dependent subjects.

---

<sup>29</sup> Ibid.

<sup>30</sup> Irwin A. Berg and L. A. Pennington, An Introduction To Clinical Psychology, 3rd Ed., New York, Ronald Press, 1966, p. 278, quoting R. Matarazzo, J. D. Matarazzo, and G. Saslow, "The Relationship Between Medical and Psychiatric Symptoms", Journal of Abnormal and Social Psychology, Vol. 62, 1961, p. 55-61.

The dynamic linkage that exists between sense of body and sense of self suggested that the ready fusion of body and field in experience may in turn signify a self which is limited both as to segregation and inner structure (...). Studies in fact showed (...) that people with a relatively field dependent way of perceiving have a less developed sense of their own identity and of their separateness from others than do more field independent perceivers. A self which is only limitedly segregated from the field--or which, in experience, easily 'loses' itself in the field--is characteristic of people who tend to experience the body or any object as 'fused' with its surroundings.<sup>31</sup>

In retrospect, then, it appeared that common psychological denominators were found in the personalities of field dependent subjects and psychosomatic reactors. Chief among these was a high degree of environmental reactivity, and poor, or limited, separation of the self from the environment's stimulation.

Increased differentiation reflects progressive, but limited changes which ordinarily were characteristic of increasing maturation. Longitudinal research with cross-sectional groups of peer aged subjects showed gradual increases in levels of field independence until age seventeen.<sup>32</sup> Fairly minimal change occurred from then until age twenty-four. It was also reported that over a fourteen year period, the

---

31 H. A. Witkin, Psychological Differentiation, Op. Cit., p. 5.

32 H. A. Witkin, Donald Goodenough, and Stephen Karp, "Stability of Cognitive Style From Childhood To Young Adulthood", Op. Cit., p. 291.

relative level of field dependence showed marked stability. Females (possibly by virtue of sampling bias) appeared to demonstrate a regression toward increased field dependence subsequent to age seventeen.<sup>33</sup> Ostensibly, three major features, all of which were presumed shaped by environmental influences were isolated as crucial facets in the development of articulation style. First, through time, and under normal circumstances, increases were noted in the level and quality of perceptual discrimination. These increases were largely influenced by the variety of learning experiences to which children were exposed. Secondly, as the first phase in this three-part progression developed, perception of particular constructs within perceptual and behavioral situations may be separated from the overall perceptual field with more alacrity. Finally, sharpening awareness was observed as children viewed clear and accurate lines of demarcation between individual self and the external environment. Being environmentally influenced, it may be seen that where environment precluded such transitional growth, this was

---

<sup>33</sup> H. A. Witkin, D. R. Goodenough, and Stephen A. Karp, "Stability of Cognitive Style From Childhood To Young Adulthood", Journal of Personality and Social Psychology, Vol. 7, No. 3, 1967, p. 291.

reflected in the perceptual mode of later life. Where the transition was blocked, the expectation was that perceptual dependence (the inability to segregate perceptions into well-defined constituent elements which could be reacted to objectively), and its behavioral consort, 'dependency' ensued. On the other hand, the counterpart of this situation would be perceptual 'independence'. Persons functioning in this mode have been described<sup>34</sup> as using combinations of elements within perceptions in conjunction with their own, well-identified, internal repertoire of possible reactions. In the first instance, behavior was observed as 'inflexible', while in the second it was 'flexible'. Baldwin's developmental schema reflected the situational precursors of field dependent and field independent perceptual-cognitive styles as already described in the present paper.

Examination of a psychosomatic disorder such as simple obesity under the purview of the mechanics of field differentiation style, appeared to be a logical and desirable enterprise. Kessler's<sup>35</sup> review of the modern literature concerning psychosomatic reactions called particular attention to the coarctation of emotional expression which has been widely

---

<sup>34</sup> Alfred L. Baldwin, Behavior and Development In Childhood, New York, Dreyden Press, 1955, p. 88-93.

<sup>35</sup> Jane W. Kessler, Psychopathology of Childhood, Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 1966, iii-533 p.

observed in individuals with such problems. Somatization functioned as a channel of expression through which emotionally-charged affect (ordinarily internalized) may be discharged.

Samples of individuals representing a variety of physical and emotional disturbances have been observed. Such groups have been found to be normally distributed in terms of their field dependence levels. Importantly, though, certain subgroups were highly differentiated and others undifferentiated. Alcoholics, hysterical neurotics, asthmatics, ulcer patients, and patients with functional cardiovascular disorders showed prevalent field dependency.<sup>36</sup> Repeatedly, samples of obese women have been found significantly more field dependent than normal weight controls. To better understand the pertinence of these findings in conjunction with treatment outcomes, it is noted that Jackson<sup>37</sup> has found field dependent Ss less active, less self-aware, less self-assured, and generally less mature than well differentiated (field independent) subjects. Eisner<sup>38</sup> has reported fixity of social response in field dependent Ss, and social mobility as a characteristic of field

---

<sup>36</sup> Stephen A. Karp, and Herbert Pardes, Op. Cit., p. 239.

<sup>37</sup> D. Jackson, "Independence and Resistance to Perceptual Field Forces", Journal of Consulting Psychology, Vol. 21, No. 6, 1957, p. 279-281.

<sup>38</sup> Donald Eisner, "Developmental Relationships Between Field Independence and Fixity-Mobility", Perceptual and Motor Skills, Vol. 34, 1972, p. 767-770.

independent subjects. Both Honigfeld and Spigel<sup>39</sup> and Wertheim and Mednick<sup>40</sup> observed a positive relationship between increased N-Ach levels and greater field independence. In terms of the present question about the potential influence of field dependence upon psychological treatment results it was noted that field dependence was found to be positively correlated with pessimism in the face of frustration.<sup>41</sup> These Ss were less persistent than field independent Ss in terms of goal-striving and maintenance of self-confidence. Such attitudes have been compartmentalized in terms of field dependent Ss being inflexible punishment-avoiders, while more field independent Ss are more flexible reward-seekers.<sup>42</sup>

Karp and Pardes' seminal research<sup>43</sup> which demonstrated greater field dependence in obese than normal-weight Ss, was based upon results of field articulation tests on thirty-four

---

39 G. Honigfeld and I. Spigel, "Achievement Motivation and Field Independence", Journal of Consulting Psychology, Vol. 24, 1960, p. 550-551.

40 Jack Wertheim and S. A. Mednick, "The Achievement Motive and Field Independence", Journal of Consulting Psychology, Vol. 22, No. 1, 1958, p. 38.

41 Susan B. Campbell and Virginia Douglas, "Cognitive Styles and Responses to the Threat of Frustration", Canadian Journal of Behavioral Science, Vol. 4, No. 1, 1972, p. 30.

42 Donald R. Bell and Donald I. McManis, "Perceptual Differences of Ss Classified as Reward Seekers and Punishment Avoiders", Perceptual and Motor Skills, Vol. 27, 1968, p. 51-56.

43 S. Karp and H. Pardes, Op. Cit., p. 238-244.

obese and thirty-four non-obese (never obese) controls. Field dependence was defined as the average of the z scores obtained on the Rod-And-Frame, Body Adjustment, and Embedded Figures tests, the three classical measures of field articulation.<sup>44</sup> Mean scores on these three tests, when presented as a collective index, significantly differentiated obese and normal weight subjects. Although the Rod-And-Frame and Embedded Figures tests significantly differentiated the two groups when used individually, the Body Adjustment test scores, while showing a trend in that direction, were not significant. Both the Embedded Figures test and the total index achieved significance at the .01 level as differentiating between the obese and normal weight subjects.

The previous demonstration of significantly greater field dependence in obese than normal weight women occurred in a group in which age onset of obesity was not reportedly controlled. The present writer examined this variable<sup>45</sup> in a sample of fifty-one obese adult females. Ss' mean z scores on the Rod-And-Frame and Embedded Figures tests were compared to determine whether scores of subjects with childhood onset of obesity and those with adult onset of obesity were significantly

---

<sup>44</sup> H. A. Witkin, et al., Psychological Differentiation, Wiley, New York, 1962.

<sup>45</sup> Kenneth E. Breitman, unpublished study, 1972.

different. Subjects were classified as having had childhood onset of obesity if the problem existed up to their eleventh birthdays. Adult onset of obesity was defined as beginning subsequent to the eighteenth birthday. The childhood onset group consisted of twenty-eight subjects, and there were twenty-three subjects in the adult onset group. Mean field dependence scores for the childhood and adult groups were 48.54 and 49.35, respectively, and yielded a non-significant t score. It appeared, therefore, that adult female obese subjects were, as reported by Karp and Pardes,<sup>46</sup> field dependent, regardless of age of onset of obesity. These findings, in addition to observed longitudinal consistency of field dependence level,<sup>47</sup> clarified the relevance of field dependence to obesity and obesity treatment research. Application of this perceptual-personality variable, it appeared, was possible and pertinent, regardless of subjects' dates of onset of obesity and relevant to both the onset and treatment results.

The value of using field dependence measures to predict dropout rates of alcoholics from specialized treatment programs (drug treatment or psychotherapy) was examined by

---

<sup>46</sup> Stephen A. Karp and Herbert Pardes, Op. Cit., p. 238-244.

<sup>47</sup> H. A. Witkin, D. Goodenough, and Stephen Karp, "Stability of Cognitive Style From Childhood To Young Adulthood", Journal of Personality and Social Psychology, Vol. 7, No. 3, 1967, p. 291.

Karp, Kissin, and Hustmyer.<sup>48</sup> Alcoholics had been previously demonstrated<sup>49</sup> to be more field dependent than non-alcoholics. They hypothesized treatment response differences between greater and lesser field dependent subjects. The hypothesis which was especially noteworthy in the context of this thesis stated that "among alcoholics entering psychotherapy, those who drop out (...) relatively early will be more field dependent than those who remain (...)." <sup>50</sup> Dropouts were those subjects who failed to attend treatment for the overall groups' median attendance time. Stayers were those remaining for the median time or longer. Comparison of dropouts and remainers in the psychotherapy program showed that dropouts were significantly more field dependent than remainers ( $p=.01$ ). The writer noted that although motivation for treatment, as subjectively evaluated by professional clinicians, was a pre-treatment consideration, neither reportable objectification of this information, nor its relationship to the results

---

48 S. A. Karp, B. Kissin, and F. E. Hustmyer, "Field Dependence As A Predictor of Alcoholic Therapy Dropouts", The Journal of Nervous and Mental Disease, Vol. 150, No. 1, 1970, p. 77-83.

49 S. A. Karp and N. L. Konstadt, "Alcoholism and Psychological Differentiation: Long Range Effects of Heavy Drinking on Field Dependence", Journal of Nervous and Mental Diseases, Vol. 140, 1965, p. 412-416.

50 S. A. Karp, B. Kissin, and F. E. Hustmyer, Op. Cit., p. 79.

was explained. This was a typical finding in the sparse literature on the relationship of field dependence to treatment results.

Arnon, Kleinman, and Kissin<sup>51</sup> tested whether field dependence ratings identified high-risk patients (i.e. those who left therapy compared with those who stayed and reached various success levels). Thirty male and thirty female subjects matched for age, race, ethnic background, and stabilization on methadone treatment were observed. Results of the study showed that the group of former addicts was bimodally distributed for field dependence. The most field dependent subjects demonstrated progress which reflected poor prognoses. The least field dependent subjects yielded both the best and worst treatment results, in terms of dropping out and failing to beneficially progress. Again, field dependence levels were parameters that were predictive of treatment results in a specialized treatment setting. No information concerning motivation of subjects was reported to have been collected and no association to this variable was considered in their interpretation of results.

Although an abundance of studies appeared which examined the relationship between obesity and external cue

---

51 D. Arnon, M. H. Kleinman, and B. Kissin, "Field Dependence As A Predictor of Improvement In The Treatment of Heroin Addicts", Proceedings of the Fifth National Conference on Methadone Treatment, Vol. 2, 1973, p. 1325-1329.

dependence, none of those which examined relationships between external cue-dependence and treatment or task responsiveness has inspected its applicability as a predictor of obesity treatment results. Attempting to do so appeared promising in view of findings such as those of Honigfeld and Spigel.<sup>52</sup> They reported a significant correlation between female subjects' field independence (as measured by Embedded Figures test) and high scores on a test of need achievement (N-Ach.).

In terms of Ss' satisfaction of wishes after entering group obesity treatment (which is psychological in nature), it must be noted that more field dependent Ss show greater distractibility owing to various social cues, and may be less satisfied by the programs provided than their more field independent counterparts. The latter were shown to be significantly more attendant to cues relevant to productive, correctional tasks.<sup>53</sup>

This section has examined treatment-relevant literature on field dependence. In the section which follows, the writer reviews difficulties observed in using psychological tests to determine special characteristics of obese samples. The role of hope, as a treatment modifying predictor is then

---

52 Honigfeld, and Spigel, Op. Cit., p. 550-551.

53 L. Goldberger and M. Eagle, "Field Dependence and Memory For Incidental Material", Perceptual and Motor Skills, Vol. 21, 1965, p. 743-749.

proposed for exploration in this thesis. Its use is suggested as an alternative to traditional psychological tests.

### 3. The Need For Special Motivational Measures Of Treatment Prediction.

Outcome prediction in obesity treatment has remained an elusive, though thoroughly sought after, task. In 1963, Shipman and Plesset<sup>54</sup> summarized the literature as having few positive findings in this area. The findings which did exist simply inferred that more successful dieters tended to demonstrate better emotional adjustment than their less successful counterparts. Much of the data upon which these findings were based were derived from checklist types of psychological tests. Pertinently, however, both the validity and reliability of such tests have been questioned upon observations of peculiar response sets amongst obese subjects. In point of fact, inconsistent psychological test results from obese samples were sharply contrasted with regularly observed personality traits, historically validated (clinically), after long-term therapeutic associations with clinicians. Repeatedly, although not exclusively, the psychological test and treatment literatures have conflicted in presentations of personality characteristics of obese subjects.

---

<sup>54</sup> W. G. Shipman and M. R. Plesset, "Predicting The Outcome For Obese Dieters", Journal of the American Dietetic Association, Vol. 42, May, 1963, p. 383-386.

Since obese women tended to be more field dependent than their normal weight counterparts,<sup>55</sup> and since a by-product of field dependence appeared to be the desire to be seen as socially correct and acceptable, it appeared tenable that their test results (obtained on commonly used psychometric personality scales) were less accurate than long-term clinical observations.

Werkman and Greenberg<sup>56</sup> and, earlier, Suczek<sup>57</sup> proffered the view that the personality test responses of obese patients seemed to be overly representative of normalcy. The first noted authors suspected that having obtained results that were best described as hypernormal, they likely were dealing with a population that was defensive about demonstrating psychological problems of any kind. Their subjects, too, were found to possess a strong need to present themselves in a light worthy of social approval and acceptance. These subjects were described as expending "a great deal of effort both overt and unwitting, in

---

55 S. Karp and H. Pardes, Op. Cit.

56 Sidney L. Werkman and Elsa S. Greenberg, "Personality and Interest Patterns In Obese Adolescent Girls", Psychosomatic Medicine, Vol. 29, No. 1, 1967, p. 77.

57 Robert F. Suczek, "The Personality of Obese Women", American Journal of Clinical Nutrition, Vol. 5, 1957, p. 198.

an attempt to appear normal."<sup>58</sup> Interpretively, their results were given as indicative of a possible narcissistic tendency in obese females. These tendencies were found by the latter author to be reflected in emphasis upon independence and strength. In this context, the findings of Levitt and Fellner acquired added significance. They stated:

The use of psychological tests in the area of obesity has failed to uncover distinctive personality patterns or has directed attention to one or two characteristics. Even the consensus in the literature of greater emotional disturbance of obese individuals than normals has not been convincing at an empirical level.<sup>59</sup>

Obviously, then, as now, the existent inability to document particular patterns was because certain personality characteristics of the obese (as shown by personality test results) were similar to any other population, or, because they demonstrated a special flair for evasion of certain psychological admissions.

Suczek posed the ever-present question of the possibility of psychologically testable traits in the obese thusly:

(...) are there some common psychologic characteristics among the obese? (...) are there some psychologic differences among the obese which relate to differences in degree of symptom and differences in ability to reduce? <sup>60</sup>

---

<sup>58</sup> S. Werkman and E. Greenberg, Op. Cit., p. 77.

<sup>59</sup> H. Levitt and C. Fellner, "MMPI Profiles of Three Obesity Subgroups", Journal of Consulting Psychology, Vol. 29, No. 1, 1965, p. 91.

<sup>60</sup> R. Suczek, "The Personality of Obese Women", Op. Cit., p. 197.

In a somewhat different, but obviously related issue, Bruch<sup>61</sup> reasoned that various forms of human obesity, with different psychological facets need to be reliably ascertained.

In view of the repeated demonstration of the existence of divergent test findings, application of a special motivation-related, fakeproof technique of analyzing speech content will now be explored. Its potential value as a treatment predictor will be emphasized, with a special view toward measuring hope as an essential concomitant to psychotherapeutic success.

The writer considered that use of hope as a predictor of obesity treatment results could prove valuable. Objectively measured indices of hope were available from an analysis of verbal content technique (AVCT) similar to one developed by Gottschalk and Gleser.<sup>62</sup> The AVCT, which was conceived as a means of measuring various psychological states, was extended by Cleghorn and Streiner<sup>63</sup> and now includes a Hope, Gratification and Mastery Scale. Data derived from a lexical content analysis

---

61 Hilde Bruch, "Family Transactions in Eating Disorders", Comprehensive Psychiatry, Vol. 12, No. 3, 1971, p. 239.

62 Louis A. Gottschalk and Goldine C. Gleser, "The Measurement of Psychological States Through The Content Analysis of Verbal Behavior", University of California Press, Berkeley and Los Angeles, 1969, v-317 p.

63 John M. Cleghorn and Bella J. Streiner, "Components of Depressiveness In Verbal Content", 1973, Unpublished Manual, privately distributed.

(see research design section, p. 57) are scored for messages of purposefulness, positivism, and optimism toward (and from) various dimensions of life. It rates both implicit and explicit messages within each clause spoken during a five-minute, tape-recorded, free speech period. In these clauses, Ss indicate possession of hope that they can either master their own problems and thereby obtain necessary gratifications, and/or that forces or agencies outside themselves will accomplish this for them.

Gottschalk<sup>64</sup> found that hope correlated significantly with improvement in social relations as a product of therapy. In physical medicine, hope was found to predict survival time of sixteen cancer patients receiving cobalt treatments.<sup>65</sup> It was also predictive of emergency room patients following-through with referrals for psychiatric followup care. Increased hope, as measured by AVCT procedures, may therefore be seen as possessing useful predictive value in a variety of treatment situations.

---

<sup>64</sup> L. A. Gottschalk, "Preliminary Contributions Towards The Application of Content Analysis To Psychotherapy Research-- Outcomes and Process", Paper presented at the June, 1973 meeting of the Society for Psychotherapy Research, Philadelphia, Pennsylvania, p. 6.

<sup>65</sup> C. N. Winget and G. C. Gleser, "Effect of Total and Half Body Radiation On Patients With Metastatic Cancer", in Metabolic Changes in Humans Following Total Body Radiation, E. L. Saenger (Ed.), DASA1848 Progress Report in Research Project DA-49-146-XZ-315, Defense Atomic Support Agency, Washington, D.C.

It has been noted that hope for task-related success is a positive motive for achievement.<sup>66</sup> In the context of applicability of such findings to understanding psychological treatment outcomes, Cartwright and Cartwright's<sup>67</sup> observations were pertinent. They found that patients' expectations of improving in psychological treatments of various types involved a complex expectational network. This was usually comprised of four different kinds of beliefs. The first belief centers on the notion that certain ends will accrue. The second holds that the therapist is a genuine and major source of help. The third belief is that the therapists' techniques or discipline are valid and a major help source. Fourth, and most important is the belief that the treated person, himself, is the overall major source of his own help. This last point was considered most effective when the patient's hopes were not simply reflections of counter-dependency strivings.

Hope, it appeared, could be seen as facilitating therapeutically productive instrumental responses to the environment.

---

<sup>66</sup> R. W. Moulton, "Notes For A Projective Measure of Fear of Failure", In J. W. Atkinson, (Ed.) Motives In Fantasy, Action and Society, Van Nostrand, New York, 1958, p. 563-571.

<sup>67</sup> D. S. Cartwright and R. D. Cartwright, "Faith and Improvement In Psychotherapy", Journal of Counseling Psychology, Vol. 5, 1958, p. 174-177.

Mowrer<sup>68</sup> has also explored this idea and reported that instrumental responses are guided by the presence of hope. Hope, he advised, was a secondary reinforcer.

Goldstein, a prolific researcher in the area of psychotherapeutic expectations and their effects on treatment related changes, reported: "Participants expectations play a significant role in the psychotherapeutic interaction, demonstrably accounting for a portion of the patient improvement which takes place."<sup>69</sup> Frank<sup>70</sup> included the specific concepts of hope and hopelessness, in further examining this point. He observed that human beings remember the past and use it to guide contemplations of the future. This, he felt, obviously influences much of what we feel in the present, and how we behave.

The absence of positive expectations (hopelessness) can retard recovery from illness or even hasten death (...). Hopelessness or 'five-up-itis' is reported to have contributed to or actually caused death of inmates of prisoner-of-war camps and Nazi death camps.<sup>71</sup>

---

68 O. H. Mowrer, "Two-Factor Learning Theory Reconsidered, With Special Reference To Secondary Reinforcement And The Concept of Habit", Psychological Review, Vol. 63, 1956, p. 123.

69 A. P. Goldstein, "Patient Expectancies In Psychotherapy", Psychiatry, Vol. 25, No. 1, Feb. 1962, p. 72-79.

70 J. D. Frank, "The Influence of Patients' and Therapists' Expectations On The Outcome of Psychotherapy", British Journal of Medical Psychology, Vol. 41, 1968, p. 349-356.

71 Ibid.

Freud also accentuated the role of hope as a treatment modifier. He noted: "Expectation (...) colored by hope and faith, is an effective force with which we have to reckon in all our attempts at treatment and cure."<sup>72</sup> French has referred to hope as "The major integrative and healing emotion."<sup>73</sup>

The writer desired to examine other motivational constituents as possible treatment predictors simultaneously with hope. The rationale for doing this was twofold. On the one hand, correlates of hope could be ascertained in the research sample under study. Secondly, were hope to contribute little or nothing to treatment prediction, while the other scales did, some contribution to knowledge of obesity treatment prediction could still be made. Four scales were chosen for the present investigation. These were derived from the Motivational Analysis Test (see Research Design section, p. 52-56 for a full description), and were referred to as General Autism, Total Integration, Total Personal Interest, and Total Conflict indices. Basically, the thrust of these tests was to measure optimism, realistic, work-centered goal-seeking, total motivation and

---

<sup>72</sup> J. D. Frank, Op. Cit., citing S. Freud, Complete Psychological Works, Vol. 7, Hogarth, London, 1953.

<sup>73</sup> T. French, The Integration of Behavior, Vol. 1, University of Chicago Press, Chicago, Illinois, 1952.

life interest, and the amount of frustration a person will endure.

The preceding review of the literature indicated that subjects' field dependence levels might influence various treatment behaviors and outcomes. It also emphasized the role exerted by 'hope' in determining attitudes toward treatment and expectations of beneficial changes.

Field dependence levels were observed to be higher in obese women than in their normal weight counterparts. This was a finding consistent with other psychosomatic reactors. Like other psychosomatic reactors, obese, field dependent women appeared highly sensitive and responsive to social cues. This was especially evident in terms of their characteristic psychological defense mechanisms when under social pressure.

Hope was discussed as a measure of positive expectations in subjects' lives. Such expectancies existed to some degree, in opposition to feelings of pessimism, depression and loss of incentive to personally attain various goals.

Both field dependence and hope were seen as developmentally determined aspects of self. Since the behavioral features inherent in each of these characteristics appeared relevant to therapeutic responsiveness, their concurrent examination as treatment predictors received special attention.

Research literature on obesity has repeatedly cited an extraordinary attrition problem. Prediction of attrition and success have both appeared as important and yet unsolved problems. Evidence of research dealing with the present combination of predictors was missing. The present study was undertaken to fill this gap. In summary, it attempted to concurrently examine field dependence and special objective measures of hope, and motivation as these related to attrition and success in an obesity treatment. In order to investigate the problems which have been stated, the following research hypotheses were advanced:

1. When using multiple linear regression analysis to predict the persistence in treatment of a sample of obese women, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest, and Total Conflict scores, age of obesity's onset, and percentage overweight prior to treatment are not significantly related to persistence in treatment.
2. When using multiple linear regression analysis to predict percent of weight loss in treatment of a sample of obese adult women, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest, and Total Conflict scores, age of obesity's onset, and percentage overweight prior to treatment are not significantly related to percent of weight loss in treatment.
3. When using multiple linear regression analysis to predict pounds of weight loss in treatment of a sample of obese adult women, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest and Total Conflict scores, age of obesity's onset, and percent overweight prior to treatment are not significantly related to weight loss in pounds.

4. When using multiple linear regression analysis to predict percent of weight loss in a sample of obese adult women who remained in treatment, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest, and Total Conflict scores, age of obesity's onset, and percent overweight prior to treatment are not significantly related to percent of weight loss.
5. When using multiple linear regression analysis to predict pounds of weight loss in a sample of obese adult women who remained in treatment, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest, and Total Conflict scores, age of obesity's onset and percent overweight prior to treatment are not significantly related to weight loss in pounds.
6. In a sample of obese adult women comprising all subjects who started treatment, when groups differing in Hope, Gratification and Mastery scores and in Field Dependence are compared with respect to percent of weight lost, there is no significant interaction between this motivational index and field dependence.
7. In a sample of obese adult women comprising all subjects who started treatment, when groups differing in Hope, Gratification and Mastery scores and in field dependence are compared with respect to amount of weight change in pounds, there is no significant interaction between this motivational index and field dependence.

The chapter which follows describes the methods which were used to test these hypotheses.

## CHAPTER II

### RESEARCH DESIGN

This chapter presents the details of the research which was done to test the hypotheses stated in the first chapter. The four sections of which the chapter is comprised are: 1. The Sample; 2. The Research Tools; 3. The Procedures; and 4. Statistical Analyses.

#### 1. The Sample.

A sample for this study was obtained by placing advertisements in the two most widely circulated English language newspapers in Ottawa, Ontario.<sup>1</sup> The advertisement was published daily and Saturday for one month in the "Personals" sections of the two newspapers. Initial telephone inquiries were accepted by a secretary who was fully informed of the need to maintain uniformity of orientational responses offered by those associated with the project. She was encouraged to be as polite and efficient as possible, while providing no information beyond the assurance that the research director would return the call. The prospective subject was told that at the time of the director's return call, she

---

<sup>1</sup> The newspapers were The Ottawa Citizen, and The Ottawa Journal. See Appendix 1 for the actual format of the advertisement.

would receive a descriptive resume of what the program entailed.<sup>2</sup>

The writer intended to determine certain limited aspects of prospective subjects' eligibility during this return telephone call. Of the 120 women who telephoned in response to the advertisement, seventy-six met the eligibility criteria. Two subjects were later disqualified; one could neither read nor write English, the other was mentally retarded. Eligibility was determined by having met the following criteria:

1. Following the criterion of Dwyer, et al.,<sup>3</sup> the subject was a minimum of twenty per cent above the weight described as desirable for medium-framed females in her respective age and height categories in the Metropolitan Life Insurance Company's pamphlet entitled, "Four Steps To Weight Control".<sup>4</sup>

2. There were no known past or present metabolic problems causing the weight problem.

- 3 No chemotherapy was being employed for a weight-specific condition.

---

2 See Appendix 2 for the actual wording of the standardized message received by all prospective subjects during the initial return telephone call.

3 Johanna R. Dwyer, et al., "The Social Psychology of Dieting", Journal of Health and Social Behavior, Vol. 11, 1970, p. 269-287.

4 Metropolitan Life Insurance Company, "Four Steps To Weight Control", 1966, p. 12.

4. The subject was neither pregnant, nor had been for the previous six months.

5. The subject was within the range of twenty-five to forty years of age.

6. There were no concurrent psychologically oriented treatments.

7. The subject was able to read, write and speak the English language.

8. The subject had neither reached menopause nor had noticed any signs of its approach.

9. Hearing and vision were normal, or prosthetically compensated to within normal limits.

10. The subject was neither involved in any other weight reduction program, nor would be for the duration of the proposed study.

11. No obvious intellectual retardation was present.

12. No obvious psychotic condition was present.

13. Subjects were required to have had a regular, complete medical examination within the previous twelve months.

14. No disease or disorder was present which, according to their own physicians, would countermand involvement in a self-regulated weight loss program.

These criteria reflected general trends that were observed in the literature. The solicitation of obesity research project participants through newspaper advertising was frequent

in the literature.<sup>5</sup> Suczek<sup>6</sup> found that psychiatric orientations to treatment were initially unsought by obese women. This suggested that use of a general research-oriented advertisement regarding obesity treatment was preferred. The present study therefore, like "(...) the Herrick sample, was composed of overweight women who volunteered (...) because they wanted to reduce, not because they felt they needed psychiatric treatment."<sup>7</sup> The attempt at avoiding the acquisition of a psychiatrically-oriented sample was pertinent to the present study. Specifically, the hypotheses under examination were directed toward better understanding of the psychological characteristics of women generally presenting for amelioration of weight problems, and not psychiatric problems.

Criterion number one was included in view of its similarity to the criteria most popularly preferred in psychologically-oriented obesity researches. Fowler, et al.,<sup>8</sup>

---

5 examples were: B. Kotkov, "Experiences in Group Psychotherapy With The Obese", Psychosomatic Medicine, Vol. 15, No. 3, 1953, p. 244, and R. S. Fowler, W. Fordyce, V. Boyd, and A. Masock, "The Mouthful Diet: A Behavioral Approach To Overeating", Rehabilitative Psychology, Vol. 19, No. 3, 1972, p. 100.

6 R. F. Suczek, "The Group Approach To Weight Reduction: Psychological Aspects of Obesity and Group Weight Reduction", Journal of the American Dietetic Association, Vol. 30, May, 1954, p. 446.

7 Ibid., p. 443.

8 R. Fowler, et al., "The Mouthful Diet: A Behavioral Approach to Overeating", Op. Cit., p. 100.

Goldman, et al.,<sup>9</sup> Franklin, et al.,<sup>10</sup> and Kemp,<sup>11</sup> were representative of the frequent usage of this formulation. Although sophisticated laboratory techniques of assessment of body fat content were medically possible,<sup>12</sup> the acceptability and wide use of the present criterion rested on the finding of Dwyer, et al.,<sup>13</sup> that weight excesses of twenty per cent almost guarantee overfatness. Women were chosen (as opposed to men or both men and women) for the present sample since "current clinical concepts of obesity have been derived almost entirely from the study of obese women."<sup>14</sup>

Criteria two through four (inclusive) were intended to preclude the existence of weight-affecting variables which

---

9 R. Goldman, M. Jaffa, and S. Schachter, "Yom Kippur, Air France, Dormitory Food, and The Eating Behavior of Obese and Normal Persons", Journal of Personality and Social Psychology, Vol. 10, No. 2, 1968, p. 118.

10 Ruth E. Franklin, and E. H. Rynearson, "An Evaluation of the Effectiveness of Diet Instruction For The Obese", Proceedings of the Mayo Clinic, Vol. 35, 1960, p. 123.

11 R. D. Kemp, "Obesity As A Disease", Practitioner, Vol. 196, March, 1966, p. 404.

12 Jean Mayer, "Genetic, Traumatic and Environmental Factors In The Etiology Of Obesity", Physiological Review, Vol. 33, No. 4, 1953, p. 477-479.

13 Johanna T. Dwyer, Jacob J. Feldman, and J. Mayer, "The Social Psychology of Dieting", Op. Cit.

14 Myer Mendelson, Norris Weinberg, and Albert J. Stunkard, "Obesity In Men: A Clinical Study of Twenty-Five Cases", Annals of Internal Medicine, Vol. 54, 1961, p. 660.

were extraneous to the simple obesity (exogenous as opposed to endogenously generated) problem. This followed a common tendency in the literature.<sup>15</sup>

Although certain researches into obesity treatments handled age criteria arbitrarily, Witkin, et al.,<sup>16</sup> presented field articulation findings which were pertinent to the present work. This information supported the inclusion of women not in excess of age forty; the point "(...) after which the rate of dedifferentiation may accelerate."<sup>17</sup> Age twenty-five was selected as the lower limit in view of the fact that charts of desirable weights that were used<sup>18</sup> took this age as the beginning point for their adult tables.

The sixth criterion was included so that the integrity of the present measurement of treatment results was not contaminated in either direction by intercurrent psychological intervention from outside sources.

---

<sup>15</sup> for example; Harold Graff, "Overweight and Emotions In The Obesity Clinic", Psychosomatics, Vol. 6, 1965, p. 89; and J. E. Meyer and A. Tuchelt-Gallwitz, "A Study On Social Image, Body Image, and the Problem of Psychogenetic Factors In Obesity", Comprehensive Psychiatry, Vol. 9, No. 2, 1968, p. 148.

<sup>16</sup> H. Witkin, D. Goodenough and S. Karp, "Stability of Cognitive Style From Childhood To Young Adulthood", Journal of Personality and Social Psychology, Vol. 7, No. 3, 1967, p. 299.

<sup>17</sup> Ibid.

<sup>18</sup> e.g. "Overweight and Its Prevention and Significance", Statistical Bulletin, Metropolitan Life Insurance Co., 1960, p. 5, and also "Four Steps To Weight Control, Op. Cit., p. 11.

The seventh criterion was included because reading and reporting on public media information concerning overweight problems was to be encouraged in certain groups. Also, for educational purposes, a diet information manual was disseminated to all participants. The manual was published in English. All participants were to read them. In addition, informed consent data were elaborated in written form, in English. Most pertinently, all test instructions whether given orally by the experimenter or read by the subjects, were in English, as was the questionnaire which all subjects were required to fill out at the initial interview.

The eighth criterion was intended to rule out inclusion of women whose menopause might have influenced psychological adjustment. Furthermore, weight fluctuation as a result of medication (hormonal, diuretic, etc.) was best avoided.

Criterion number nine reflected the need to have participants see and hear psychological test instructions, and see both written materials and Rod-And-Frame and Embedded Figures stimuli. Hearing was also essential for communication in group treatments.

In the same context of criterion six, the tenth criterion was designed to rule out treatment effects contamination by extraneous treatment variables.

Criteria eleven through fourteen complimented recommendations found in the literature. These regarded medical

and psychological dispositions of obese subjects<sup>19</sup>, and were appropriate to the present study since by its design, non-conformance to such criteria would have removed participants from comparability with participants in most other studies of exogenous (simple) obesity.

The seventy-four subjects who met these criteria constituted the initial sample. Twelve subjects, however, dropped out before the treatment program began. The sample which is described here, therefore, constituted all subjects who completed the testing and went on to take part in the treatment. This represented an N of sixty-two.

The sixty-two women in the sample ranged in age from twenty-five to forty, with a mean age of 33.6 years. They ranged from twenty per cent to two hundred per cent overweight, with a mean of 56.48% and a median of 47.5% overweight. Five subjects had never been married, forty-four were married, eight were divorced, one was separated and four were living common-law. Forty-five per cent had experienced childhood onset of obesity (prior to age eleven), seventeen per cent had had obesity's onset occur during adolescence (ages twelve through eighteen), and thirty-seven per cent of the subjects were never obese until adulthood. Almost all subjects reported some family history of obesity. Relatives who were most

---

<sup>19</sup> Harold Graff, "Overweight and Emotions in the Obesity Clinic", Op. Cit., p. 89; See also, J. Meyer and A. Tuchelt-Gallwitz, Op. Cit., p. 148.

frequently reported as being "extremely overweight" were the subjects' siblings (thirty-seven), mothers (thirty-two), maternal grandmothers (twenty-four), and paternal grandmothers (seventeen). When asked to rate their marriages as happy, adequate, or unsuccessful, thirty-two per cent of the subjects rated them as happy, twenty-seven per cent of the subjects reported that their marriages were adequate, and twenty-six per cent felt that their marriages were unsuccessful. Ten subjects reported having overweight husbands. None of the subjects in the sample was diabetic, and only thirteen women (twenty per cent) reported having diabetic parents or siblings. The mean age for menarche was 12.3 years. Fifty-three per cent of the women experienced dysmenorrhea. Thirty-three per cent of the subjects had had miscarriages (eighteen per cent reported multiple miscarriages) and six per cent had had stillbirths. Thirteen per cent of the women reported difficulty in conceiving. Eighty-eight per cent of the women in the sample drank alcoholic beverages, and forty-four per cent reported smoking cigarettes regularly. It was interesting to note that of the respondents, more subjects had been breast-fed as infants than bottle fed. Forty-three per cent had been nursed, and thirty-seven per cent bottle-fed. Twenty per cent of the sample, however, did not have the necessary information to answer that question. There was a wide range of responses for educational background. Although seventy per cent

of the sample completed grade twelve or above, they ranged from grade eight through university graduate. The mean I. Q. for the sample was 112, with a range from ninety-two to 125. Every subject in the sample reported having been involved in a variety of weight reduction programs in the past, without success. Even if an initial weight loss had taken place, it had not been maintained.

Participation in both the testing and treatment phases of this research study was voluntary.

The section which follows describes the tools and apparatus used in the present study.

## 2. The Research Tools.

This section includes descriptions of the tools and the apparatus involved in collecting data necessary for testing the hypotheses under investigation. The rationale for their inclusion is also presented. Tools included: The Portable Rod-And-Frame Test; The Group Embedded Figures Test; The Motivational Analysis Test; and The Hope, Gratification and Mastery Adaptation of the Analysis of Verbal Content Technique.

The Portable Rod-And-Frame Apparatus - Originally, field articulation, as explained by Witkin<sup>20</sup> was measured by subjects' performances on the stationary Rod-And-Frame

---

<sup>20</sup> H. A. Witkin, et al., Psychological Differentiation, New York, Wiley and Son, 1962, v-418 p.

apparatus. Use of the original Rod-And-Frame Test made it imperative that administration occur in a completely darkened room, with dark-adapted subjects. Conformance with these criteria was often impossible. In various research settings where this measure was desired, an alternative test was required. A portable adaptation of the Rod-And-Frame apparatus was reported to have obviated further confrontations by these problems. Oltman,<sup>21</sup> the developer of the Portable Rod-And-Frame apparatus (PRAF), obtained correlations of .90 (for college-aged males) and .89 (for college-aged females) between this test and the original, permanent form. He consequently reported the Portable Rod-And-Frame "(...) to be a valid substitute for the standard apparatus."<sup>22</sup> Its portability, and the fact that neither dark-adaptation, nor total darkness were required, were conducive to use of the Portable Rod-And-Frame apparatus in the present study. The fact that high correlations with its predecessor, the stationary Rod-And-Frame apparatus (RAF), were reported, and that results on the original test were shown<sup>23</sup> to validly differentiate between articulated and global

---

21 Philip K. Oltman, "A Portable Rod-And-Frame Apparatus", Perceptual and Motor Skills, Vol. 26, 1968, p. 503-506.

22 Ibid., p. 506.

23 Herman A. Witkin, "Psychological Differentiation and Forms of Pathology", Journal of Abnormal Psychology, Vol. 70, 1965, p. 317-336. See also, Harl H. Young, "A Test of Witkin's Field-Dependence Hypothesis", Journal of Abnormal and Social Psychology, Vol. 59, 1959, p. 188-192.

styles of responding to one's environment, made inclusion of the PRAF acceptable to the present research.

The PRAF apparatus used in this research conformed in design and application to that which was described by Oltman.<sup>24</sup> The body of the PRAF's rectangular drum (which was diagrammatically represented in Figure 1.) consisted of four white translucent plastic panels measuring twelve inches wide by twenty-four inches long. All four side panels measured one eighth of an inch in thickness. The panels were united by four black metal corner joints which ran the full length of each of the drum's corners. The drum's interior aspect served as a visually restricting white field, at one end of which was situated the chin-rest and head restrainer. At the other end, the rod lay within the frame. The frame was formed by four one-eighth of an inch by twelve inch black plastic extrusions which, by contrast to the white field, described the squared frame end of the drum. This was on the side opposite the headrest. The frame interposed an opaque white disc which measured twenty-two inches in diameter. It was upon the disc that the one-eighth inch by eleven inch black plastic rod was centered and affixed. The black rod and the black frame, therefore, were the only figures outstanding upon an otherwise white visual ground. Situated on the exterior aspect of the end containing the rod

---

24 Philip Oltman, Op. Cit.

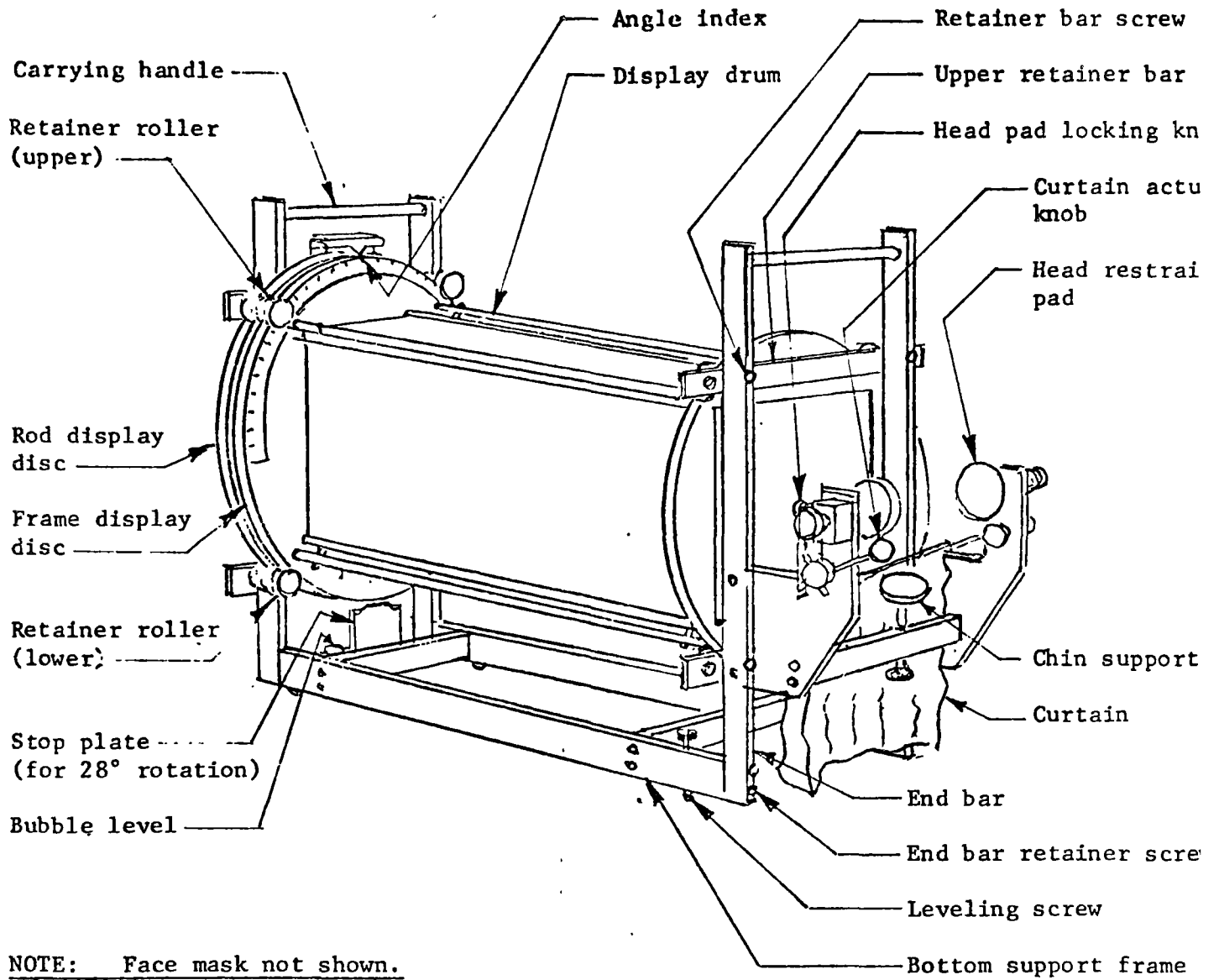


Figure 1. Vertical Rod and Frame Apparatus, Portable. Model V-1260-A

and the frame was a protractor, the rod and the frame could independently be measured according to their rotation (in either direction) from absolute vertical. The protractor also allowed for measurement of the three degree movements toward verticality made by the experimenter. These turns provided subjects with successive approximations to the subjective vertical. The rod and frame were affixed to separate endplates which were on rollers. These allowed each to be rotated twenty-eight degrees in either direction around the same axis.

The head support assembly (which was diagrammatically represented in Figure 2.) included a chin support, face shield, head restraint pads, a black velvet curtain, and a curtain actuator. The base upon which these parts were mounted was an aluminum housing that attached to wooden end bars. The end bars were part of the super-structure from which all else was suspended. Testing upon this assembly, subjects faced directly into the rectangular drum. When the curtain actuator was placed in the open position, the curtain, which was affixed to the actuator by a metal rod, dropped out of sight and exposed the rod and frame to the subject's vision. The face shield surrounded the sides of subjects' (Ss) heads, so that visual cues extraneous to those within the apparatus were eliminated. With the curtain raised, the visual stimulation received by Ss included only the black curtain directly before them. A

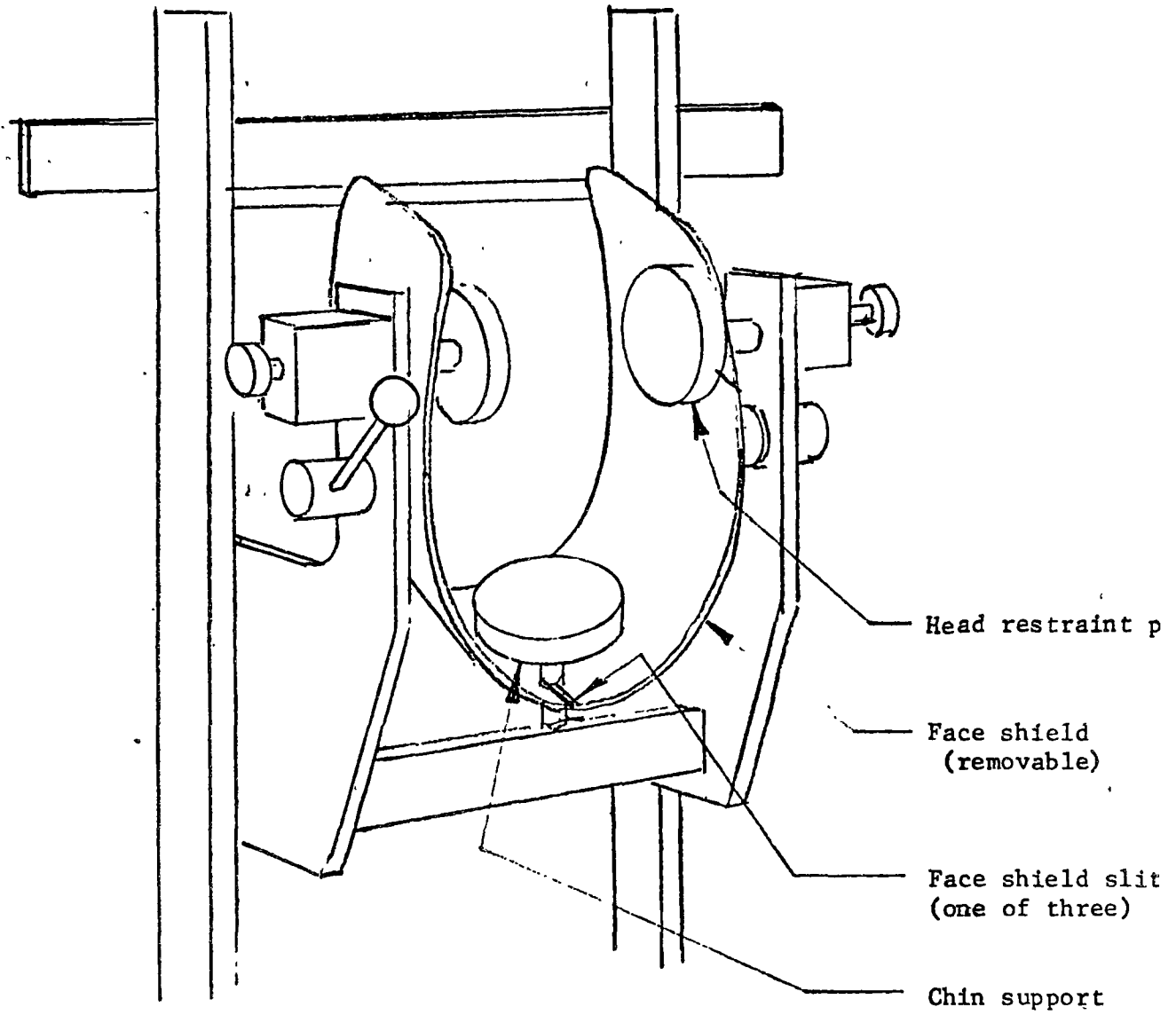


Figure 2. Head support assembly, showing face shield in position. Vertical Rod and Frame Apparatus, Portable. Model V-1260-A.

complete description of the procedure of administering the PRAF can be found in the Procedure section of this chapter.

The Group Embedded Figures Test (GEFT) - Like its predecessor, the individually administered Embedded Figures Test (EFT), the GEFT required grouped test subjects to visually disembed a previously seen simple geometric figure from an obscuring ground. A variety of studies indicated that an individual's capacity for keeping thoughts and perceptions separated in their experiences may be seen in similar form in many areas of their psychological functioning.<sup>25</sup> The experimental rationale for inclusion of an embedded figures test such as the GEFT was partially based on the fact that in numerous studies, significant correlations showed that there was a consistency of performance demonstrated by subjects who took both the Rod-And-Frame, and the EFT.<sup>26</sup> This reflected that "(...) The person who takes very long to discover the simple figure in the complex EFT design is also likely to tilt the rod far toward the tilted frame."<sup>27</sup> Witkin, Oltman, Raskin, and Karp<sup>28</sup> reported in 1971, that the combined evidence

---

25 H. A. Witkin, P. Oltman, E. Raskin, and S. Karp, Manual For The Embedded Figures Tests, Consulting Psychologists Press, Inc., Palo Alto, California, 1971, p. 3.

26 Ibid., p. 5.

27 Ibid., p. 4.

28 Ibid., p. 29.

available to that date suggested that the GEFT was a useful indicator of field articulation style.

Another supportive rationale for inclusion of the GEFT was derived from the work of Berent and Silverman.<sup>29</sup> These authors observed that the Rod-And-Frame performances of some field dependent populations were so poor that they were similar to the performances of certain brain-damaged samples. Although no follow-up support was yet available in the literature, the left-hemispheric syndrome questioned by these authors was noted; most especially in view of their speculation that field dependence as measured by Rod-And-Frame performances may be the results of some form of anomalous brain condition.<sup>30</sup> Attendant upon these considerations was the evidence derived by Elliott<sup>31</sup> who speculated that neural and other developmental sequelae of early life affected internalized frames of reference. It was postulated that through the establishment of experiential voids, frame (Rod-And-Frame) dependence, as a reflection of the absence of certain experientially derived "autonomy of internal frames of

---

29 S. Berent and A. J. Silverman, "Field Dependence and Differences Between Visual and Verbal Learning Tasks", Perceptual and Motor Skills, Vol. 36, 1973, p. 1327-1330.

30 Ibid., p. 1327.

31 Rogers Elliott, "Interrelationships Among Measures of Field Dependence Ability, and Personality Traits", Journal of Abnormal and Social Psychology, Vol. 63, No. 1, 1961, p. 35.

reference"<sup>32</sup> occurred. Further, as noted in the first chapter of this thesis, muscular development through the typically robust physical play of childhood was, characteristically, denied to those inclined toward juvenile obesity. Especially in such cases, backgrounds deprived of proprioceptive stimulation and, therefore, lessened internal knowledgability concerning one's physical orientation in the environment, was expectable.

The GEFT was shown by Witkin, et al.<sup>33</sup> to be correlated best with field dependence tests other than the PRAF ( $r = -.39$ ).<sup>34</sup> The writer reasoned therefore, that the two tests, independently known to assess field dependence, may tap somewhat different parameters of the perceptual process. Potentially, then, an average of the two scores offered a truer picture of each subject's actual level of field dependence.

The GEFT consisted of a booklet divided into three sections containing complex figures. Eight simple figures which were embedded in the complex ones were located on the back side of the booklet's rear cover, so that concurrent stimulus and task observations were impossible. The first section consisted

---

<sup>32</sup> Ibid.

<sup>33</sup> H. Witkin, P. Oltman, E. Raskin, and S. Karp, Op. Cit., p. 29.

<sup>34</sup> The  $r$  was negative since the GEFT is scored for the number of right answers while the PRAF is scored for the degree of errors; i.e. as the number of incorrect figures outlined increases, the decline of degree of deviation from verticality decreases.

of seven practice figures which were not scored. A total of eighteen figures appeared in the second and third sections, and were the items used in the computation of the final scores. The possible range of scores was zero through eighteen. Points were obtained for each accurately disembedded and outlined figure on each page. The instructions and timing are presented in the Procedure section of this chapter.

The Motivational Analysis Test (MAT) - This test provides a technique for objectively assessing motivation and thereby eliminating scorer judgement. Secondly, it directly measures behavior, rather than relying on self-reports to obtain such information.<sup>35</sup>

The overall MAT yields well validated,<sup>36</sup> quantified indices of various motivational traits. Sweney<sup>37</sup> reported that these traits were yielded by analyzing various subtests which measure orientation to pleasure versus reality principle adaptations, wishful thinking, social reality appreciation, and appreciation of drive fulfillment and realistic motivation. Factor analytic studies determined (in this realm of four areas)

---

35 A. B. Sweney, "Individual Assessment With The Motivation Analysis Test", Institute for Personality and Ability Testing, Champaign, Illinois, 1969, p. 1.

36 R. Cattell, et al., Handbook For The Motivation Analysis Test, Institute For Personality and Ability Testing, Champaign, Illinois, 1964, p. 33.

37 A. B. Sweney, Op. Cit., p. 3-8.

that most motivation central to the understanding of human behavior was loaded on ten factors. These were: career, home-parental, fear, narcissism, superego, self-sentiment, mating, pugnacity, assertion, and sweetheart-spouse factors. By comparison with normative data culled by the test's constructors, individual scores on special scales of motivation, represent Ss' levels relative to a peer reference group.

All MAT scores are derived from Ss' responses to four subtests. These measure "(...) behavioral manifestations of motivational strengths."<sup>38</sup> Each of these tests was developed after extensive examination of psychological tools possessing high reliability for measuring some dimension of motivation.

The four subtests chosen to determine overall motivation were tests measuring projection of dynamic goals, autism effects, word association, and means-to-ends knowledge. The first of these draws out Ss' personal interests. A forced selection format facilitates arriving at an answer. The motivation component "(...) has consistently loaded the alpha motivational component which Cattell and his associates have identified with unintegrated motivation and the general pleasure principle rather than the reality principle."<sup>39</sup>

---

38 A. B. Sweney, A Preliminary Descriptive Manual For Individual Assessment With The Motivation Analysis Test, Institute For Personality and Ability Testing, Champaign, Illinois, 1969, p. 3.

39 Ibid.

The second subtest, autism effects, measures wishful thinking. It has the intention of indicating the direction and degree to which fantasy distorts the individual's thoughts and behaviors. "This kind of fantasy wish fulfillment loads the id level of motivational expression."<sup>40</sup>

The third subtest was based on the Jungian understanding of word-associations being capable of revealing psychological complexes existing in Ss' unconscious. By limiting the number of responses available to Ss, relative meanings of scores throughout the standardization samples could be generated.

Research has shown, (...) that paired words expressed chiefly the integrated motivational component. (...) It measures realistic interests more than guarded, unconscious material. (...) The subject is censoring his response and giving the answer which fits his concept<sup>41</sup> of how he should behave, not how he wishes to behave.

It has been described as a test measuring social reality.<sup>42</sup>

The last of the four subtests, measuring means-to-ends knowledge, reflects the manner in which information essential to drive-satisfaction is grasped and processed. It reveals the amount of time and effort spent in pursuing drive-reducing goals, and reflects upon the S's integrated motivation.<sup>43</sup>

---

<sup>40</sup> A. B. Sweney, A Preliminary Descriptive Manual For Individual Assessment With The Motivation Analysis Test, Op. Cit., p. 4.

<sup>41</sup> Ibid.

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

The MAT provides summary scores which reflect upon Ss' dynamic structures as wholes. These scores were derived from scores on the original four subtests, which have been transformed by means of norms tables provided in the MAT handbook.<sup>44</sup>

Four summary motivation scores were used in the present research. These were: General Autism, Total Integration, Total Personal Interest, and Total Conflict.

The General Autism score measures wishful thinking as applied to one's cognitions, and has been referred to as one's optimism level.<sup>45</sup> It is not a form of autism relative to the autism of schizophrenia, but rather, a score indicative of the 'rosiness' of an individual's outlook; i.e. in terms of ability and tendency to bend perceptions in directions congruent with wish-fulfillments. Low scores suggest a 'loser's syndrome', and in groups known to be having psychological difficulties, lower than average scores on this scale indicate deficient optimism.<sup>46</sup>

The Total Integration score reports the manner in which Ss utilize motivation in obtaining concrete and realistic goals. Theoretically, it measures use of the reality principle,

---

<sup>44</sup> R. B. Cattell, J. L. Horn, A. B. Sweney, and J. A. Radcliffe, Handbook For The Motivation Analysis Test, MAT, For High School Seniors and The Adult Range, Institute for Personality and Ability Testing, Champaign, Illinois, 1964, p. 50.

<sup>45</sup> A. B. Sweney, Op. Cit., p. 21.

<sup>46</sup> Ibid., p. 22.

"(...) and the extent to which the individual's interests are well integrated."<sup>47</sup>

Total Personal Interest, the third summary scale employed in testing the research hypotheses, measures the overall level of Ss' motivation and life interest. Ss high in this score have been found to be both intelligent and object oriented. Persons high in motivation will work harder to achieve their goals, and, on the way toward goal-attainment, tolerate more frustration and conflict to his drives than will others.<sup>48</sup>

The final scale that was used, Total Conflict, specifically measures the overall frustration a S can successfully endure. The test's authors reported this to be inner conflict, which may not be directly observable externally. From a psychoanalytic point of view, it reflects (by higher scores) how much psychic energy is directed inward, in management of internal distresses. As would logically be expected, it was found to be inversely related to energy available for productive goal-seeking behavior. Neurotics, for example, have therefore been found to score significantly higher than average on this summary scale.<sup>49</sup>

---

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.

The Hope, Gratification And Mastery Adaptation Of The Analysis of Verbal Content Technique - The Analysis of Verbal Content Technique's approach to affective state assessments, which was used in this research, was a modification of the technique developed by Gottschalk and Gleser.<sup>50</sup> These authors demonstrated that the technique was one through which various affective states were ratable. This was accomplished by specialized analyses of lexical content within verbal data which were derived from five-minute tape-recordings of Ss' engaged in self-stimulated free speech. Based upon an eclectic theoretical framework (which included psychoanalysis, learning theory, and linguistics), these scales provide valuable information regarding individuals' intercurrent affects. Original reliability and validity studies were of four basic types. These included investigations in psychological, psychophysiological, psychopharmacological, and psychobiochemical areas. Highly acceptable results obtained.<sup>51</sup>

The original scales of the AVCT included measures of anxiety, hostility, social alienation-personal disorganization, capacity for human relations, cognitive and intellectual

---

<sup>50</sup> Louis A. Gottschalk, and Goldine C. Gleser, The Measurement of Psychological States Through The Content Analysis of Verbal Behavior, University of California Press, Berkeley, 1969, v-317 p.

<sup>51</sup> Ibid., p. 49-145.

impairment, hope, and health-sickness. Extensions of this original work have been made. Of particular note in the present work was the construction and validation of a Hope, Gratification, and Mastery Scale which, among others, was developed by Cleghorn and Streiner.<sup>52</sup>

Such scales, which "(...) define affect from an intrapsychic frame of reference (...)"<sup>53</sup> rely on two types of verbal messages for their information. On the one hand, direct verbal expositions of current subjective affective experiences are encoded as ratable data. On the other hand, use is made of indirect (implicit) verbal evidences of the existence of affect. Essentially, one coding is based upon data of reference, while the other is based upon data of inference.

The authors of the AVCT have determined that the magnitude of any affect at any given time is relative to three basic factors. These include the frequency with which categories of thematic statements occur; the degree of verbal expression's representativeness of psychological activation of a particular affect; and the degree of personal involvement which the subject attributes to emotionally relevant ideas, events, actions, or feelings. These constituents are rated according to weighting factors which express their degree of

---

<sup>52</sup> John Cleghorn and Bella Streiner, Components of Depressiveness In Verbal Content, 1973, privately distributed manual.

<sup>53</sup> Gottschalk and Gleser, Op. Cit.

personal involvement for the subject.<sup>54</sup>

The product of the frequency of use of relevant categories of verbal statements and the numerical weights assigned to each thematic category provides ordinal measure of the magnitude of the affect.<sup>55</sup>

Since individuals vary considerably in their rates of speech in a five minute segment, and because numerical indices representing the magnitudes of emotions vary with the number of words presented in a given five minutes, a correction factor was employed so that subjects were comparable. The correction factor followed the formula:

$$\frac{1}{\text{number of words spoken}} \times 100 = \text{C. F.}$$

This process "(...) reduces the correlation between the affect score and the number of words essentially to zero."<sup>56</sup> A further transformation required the formula;

$$\sqrt{\frac{\text{raw score} + .05 \times 100}{\text{number of words spoken}} + \frac{1}{2} \text{C.F.}} = \text{C. S.}$$

and yields the final corrected score (C. S.) for the scale.

This transformation is intended to reduce the skewness of the score distributions, thus making the measure more amenable to parametric statistical treatment. The square-root transformation tends to make the ordinal scale approximate the characteristics of an interval scale.<sup>57</sup>

---

<sup>54</sup> Gottschalk and Gleser, Op. Cit., p. 14-16.

<sup>55</sup> Ibid., p. 17.

<sup>56</sup> Ibid., p. 18.

<sup>57</sup> Ibid., p. 18.

Precedent for use of an AVCT in the context of field articulation and psychotherapy studies was established by Witkin.<sup>58</sup> His investigation was directed toward understanding subjects' anxiety arousal (via AVCT) in terms of their field articulation styles, in reaction to early psychotherapy. This research was aimed at measurements of persons on opposite sides of a continuum of field dependence.

Cleghorn and Streiner's Hope, Gratification and Mastery Scale<sup>59</sup> of the AVCT technique records the presence of positive affective verbally projected themes. The Hope parameter was derived from verbiage which contained messages of purposefulness, positivism, and optimism.<sup>60</sup> Subjects acquired scores on this scale when luck and/or support from outside sources were forthcoming. Mastery scores implied that a subject was inclined to see gratification being a by-product of her own initiatives;<sup>61</sup> a point, potentially, most important to the present study. This scale was oriented toward the quantification of themes which appeared in contradistinction to

---

58 H. A. Witkin, H. B. Lewis, and E. Weil, "Shame and Guilt Reactions of More Differentiated and Less Differentiated Patients Early in Therapy", presented at the annual meeting of the American Psychological Association, New York, 1966, quoted in Gottschalk and Gleser, Op. Cit., p. 112.

59 Cleghorn and Streiner, Op. Cit., p. B-5.

60 Ibid.

61 Ibid.

those highlighting depressiveness.

Although validity and reliability information on the Hope, Gratification and Mastery Scales were in the process of being prepared for publication and were, therefore, not completely available at the time of the present study, the writer communicated with one of the technique's co-developers prior to, and during the preparation of this thesis. The validity and reliability data thus reported gave support to inclusion of this scale in the current research.<sup>62</sup> It was included to determine whether this circumscribed, affectively determined, motivationally linked disposition differentiated subjects' potential outcomes in the treatment samples under investigation.

In summary, the tools of this study included the Portable Rod-And-Frame Apparatus, The Group Embedded Figures Test, and the Analysis of Verbal Content Technique's Hope, Gratification and Mastery Scale, and the MAT. Their application to the research is described in the following section.

### 3. The Procedure.

This section outlines the details of the procedures which were followed throughout the various phases of this study.

---

<sup>62</sup> personal communications with John Cleghorn: April, 1973, October, 1973, January, 1974, and March, 1974.

Two weeks subsequent to each subject's telephone interview described in the first section of this chapter, she met with the writer (E). This initial appointment consisted of an introductory phase, the administration of the Portable Rod-And-Frame Test, the procurement of a five-minute tape recorded verbal sample from subjects (Ss), and presentation of a biographical data form which was self-administered. At a later date, a group testing session was held. Subsequent to this phase of data collection, three separate work groups were formed, and twelve-week treatment programs were begun.

The Initial Interview: - Each S was seen individually for a two-hour session. Upon arrival, S was pleasantly greeted by a female receptionist and told that the research director (E) would be with her momentarily. E entered the waiting area, introduced himself by name, and briefly exchanged amenities with S. These concerned the weather, or the ease or difficulty S had had in finding the office. S was then invited to enter E's office. This was an air-conditioned eight foot wide, by seventeen foot long white room, brightly lighted by four one hundred watt overhead fluorescent tubes. Black, opaque window shades covered by thick drapery blocked daylight from entry. Once inside, S was asked to be seated in a large, comfortable, vinyl easy-chair. When both S and E were seated, E first determined the accuracy of the information recorded during their initial telephone conversation.

Each S was then given a number which was to identify her throughout the program. These numbers were assigned in the order in which subjects were seen at their initial interviews. When he was satisfied that S met the research criteria previously described, E recited a standard orientational message which specified the desirability of having all persons participating in the program receive the same initial explanation of its focuses and aims. To assure uniformity and completeness of this message, Ss were asked to listen to a six minute and twenty-five second long message which E had tape recorded. This recording was switched on and played to the conclusion of its orientational message. The context of the message was designed to provide Ss with further information concerning the nature of the research. Their involvement in the group testing session was explained, as were the purpose, scope, and time of the treatment program, the necessary commitment of each S to attend all sessions, and a rationale for self-regulated dieting. It was also explained that responsibility for medical clearance lay with the subject via her medical doctor. The full text of this tape recorded message is found in Appendix 3. A central objective of this procedure was the provision of information for informed consent; an ethical responsibility<sup>63</sup> of experimenters performing

---

<sup>63</sup> American Psychological Association, Ethical Principles In The Conduct Of Research With Human Participants, Washington, D. C., 1972, iii-104 p.

psychological research with human subjects. Upon termination of the tape and during its rewinding, E answered any specific questions generated by S.

Upon completion of the preceding segment of this meeting, Oltman's orientation to the PRAF<sup>64</sup> was presented by a tape recording in order to assure across-subject consistency in giving instructions. S was then asked to move to the straight-backed chair facing the PRAF apparatus, which was situated upon a table. S was helped to be seated so that her chin comfortably reached and rested upon the chinrest of the PRAF. According to the standardized instructions, which were read to each S by E, (and can be found in Appendix 4) S was instructed to keep her hands clasped in her lap at all times, and admonished not to back out of the head restrainers until assisted by E. Each S performed eight test trials for which the equipment was set in the following manner:

<u>Trial</u>	<u>Rod</u>	<u>Frame</u>
1	28°L	28°L
2	28°R	28°L
3	28°R	28°R
4	28°L	28°R
5	28°L	28°L
6	28°R	28°L
7	28°R	28°R
8	28°L	28°R

Between trials, E closed the black velvet curtain. The rod's

---

<sup>64</sup> Philip K. Oltman, Procedure For Portable Rod And Frame Test-Adults, Psychological Laboratory, Department of Psychiatry, State University of New York, Downstate Medical Center, Brooklyn, N. Y., no date.

deviation from true verticality was measured in degrees by use of the protractor affixed to the PRAF apparatus. Each score was recorded on a tabulation sheet. Subjects' scores were recorded for each trial in terms of degrees of deviation to the left or to the right. The total degrees of deviation scores was computed for each subject. This constituted the subject's raw score on the Rod-And-Frame test.

Subsequent to S's performance on the PRAF, she was asked to return to her original seat. S was then introduced to the five-minute free speech recording technique with the following instructions:

This is a study of conversational speaking habits. I want to take a recording of your speech. I would like you to talk about any personal or interesting experiences you've ever had. I want you to talk for five minutes, and during that time I won't be able to answer any questions or communicate with you at all. I'll let you know when the five minutes are up.<sup>65</sup>

It was from this five minute free speech sample that the verbal content analysis data were taken. Immediately following the instructions, the tape recorder was turned on and E casually faced three-quarters away from the subject, so as to give the barest minimum possibility of presenting any emotional cues. E immediately began timing the speech segment. A stopwatch was used to accurately time the five-minute segment.

---

<sup>65</sup> John Cleghorn and Bella Streiner, Op. Cit., p. C-1.

No feedback (even if requested) was given to Ss during the five minute period. Immediately after the recording, E read the number of the next subject into the tape recorder. This was done in order to keep an accurate account of the subject whose recording would ultimately be evaluated. A typed transcript was made of each tape recording following the instructions of Cleghorn and Streiner.<sup>66</sup> Scoring was done by a trained technician following the technique described by Cleghorn and Streiner.<sup>67</sup> A random sample of twenty protocols was sent to Cleghorn, who checked them for scoring accuracy. He indicated that the scoring criteria had been properly applied. The protocols were then returned to the scoring technician. All transcripts and scores were then returned to the writer.

Following the completion of the five-minute voice tape, S was taken to another room where E weighed her (clothed and in stocking feet) on a hospital balance scale. Her height was also recorded at this time. Upon completion of this procedure, S was taken back to the original examination area and provided with a biographical data questionnaire (see Appendix 5 for test of the questionnaire) and two pencils. The desirability of collecting substantial amounts of data was explained to Ss, and they were asked to fill out their questionnaires

---

66 J. Cleghorn and B. Streiner, Op. Cit., p. C-3.

67 Ibid.

completely and accurately. The questionnaire was basically self-administering. S was told to return it when completed, in a manila envelope (which had been given to S along with the questionnaire) marked CONFIDENTIAL, to the receptionist's desk. When both E and S were assured that S understood the instructions, the subject was thanked for her cooperation and told that the receptionist would phone her as soon as possible. At that time, information regarding the date of the group psychological testing session would be given. She was also told that at a later date, she would be called about the date and time of the first meeting of her treatment group. S was then thanked for her cooperation, and told that E would be seeing her again in approximately three to four weeks.

The Group Testing Session - Upon completion of all individual initial sessions, the group psychological testing procedure was begun. Each subject was called and told of the date on which she would attend her group testing session. One day prior to the group testing session, each S was again called to be reminded of her appointment. A volunteer research assistant made these telephone calls and assisted at the group testing sessions by handing out and collecting test materials and pencils.

Because of testing space limitations, the seventy-four subjects were divided into three groups of approximately equal numbers for testing. The division was done according

to the order in which Ss had initially contacted the research project. In the event that individuals were ill, or found it necessary to miss the assigned testing date, they were invited to attend a make-up test session which followed shortly after the completion of the third group's testing session. The testing conditions for the three groups' sessions and the make-up session as well, were identical. All testing was done in a well-lighted, air-conditioned room, measuring approximately thirty by forty feet. The bright, overhead lighting was fluorescent, and the air-conditioning system kept the room temperature at approximately seventy-four degrees Fahrenheit. Ss were seated at sturdy wooden library-type tables and individual heavy wooden chairs. One, and occasionally two chairs separated Ss from each other. Ss were seated on both sides of the tables. Ashtrays were provided for those who wished to smoke during the testing.

Once all Ss were seated, E welcomed each group and reiterated the importance of obtaining certain psychological information via psychometric tests. He also reassured Ss of the maintainance of confidentiality of test results, explaining that the results would be used for research purposes only, and that Ss' identities would not, even at that point, be associated with their test performances.

Having reached this point, E and his assistant distributed the Group Embedded Figures booklet to each subject. Ss

were asked to leave the booklets (which had been laid on the desks in front of them, with the front page facing up) as they were, and not open them until told to do so. When each S had received a booklet, E proceeded with instructions concerning performance of this test. The instructions followed exactly those which appeared in the Embedded Figures Test Manual.<sup>68</sup> The seven figures in the first section were presented for practice (although this was not known to the Ss) and were not included in the scores. The total of eighteen figures in the second and third sections were used in the computation of the overall score. Eight figures were located on the rear cover of the test booklet (so that concurrent stimulus and task observations could not be made). Ss were asked to find one of these forms in each of the complex figures presented and to trace it with a pencil. Each section was carefully timed with the stopwatch. Subjects were allowed two minutes to complete the seven figures in the first section, five minutes to complete the nine figures in the second section and five minutes to complete the nine figures in the third section. The complex figures increased in difficulty as the test progressed. Ss' scores on this test consisted of the number of embedded figures in sections two and three located and correctly outlined within the allotted time periods. The possible

---

<sup>68</sup> H. Witkin, P. Oltman, E. Raskin, and S. Karp, Manual For The Embedded Figures Tests, Op. Cit., p. 27-28.

range of scores was zero to eighteen. A stopwatch was used to time the timed sections of the test. When time had run out on the final section, all Ss were told to stop immediately and place their pencils on the table. At this point, E and his assistant collected all booklets, after checking to see that all subjects' names were properly placed on their test booklets. When all booklets were collected, Ss were asked if they needed sharpened pencils. If sharpened pencil were required, they were given to the subjects.

Following the completion of the GEFT, the Motivational Analysis Test (MAT) was administered. E and his assistant distributed a test booklet to each S. This was followed by a distribution of standard MAT answer sheets. Ss were instructed not to open the test booklets until told to do so. When each person had received her materials, E read the instructions along with the subjects for each portion, according to the test manual. After he completed the reading of the instructions, E questioned to ascertain whether Ss understood what was expected of them. If Ss required further information, it was provided briefly and in a manner consistent with MAT procedures for instructions administration. When all Ss had completed their tests, they were thanked for their cooperation, and reminded that they would be called soon regarding the times and dates on which their treatment groups would begin. They were informed that the call would come three weeks prior

to commencement of treatment sessions. They were told at this time not to start any new diets during the three-week waiting period prior to the onset of the treatment program. Exception to this was to be made if any S was advised by her physician to immediately begin a diet for acute health reasons. Ss were to inform E at any time during the program if medical intervention for dieting occurred. This situation never arose, prior to or subsequent to the commencement of the program. Ss handed their test booklets and completed answer sheets to E, who checked to see that they were properly filled in and that S was properly identified. E then said good-bye to each S and thanked her once again for her continuing cooperation in the program.

Twelve subjects dropped out of the program between the initial interview and the end of the group testing, leaving sixty-two subjects who began the treatment phase.

Prior to assignment of subjects to the three treatment groups, the data collected from the Rod-And-Frame and the Group Embedded Figures Test were scored. Raw scores obtained by Ss on each of the two aforementioned field articulation tests were converted to z scores for the purpose of deriving an average z score.<sup>69</sup> This mean z (i.e. the average of the z for the Rod-And-Frame and the z for the GEFT) was taken as a

---

<sup>69</sup> H. A. Witkin, et al., Psychological Differentiation, New York, Wiley and Son, 1962, p. 41.

representative of S's integrated personal level of field dependence. A correlational matrix which included correlations of these field dependence tests indicated that the Rod-And-Frame and GEFT, in the present sample of subjects, correlated .43. The Rod-And-Frame correlated .84 with the overall field dependence score (mean z of Rod-And-Frame and GEFT), and the GEFT correlated .85 with the overall field dependence score. This affirmed usage of the integrated, or averaged z score as most reflective of Ss' levels of field dependence. The raw scores from which z scores were derived were presented in Table I. Ss were classified as more or less field dependent according to their placement after a median-split of averaged z scores was performed. Those above the median were considered more field dependent (MFD) and those below were considered less field dependent (LFD). In order to keep E naive as to each S's relative field dependence level, the subjects' identification numbers were used in these, and all computations from this point on.

Subjects were assigned to treatment groups following the median split on averaged field dependence scores which was just described. They were randomly assigned to the three treatment groups on the basis of a one, two, three rotation in order of field dependence scores (the mean z score of the two field articulation tests). The order followed from the highest field dependent to the lowest field dependent subject. That

Table I.-

Raw Scores On Rod-And-Frame And Group Embedded Figures Tests.

S's #	RFT <sup>a</sup>	GEFT <sup>b</sup>	S's #	RFT	GEFT
1	32	3	38	84	3
2	79	0	39	88	2
3	77	3	40	131	1
4	127	2	41	13	10
6	53	14	42	104	1
7	18	12	43	79	6
8	43	7	44	66	8
9	92	11	46	36	1
10	9	11	47	12	10
11	79	9	48	86	10
12	63	2	49	101	3
13	72	7	50	8	6
14	47	17	51	18	17
15	129	9	52	66	9
16	75	2	54	36	2
18	21	17	55	60	4
19	52	6	56	25	17
20	66	8	61	22	8
21	50	4	62	91	0
22	55	8	63	18	15
23	55	8	64	11	12
25	24	5	66	46	0
27	28	6	67	14	11
30	38	9	68	19	0
31	114	0	70	42	0
32	144	0	71	24	3
33	38	1	72	81	5
34	92	8	73	56	5
36	67	7	74	12	7
37	110	3			
				$\Sigma X = 3398$	$\Sigma Y = 375$
				$\bar{X} = 57.59^c$	$\bar{Y} = 6.36$

a degrees of deviation of the rod from true vertical.

b number of correct responses.

c This was the average total degrees of all Ss' deviations from verticality. The  $\bar{X}$  score per S, per trial was, therefore, 7.2 degrees deviation from verticality.

is: the first subject (highest field dependent subject) was assigned to Group One, the second S (second highest field dependent S) was assigned to Group Two, the third S to Group Three, the fourth S to Group One, the fifth S to Group Two, the sixth S to Group Three, the seventh S to Group One, etc., until all sixty-two subjects had been assigned.

When all subjects were assigned to groups, and group meeting times had been scheduled, all Ss were telephoned. They were informed of the meeting place and times during which they would be expected to attend treatment sessions. They were told that the duration of the program was to be twelve weeks.

Treatment - All treatment sessions for all groups were held in a fourteen by twenty foot room. The room was brightly lighted, and painted a pastel shade of green. Straight-backed chairs, which were arranged to form a circle, were used as seating for Ss and E. The front of the room contained a classroom type chalkboard. An anteroom was adjacent to the group treatment room. Here, a balance scale was situated. This was used for the weighing procedure which was private for each S and preceded each group session. The treatment facilities were situated within the internal medicine unit of the Ottawa Civic Hospital, a one-thousand bed teaching hospital in Ottawa, Ontario. It was located on the sixth floor of a newly completed addition to the hospital. It was easily accessible for Ss and

isolated from the in-patient renal and internal medicine units to which it was adjacent.

The three treatment groups consisted of a discussion group (hereafter referred to as Group One), a behavior-therapy group (hereafter referred to as Group Two), and a non-specific treatment group (hereafter referred to as Group Three). Treatment Group One met on Monday and Wednesday evenings from seven-thirty until nine o'clock for twelve weeks. This totaled twenty-four sessions. Group Two met on Tuesday and Thursday evenings from seven-thirty to nine o'clock for twelve weeks, totalling twenty-four sessions. Group Three met on five Saturday mornings for one and one half hour sessions. They were spaced over the same twelve-week period. The space between meetings was approximately three weeks. Twenty-one subjects were assigned to Group One, Twenty to Group Two, and Twenty-one to Group Three. The rationale for division of each group into equal numbers of subjects having higher and lower field dependence ratings rested on E's attempt to measure different treatment responses and dropout levels from groups matched in terms of the field factor.<sup>70</sup>

Each of the three treatment groups received identical content exposure during their orientation sessions. In the

---

<sup>70</sup> It was also the writer's intention to examine specific psychodiagnostic parameters in terms of field-articulation levels, and both, in terms of treatment-related achievements.

interest of standardization, the orientation information was read verbatim to each group. It consisted of a general background of the health complications arising from overweight, and certain psychological ramifications often found to exist as part of the simple obesity syndrome. The groups were then encouraged to elaborate this information. Three one-hour and ten minute sessions were devoted to orientation in Groups One and Two. Group Three received its orientation during the first meeting which lasted three and one-half hours. Full details of the orientation to treatment are found in Appendix 6. In addition to the aforementioned orientation material, a color moving picture with sound track was shown.<sup>71</sup> The film dealt with family and personal problems related to the development and maintenance of simple obesity. Following its showing, each subject was provided with a weight information and diet booklet entitled "Four Steps To Weight Control."<sup>72</sup> This contained helpful information for beginning a weight-loss campaign. A self-adjusted and nutritionally healthful diet was to be geared (personally) to a weekly weight-loss which would ideally not exceed two pounds. The diet suggestions in this booklet allowed for a caloric intake of between 1000 and 1500 calories per day. During the final fifteen minutes of the

---

71 The movie which was shown was distributed by the Metropolitan Life Insurance Co. and called "A Song Of Arthur".

72 Metropolitan Life Insurance Co., "Four Steps To Weight Control", 1966, 1-31 p.

orientation process, informed consent sheets were distributed to all group members. E then read the contents to the groups to ensure that Ss understood the content and were not merely signing without first having properly interpreted them. The forms were signed by all subjects and returned to E. A sample of the standard informed consent sheet appears in Appendix 7.

From its inception, Group One (the discussion group) was given to understand that the benefits available to its members were related to the detail and integrity of their input. The members were, therefore, encouraged to participate verbally in all group meetings. Their work centered around the development of increasing improvement of their knowledge of what, psychologically, provoked and maintained their overweight, and, importantly, what they might reasonably do to resolve these various situations. Positive treatment expectations were encouraged by E. The group's format was explained as having demonstrated success in formidable numbers of other projects.

This group was presented with a work format which was intended, in part, to generate continuous, relevant discussions. The schedule for each meeting included: 1. Weighing-in prior to the meeting. E recorded each S's weight at each session, and also the change from the previous session. (This weighing-in process took place in an identical manner in all treatment groups prior to each session. In Groups One and

Three no reinforcement was given for either losses or gains. In Group Two, positive reinforcement in the form of E's comment "good", or "very good", was given for weight loss.) 2. Presentation by Ss of public media releases related to overweight. 3. Individual and group explorations into spontaneous insights regarding causes, maintenance, and remission factors concerning their overweight. 4. Group discussion of these items, as well as special topics, such as group reviews of issues raised during the orientation period and previous meetings was also encouraged.

E's role in this group was limited to such functions as clarifying issues under discussion, encouraging discussion of mass-media data that were brought in by Ss, and involving Ss who tended to demonstrate only peripheral verbal involvement. He also served to mediate against individuals focusing upon their own, or others' deep-seated psychological problems, in behaviors productive of emotional outbursts and catharses. Although such experiences may be desirable in certain rehabilitative group and/or individual psychotherapies, the limited duration (twelve weeks) of the present group, militated against them.

The goals of Group One were fixed upon weight loss. Realistic expectations for progress were encouraged by E, and the non-magical constructs of the treatment were stressed. The group's format and basic design were highly common in the research literature.

Group Two consisted of twenty subjects. This group followed a predetermined behavior therapy paradigm.

Abnormal eating behaviors exist in obese Ss, in that these responses frequently occur to seemingly inappropriate eating stimuli. Therefore, after the recommendations of Fowler, et al.,<sup>73</sup> a program using positive reinforcement procedures and stimulus control techniques was adopted. Elements of other programs in which favorable weight-loss results were reported were also adapted to the needs of the present work.<sup>74,75</sup> Also following Fowler, et al.,<sup>76</sup> the following variables were included: The program was self managed. It was simple in conception. Behavior to be modified or extinguished was specifically identified (e.g. putting food in the mouth, eating and watching T. V., eating before bed, etc.). The system of cognitive control emphasized external, not internal cues. Since obese people tend to be externally oriented and field dependent, their perception of outside stimuli and reaction to

---

73 R. S. Fowler, W. Fordyce, V. Boyd, and A. Masock, "The Mouthful Diet: A Behavioral Approach To Overeating", Rehabilitation Psychology, Vol. 19, No. 3, 1972, p. 98-106.

74 R. B. Stuart, "A Three Dimensional Program For The Treatment of Obesity", in Kiell (Ed.) The Psychology Of Obesity, Op. Cit., p. 168-179.

75 Janet P. Wollersheim, "Effectiveness of Group Therapy Based Upon Learning Principles In The Treatment of Overweight Women", Journal of Abnormal Psychology, Vol. 76, No. 3, 1970, p. 462-474.

76 R. S. Fowler, et al., Op. Cit.

them need modification. Behaviors perceivable by subjects as deprivation were avoided. The behavior control techniques were to be practiced in the environments in which eating/food problems could be expected. Inappropriate eating-behavior, or stimulus-response chains were to be weakened and extinguished. An example of this was to slow the rate of eating, enjoy the available food, and eliminate-as the target of fast eating-more food-getting.

Subjects were told at their first, post-orientation session, that inordinate and/or inappropriate eating behaviors were, in most non-organic cases of obesity learned responses to their environments. Also, as occurred several times throughout the program's treatment phase, subjects were told that although a variety of psychological predisposers and precipitants motivated eating reactions, it was eating, and not specifically feelings that produced their obesity problems. In the same session (session number four), positive treatment expectations were encouraged as Ss were told that, since eating behaviors were learned responses, the potential for adopting new eating behaviors was promising; especially using the tactics presented to them. One important aspect of helping new eating behaviors to develop, was to facilitate the understanding of elements which precipitate eating reactions. The group was told, therefore, that its first task was to develop more self-awareness regarding inappropriate eating. Included

in the things to be noticed in association with inappropriate eating behaviors were their attendant perceptions, feelings, identities of persons present or absent, and other factors that were (what were called) eating 'triggerers'. Times of day or night were to be noticed, as were kinds and quantities of foods, as well as giving thought to emotional after-effects of inappropriate eating. Ss were asked to also determine whether their food-seeking was truly hunger-based or, after thinking over their response, serving as substitutive fulfillment of some other needs or wishes.

Ss had previously been encouraged to bring a purse-sized notepad to each meeting. At meeting number four, they were told to begin to record what occurred immediately before, during, and after each inappropriate eating time, or eating behavior, in terms of the types of information just discussed. Ss were also to record abstaining behaviors, and elaborate on them. Notes were to be brought to every session for group review; this in the interest of behavior shaping via group reinforcement.

Each time a new step was presented, the following session was used to reiterate it, and thus, reinforce its proper understanding. The information to be included in each S's notebook was reviewed. Ss who were chosen by E presented entries from their notebooks which reflected work current for the group. The information was jotted on the chalkboard by E.

Ss examined the inappropriate behavioral unit that had been experienced, and gave supportive comments on how the behavior which ended in inappropriate eating might best be modified in future trials.

In subsequent sessions, the precipitants of improper eating were viewed in situational contexts. The thoughts, and, secondly, the feelings which attended such behaviors were dissected by the group, and new stimulus—→ response bonds were, potentially, on their way to being shaped. The value and usage of the steps in the program were cumulative.

At the end of session number five, step number two was presented. Ss were told to use the chart they were given that night (see Appendix 8 for sample) to keep special records from then on. The records kept account of the number of regular-sized mouthfuls of food they consumed every day for the duration of the program. Ss were told to chew each mouthful half again longer than they figured they ordinarily would. The object of these exercises was to draw attention to quantities eaten, and time taken for meals, so that thoughts and feelings about these actions would become clearer to Ss. This, in turn, would potentially allow for more useful and meaningful notations in Ss' notebooks. At this session, Ss were also told to record their weights (on the same scale, or on scales whose readings were exactly the same, or varied by known constant weights) four times daily. One weighing was to occur

prior to breakfast, one after breakfast, once after lunch, and once before bedtime. Average daily weights were plotted on their mouthfuls sheets, next to the average daily number of mouthfuls. Awarenesses should have developed which indicated that if more same-sized mouthfuls (especially of dietetically unsound foods) were consumed, higher weights would occur. Of course, personal resources could provide a person either with more mouthfuls of less quantity each time, or with more same-sized mouthfuls of less caloric value. In any case, the orientation messages emphasizing eating and weight being positively correlated in these Ss, was (it was planned) brought to mind daily by the contents of the tally sheet.

At the end of the following session (where the previous step was discussed in the context of Ss' experiences) the third step was introduced. Subjects were asked to keep records of their weekly weight changes. If the change was a two pound loss (more than one and three-quarters pounds but less than four pounds) S colored the block for total mouthfuls for that week green and wrote the word LOVE to denote "Lots Of Victory Eventually" on her chart. If her weight had remained the same or increased during the week, she colored the block red and wrote the word ROT which stood for a need to "Re-regulate Ongoing Trends". She was also required to report the average number of mouthfuls for the week.

At the next session, all previous steps were discussed, and as in all previous treatment sessions (and, as well, in the

ones that followed) careful review of the notebook entries were made on the basis of random selections of two or three Ss by E. Toward the end of the session, step four was presented. It was intended to raise awareness and reinforcement of Ss' abilities to avoid improper eating. They were told that in subsequent sessions they would be expected to be prepared to share such experiences, and that they should be recorded in detail in their notebooks. Ss were also told that when home, to restrict all meals to one special environment. This place, they were told, should be free of such features as music, television, books, and magazines or other stimuli which might distract Ss from eating-specific concentration. The purpose inherent in this recommendation was to avoid the wish to perpetuate the sought stimulus and, associatively, the extra eating this might produce. This was discussed during the next session, prior to the notebook reviews. Subsequently, step number five was presented.

Step number five elaborated what the writer termed the "Filling Bags Technique". Ss were told:

Use clear plastic bags in which to collect foods. The foods should be collected in the following manner: At each meal, leave some allowed food on your plate. Don't make it enough to cause you to suffer its loss. Put the left-over quantity into the bag. Weigh the total at the end of each day. Add the daily totals of weight at the end of the week. No matter whether it's a great or small amount, at the end of the week, sit in a quiet place and contemplate what you as a person have accomplished in this procedure, and in the week's work. If at any time you exceed your rational input of food, then, in an

honest manner, approximate its weight, and subtract this from the 'leftover' food weight for that day (or those days). If you can, keep all the leftovers in one bag, and discard together at the end of each week. After all computations, measurements, etc., take one pound of sand, gravel (or any other inexpensive bulk material) for each pound of weight that you've lost during that week, and transfer it to a separate bag.

Basically, the thought association being promoted in this step was that when foods which may readily be eaten are not eaten, body weight which might have been added, over time, comes off.

The following sessions occurred in the usual manner.

Step six was offered toward termination time. Ss were told that most obese people don't actually appreciate what they eat, but seek satisfaction from how much they eat. Ss were encouraged to do the following:

Time your meals. Divide your meals' times by three, for each meal. That will give you one-third of the time it takes you to eat that meal. Add that one-third of time to what it usually takes for each of the three meals; even if this requires stopping during your meals—for a rest—or even several rests. This will make the mealtime one-third longer. Change your style of eating in your 'eating-specific' settings. That is, put down your utensils after every third mouthful, and rest for a full thirty seconds to one minute. Perhaps get up and walk for thirty seconds to one minute, after every fifteenth average sized mouthful. After the meal, leave the eating area. Brush your teeth well. Use dental floss where possible. Begin prearranged activity (activities) of productive and rewarding type(s).

They were encouraged to try to gain increasing enjoyment from their foods, and to make the enjoyment last longer through this step. Simultaneous relaxation was encouraged. It was explained that working toward relaxation at meals (especially

supper) was quite different from, and superior to discharging tension through quick and plentiful eating. Ss were encouraged to engage in the post-meal oral hygiene primarily to dramatically change the buccal stimuli which might cause some persons to continue eating. It also would get Ss out of their kitchens and thereby weaken their usual chain of eating responses. The post-mealtime activities were to be of types which would begin to offer feelings of accomplishment and personal and/or familial fulfillment. E often spoke of inappropriate eating as the automatic seeking of "fillment instead of fulfillment".<sup>77</sup>

Group Three consisted of twenty-one subjects. It was referred to as the Non-Specific Treatment Group.

The Non-Specific Treatment Group, although not conforming to Jenkin's<sup>78</sup> treatment plans was influenced by his findings and suggestions. Basically, he found that as long as his overweight patients felt an affinity with a peer group which was trying to lose weight, weight loss occurred even in the absence of actual group meetings.

The rationale underlying this group focused on the idea that as long as a group affinity and group purpose was generated, weight changes would accrue to certain Ss. Again, expectations regarding treatment results were encouraged by E.

---

<sup>77</sup> A catch-phrase initiated by the writer.

<sup>78</sup> B. W. Jenkins, "Group Therapy for Obesity--Without The Group", General Practice, Vol. 14, 1956, p. 110-112.

The following statement was emphasized to Ss as the program's keystone:

The importance of proper self-regulation of one's own diet cannot be overstated. Long-term weight loss and weight maintenance success depends almost entirely on learning to accomplish this sensibly.

Ss were then told that at group gatherings, each participant should be prepared to share thoughts and observations that might help specific others and the group-at-large. Topics which were suggested included each other's progress, experiences during dieting, and valuable suggestions that might be shared profitably by all present. In a manner similar to Jenkins,<sup>79</sup> graphs showing Ss' weight-loss curves were kept. Ss were told that during the final two meetings their individual losses would be charted on the chalkboard according to their subject numbers, in order to have them see their relative progress.

The same Metropolitan Life Insurance Company's booklet<sup>80</sup> was handed out immediately subsequent to the orientation motion picture. As in the other groups, Ss received the explanation that mixing and matching diets within the 1000 to 1500 calorie range, according to the booklet's rules, would almost universally cause weight loss.

---

79 Ibid.

80 Metropolitan Life Insurance Company, "Four Steps To Weight Control", Op. Cit.

During the five group meetings which followed, Ss were quite exuberant and expressed an uncanny eagerness to plunge into each session's work. Occasionally E needed to moderate group interactions which portended the onset of behaviors often seen in psychotherapy groups with developmental histories of several months. Such mediation was deemed advisable and necessary by E, as the group's time schedule disallowed proper therapeutic management of such situations.

The inclusion of this group in the present study was intended to provide information on the treatment reactions of Ss known for high dependency needs in a situation where, at least temporally, the meeting of such needs would be notably less probable.

A number of subjects left the groups during the twelve-week treatment period. In Group One, there were five dropouts, representing twenty-four per cent. In Group Two, eight subjects dropped out, representing forty per cent. Group Three lost four subjects, representing twenty per cent. The literature indicated that twenty to eighty per cent attrition was not uncommon in obesity treatment programs.<sup>81</sup> The writer, necessarily, operationally defined a subject attendance criterion for inclusion of their data in the final evaluative analysis of the three treatment approaches undertaken in this study.

---

<sup>81</sup> A. J. Stunkard, "The Dieting Depression", American Journal of Medicine, Vol. 23, 1957, p. 77-86.

This criterion was attendance at two-thirds of the treatment sessions for the discussion and behavior therapy approaches, and three out of five sessions for the non-specific treatment group. In all cases, Ss had to have been present for final weighings, and had their absences evenly distributed in order for their data to be included.<sup>82</sup> The resulting N for Group One was fourteen, Group Two was twelve, and Group Three was seventeen, giving a final N for the three treatment groups of forty-three subjects.

The criteria for drop-outs required that Ss had, in fact, begun attending treatment sessions and had, subsequently, left treatment. Three Ss dropped out between the end of the testing phase and the beginning of treatment, and therefore could not be considered as treatment dropouts, having never attended a treatment session. The N for drop-outs, therefore, was sixteen.

This final sample of fifty-nine women (forty-three stay-ins, and sixteen drop-outs) was used in the statistical treatments which follow.

#### 4. Statistical Analysis.

The following statistical procedures were applied as tests of the hypotheses which appeared on page thirty-three

---

<sup>82</sup> It was imperative to establish attendance criteria which would assist in vitiating against interpretation of extraneous influences as though they were treatment-specific effects.

of this thesis:

Hypotheses one through five were examined by use of a full model multiple linear regression correlation analysis. T-tests for the significance of coefficients were performed in each case.

Hypotheses six and seven were examined by use of two 2 X 2 analyses of variance.

The multiple linear regression was used in view of its capacity to predict a single dependent variable from more than two independent variables in combination.<sup>83</sup> Its two principle uses have been described as; 1. Yielding "the optimum weighting for combining a series of variables in predicting a criterion and provides an indication of the accuracy of subsequent predictions", and 2. "permitting analysis of variation into component parts."<sup>84</sup>

Kim and Kohout<sup>85</sup> noted that as a descriptive tool, multiple regression analysis' most important uses lay in obtaining

---

83 Deobold Van Dalen, Understanding Educational Research, An Introduction, McGraw-Hill, New York, 1966, p. 365.

84 Quinn Mc Nemar, Psychological Statistics, 2nd Edition, John Wiley and Sons, Inc., New York, 1955, p. 187.

85 Jae-On Kim and Frank J. Kohout, "Multiple Regression Analysis: Subprogram Regression", in Statistical Package For The Social Sciences, 2nd Edition, N.H. Nie, C.H. Hull, J. G. Jenkins, K. Steinbrenner, and D.H. Bent, Editors, McGraw-Hill, Toronto, 1975, p. 321.

the best linear prediction accuracy. It also controlled against confounding by other factors in order to evaluate the contribution of a singular variable or set of variables, and allowed observation of structural relations and explanations for apparently complex multivariate relations. The use of this technique allows for obtaining a prediction equation indicative of how independent variable scores may be weighted and summed to yield the best prediction of the dependent variable. More specifically; "The main focus of the analysis is (...) the evaluation and measurement of overall dependence of a variable on a set of other variables."<sup>86</sup>

The regression analyses were performed using a 'SOUPAC' Full Model Multiple Linear Regression Program with Correlational Matrix.

The tests for the significance of interactions, as sought by the two 2 X 2 analyses of variance (hypotheses six and seven), were performed by the 'SOUPAC' Balanova V computer package for independent groups. Higher or lower field dependence, and higher and lower Hope, Gratification and Mastery scores (both by median splits) were the independent variables entered: The percent of weight change was entered as the dependent variable in the first ANOVA, while the amount of weight-loss ( in pounds) was the dependent variable in the

---

86 Ibid.

second ANOVA. ANOVA was chosen because of its capacity for dividing variation obtained from experimental data into different parts, each of which may be assigned to known sources, causes, or factors. With this technique one may assess the relative extent of variation which obtains from certain sources, and determine whether a given part of variation is greater than expected according to the null hypothesis<sup>87</sup>. The 2 X 2 ANOVA design allowed for examination of a potentially meaningful source of variation associated with the predictor variable found to be most significant in the present study. Since there were unequal numbers of subjects in the ANOVA cells, an unweighted means analysis was used.<sup>88</sup>

These statistical programs were processed through the facilities of the University of Ottawa Computer Services Bureau.

Results of these statistical treatments applied to data derived to test the research hypotheses in this thesis are presented and discussed in the chapter which follows.

---

87 G. A. Ferguson, Statistical Analysis In Psychology and Education, McGraw-Hill, New York, 1959, p. 227.

88 B. J. Winer, Statistical Principles In Experimental Design, McGraw-Hill, New York, 1962, p. 224-7, and 241-4.

## CHAPTER III

### PRESENTATION AND DISCUSSION OF RESULTS

The first part of this concluding chapter presents the results of the statistical analyses of the hypotheses advanced in the first chapter. The second part of the chapter discusses the results of these tests in terms of the literature from which problems studied in this thesis were conceived. In its concluding section, limitations and implications for future research are considered.

Prior to examination of the statistical results related to tests of the hypotheses, it was mandatory to note whether treatment responses differed across the three treatment populations. In terms of weight change, a 3 X 2 univariate analysis of variance of one dependent variable (per cent of weight loss) in three treatment groups, with higher and lower (by median split) field dependence levels of subjects was performed. The results of this test of main effects are presented in Tables IIA and B. No significant differences were observed in subjects' average scores with respect to their per cent of weight change. Further, when comparing groups which had been divided into higher and lower field dependence levels, there were no significant differences in their average scores with respect to their per cent of weight lost. Similarly, when divided into three treatments, each with two field dependence

Table IIA.-

Analysis of Variance For Per Cent Of Weight Change In Three Treatment Groups.<sup>a</sup>

Source	df	SS	MS	F	Sig.
Treatment	2	27.42	13.71	0.32	N.S.
Error Variance (Subjects X In- teraction) <sup>b,c</sup>		1115.10	44.60		

<sup>a</sup> Balanova V program (SOUPAC), University of Ottawa Computing Center.

<sup>b</sup> Treatment is fixed-effects, hence error term is subjects X interaction. For interaction,  $df = 2$ ,  $SS = 20.82$ ,  $MS = 10.41$ . For subjects,  $df = 34$ ,  $SS = 1515.1$ ,  $MS = 44.6$ .

<sup>c</sup> This is the replication factor and has an unequal number of levels for each combination of levels of the factors in which it is nested. However, the number of levels are proportional and hence the design is balanced. The analysis of variance is exact, except for truncation and rounding errors. Balancing of cells was accomplished by a random pull of program cards. A second ANOVA was performed. It was unbalanced, and therefore, employed the approximate method of unweighted means. This ANOVA, which contained the previously randomly withdrawn cards, was considered approximate. Nonetheless, results were again non-significant.

Table IIB.-

Analysis Of Variance For Percent of Weight Change For Two  
Levels of Field Dependence.

Source	df	SS	MS	F	Significance
Field Dependence <sup>a</sup>	1	0.63	0.63	0.01	N.S.
Subjects	34	1515.1	44.6		

<sup>a</sup> See Table IIA. In this case, Field Dependence is a random factor.

levels, no significant interaction occurred between field dependence levels and per cent of weight loss. It was concluded, therefore, that since the three treatment modalities yielded no significant differences, they would be collapsed into a single treatment group for examination of results.

### 1. Presentation Of Results.

Hypotheses one through five were tested by a full model multiple linear regression correlation analysis. The first hypothesis stated: When using multiple linear regression analysis to predict the persistence in treatment of a sample of obese adult women, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest and Total Conflict scores, age of onset, and percent overweight prior to treatment are not statistically significant predictors. Results of the full model multiple linear regression correlation analysis, presented in Table III, indicated no significant relationship between the predictors and criterion (staying in or dropping out of treatment). The multiple correlation was .34 for all subjects, and the F ratio was .84, which was not significant (degrees of freedom 8 and 50). No coefficients were significantly different from zero; according to t-tests for testing the significance of coefficients. It was noted, therefore, that hypothesis one, presented in the null form, could not be rejected.

Table III.-

Summary Of Results Of A Multiple Linear Regression Analysis Of Predictors of Treatment Persistence.

Predictor Variables	Standardized Regression Coefficient	Unstandardized Regression Coefficient	t values <sup>a</sup>	sig.
1. Field Dependence	-0.087	-0.463	-0.631	N.S.
2. Hope, Gratification, and Mastery	-0.240	-0.110	-1.692	N.S.
3. MAT General Autism	0.021	0.533	0.105	N.S.
4. MAT Total Integration.	0.180	0.577	0.653	N.S.
5. MAT Total Personal Interest	-0.025	-0.685	-0.145	N.S.
6. MAT Total Conflict	0.337	0.110	1.269	N.S.
7. Age of Onset	-0.153	-0.141	-1.036	N.S.
8. Initial % Overweight	0.050	0.592	0.356	N.S.

Multiple correlation = 0.346. F-ratio = .847 (N.S.)

<sup>a</sup> t-tests for significance of regression coefficient from zero.

Hypothesis two stated: When using multiple linear regression analysis to predict percent of weight change in treatment in a sample of obese adult women, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest, and Total Conflict scores, age of obesity's onset, and percentage overweight prior to treatment are not statistically significant predictors. Application of the full model multiple linear regression correlation analysis yielded a multiple correlation of .51, which was significant at the .05 level of confidence. An F ratio of 2.13 was required (with degrees of freedom 8 and 50) for significance, and F was 2.2. These results were presented in Table IV. t-tests of the significance of coefficients showed that Hope, Gratification and Mastery scores, MAT Total Integration scores, and MAT Total Conflict scores were significantly different than zero. Three variables (Hope, Gratification, and Mastery scores, MAT Total Conflict and MAT Total Integration scores) remained in the predictor equation, and were significant predictors of weight loss (expressed as per cent of weight loss) at the .01, .02, and .05 levels, respectively. The predictor equation in this sample was:

$$Y \text{ (Standardized)} = -.390 X_2 + .668 X_4 + .586 X_6$$

$$Y \text{ (Unstandardized)} = -.390 X_2 + .367 X_4 + .327 X_6 + (-0.49)$$

Hypothesis two, as stated in the null form, was, therefore, rejected.

Table IV.-

Summary Of Results Of A Multiple Linear Regression Analysis  
Of Predictors Of Percent Of Weight Change.

Predictor Variables	Standardized Regression Coefficient <sup>a</sup>	Unstandardized Regression Coefficient. <sup>b</sup>	t value	Sig.
1. Field Dependence	0.108	0.983	0.853	N.S.
2. Hope, Gratification and Mastery	-0.390	-0.309	-2.999	p<.01
3. MAT General Autism	0.158	0.674	0.847	N.S.
4. MAT Total Integration	0.668	0.367	2.647	p<.02
5. MAT Total Personal Interest	-0.037	-0.170	-0.229	N.S.
6. MAT Total Conflict	0.586	0.327	2.405	p<.05
7. Age of Onset	-0.057	-0.899	-0.420	N.S.
8. Initial % Overweight	0.026	0.524	0.200	N.S.

Multiple Correlation = 0.51 F-ratio = 2.21 (p<.05)

$${}^a Y = -.390 X_2 + .668 X_4 + .586 X_6$$

$${}^b Y = -.309 X_2 + .367 X_4 + .327 X_6 + (-.49)$$

Hypothesis three stated: When using multiple linear regression analysis to predict pounds of weight change in treatment in a sample of obese adult women, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest, and Total Conflict scores, age of obesity's onset, and percentage overweight prior to treatment are not statistically significant predictors. Results derived from the multiple linear regression analysis indicated a multiple correlation of .398 which, with an F ratio of 1.18, failed to reach significance, as was shown in Table V. (With degrees of freedom being 8 and 50,  $F = 2.13$  was required for significance at the .05 level of confidence.) t-tests of significances of coefficients, presented Hope, Gratification and Mastery as significantly different than zero. The predictor equation was:

$$Y (s) = -.373 X_2$$

$$Y (uns) = -.303 X_2 + (-0.208)$$

Although the null form of this hypothesis could not be rejected, the Hope, Gratification and Mastery Test scale was again highlighted as a criterion predictor (i.e. weight loss in pounds in this instance) at the .01 level of confidence.

Table V.-

Summary Of Results Of A Multiple Linear Regression Analysis  
Of Predictors Of Amount Of Pounds Changed.

Predictor Variables	Standardized Regression Coefficient <sup>a</sup>	Unstandar- dized Regres- sion Coeffi- cient <sup>b</sup>	t values	Sig.
1. Field Dependence	0.019	0.181	0.144	N.S.
2. Hope, Gratifica- tion and Mastery	-0.373	-0.303	-2.690	p<.01
3. MAT General Autism	0.024	0.107	0.123	N.S.
4. MAT Total Inte- gration	0.174	0.984	0.648	N.S.
5. MAT Total Person- al Interest	-0.015	-0.724	-0.089	N.S.
6. MAT Total Con- flict	0.309	0.178	1.192	N.S.
7. Age of Onset	-0.033	-0.535	-0.228	N.S.
8. Initial % Over- weight	0.035	0.724	0.253	N.S.

Note: Multiple correlation = .398, F-ratio = 1.18 (N.S.)

$$^a Y = -.373 X_2$$

$$^b Y = -.303 X_2 + (-0.208)$$

In an attempt to determine the predictive value of the motivation variables under examination as these related to staying in treatment, their prediction of percent of weight change and amount of pounds lost was studied. Hypothesis four stated: When using multiple linear regression analysis to predict per cent of weight loss in a sample of obese adult women who remained in treatment, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest, and Total Conflict scores, age of obesity's onset, and percentage overweight prior to treatment are not statistically significant predictors. Results of the multiple linear regression analysis as presented in Table VI, showed a multiple correlation of .53, which, with an F ratio of 1.68, failed to reach significance. T-tests of significance of coefficients presented Hope, Gratification and Mastery scores, MAT Total Integration scores, and MAT Total Conflict scores as significantly different than zero (at the .02, .02, .02, and .05 levels, respectively) and, therefore, contributing to prediction of this criterion. The zero intercept was also significantly different from zero. The prediction equation was:

$$Y (S) = -.409 X_2 + .825 X_4 + .618 X_6$$

$$Y (uns) = -.312 X_2 + .446 X_4 + .340 X_6 + (-0.609)$$

Table VI.-

Summary Of Results Of A Multiple Linear Regression Analysis  
Of Predictors Of Subjects' Persisting In Treatment.

Predictor Variables	Standardized Regression Coefficient <sup>a</sup>	Unstandardized Regression Coefficient <sup>b</sup>	t value	Sig.
1. Field Dependence	0.178	0.158	1.097	N.S.
2. Hope, Gratification and Mastery	-0.409	-0.312	-2.541	p<.02
3. MAT General Autism	0.222	0.914	0.956	N.S.
4. MAT Total Integration	0.825	0.446	2.554	p<.02
5. MAT Total Personal Interest	0.213	0.944	0.104	N.S.
6. MAT Total Conflict	0.618	0.340	2.114	p<.05
7. Age of Onset	0.600	0.954	0.326	N.S.
8. Initial % Overweight	-0.048	-0.954	-0.307	N.S.

Multiple Correlation = .53; F-ratio = 1.68 (N.S.)

$$^a Y = -.409X_2 + .825 X_4 + .618 X_6$$

$$^b Y = -.312 X_2 + .446 X_4 + .340 X_6 + (-0.609)$$

Hypothesis five stated: When using multiple linear regression analysis to predict pounds of weight change in a sample of obese adult women who remained in treatment, their field dependence scores, Hope, Gratification and Mastery, General Autism, Total Integration, Total Personal Interest and Total Conflict scores, age of obesity's onset, and percentage overweight prior to treatment are not statistically significant predictors. Results of the multiple linear regression analysis indicated a multiple correlation of .37 which, with an F ratio of .65, failed to reach significance, as shown in Table VII. T-tests of significance of coefficients showed that none was significantly different from zero. The Hope, Gratification, and Mastery variable yielded a t of 1.94, which approached, but failed to reach significance (t = 2.01 was required for significance at the .05 level of confidence). No variables were entered into a predictor equation, and the hypothesis, as stated in null form, could not be rejected.

Table VII.-

Summary of Results Of A Multiple Linear Regression Analysis  
Of Predictors of Pounds Changed By Treatment Stay-Ins.

Predictor <sup>a</sup> Variables	Standardized Regression Coefficient	Unstandar- dized Regres- sion Coeffi- cient	t value	sig.
1. Field Dependence	0.019	0.168	0.106	N.S.
2. Hope, Gratifica- tion and Mastery	-0.343	-0.262	-1.937	N.S.
3. MAT General Autism	0.024	0.100	0.095	N.S.
4. MAT Total Integra- tion	0.100	0.540	0.280	N.S.
5. MAT Total Person- al Interest	0.023	0.104	0.104	N.S.
6. MAT Total Con- flict	0.205	0.113	0.639	N.S.
7. Age of Onset	0.023	0.362	0.113	N.S.
8. Initial % Over- weight	-0.067	-0.133	-0.389	N.S.

Multiple Correlation = .37, F-ratio = .65 (N.S.)

<sup>a</sup>Since no significant predictors were found, prediction equations were not presented.

The last two hypotheses were derived from an a priori decision to submit the strongest motivation predictor(s) of treatment success to an examination of its/their interaction(s) with field dependence. As in the other hypotheses, field dependence was defined as the z score derived from averaging together the z scores of subjects' Rod-And-Frame and Group Embedded Figures Test scores. Since weight loss was the most obviously important criterion to patients and research subjects, it was entered as the dependent variable in the two 2 X 2 analyses of variance; both as percent of weight lost (hypothesis six) and as pounds lost (hypothesis seven).

Hypothesis six stated: In a sample of obese adult women comprising all subjects who started treatment, when groups differing in Hope, Gratification and Mastery scores and in field dependence are compared with respect to percent of weight lost, there is no significant interaction between this motivational index and field dependence.

Hypothesis seven stated: In a sample of obese adult women comprising all subjects who started treatment, when groups differing in Hope, Gratification and Mastery scores and in field dependence are compared with respect to amount of weight change in pounds, there is no significant interaction between this motivational index and field dependence.

A review of Table VIII, which presented a partial correlation matrix of field dependence, and other data studied in

the present research, indicated that in this research sample, its relativity was less than what might have been expected from the literature reviewed. Of the correlations obtained, only with the one between Hope, Gratification and Mastery and overall field dependence was some consistency with the field dependence literature observed. That is, though not statistically significant ( $r = -.225$ ), the correlation suggested a trend toward greater Hope, Gratification and Mastery scores with higher field independence (i.e. less field dependence). Tables IX and X, presented the results of these analyses. In both cases, 2 X 2 analyses of variance (using per cent of weight change in one case, and pounds lost in the other as dependent variables) showed no significant interactions or main effects between lower and higher field dependence and lower and higher hope.

Table VIII.-

Correlations Of Field Dependence Scores<sup>a</sup> With Each Of The Other Variables Investigated.

Correlated Variable	r
Stay-in vs. Drop-out of Treatment	-.07
Childhood vs. Adult Onset Obesity	-.11
Lower vs. Higher Hope, Gratification, Mastery	-.22
Greater Than Median Weight Loss of Group	.03
Initial Per Cent Overweight	.004
Per Cent of Weight Loss	.10
Amount of Pounds Lost	.04
Hope, Gratification, and Mastery Scores	-.14
MAT General Autism Scores	-.05
MAT Total Integration Scores	-.02
MAT Total Personal Interest Scores	.10
MAT Total Conflict Scores	-.07
Portable Rod-And-Frame z Scores	.84
Group Embedded Figures Test z Scores	.85

a Field Dependence score is the average of the z scores on the Group Embedded Figures Test and the Portable Rod-And-Frame Test.

Table IX.-

2 X 2 Analysis Of Variance For Percent Of Weight Change As Dependent Variable, On Two Levels of Field Dependence And Two Levels Of Hope, Gratification and Mastery.

Source	df	SS	MS	F	Sig.
Field Dependence	1	1.01	1.01	0.02	N.S.
Hope, Gratification and Mastery	1	188.35	188.35	3.21	N.S.
Interaction	1	6.50	6.50	0.11	N.S.
Subjects	55	3225.22	58.64		

Note: Fixed effects model, Mode II, with two factors (Balanova V Program).

The approximate method of unweighted means was used.

The design was not balanced and the ANOVA was, therefore, only approximate. (Even if there were no truncation and rounding errors.)

The replication factor had an unequal number of levels for each combination of levels of the factors in which it was nested.

Table X.-

2 X 2 Analysis Of Variance For Pounds Of Weight Change As Dependent Variable, On Two Levels Of Field Dependence And Two Levels of Hope, Gratification and Mastery.

Source	df	SS	MS	F	Sig.
Field Dependence	1	19.97	19.97	0.32	N.S.
Hope, Gratification and Mastery	1	149.71	149.71	2.39	N.S.
Interaction	1	3.79	3.79	0.06	N.S.
Subjects	55	3450.96	62.74		

Note: Fixed effects Model, Mode II, with two factors (Balanova V Program).

The approximate method of unweighted means was used.

The design was not balanced and the ANOVA was, therefore, only approximate. (Even if there were no truncation and rounding errors.)

The replication factor had an unequal number of levels for each combination of levels of the factors in which it was nested.

Results of intercorrelations among field dependence, weight changes, treatment persistence, and Hope, Gratification and Mastery scores are presented in Table .XI. The only motivational variable which correlated significantly with weight loss was Hope, Gratification and Mastery. Correlations of  $-.35$  and  $-.36$  between HGM and pounds and per cent of weight lost (respectively) were statistically significant at the  $.01$  level of confidence. Field dependence level, on the other hand, even at the level of intercorrelations, failed to even show trends toward meaningful relationships with the criterion variables in this research sample. Statistically significant correlations ( $.01$  level) were seen between losing weight and persisting in treatment.

All results are interpreted cautiously, in view of the limitations of the study in terms of limited sample size, which prevented the possibility of cross-validation, and the relatively large number of variables. These results will be discussed in the section which follows.

Table XI.-

Partial Table of Intercorrelations; Including Percent Weight Loss, Pounds Lost, Treatment Persistence, and Hope, Gratification and Mastery Scores, And Field Dependence Levels.

	Percent Weight Loss	Pounds Weight Lost	Hope, Gratif. Mastery	Field Depen. Level
Persistence In Treatment	.41	.44	-.22	-.07
Percent Weight Loss		.81	-.36	.10
Pounds Weight Lost			-.35	.04
Hope, Grati- fication, Mas- tery				-.14

a .33 is the critical value of the correlation coefficient at the .01 level of significance. At the .05 level, its value is .25.

## 2. Discussion Of Results.

In this section, the writer discusses the implications of the results of this study. Attention is also focused on pertinent issues to be explored in future researches.

Statistical tests of hypotheses one through three indicated that in a sample of obese adult women who participated in group psychological treatments aimed at weight-loss, persistence in treatment was not predicted by the motivational variables selected for examination. It was, however, found that prediction of the treatment goal (i.e. percent weight loss) was possible using the same group of predictors. Hope, Gratification and Mastery, MAT Total Integration, and MAT Total Conflict scores were the predictors which, statistically, contributed most to the significant multiple linear regression correlation analysis in predicting this criterion. Although results of the prediction equation indicated that the same was untrue of pounds of weight loss, Hope, Gratification and Mastery scores were again found to be a significant predictor of successful weight loss.

In obese subjects, food-getting may represent an attempt to provide the self with increased or decreased stimulation. If eating has prevailed as a typical response to motivation to provide modulation of these stimulation needs, it may be expected that some optimal level of stimulation has been acquired. In speculating that such presumed levels are at least partly

related to developmental experiences, it was noted that in a thirty-year longitudinal study of two-thousand children, "the odds against an obese child becoming a normal-weight adult were four to one; for those who did not reduce during adolescence they were more than twenty-eight to one."<sup>2</sup> In this context, relationship of field dependence and obesigenesis and maintenance is clarified by reflecting the optimal stimulation concept against the maternal overprotection and selective stimulus deprivation often observed in the developmental backgrounds of obese women. In persons in whose histories are found learned environmental adaptations involving social acquiescence and internalization of emotional stress (viz. in order to maintain psychological homeostasis), features noted as field dependent and obesigenic may develop concurrently. Therefore, the enormous odds against successful weight reduction in childhood-onset chronically obese women may, at least in part, often derive from their low hope and expectations of altering habit patterns which have demonstrated success in modulating their stimulation needs, and from dependence upon easily available 'internalizeable' drive-reducers (i.e. foods). Practical applicability of this reasoning was presented by

---

<sup>2</sup> Sidnor B. Penick, and Albert J. Stunkard, "Newer Concepts of Obesity", Medical Clinics of North America, Vol. 54, 1970, in Kiell, (Ed.), The Psychology of Obesity, Dynamics and Treatment, Thomas, Springfield, Illinois, 1973, p. 11.

Leon and Chamberlain<sup>3</sup> who observed that highly important causes of overeating in their samples of obese, and formerly obese women, were loneliness and boredom, as well as special types of emotional arousal. These were perceived as disagreeable stimulus states, to which subjects typically responded by eating. Smith, Meyers, and Johnson<sup>4</sup> proposed that interruption of such unacceptable stimulus states as boredom and monotony reflected an organism's drive to maintain satisfaction of an idiosyncratically determined need for stimulus variability. While regaining previously lost weight, persons in their sample tended to be stimulated to snacking by anger, frustration, loneliness, boredom, happiness, celebration, and anxiety.

In the context of motivation being an important predictor of weight loss in this treatment program, Feinstein's conclusion on the provocation of success in regards to weight reduction was appropriate:

---

3 G. Leon and K. Chamberlain, "Emotional Arousal, Eating Patterns, and Body Image As Differential Factors Associated With Varying Success In Maintaining A Weight Loss", Journal Of Consulting and Clinical Psychology, Vol. 40, 1973, p. 474-480.

4 S. Smith, T. Meyers, and E. Johnson, "Stimulation Seeking As A Function Of Duration and Extent of Sensory Deprivation", Proceedings of the 76th Annual Convention of the American Psychological Association, 1968.

The attainment of success appears to depend more on the features which make the patient adhere to a dietary program than on the specific structure of the program itself. The factors which promote dietary adherence are influenced (...) by the patient's own status and by the nature of his therapeutic relationship.<sup>5</sup>

He observed that greater treatment success was possible through paying less attention to dieting concepts, specialized treatments, drugs and devices, and more attention to the status (e.g. motivation, needs, wishes, and problems) of the dieting person.<sup>6</sup> Such views are supported by the present findings, and bring further attention to findings such as Goldstein's.<sup>7</sup> He accentuated the role of psychological expectations in treatment, and found that patients' orientations to treatment and recovering superceded the structure of the treatment in order of importance.

Obviously, interruption of a convenient and rewarding response pattern such as dietetically inappropriate eating, requires tapping certain patient resources to produce success. In the present sample, treatment expectations and motivation, as measured by Hope, Gratification and Mastery scores, was

---

5 A. R. Feinstein, "The Treatment of Obesity: An Analysis of Methods, Results, and Factors Which Influence Success", Journal of Chronic Diseases, Vol. 11, No. 4, 1960, p. 386.

6 Ibid.

7 A. P. Goldstein, Therapist-Patient Expectancies In Psychotherapy, New York, Pergamon Press, Macmillan Co., 1962, passim.

such a resource.

Cleghorn and Streiner's<sup>8</sup> Hope, Gratification and Mastery scale of the Analysis of Verbal Content Technique, focused upon determining patients' expectations for help, or gratification, achieved through their own efforts, self-help, or self-confidence, or from expectations of good fortune. Gottschalk and Gleser noted "in clinical medicine and psychiatry, the observation is frequently made that the patient's will or hope to survive or improve or to get well is often an important contributing factor in the favorable course of an illness."<sup>9</sup> Positive and optimistic motivation, based upon the self's expectational attitudes toward achievement are, therefore, well known to psychotherapists. Results of tests of hypotheses two, three, and four indicated that in the sample of obese women studied in this project, this constituent of motivation was a significant predictor of various treatment criteria. These criteria were percent of weight loss in all subjects, pounds of weight lost by all subjects, and percent of weight lost by those who remained in treatment. Although it failed to significantly predict treatment persistence (as shown by the regression analysis), inspection of Table XVI (p. 116) indicates that while

---

<sup>8</sup> J. M. Cleghorn, and B. J. Streiner, Components of Depressiveness In Verbal Content, McMaster University, 1973, Unpublished Manual, privately distributed, p. B-5.

<sup>9</sup> L. A. Gottschalk, and G. C. Gleser, The Measurement of Psychological States Through The Content Analysis of Verbal Behavior, University of California Press, 1969, p. 248.

Hope, Gratification and Mastery scores did not significantly correlate with persistence in treatment, failure to reach significance was infinitesimal (significance at  $.05 = .25$ ,  $r = .22$ ). This suggested a trend toward remaining in treatment longer where greater hope existed. Apart from emphasis on the apparent predictive value of this test, it was noted that it was administered approximately two months prior to onset of treatment and, therefore, seemed to have measured a fairly consistent aspect of motivation. Since treatment success appeared to be significantly related to staying in treatment (see Table XVI, p. 116), it seemed plausible that the type of motivation referred to here as Hope, Gratification and Mastery was reinforced, and perhaps increased. Future research might explore this point by observing post-treatment re-test results of subjects' Hope, Gratification and Mastery levels, and examining for score changes in more and less successful individuals.

Cartwright and Cartwright admonished that researchers start conducting researches which examine "(...) functional relations between different kinds of belief and improvement in psychotherapy".<sup>10</sup> This was attempted in the present research. In terms of subjects' responses to treatment, this sample of

---

10 D. S. Cartwright and R. D. Cartwright, "Faith and Improvement In Psychotherapy", Journal of Counseling Psychology, Vol. 5, No. 3, 1958, p. 177.

adult women demonstrated a definite relationship between Hope, Gratification and Mastery levels, a form of diagnosable 'belief' in one's future, and their improvement in group psychological treatment of obesity. This finding supports Cartwright and Cartwright's observation that the primary source of help<sup>11</sup> is the patient, and that strong belief<sup>12</sup> in himself will likely produce rapid treatment progress.<sup>13</sup> They postulated: "It is our clinical bet (...) that degree of improvement and degree of belief (...) will have a relation that is strong, positive, and essentially linear."<sup>14</sup> The results of the present study also concurred with those of Lipkin<sup>15</sup> who, like the Cartwrights, hypothesized a positive relationship between treatment outcome and patients' expectations. Subsequently, his research data confirmed a strong relationship between patients' positive orientation toward their futures (e.g., expectations of success) in treatment, and actual, beneficial changes.

---

11 In the present context, help may be construed to be mastery.

12 In the present context, belief may be construed to be hope.

13 In the present contest, treatment progress may be construed to be gratification.

14 Cartwright and Cartwright, Op. Cit., p. 175-6.

15 S. Lipkin, "Clients' Feelings and Attitudes in Relationship To The Outcome of Client-Centered Therapy", Psychological Monographs, Vol. 68, No. 372, p. 26.

When all subjects' predictor variables were examined, Hope, Gratification and Mastery, MAT Total Integration, and MAT Total Conflict scores were significant predictors of percent of weight loss<sup>16</sup> (see Tables V and VI). Similarly, when testing hypothesis four, when the multiple regression correlation analysis was redone, including only the test and weight results achieved by women who remained in treatment, the same three predictors were significant (see Tables IX and X). It appeared, therefore, that the ability to put one's motivation to work in obtaining goal-fulfillment<sup>17</sup> and possession of a relative modicum of internal frustration and resultant conflict,<sup>18</sup> (it is noted in the correlation matrix presented in Appendix 9 that Total Integration and Total Conflict were highly negatively correlated at  $-.85$ ), were predisposers to attainment of treatment success. An attempt to identify predictors of actual pounds of weight lost (i.e. hypothesis five) failed.

Relationships between childhood onset obesity and various psychological, social, physical, and treatment experiences

---

16 The writer found percent of weight loss a more meaningful criterion than pounds lost, since the sample included subjects whose weight varied from 20% to 200% over their ideal weights.

17 That which is presumed measured by the MAT Total Integration Scale.

18 That which is presumed measured by the MAT Total Conflict Scale.

were reported in the literature.<sup>19</sup> Often, differences between patients with childhood and adult onset obesity were highlighted. Possibly because the thirty-seven childhood onset and twenty-two adult onset subjects acquired for the present research program were self-referred (as opposed to medically referred; especially for psychiatric reasons), and, perhaps, self-motivated, differences between childhood and adult onset of obesity did not significantly relate to, or predict any of the criterion variables mentioned in hypotheses one through five. The writer also raised question of whether birth to eighteen years of age was an overly-inclusive range to define as childhood-onset. Notwithstanding, it was noted that no significant predictions of criterion variables resulted from inclusion of initial per cent overweight in the multiple regression analyses.

In view of the last two findings, the writer considered it imperative that further studies examine homogeneous groups of mildly, moderately, severely, and profoundly obese women. If each group were balanced for age of onset (i.e. half childhood and half adult onset) valuable information might be generated. The present research design did not attempt to derive

---

19 e.g. J. Grinker, M. Glucksman, J. Hirsch, and G. Viseltear, "Time Perception As A Function of Weight Reduction: A Differentiation Based On Age At Onset of Obesity", Psychosomatic Medicine, Vol. 35, No. 2, 1973. See also, H. Bruch, Eating Disorders, Basic Books, New York, 1973.

groups which were homogenous for degree of obesity, nor were they matched for onset times. Furthermore, better understanding of the role of field dependence might be generated, where its contribution to treatment persistence and goal-attainment were examined post hoc. On this line of reasoning, it seemed possible that the heterogeneity of predictor values in each group (especially degree of obesity, and ages of onset) may have precluded demonstration of the true value of field dependence level as an outcome predictor. Also, had more subjects been available for study, examination of treatment results of those in the highest and lowest thirds of field dependence scores may have produced valuable information.<sup>20</sup>

Information emanating from the literature concerning 'field dependence and treatment' suggested an association between greater field independence and greater persistence in treatment.<sup>21</sup> Question was raised as to whether the interaction of field dependence and Hope, Gratification and Mastery, in terms of weight loss, was significant. This question was concerned with whether hope for gratifying one's self (HGM) was significantly related to one's field dependence level, and

---

20 e.g. M. Mc Carrey, "Attitude Shift, Approval Need and Extent of Psychological Differentiation", Unpublished doctoral dissertation, University of Ottawa, Ottawa, Ontario, 1969, p. 86.

21 see Chapter I, Review of The Literature, section on field dependence and treatment findings.

interacted so as to have a significant impact upon weight loss.

It was assumed that higher hope, perceptual style, and treatment orientation and work results might be interactional. If this were the case, it would add some specificity to understanding what inhered in field dependence level, per se, that may contribute to treatment persistence and ultimately, to therapeutic gains.<sup>22</sup>

The present finding that field dependence was not a significant predictor of persistence in treatment (where type of treatment was not considered, i.e. all Ss in all groups) complimented the findings of Karp, Kissin, and Hustmyer, who attempted to discern whether field dependence interacted with type of treatment. They found "when dropouts are compared to remainers, regardless of type of therapy, the two groups do not differ in field dependence."<sup>23</sup> In comparing dropouts with remainers in each form of therapy (these authors examined psychotherapy and drug therapy) they found significantly higher field dependence in psychotherapy dropouts than psychotherapy remainers, whereas no similar significant difference appeared in the drug-therapy dropouts. No attempt to replicate

---

22 H. Bruch, Eating Disorders, Op. Cit., p. 315, in reporting her 1942 results of a double-blind study of the effects of Benzedrine Sulphate and placebo upon weight loss, found that persistent therapy attendance, and not medication, was responsible for the best treatment results.

23 S. Karp, B. Kissin, and F. Hustmeyer, "Field Dependence As A Predictor of Alcoholic Therapy Dropouts", Journal of Nervous and Mental Disease, Vol. 150, No. 1, 1970, p. 80.

this finding was made in the present sample. Firstly, unlike their observed alcoholics, the subjects in the present research were not part of a clinic population. They consisted of a group of self-referred volunteers whose behaviors and presenting problems were not anti-social, and who, as a group, might characterize participants beginning self-help weight reduction groups (such as Weight-Watchers, or T.O.P.S.). Secondly, as stated earlier, they were randomly assigned to their treatment groups on the basis of field dependence and the focus of the research was to determine what, if any, motivational measures might interact with field dependence; thus, helping to explain psychologically why Ss do or do not persist in treatment, and do or do not progress toward their goals. Further, Karp, et al.' group assignment procedure would have confounded this intention by producing one group of "(...)atypically field-independent (...) "<sup>24</sup> subjects. Another facet of their procedure which appeared to mitigate against both unequivocal acceptance of their results, and exact replication of methodology lay in their use of a short-form embedded figures test as the only criterion of Ss' field dependence levels. Recent literature<sup>25</sup>

---

<sup>24</sup> Ibid., p. 81.

<sup>25</sup> e.g. C. L. Thornton, and G. V. Barrett, "Methodological Note On N Achievement And Field Dependence Comparisons", Journal of Consulting Psychology, Vol. 31, No. 6, 1967. Also, J. Arbuthnot, "Cautionary Note On Measurement of Field Dependence Perceptual and Motor Skills", Vol. 35, 1972.

suggested combined use of Rod-And-Frame and Embedded Figures Tests. It has been suggested that "(...) all studies which have used female EFT scores as an index of field independence have obtained results which are not pertinent to Witkin's concept."<sup>26</sup> Results in the present thesis, in which field dependence scores were the average of combined standard scores for Rod-And-Frame and Embedded Figures tests, not only failed to contribute a prediction of either treatment persistence, or goal attainment (i.e. weight loss), but failed to interact significantly with Hope, Gratification and Mastery, the outstanding single predictor of weight loss, to affect treatment performances. Furthermore, Witkin, et al, reported that "patients selected as different in extent of differentiation show predictably different feelings and behavior early in therapy."<sup>27</sup> They also found evidence that the patient-therapist relationship was affected by the patient's personality, and that the therapist's level of field dependence was also pertinent to early treatment effects. Attempting exact replication of Karp, Kissin, and Hustmyer's work would, therefore, have presented many obstacles. Additionally, whether or not similar results

---

26 C. Thornton, and G. Barrett, Op. Cit.

27 H. A. Witkin, H. Lewis, and E. Weil, "Affective Reactions and Patient Therapist Interactions Among More Differentiated and Less Differentiated Patients Early In Therapy", Journal of Nervous and Mental Disease, Vol. 146, No. 3, March, 1968, p. 205.

had obtained, they could not be fully explained only in terms of field dependence. Solar, Davenport, and Bruehl<sup>28</sup> extended this rationale by stating that when studying effects or correlations of field dependence and social conforming behaviors, three conditions must be considered: 1. The kind of situation eliciting the behavior under study. 2. The field dependence test(s) used, and 3. The nature of the field dependence and field independence extreme scores in the sample. Since the second and third points were already inspected, only situational determinants will presently be discussed.

Zytowski, et al.<sup>29</sup> failed to find an association between greater field dependence and increased interest in other people. Elliott<sup>30</sup> found, however, that the situation in which observations of Ss were made influenced what was observed. Especially pertinent to the findings of the present research, was his assertion that although more field dependent Ss may respond to certain situations with increased emotional and cognitive involvement, observable behaviors may fail to demonstrate marked differences from field independent subjects. Although

---

28 D. Solar, G. Davenport, and D. Bruehl, "Social Compliance As A Function of Field Dependence", Perceptual and Motor Skills, Vol. 29, 1969, p. 303.

29 D. G. Zytowski, D. Mills, and C. Poepe, "Psychological Differentiation And The Strong Vocational Interest Blank," Journal of Consulting Psychology, Vol. 16, No. 1, 1969, p. 42.

30 R. Elliott, "Interrelations Among Measures Of Field Dependence, Ability, and Personality Traits", Journal of Abnormal And Social Psychology, Vol. 63, No. 1, 1961, p. 35, 36.

no greater interest in other people was readily observable in more field dependent than independent subjects, they may, especially when exposed to cohorts for the course of a treatment program, respond selectively in directions demanded by the social environs. It is plausible that in groups divided into higher and lower field dependence levels (as determined by a median split of the overall research sample) cancellation of the natural effects of field dependence was induced. The two levels working together over three months may have evolved special group norms regarding treatment behaviors. Psychological accommodation to such norms may have clouded the role of field dependence as a criterion predictor in this study.

Another potential source of diminution of the effects of field dependence in the present study lay in the area of derivation of subjects. Karp, et al.<sup>31</sup> referred to biases of physicians in inadvertently referring patients for certain psychological treatments on the basis of their field dependence levels. Recently, Karp<sup>32</sup> stated that continuing research at his laboratory suggested that the field dependence levels of observed Ss may vary with self vs. professional referrals for help with a clinical problem. In the present study, only

---

31 S. Karp, B. Kissin, and F. Hustmeyer, Op. Cit.

32 S. Karp, personal communication with the author, 1975.

self-referred subjects were observed. The bulk of the field dependence premises upon which the hypotheses in this thesis were based in part were influenced by findings obtained in those populations. Future studies would do well to observe treatment responses of Ss controlled for referral sources.

It was previously noted<sup>33</sup> that 'early' treatment responses are influenced by the interaction of Ss' and therapists' field dependence levels. The writer's level of field dependence was not examined as a contributing variable in the present study. A future study should consider this factor. One approach to this problem would examine effects of high and low field dependent therapists. Each might treat one relatively field dependent and one relatively field independent group. Therapists should remain naive to the groups' identities (in terms of which was high and which low in field dependence). Treatment results also ought to be examined at various time intervals. If, for example, short-term treatment effects are contingent upon Es' as well as Ss' field dependence levels, as Witkin, et al.<sup>34</sup> have reported, then effects under increased time exposure (of various lengths) could be evaluated.

The present study, because of limitations in the size of the sample which could be obtained, relied upon a median

---

33 H. A. Witkin, H. Lewis, and E. Weil, Op. Cit.

34 Ibid.

split of field dependence indices to designate higher and lower field dependence levels. Where feasible, future investigations might explore the role of this variable when field dependence scores of the highest and lowest thirds of a larger sample were used to designate Ss of high and low field dependence.

In this chapter, the results of the statistical analyses used to test the hypotheses were reported and discussed. They indicated that field dependence levels, age of onset of obesity, and initial per cent overweight did not significantly predict treatment persistence or weight loss. On the other hand, certain motivational variables significantly predicted weight loss success. The Hope, Gratification and Mastery Scale of the Analysis of Verbal Content Technique clearly and consistently differentiated between successful and non-successful weight losers in this sample, and proved to be a highly significant predictor of their weight loss success.

## SUMMARY AND CONCLUSIONS

The purpose of this thesis was to examine whether treatment persistence and weight loss in group psychological treatment of obesity were predicted by subjects' initial percent of overweight, age of obesity's onset, field dependence levels, and five objective measures of motivation.

A review of the literature in the areas of field dependence and obesity reflected several areas of developmental overlap. On the basis of these qualities, earlier onset and greater field dependent subjects (apparently using propensities for internalization of, and dependence upon external cues), would respond to group treatment differently than less field dependent, adult onset obese subjects. It was also suspected that the more pronounced the obesity at the outset of treatment, the greater would be the difficulty in interfering with habits and emotions which produced and sustained the behaviors related to obesity maintenance. It was also anticipated that motivation, a variable often alluded to, yet not often studied objectively in this area would, along with the other factors, predict treatment results. The dependent variables for which significant predictors (from this pool of variables) were sought, were persistence in treatment, percent of weight lost in treatment, and pounds of weight lost in treatment.

Subjects consisted of fifty-nine respondents to local newspaper advertisements. All subjects were women between the ages of twenty-five and forty. After initial interviews, during which the Portable Rod-And-Frame test and the Analysis of Verbal Content technique were administered, subjects were seen for group psychological testing, and subsequently assigned (randomly, but matching for higher and lower field dependence levels) to three treatment groups. In accordance with this design, seven hypotheses were tested. (see page thirty-three for hypotheses).

Evidence obtained from multiple linear regression correlation analyses led to rejection of the second hypothesis. It also indicated that although age of onset, degree of obesity upon starting treatment, and level of field dependence were not, in this sample and research design, significant predictors of treatment persistence, certain of the motivational measures were highly significant. The Hope, Gratification and Mastery scale of the Analysis of Verbal Content Technique significantly predicted per cent of weight loss in both the entire sample, and in treatment remainers only. It also was a statistically significant predictor of pounds of weight lost for the entire sample. Also predictive of per cent of weight loss in the total group and in treatment stay-ins, were the Motivation Analysis Test scales which measured Total Integration (proper integration of motivation; the drive to reach

goals) and Total Conflict (amount of frustration and conflict concerning goal attainment).

Much future work is necessary to elaborate the complicated network of personality characteristics which inhere in obese women and are predictive of their responses to weight loss treatments. Since the literature repeatedly stressed the multifaceted nature of this problem (i.e. obesity), further research should seek to intermix pertinent findings, as the writer attempted to do, from diverse, but relevant research areas. One area presently receiving increasing attention is concerned with investigation of cyclical changes in neural activity levels which may be related to eating behaviors and wishes. Indeed, examination of psychologically related, neuro-physical parameters of eating behaviors is highly desirable.

## BIBLIOGRAPHY

Arnon, D., M. H. Kleinman, and B. Kissin, "Field Dependence As A Predictor of Improvement In The Treatment of Heroin Adicts", Proceedings of the Fifth National Conference on Methadone Treatment, Vol. 2, 1973, p. 1325-1329.

This study involved a group of thirty male and 30 female subjects addicted to heroin. The authors observed that methadone treatment had a differential effect dependent upon the field dependence levels of subjects. The worst results were obtained by female subjects with Rod-And-Frame raw scores of two hundred degrees deviation.

Bruch, Hilde, "Obesity In Childhood and Personality Development", American Journal of Orthopsychiatry, Vol. 11, 1941, p. 467-474.

In this important early work, the author explains obesity as being a somatic expression of learned patterns of interaction with particular kinds of emotionally complex environments.

-----, "Conceptual Confusion in Eating Disorders", Journal of Nervous and Mental Disease, Vol. 133, 1961, p. 46-54.

This work points out that early life experiences with the recognition of hunger and other body-state cues may be vastly important in predisposing people to the eating behavior which produces obesity. Therapy that induces, or fails to guard against dependency may continue old behavior patterns rather than modify them out.

-----, "Family Transactions In Eating Disorders", Comprehensive Psychiatry, Vol. 12, No. 3, May, 1971, p. 238-248.

In this article, the early human interactions in one's life were stressed as being strategic in the development of perceptions and conceptions associated with behavioral styles; including the psychological meanings of and attitudes toward eating.

-----, Eating Disorders, New York, Basic Books, 1973, vii-396 p.

A comprehensive text covering the etiologies and treatment of obesity and anorexia-nervosa. Written by a physician with forty years of clinical experience in this field, the book includes several case-history analyses invaluable to the understanding of the psychological aspects of these syndromes.

Cappon, D., "Obesity", Canadian Medical Association Journal, Vol. 79, 1958, p. 568-573.

This is an excellent article on the definition and treatment of the problem of obesity. It advocates recognition of all the multicausal elements during treatment, and criticises studies where crucial constituents of the problem are omitted.

Cleghorn, John M., and Bella J. Streiner, Components of Depressiveness In Verbal Content, 1973, Unpublished Manual, privately distributed.

This manual presents the scales which the authors developed as additions to those previously developed by Gottschalk and Gleser. Reliability and validity studies are presented and scoring methodology is explained.

Conrad, Stanley W., "The Psychologic Implications Of Overeating", Psychiatric Quarterly, Vol. 28, 1954, p. 211-224.

A clinical treatise in which obesity was seen as reflecting unhappiness (disturbance in the person's emotional life), related to anxiety, gratification-frustration, and hostility. Psychotherapy was advocated as the treatment of choice in obesity (especially group therapy), since successful control of symptoms was seen as a direct function of removing their causes.

-----, "The Problem of Weight Reduction In The Obese Woman", American Practitioner, Vol. 5, 1954, p. 38-47.

This article discusses findings related to the psychology of obesity, with excellent emphasis on the clinically determined psychological aspects of why resistance to weight loss and to dieting occur.

Darling, C. D., and J. Summerskill, "Emotional Factors In Obesity and Weight Reduction", Journal of the American Dietetic Association, Vol. 29, 1953, p. 1204-1207.

An important article which affirms the possibility of using psychological assessment results to ascertain potentially successful obese persons seeking diet therapy. Experimental evidence showed that a correlation exists between good psychological adjustment and good diet-treatment results.

Eisner, D. A., "Developmental Relationships Between Field Independence and Fixity-Mobility", Perceptual and Motor Skills, Vol. 34, 1972, p. 767-770.

The author found that field independent subjects tended to be more mobile than field dependent subjects in response to situational demands.

Elliott, Rogers, "Interrelationships Among Measures of Field Dependence Ability, and Personality Traits", Journal of Abnormal and Social Psychology, Vol. 63, No. 1, 1961, p. 27-36.

The notion of Field-Dependence was examined in terms of generalizability to the concept of personality dependence. The relationship, per se, was not found to bear up. Certain characteristics of the "frame dependent" (otherwise called field dependent) personality did, however, appear. Such persons tended "to react with affective disruption and intellectual deficit to an external situation that lacks clear structure and instruction."

Feinstein, A. R., "The Treatment of Obesity: An Analysis of Methods, Results, and Factors Which Influence Success", Journal of Chronic Diseases, Vol. 11, No. 4, April, 1960, p. 349-393.

An important article, notable for the scope of its review of the literature on obesity treatment, and the scientific meticulousness with which it was carried out. All published facts and figures concerning the sundry treatments which have been, and continue to be applied to weight loss, were charted and compared. Editorial comments on the diverse findings of various researchers in the field were never presented without careful documentation. The author's final views supported the idea that the various constituents of motivation, including subjects' personality types, reasons for starting a diet, as well as therapists' styles, and interaction of these factors are probably of greatest importance in determining who will lose, how much will be lost and maintenance of weight loss. The article also called attention to the need for more scientifically applicable and more universally applied criteria for "success" in weight reduction regimens.

Fowler, R. S. Jr., W. Fordyce, Vicki D. Boyd, and A. J. Masock, "The Mouthful Diet: A Behavioral Approach To Overeating", Rehabilitation Psychology, Vol. 19, No. 3, 1972, p. 98-106.

This report on a self-control method for the control of overeating emphasizes the preference for using reinforcement to shape-up preferred behavior.

Gottschalk, Louis A., and Goldine C. Gleser, The Measurement of Psychological States Through The Content Analysis of Verbal Behavior, University of California Press, Berkeley and Los Angeles, 1969, v-317 p.

In this book, the authors of the Analysis of Verbal Content Technique present its historical background, the rationales, developmental studies, reliability and validity, and researches associated with this technique.

Hamburger, Walter W., "Emotional Aspects of Obesity", Medical Clinics Of North America, Vol. 35, 1951, p. 483-499.

A psychiatrically oriented paper proposing that over-eating is a tension reducing mechanism to often non-specific life problems. This work was often cited in the psychiatric literature.

Honigfeld, G., and I. M. Spigel, "Achievement Motivation and Field Independence", Journal of Consulting Psychology, Vol. 24, 1960, p. 550-551.

This study, using fifteen male and thirteen female undergraduate subjects confirmed an earlier report of a significant positive relationship between field independence and N-Ach., but suggested it was, likely, only true of females.

Kaplan, Harold I., and Helen Singer Kaplan, "The Psychosomatic Concept of Obesity", Journal of Nervous and Mental Disease, Vol. 125, No. 2, 1957, p. 181-201.

A wideranging review of the literature culminating in the position that many intrapsychic and, as well, interpsychic factors likely contribute to obesity in a "nonspecific" sense.

Karp, Stephen A., and Herbert Pardes, "Psychological Differentiation (Field Dependence) in Obese Women", Psychosomatic Medicine, Vol. 27, No. 3, 1965, p. 238-244.

This article examines the theme that subjects representing certain symptom groups can be distinguished from normal controls by virtue of their field differentiation styles. The hypothesis that obese, adult female subjects would, like alcoholics, be more field dependent than normal controls, was supported.

Karp, S. A., B. Kissin, and F. E. Hustmyer, "Field Dependence As A Predictor of Alcoholic Therapy Dropouts", The Journal of Nervous and Mental Disease, Vol. 150, No. 1, 1970, p. 77-83.

This study investigated relationships between field dependence and dropout rates for alcoholics in psychotherapy and drug-therapy programs. Early psychotherapy dropouts were significantly more field dependent than stay-ins. It was noted, however, that when remainers and dropouts were compared, regardless of type of therapy, no significant difference in field dependence was observed. Patients selected for psychotherapy (by psychiatric and social worker selectors) were significantly more field independent than non-selectees.

Kotkov, Benjamin, "Experiences In Group Psychotherapy With The Obese", Psychosomatic Medicine, Vol. 15, No. 3, 1953, p. 243-251.

This work presents rationale supportive of treatment groups which are homogeneous for a specific problem. In the case of obesity treatment, people who otherwise avoid group involvement, either socially or therapeutically, were found to benefit from the understanding of their peers, and through observing that they are not unique and grotesque. Treatment content from actual sessions is reviewed.

McGough, N. E., Albert J. Silverman, and M. D. Bogdonoff, "Patterns of Fat Mobilization in Field-Dependent and Field-Independent Subjects", Psychosomatic Medicine, Vol. 27, No. 3, May-June, 1965.

These findings had very important implications supportive of definite biological proof of overall environmental reaction differences by field-dependent and field-independent persons.

Oltman, Philip K., "A Portable Rod-And-Frame Apparatus", Perceptual and Motor Skills, Vol. 26, 1968, p. 503-506.

The author demonstrated a high correlation between the standard and portable Rod-And-Frame Tests.

Schachter, Stanley, "Obesity and Eating", Science, Vol. 161, 1968, p. 751-756.

The author examines internal vs. external cues as precipitants of inappropriate eating in the obese. This article supports the view that external cues are the more critical determinants.

Shipman, William G., and Marvin R. Plesset, "Anxiety and Depression in Obese Dieters", Archives of General Psychiatry, Vol. 8, 1963, p. 530-535.

This article reported that psychiatric hazards of dieting (i.e. anxiety and depression) were not as imminent as had been previously suggested. Results of study indicated that more adjusted dieters were less anxious than less successful counterparts, and suggested that better-adjusted subjects had greater chance for successful dieting treatment.

Silverstone, J. Trevor, and Terrence Solomon, "Psychiatric and Somatic Factors In The Treatment of Obesity", Journal of Psychosomatic Research, Vol. 9, No. 3, 1966, p. 249-255.

This work examines the importance of emotional factors in the maintainance of obesity. After citing the conflicting findings of other studies, these authors, using results of the Cornell Medical Index over a period of one year of obesity treatment, found "the prevalence of emotional disturbance (...) twice as high (in obese subjects) as in the general population." Notwithstanding these data, "most of the patients were not emotionally disturbed". The authors could adduce no evidence for emotional disturbance as the maintainer of the obesity. Dieting success, however, appeared to be highly correlated with emotional adjustment; the better adjusted had better success.

Solar, D., G. Davenport, and D. Bruehl, "Social Compliance As A Function of Field Dependence", Perceptual and Motor Skills, Vol. 29, 1969, p. 299-305.

These researchers tested Witkin's hypothesis that field dependent subjects are socially compliant. Field dependent and field independent subjects were paired and asked to work together to adjust the rod on the Rod-And-Frame to vertical. Greater field independence was always obtained than when subjects worked alone. The authors found Witkin's hypothesis to be supported.

Stuart, Richard B., "Behavioral Control of Overeating", Behavior Research and Therapy, Vol. 5, 1967, p. 357-365.

In describing a behavior-modification treatment for obesity, this article emphasizes the beneficial results that were shown to accrue to dieters receiving an explicit program which used various conditioning techniques.

Stunkard, Albert J., "Obesity And The Denial Of Hunger", Psychosomatic Medicine, Vol. 21, 1959, p. 281-289.

This is an important article which reported the finding that recognition of gastric motility was not as accurate in obese as in normal weight subjects. The author suggested that cues other than true physiological hunger cues may be the precipitants of eating in the obese.

Suczek, Robert F., "The Group Approach To Weight Reduction; Psychological Aspects of Obesity and Group Weight Reduction", Journal of the American Dietetic Association, Vol. 30, May, 1954, p. 442-446.

A pioneer article in differentially assessing the psychological qualities of obese subjects and measuring correlations between factors such as anxiety and success or failure in obesity treatment. Moderate, not high or low anxiety, was predictive of best level of success.

Suczek, R. F., "The Personality of Obese Women", American Journal of Clinical Nutrition, Vol. 5, 1957, p. 197-203.

This article questions the presence of common psychological characteristics among the obese, and investigates whether there are population variations in terms of subjects' symptoms, and how these relate to capacity to lose weight. Characteristically, the 300 obese women depicted themselves as psychologically strong, hypernormal, and indicated narcissistic pride and denial of weakness. The author feels that rather than searching for linear relationships between single psychological characteristics and subjects' ability to lose weight, combinations of variables must be sought. Field factors may be highly correlated with dominance factors.

Werkman, Sidney L., and Elsa S. Greenberg, "Personality And Interest Patterns in Obese Adolescent Girls", Psychosomatic Medicine, Vol. 29, No. 1, 1967, p. 72-9.

Adolescent girls were studied using psychological tests. Where obesity was present, the test results demonstrated "narcissism and a high, unrealistic evaluation of the self". Social anxiety, behavioral immaturity, depressive and hypochondriacal concerns were also noted. Full character development was found likely to be precluded by careful maintenance of conventionality (to avoid conflicts which produce anxiety) and strivings toward social acceptance.

Wertheim, J. and S. A. Mednick, "The Achievement Motive and Field Dependence", Journal of Consulting Psychology, Vol. 22, No. 1, 1958, p. 38.

This research predicted a positive correlation between field dependence and N-Ach. A significant relationship was found between the two variables. (.01).

Witkin, Herman A., et al., Psychological Differentiation, New York, Wiley and Son, 1962, v-418 p.

In this book, the ideas of Witkin and his colleagues were originally formulated. Recent researches on field differentiation were largely stimulated by this classic work.

Witkin, H. A., "Psychological Differentiation and Forms of Pathology", Journal of Abnormal Psychology, Vol. 70, 1965, p. 317-336.

A frequently documented treatise on the evidence supporting the clinical use of the field-differentiation techniques in assessing and explaining factors in behavior. Written by the foremost authority and investigator in the area, this is a key article with regard to several rationales of the present research.

Witkin, H. A., Donald R. Goodenough, and Stephen A. Karp, "Stability of Cognitive Style From Childhood To Young Adulthood", Journal of Personality and Social Psychology, Vol. 7, No. 3, 1967, p. 291-300.

This article examines characteristics of field-dependent and field independent persons, measures within person consistencies through development, and finds consistency in field articulation style through time.

Young, Charlotte M., Kathleen Berresford, and Norman S. Moore, "Psychologic Factors In Weight Control", American Journal of Clinical Nutrition, Vol. 5, 1957, p. 186-191.

This work demonstrates definite correlational evidence of the relationship between success with diets and degree of emotional adjustment; the less adjusted, the less success in dieting. Use of the Bell Adjustment Inventory determined (primarily) emotional adjustment status.

APPENDIX 1

FORMAT OF NEWSPAPER ADVERTISEMENT FOR PROCURING SUBJECTS

APPENDIX 1

FORMAT OF NEWSPAPER ADVERTISEMENT FOR PROCURING SUBJECTS

OVERWEIGHT

OVERWEIGHT women 25 to 40 for University of Ottawa Psychology Department research project. 725-4702, ext. 200. Weekdays, 9 to 4.

APPENDIX 2

TEXT OF THE STANDARDIZED TELEPHONE INTERVIEW

## APPENDIX 2

### TEXT OF THE STANDARDIZED TELEPHONE INTERVIEW

Hello, this is Mr. Breitman speaking. I'm the research director you called today. I'm returning the call you made about the newspaper ad. Perhaps I can tell you something about our research on overweight and weight loss. Before I begin to explain, however, I wonder if you could answer just three preliminary questions that will help to determine your eligibility for this project. Before you say anything, I want you to know that all personal information you give me is strictly governed by professional ethics, and held in privacy for research use only.

1. Are you between the ages of twenty-five and forty?

2. Are you pregnant now, or have you been within the past six months?

3. Are you involved with any weight reduction program at the present time, either with some group, doctor, or self-imposed?

O. K., then, thank you for answering, and now I'll explain our project to you.

The purpose of our study is to examine the psychology of both overweight and reducing. To do this, each of our volunteers will have a thorough personality assessment, after which each woman will participate in a special twelve-week long weight reduction group that is made up of other women

with similar overweight problems. There will be no charge to the participants either for the assessment or the treatment program. A simple diet will be involved in your group. We hope our findings will help people to learn not only the necessary conditions for them to reduce, but also what is psychologically necessary in order to maintain the weight loss.

Within the next few weeks, I'll call you again, so that we can schedule a time when we can get together at my office at the Ottawa Civic Hospital. We'll then be able to talk further, and you'll also be able to fill out a simple biographical information sheet which we will need to have on file.

Since you are not presently involved in any formal dieting program that has been prescribed or recommended to you, please, unless a physician prescribes otherwise, don't begin any new special diets.

Now, just briefly, if I may have some information for our pre-program calculations:

1. How tall are you?
2. What is your present weight?
3. What is your age, please?
4. How do you spell your last name?
5. How do you spell your first name?
6. Is this your home phone number that I have?
7. Were you ever told by a doctor that your weight problem was caused by a physical condition?

8. Are you available to attend evening groups at the Ottawa Civic Hospital?

9. Do you have any special vision or hearing problems?

I'd like to thank you very much for your interest and especially for your cooperation, and I'll be calling you again in about two weeks so that we can schedule our meeting together.

APPENDIX 3

TEXT OF THE TAPE RECORDED ORIENTATION MESSAGE

## APPENDIX 3

### TEXT OF THE TAPE RECORDED ORIENTATION MESSAGE

First, I will explain the purpose of our meeting today, and then go on to elaborate the points involved in the program itself.

In certain human behavior research programs where special researcher and participant interactions occur, and where the researcher's goals and the participant's goals involve detailed understanding of the participant's personality and specialized problems, it is generally necessary to accumulate as much specific information as we can about both the persons and the problem under investigation. This, of course, helps both the researcher and, ultimately, the participants who, as in this project, are trying to change a situation or modify a problem, to scientifically identify as many of the problem's parts as is currently possible. Understanding the individual parts of the problem helps scientists to determine where and upon what situations they possibly may work effectively. Also, provided that the original situation is changed by the research procedures, it is most important that we have information about what exactly has led to it. The purpose of our meeting today is to explain to you that because this research is seeking to identify a variety of psychological features that may have caused you overweight, dieting, and regaining problems, you will be examined on a comprehensive set of personality tests. This will require an approximately three to four hour session prior to the treatment phase of the program. Hopefully, much will be learned about your personality and the personalities of others with overweight problems. This will, we hope, bring forth more effective understanding and treatment for many others, as well as yourself. It is emphasized, however, that any and all personal information obtained from you and about you as an individual person will most definitely be kept confidential. At no time will any verbal or written explanation of your personal participation, test, or treatment results reveal your identity to anyone. Furthermore, without your written request and consent, no one will be provided with your results from any part of this project. Even in the event that your physician might wish a brief report of your involvement here, a written request and release will have to be provided, in person, by you. In brief, you are guaranteed consideration in terms of strict professional and ethical practices along every step of the way in this program.

Following the testing procedure, three different groups will be formed and the twelve-week treatment plan will begin.

Because it is quite important that as a participant you are clearly aware of your rights and responsibilities in all phases of the program, just as the researcher remains ethically and professionally responsible throughout, I'd like you to listen very carefully now, and you'll hear a precise description of this project including specific information about your participation and the researcher's.

Tests: First, as has been mentioned is the examination phase. We will meet in groups of approximately twenty-five persons and testing will be here at the Ottawa Civic Hospital. We will meet for a testing session which will last from three to four hours. When your group meets, it is important that you arrive punctually.

Commitment to the program: Because you will be important in the work of whole groups of people both in the testing and treatment phases, regular attendance will be expected.

Notification: The receptionist will phone you to tell you when your testing session is scheduled and to let you know when your treatment group begins.

Treatment phase: Certain groups will begin in late August or early September and meet one or two times per week for a period of twelve weeks. Others will participate in a special non-regularly meeting group, follow the same ordinary diet as the other groups, and meet as a group four or five times over the same twelve-week period. Assignment to groups will be done on a completely random basis.

The Program: The purpose of this program, regardless of the groups to which participants are assigned, is to examine personality features in overweight women and to assess the effects of three different treatment procedures, all using the same, Metropolitan Life Insurance diet plan, on the modification of their weight and certain behavioral features. It is understood that all decisions involved in committing oneself to the Metropolitan Life Insurance type of diet program remain the responsibility of each participant. This is not, this is not a medical project. It is wise, therefore, to determine from your physician that you can partake in such a diet. Clearly, the diet has been devised and recommended by the Metropolitan Life Insurance Company of Canada, and in otherwise healthy persons, can be expected to produce healthful changes in a person's weight. The diet can be found in Metropolitan Life Insurance Company's booklet, "Four Steps To Weight Control, published in 1966. Although this diet program has been quoted, we are in no way affiliated with, or sponsored by the Metropolitan Life Insurance Company.

Thank you very much for listening so attentively to this message. While the tape is being rewound, please ask any questions that have come to your mind and I will try to answer them.

Thank you again.

APPENDIX 4

INSTRUCTIONS FOR ADMINISTRATION OF THE  
PORTABLE ROD-AND-FRAME TEST

APPENDIX 4

INSTRUCTIONS FOR ADMINISTRATION OF THE  
PORTABLE ROD-AND-FRAME TEST

Procedure for Portable RFT-Adults

Philip K. Oltman  
Psychology Laboratory, Department of Psychiatry  
State University of New York Downstate Medical Center  
450 Clarkson Avenue  
Brooklyn, New York, 11203

Note: Apparatus must be on sturdy table and be level. Before S enters room, be sure frame is not tilted and that curtain is closed.

Before seating S in front of apparatus, say:

"In this test we want to find out how well you can determine the upright-the vertical-under various conditions."

"In this box you will see a square frame and within this frame you will see a rod."

"It is possible for me to tilt the frame to the left or the right. I can also tilt the rod to the left or right. I can tilt the frame alone or the rod alone, or I can tilt them both at the same time, either to the same side or to opposite sides."

"When I open the curtain at the beginning of each trial, I want you to tell me whether the rod and frame are straight up and down-i.e. vertical-or whether they are tilted, and tell me whether the rod and frame are straight with the walls of this room or whether they are tilted."

"Are there any questions?"

Seat S in front of apparatus and adjust head rest. S's hands must be in his lap, not touching table. Tell S to keep his head in the rest at all times.

Trial 1: Adjust the frame to 28L and the rod to 28L. Open curtain. Say:

"Please tell me the position of the rod and the frame."

Record S's response.

A. If he says rod is tilted, say:

"I will now turn the rod slowly until you think it is straight with the walls of this room. As I said, I will turn it slowly, and after each turn, tell me whether it has been turned enough or whether you want it turned some more. Just say 'more' or 'enough' after each turn. Please make your decisions quickly and don't be too finicky. Which way shall I move the rod to make it vertical--clockwise or counter-clockwise?"

Now move the rod about  $30^\circ$  at a time opposite to the direction in which the S says it is tilted, until he reports "enough". Ask the S after he reports the rod vertical:

"Is the rod now vertical--that is, is it straight with the walls of this room? In other words, is it straight up the way the flagpole outside is?"

If the S should now say that he wants the rod moved some more in either direction, do so. Close the curtain and record the position of the rod.

B. If he says the rod is vertical at the outset of this first trial, ask him this question:

"In other words, is the rod straight with the walls of this room we are in? That is, is it straight up and down like a flagpole?"

1. If he now says the rod is tilted, give the instructions under "A" above.

2. If he repeats that the rod is vertical, close curtain and proceed to Trial 2. Give the instructions concerning the straightening of the rod (as in "A" above) on the first trial on which he says that the rod is tilted.

Trial 2: Leave the frame at 28L and adjust the rod to 28R. Open the curtain and say to the S:

"Would you tell me now and at the beginning of all subsequent trials whether the rod and frame are straight with the walls of this room, or tilted; and if the rod is tilted, whether the rod should be moved clockwise or counterclockwise to be made straight."

If the S asks you to turn the rod, do so until he says "enough".

Ask him again: "Is the rod now vertical--that is, is it straight with the walls of this room?"

Do not ask this question on subsequent trials. Close curtain. Record Adjustment. Proceed to the next trial.

<u>Trial 3:</u>	Frame 28R	Rod 28R
<u>Trial 4:</u>	Frame 28R	Rod 28L
<u>Trial 5:</u>	Frame 28L	Rod 28L
<u>Trial 6:</u>	Frame 28L	Rod 28R
<u>Trial 7:</u>	Frame 28R	Rod 28R
<u>Trial 8:</u>	Frame 28R	Rod 28L

If at any time after the rod has been adjusted on a given trial the S should say that he want it moved a bit more in either direction, do so.

If the S should take more than 5 seconds on any trial before saying "more" or "enough", tell him: "Please make your decision quickly."

If the S should repeatedly say "more" or "enough" before the turn of the rod is completed, say to him: "Please wait until I have completed the turn."

APPENDIX 5

BIOGRAPHICAL QUESTIONNAIRE

If you should require more room than is provided here to answer any question, please use the attached sheet of blank paper. (Give the number of the question you are answering)

OVERWEIGHT RESEARCH PARTICIPANT INFORMATION SHEET

ALL INFORMATION WILL BE HELD IN THE STRICTEST OF PROFESSIONAL CONFIDENCE AND WILL BE USED FOR RESEARCH PURPOSES ONLY!

Name: \_\_\_\_\_ Home Phone No. \_\_\_\_\_  
Address: \_\_\_\_\_ Bus. Phone No. \_\_\_\_\_  
\_\_\_\_\_ Age: \_\_\_ Height: \_\_\_\_\_ Weight: \_\_\_\_\_

1. I am (check one): Single \_\_, Married \_\_, Separated \_\_, Divorced \_\_, Widow \_\_, Engaged \_\_, Common-law Marriage \_\_.

If married, separated, or divorced, how many years married? \_\_\_\_\_

My weight at the time of my marriage was: \_\_\_\_\_ lbs.

2. Occupation \_\_\_\_\_ Husband's occupation \_\_\_\_\_

3. The highest grade I completed in school was: \_\_\_\_\_

4. I am physically: Healthy \_\_, Unhealthy \_\_, Could be healthier \_\_\_\_\_

5. I am psychologically: Well-adjusted \_\_, Have a few problems \_\_, Have many problems \_\_, Poorly adjusted \_\_.

6. Have you ever received psychotherapy, psychological, or psychiatric counselling? Yes \_\_, No \_\_. If yes, please explain and give dates: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Have you ever been hospitalized for an emotional condition? Yes \_\_, No \_\_. If yes, please explain and give dates: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. I would most honestly describe myself as being: Usually calm \_\_, Usually anxious or tense ("nervous") \_\_, Often feeling depressed or "blue" \_\_, Getting into one mood or another for days at a time \_\_, Changeable from calm to tense to blue within short periods of time \_\_, Other \_\_ (explain) \_\_\_\_\_  
\_\_\_\_\_

9. People who live with me would probably describe my most outstanding mood as: \_\_\_\_\_  
\_\_\_\_\_

10. Friends would probably describe my most outstanding mood as: \_\_\_\_\_  
\_\_\_\_\_

11. Does anyone know "the real you"? Yes \_\_, No \_\_, Not sure \_\_.

12. I prefer to spend free time: With a group \_\_, With one or two close friends \_\_, Alone in company (i.e. shopping, museums, etc.) \_\_, Alone by myself (i.e. reading, sitting outdoors, etc.) \_\_.

13. I am presently: Average weight \_\_, Overweight \_\_, Extremely overweight \_\_\_\_\_

14. As an adolescent (about ages 12-18), I was: Underweight\_\_\_, Average weight\_\_\_, "Chubby"\_\_\_, Overweight\_\_\_, Extremely overweight\_\_\_.

15. As a child (up to age 11), I was: Underweight\_\_\_, Average weight\_\_\_, "Chubby"\_\_\_, Overweight\_\_\_, Extremely overweight\_\_\_.

16. During my adulthood (age 20 to the present), I have generally been: Underweight\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight\_\_\_.

17. If, at anytime in adulthood, you have been normal or below normal weight, please state your age or ages at that time. \_\_\_\_\_

18. Most of his life, my Father has been (or was): Slim\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight\_\_\_.

19. Most of her life, my Mother has been (or was): Slim\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight\_\_\_.

20. Most of his life, my Husband has been: Slim\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight\_\_\_.

21. To the best of my knowledge, my Grandparents were:

Mother's Mother: Slim\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight.

Mother's Father: Slim\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight.

Father's Mother: Slim\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight.

Father's Father: Slim\_\_\_, Average weight\_\_\_, Overweight\_\_\_, Extremely overweight.

22. I have (or had): \_\_\_Brothers, \_\_\_Sisters. I was #\_\_\_to be born.

How many of your brothers and sisters have, or have ever had an overweight problem? \_\_\_\_\_

Are you a twin? Yes\_\_\_, No\_\_\_.

23. Please fill in the following chart for all children you have. (if any of your children are adopted or foster children, please note this.)

	Sex	Age	Weight*	Birthweight and duration of pregnancy	Breast or bottle-fed	Your weight gain during this pregnancy
Child #						
2						
3						
4						
5						
6						
7						
8						

\*give child's weight as: slim, average, overweight, extremely overweight.

24. Have you had any miscarriages? Yes\_\_\_, No\_\_\_. If yes, how many, and in what month of pregnancy did they occur? \_\_\_\_\_

25. Have you had any stillbirths? Yes\_\_\_, No\_\_\_. If yes, how many and in what month of pregnancy did they occur? \_\_\_\_\_

26. Have you ever had any difficulty becoming pregnant? Yes\_\_\_, No\_\_\_. What is the longest amount of time you have tried to become pregnant before conceiving? 3 months\_\_\_, 3-6 months\_\_\_, 6-9 months\_\_\_, 9-12 months\_\_\_, 1-2 years\_\_\_, over 2 years\_\_\_, I have not yet been able to conceive\_\_\_.

27. My current overweight problem began \_\_\_ years ago.

28. My childhood years (up to age 11) were, generally: Happy\_\_\_, Sad\_\_\_, Just O.K.\_\_\_\_.

29. My adolescent years (about ages 12-18), were, generally: Happy\_\_\_, Sad\_\_\_, Just O.K.\_\_\_\_.

30. From age 20 to the present time, I have been, generally: Happy\_\_\_ Sad\_\_\_, Just O.K.\_\_\_\_.

31. I would describe my marriage as being: Happy\_\_\_, Adequate\_\_\_, Unsuccessful\_\_\_.

32. I had my first menstrual period at age\_\_\_.

33. Have you ever had pain associated with menstrual periods? Yes\_\_\_, No\_\_.

34. Have you had any of the signs that you may be approaching the menopause? Yes\_\_\_, No\_\_\_. If yes, what are they? \_\_\_\_\_

35. During my childhood (up to age 11), I had: Many friends\_\_\_, A few friends\_\_\_, One close friend\_\_\_, The existence of a "loner"\_\_\_, Never was sure of whether or not I had friends\_\_\_.

36. During my adolescence (12-18), I had: Many friends\_\_\_, A few friends\_\_\_, One close friend\_\_\_, The existence of a "loner"\_\_\_, Never was sure of whether or not I had friends\_\_\_.

37. During my adult years, I have had: Many friends\_\_\_, A few friends\_\_\_, One close friend\_\_\_, The existence of a "loner"\_\_\_, Never was sure of whether or not I had friends\_\_\_.

38. Have you ever been teased or taunted about being overweight? Yes\_\_\_, No\_\_\_. If yes, please explain when or how \_\_\_\_\_

39. Who is most critical of your weight aside from yourself? \_\_\_\_\_

40. Please list any surgery you have had and approximate dates: \_\_\_\_\_

41. Please list any diseases or medical conditions you have had with approximate dates: \_\_\_\_\_

42. Are you a diabetic? Yes \_\_, No \_\_. If yes, how is it controlled? \_\_\_\_\_  
Age of onset of the diabetes \_\_\_\_\_

43. List any of your blood relatives (including grandparents) who are (or were) diabetics. (not their names, please, just their relationship to you.) \_\_\_\_\_

44. Have you ever taken any medication to help you lose weight? Yes \_\_, No \_\_. If yes, please give the name of the drug(s) \_\_\_\_\_  
\_\_\_\_\_. When did you take it last? \_\_\_\_\_.

45. Check any and all of the following methods you have tried in the past to help you lose weight:

Method	Duration	Weight lost	Time you maintained the loss.	Pounds regained
<input type="checkbox"/> Self-imposed diet				
<input type="checkbox"/> Overweight girls' summer camp				
<input type="checkbox"/> Diet under Dr's supervision				
<input type="checkbox"/> Hypnosis				
<input type="checkbox"/> Diet plans ( "Ayds", etc.)				
<input type="checkbox"/> Exercise salons				
<input type="checkbox"/> T.O.P.S.				
<input type="checkbox"/> Weight Watchers				
<input type="checkbox"/> Psychotherapy				
<input type="checkbox"/> Other (specify)				

46. If you are presently taking any drug(s), including birth control pills, please list them: \_\_\_\_\_

47. How do you honestly feel about your overweight condition: (check one)  
 I will someday be slim.  
 Although I will never be thin, I hope to become average weight.  
 I will probably always be a bit "chubby".  
 I am hopelessly overweight.

48. Do you feel that under the proper conditions, you will be able to successfully lose weight and maintain the weight loss? Yes \_\_, No \_\_, Maybe \_\_. If yes or maybe, what are those conditions? \_\_\_\_\_

49. In the past, what is the longest amount of time you have been able to stay on a diet? Less than 1 day \_\_, 1 day \_\_, 2 or 3 days \_\_, 4-6 days \_\_, 1 week \_\_, 2-4 weeks \_\_, 1 month \_\_, 2-3 months \_\_, 4-6 months \_\_, 6-12 months \_\_, 1 year or longer \_\_.

50. Please check any and all of the following statements which you feel contribute to your particular overweight problem:

- |  |  |
|--|--|
| <input type="checkbox"/> General overeating        | <input type="checkbox"/> Lack of motivation to begin a diet  |
| <input type="checkbox"/> Second helpings           | <input type="checkbox"/> Lack of will power to stay on a diet  |
| <input type="checkbox"/> Between meal snacking     | <input type="checkbox"/> Eating too much of a certain food, or certain types of foods. If so, what foods _____ |
| <input type="checkbox"/> Evening snacking          | <input type="checkbox"/> Other reasons (specify) _____   |
| <input type="checkbox"/> Lack of exercise          | _____  |
| <input type="checkbox"/> Overeating when "nervous" | _____  |
| <input type="checkbox"/> Overeating when "blue"    | _____  |

51. Do you smoke? Yes \_\_\_\_, No \_\_\_\_. If yes, how many cigarettes a day \_\_\_\_?

52. Do you drink alcohol (including beer)? Yes, occasional social drink \_\_\_\_, Yes, a moderate amount \_\_\_\_, Yes, a great deal \_\_\_\_, Yes, too much \_\_\_\_, No \_\_\_\_.

53. As an infant, were you: Breast-fed \_\_\_\_, Bottle-fed \_\_\_\_, Don't know \_\_\_\_.

54. What is the greatest amount of weight you have been able to lose in the past in any one diet or weight loss program? \_\_\_\_\_ lbs. What type of diet or program was this? \_\_\_\_\_

55. I want to lose weight at the present time: Yes \_\_\_\_, No \_\_\_\_.

56. The reasons I want to lose weight are: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

57. How much weight would you realistically hope to lose during our 8-week program here? \_\_\_\_\_ lbs.

58. My ideal weight is: \_\_\_\_\_ lbs.

59. Comments, or any additional information you feel may be helpful:

APPENDIX 6

ORIENTATION TO TREATMENT

## APPENDIX 6

### ORIENTATION TO TREATMENT

The following material was read in an identical manner to all three groups during their orientational meetings:

One expert in this field (Bruch) has noted that early on in the treatment programs for overweight, "...unspecific expression(s) of the (person's) enthusiasm..." itself is responsible for productivity in terms of weight lost. This means that at least in the beginning of a program for weight-reduction, attitudes within yourselves are as responsible for progress as any chemical or psychotherapeutic prescription could be. One job that the group can and should do consciously, is a job that it will in all probability do automatically. That is, it will serve as an "agent of motivation" and, because of the special psychology of groups, it will and you will assert influence over the reshaping of your own and each other's motivation. This will serve to add longevity and continuity to a sensible approach to long-term and lasting weight control.

An important consideration in understanding the different degrees of success of people working toward weight control is "... the setting in which (such) a regimen is to be carried out ...". Where environmental problems in and of themselves are insurmountable--that is, where problems are outside of your control--the group can share, in a helpful way, ideas on how different perceptions of these problems can lead to improved appreciation of them; and, therefore, progress. Another way of looking at this is that the problems may still be there, but your ways of appreciating and reacting to them can change for the better.

Outline of Problems Commonly Faced In Weight Reduction Programs  
(Taken From: Conrad, American Practitioner, Vol. 5, 1954, p. 38.)

#### Resistance To Dieting

1. Overweight people may resist changing behavioral patterns related to their eating or losing weight. This defense against change may be so strong that continuance or multiplication of the problematic behavior can occur. (Ask group for some possible reasons for this.)

2. Usually, the person with overweight problems is concerned about them and consciously wishes to reduce to some

predetermined weight. Nonetheless, there may be strong unconscious motives that push these people to retain their overweight.

3. The fact that this problem is wide-spread and not treatable by "snap cures", but rather requires hard work by the individuals involved is reflected even by rather old statistics on the subject. Gallup, in a pole (survey) taken in 1951, noted that in the United States, at that time, overweight problems affected 20,500,000 women and 9,500,000 men in their adult years. In total, that equaled 30 million persons. It was probably an underestimate at that time, and surely, a gross underestimate in terms of today's problem.

4. The resistances to weight losses have been found to fit (frequently, that is) into two main categories: A. Resistance to reduced food intake (diets). (Explain why) B. Resistance to loss of the dreaded weight. Some of the reasons for resistance to dieting are:

Certain learning has occurred which associates eating with immediate, though temporary, anxiety reduction. This is thought to relate to one's early developmental history, and how mouth and "gut" behaviours became established as potential substitute fulfillment objects. In other words, remove this behavior, and "then what do I do?" This may signify the removal of a chief defense.

During early dieting, especially where the demands of the diet are truly unrealistic in view of the complexity of the psychology of the overweight person, the diet itself, may produce more anxiety than that which existed and was handled by overeating. The natural consequence can be seen. In such cases, rigid diets, with unrealistic pain. Pain (in the psychological and physical sense) stimulates withdrawal behavior. Withdrawal, in turn, stimulates further frustration because it usually means failure. Failure likely brings guilt feelings. Guilt can cause anxiety and depression. These last two feelings are amongst the most common causes of compulsive overeating. (Accentuate the Reality principle in the present plan)

5. Rebelliousness toward an environment in which rebelliousness or hostility cannot be directly expressed (because of the psychology of the self and/or of the particular environment) can be indirectly acted-out by resistance toward the diet plan. Some researchers have added that one's "history often reveals that one or both parents were excessively restricting, demanding and domineering. As children, they were compelled to obey their parents and repress their resentment because of fear of retaliation and loss of love.

As they grow older, however, they often express their resentment to restrictions by open defiance and rebelliousness..." as, for example, indulging "in excessive eating just prior to going on a diet. This indicates not only rebellion, but an attempt to reassure themselves that they and they alone control their eating habits..." A fact that we shall acknowledge and honor from the very beginning of this program: There is, and should be, no one but yourselves, individually, and very personally, who controls what you eat.

6. A problem which also is not uncommon is that people who have considerable overweight difficulties may not start or keep to diets because of their expectation of, or experiences with finding it difficult to be self-assertive. "Once on a diet, it is necessary that she limit her food intake not only at home, but every place where food is served. Even though she may have sincere intentions of staying on a diet, it is extremely difficult for her to decline to eat any of the food offered by her hostess. She just cannot say 'No'. The refusal in her mind connotes a hostile act which may invoke retaliation and disapproval. Furthermore, she dislikes drawing attention to herself..."

7. In the backgrounds of many overweight persons, careful investigation reveals that "food was often substituted for affection and thus became of exaggerated importance for these (people as) children" (Conrad, p. 40) Some experts who are renowned in this field state that "...food had been charged with a high emotional value and stood for love, security and satisfaction, and represent... an important tie in the relationship between..." or among important other persons in their lives. It is the opinion of many experts in this field that the feeling that dieting uncomfortably limits a prime pleasure source, can be made to disappear if overweight persons "...can find pleasure through other sources" than eating.

8. Resistance because of fear of failure:  
 Fear of loss of self-pride.  
 Fear of inadvertent or direct humiliation and criticism by friends and relatives.  
 "Rather than risk failure, they make no effort to lose weight."  
 Conflicted motivation causes hesitation.

9. What are the REWARDS?  
 Is it worth it? For me? For him?? or Them? For ???????  
 For example: "Women frequently give a history of excessive weight gained shortly after marriage. Marriage is a disillusionment to them. Gone is the idealistic love of their courtship. They no longer are the sought-after belle of the

ball; they are mere housewives (not E's term), confined to their homes and to a future of drudgery" as some see it. "Consequently they let themselves go...they seek escape and pleasure in eating, and become fat." Often "their husbands criticize and resent their appearance, and this incites them to further eating. A vicious circle thus is started." (Conrad, p. 41)

Resistance To Losing Weight  
(Conrad, p. 41 ff.)

"Whereas overeating may represent a symptom of an underlying emotional problem, the resultant obesity may present another problem which may be even more difficult to eradicate." It is common knowledge that "obesity may develop and be maintained because it helps in the individuals' adjustment to life. Unless she can make a satisfactory adjustment which will not require the assistance of obesity, the obese woman will resist losing weight. The resistances of losing weight may be associated with one or more of the following: 1. The fears and implications of becoming thinner; 2. The conscious and unconscious implication of obesity; and 3. The secondary gains of obesity." It is interesting to note that psychologically, "to some people, obesity represents health and a protection against illness." Some people, we will see, will break the routine that is helping them to lose weight, just because somehow they focus on the idea that if they are thinner, they will be risking illness.

We are also aware, and should discuss the findings, that to some people, obesity may symbolically represent strength, power, and greatness. It would appear then, that such people harbor feelings of inadequacy and insignificance. Thus, if they lose weight, certain obese women fear that they'll become yet weaker, smaller, and more vulnerable to the stresses of life.

"Some obese women resist treatment because of their fear of changing. A loss of weight would produce not only a change in their body configuration, but also some change in their daily habits and social relationships. Being insecure and fearful of the unknown, they dread any changes in their status quo." This may relate to another situation that we refer to as environmental dependence. That is, overweight people tend to learn to rely upon the environment and those around them for their cues to react and cues for behaviour. If, therefore, one changes the way the environment upon which she depends reacts to her, her psycho-social adjustment may be threatened. She, therefore, may resist for the safety that "sameness of functioning" can offer; though she consciously deplores her state.

Some other common problems that have been found to interfere with weight loss were:

1. Fear of losing love (becoming beautiful may be seen as a hostile act to be avoided; i.e. rivalry with a sibling or parent, or someone else.)

2. Maintenance of a hostile posture, against, for example, a demanding, domineering mother.

3. Avoidance of maturity; The obesity is unconsciously seen as a way of maintaining dependent relationships on their parents, and avoiding the fearful prospect of independent action.

4. Defense against narcissistic injury. Basic dependence and insecurity added to their environmental sensitivity make any prospective failure or criticism, or rejection intolerable.

5. Fear of sexual involvement.

6. Identification with a fat parent.

7. Need for symbolic pregnancy.

8. Low self-esteem.

9. Need for self-punishment.

These problems were commonly found characteristic reasons for resistance to weight loss.

APPENDIX 7

SAMPLE OF THE INFORMED CONSENT SHEET

INFORMED CONSENT FORM

O.W. RESEARCH PROGRAMME

I personally realize that maintenance of appropriate and healthful weight levels is important for humans. As a participant in this research programme, I am aware that my involvement and success have been, and will be based on a variety of aspects of personal motivation. I understand further, that motivational changes are to be an important goal of all treatments in this programme. I am aware too, that in some instances these motivational changes may require bringing to light and working on psychological feelings or situations that influence eating and overeating, and that this may occur as part of the treatment groups. I also fully understand the following points:

1. I fully acknowledge and recognize that my participation in this overweight research programme is entirely voluntary. The programme has been explained in detail prior to receiving this document.

2. I am aware of the fact that responsibility has been entirely mine for conferring with my physician and determining that my health permits my participation in a weight-loss programme such as this.

3. I have, or will have within the next week, ascertained from my physician that adhering to a self-selected nutritionally balanced diet of 1000, 1200, or 1500 calories per day (e.g. Met. Life Booklet "4 Easy Steps...") is o.k. for me.

4. I have had a physical "check-up" within the past year and except for my overweight was found to be in good health.

5. My doctor has urged that I lose weight. Amount \_\_\_\_\_ lbs.  
Up to me \_\_\_\_\_.

6. I understand that my continuing eligibility in this programme, and possibly my chances for successful achievement depend on regular attendance.

7. I realize that the research director can in no way guarantee weight loss, but rather will encourage the treatment framework in which the previously mentioned motivational and personality factors predisposing participants to weight problems can be changed; this, along with the self-selected diet, being generally expected to produce weight loss.

8. I understand that this programme is designed to last for 12 weeks.

DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

APPENDIX 8

SAMPLE OF THE MOUTHFULS CHART

Date	Bkfst.	Lunch	Supper	Other Times	Daily Totals	Average Daily Weight
1						
2						
3						
					Place computations for this part of week at end of October's sheet	
4						
5						
6						
7						
8						
9						
10						
				Week's total mouthfulls		
				Red/Green		
11						
12						
13						
14						
15						
16						
17						
				Week's Total Mouthfulls		
				Green/Red		
18						
19						
20						
21						
22						
23						
24						
				Week's Total Mouthfulls		
				Green/Red		
25						
26						
27						
28						
29						
30						
<b>NOVEMBER</b>				Week's Total Mouthfulls		
				Green/Red		

APPENDIX 9

RAW DATA

APPENDIX 9

RAW DATA

Legend For Decoding Raw Data Computer Sheet On p.

Column Number(s)	Variable Number	Variable
1	1	1= Stay-in, 2= Drop-out
2	2	1= Childhood, 2= Adult Onset
3	3	1= Lower, 2= Higher Field Depen.
4	4	1= Lower, 2= Higher Hope
5	5	1= Greater, 2=Less than Median weight loss.
8, 9, 10 <sup>a</sup>	6	Initial percent overweight.
11, 12, 13	7	Percent weight change.
14, 15, 16, 17	8	Amount of pounds changed.
18, 19	9	Hope, Gratification and Mastery Scores.
20, 21	10	MAT General Autism Scores.
22, 23	11	MAT Total Integration Scores.
24	12	MAT Total Personal Interest Scores.
25	13	MAT Total Conflict Scores.
26, 27, 28, 29	14	Rod-And-Frame z Scores.
30, 31, 32, 33	15	Embedded Figures Test z Scores.
34, 35, 36, 37	16	Averaged (15 + 16) z Scores.
39, 40, 41	17	Rod-And-Frame raw score.
42, 43	18	Embedded Figures Test raw scores.

a Columns six and seven are subjects' numbers, and not variables for computation.

DATA(5) (2X,2F1.0,1X,F2.0,3X,F3.0,F4.1)

11111	6124-	9-136	4	2	964	15	160	88	5314
1111125	57-16-	183	4	4	636	95-	27	34	24 5
1111151	52-11-	13	5	4	776	112	222	167	1817
1111152	73-11-	146	6	4	1043-	20	56	18	66 9
11112	8	31-	6-	079	0	4	676	43	15 29 43 7
1111210	50-	6-	073	4	4	845	136	98	117 911
1111241	22-	1-	023	5	4	756	125	77	101 1310
1111264	80	0	006	2	3	866	131	118	125 1112
11121	9	70-	8-	10620	0	944-	92	98	03 9211
1112114	65-	12-	16	42	6	785	32	222	127 4717
1112147	53-	8-	09317	2	864	128	77	103	1210
1112163	29-	8-	12	16	3	856	112	181	147 1815
1112218	40-	3-	03915	2	767	103	222	163	2117
11122361	118-	1-	01325	6	777-	23	15-	04	67 7
11211	3	32-	20-	23	4	11043-	51-	68-	60 77 3
1121172	27-	12-	156	4	1	736-	62-	27-	45 81 5
1121213	39-	1-	02	7	3	746-	37	15-	11 72 7
1121222	27-	1-	003	7	4	865	02-	130-	64 55 8
1121231	39	0	00	4	6	687-	153-	130-	142 114 0
1121262	21-	4-	05	7	10	787-	89-	130-	110 91 0
11221212	26-	19-	22	30	7	578	24-	48-	12 50 4
1122133	73-	9-	10611	3	954	57-	110-	27	38 1
1122154	51-	22-	26629	6	786	62-	89-	14	36 2
11222421	178-	6-	07617	2	954-	125-	110-	118	104 1
1122243	46	7	08611	4	964-	56-	06-	31	79 6
1211171	64-	15-	159	9	4	568	95-	68	14 24 3
12112	1	61	4	05	10	4	528	73-	68 03 32 3
1211219	99-	7-	09	4	8	488	18-	06	06 52 6
1211230	67-	3-	046	0	6	783	57	56	57 38 9
1211256	27-	1-	006	4	4	765	92	222	157 2517
1212111	72-	11-	12626	5	885-	56	56	00	79 9
1212127	39-	9-	10	30	4	736	84-	06	39 28 6
1212144	50-	23-	28	14	5	657-	20	35	08 66 8
1212148	30-	9-	11	15	5	667-	76	77	01 8610
1212261	48-	7-	09922	2	737	101	35	68	22 8
1221268	68-	2-	023	8	5	528	109-	130-	11 19 0
1222115	21-	13-	16626	5	776-	194	56-	69	129 9
1222132	48-	13-	17	20	2	925-	235-	130-	183 144 0
1222138	24-	11-	13	39	2	846-	70-	68-	69 84 3
1222140	31-	10-	10920	3	955-	199-	110-	155	131 1
1222149	50-	8-	10	11	6	776-	117-	68-	93 101 3
12222	4	45	0-	01	13	5	668-	188-	89-139 127 2
1222266	80-	37-	03921	4	457	35-	130-	48	46 0
2111250	31-	4-	046	0	8	687	139-	06	67 8 6
21112671	101	4	05	4	4	766	123	98	101 1411
2112220	76-	2-	02314	5	648-	20	35	08	66 8
21122231	103	0	00	11	21	1043	10	35	23 55 8
21212	2	57-	5-	056	0	3	766-	56-	130- 93 79 0
2121237	22-	4-	046	7	4	746-	142-	68-	105 110 3
2121246	65-	1-	02	4	5	746	62-	110-	24 36 1
2122139	45-	10-	10917	4	667-	81-	89-	85	88 2
2122212	48	0	00	12	3	866-	12-	89-	51 63 2
2122216	81	1	02	11	5	886-	45-	89-	67 75 2
2122234	20	0	00	20	4	647-	92	35-	29 92 8
21222701	141	2	02319	4	557	46-	130-	42	42 0
22112	7	38	2	02	7	6	767	112	118 115 1812
2211274	56-	2-	033	4	3	865	128	15	71 12 7
2221255	59-	3-	03910	4	746-	004-	48-	26	60 4
<u>2221273</u>	<u>33</u>	<u>0</u>	<u>00</u>	<u>4</u>	<u>5</u>	<u>667</u>	<u>07-</u>	<u>27-</u>	<u>10 56 5</u>

N= 59

## Means and Standard Deviations of Observed Variables.

<u>Variable Number</u> <sup>a</sup>	<u>Means</u>	<u>Standard Deviations</u>
1	0.12712D 01	0.44839D 00
2	0.13729D 01	0.48772D 00
3	0.14915D 01	0.50422D 00
4	0.15085D 01	0.50422D 00
5	0.15932D 01	0.49545D 00
6	0.59712D 02	0.38194D 02
7	-0.65085D 01	0.76887D 01
8	-0.73017D 01	0.78923D 01
9	0.12407D 02	0.97045D 01
10	0.41186D 01	0.18012D 01
11	0.71017D 01	0.13982D 01
12	0.54576D 01	0.16848D 01
13	0.59322D 01	0.13755D 01
16	0.38983D-02	0.84459D 00

a The names of the variables may be found on the legend, which appeared on page 175 of this Appendix.

Correlation Matrix For All Data Gathered In The Present Research

N= 59. Critical Values of r coefficient= .25 (.05 level).

Variables	1	2	3	4	5
1	1.00000				
2	-0.15501	1.00000			
3	0.16286	-0.05704	1.00000		
4	-0.08660	0.05704	0.15287	1.00000	
5	0.42751	-0.07498	0.05498	-0.33105	1.00000
6	0.02075	-0.18850	-0.03102	0.18769	0.02468
7	0.41077	-0.16006	-0.05450	-0.23902	0.63725
8	0.44300	-0.07105	0.04441	-0.19518	0.81950
9	-0.21598	0.16047	0.11699	0.78151	-0.43475
10	0.06621	0.12541	0.01062	-0.14351	0.20958
11	-0.07225	-0.28411	0.00124	0.12103	-0.23792
12	-0.00735	-0.10633	-0.06639	0.02580	0.04096
13	0.14215	0.24394	0.07374	0.00084	0.23714
14	0.05258	-0.11045	-0.58808	-0.34489	0.18506
15	-0.16044	-0.08509	-0.73693	-0.04638	-0.12467
16	-0.06976	-0.11409	-0.78717	-0.22579	0.02981
17	-0.04943	0.10508	0.58770	0.33708	-0.17547
18	-0.02137	0.06406	-0.10090	0.07911	-0.11148
	6	7	8	9	10
6	1.00000				
7	-0.07407	1.00000			
8	-0.03800	0.81441	1.00000		
9	0.17304	-0.36435	-0.34938	1.00000	
10	0.04938	0.06170	0.07824	-0.03339	1.00000
11	-0.06078	0.10593	-0.09232	0.00071	-0.52517
12	0.09907	0.01561	0.00123	-0.00736	0.58402
13	-0.01252	0.03581	0.13086	0.08477	0.46958
14	0.09532	0.08245	0.13098	-0.24533	0.03881
15	-0.08065	0.08805	-0.04706	0.00640	-0.12525
16	0.00447	0.09895	0.04438	-0.13668	-0.05335
17	-0.08107	-0.07587	-0.12625	0.24078	-0.05075
18	-0.14187	-0.08540	-0.05563	0.03998	0.15984
	11	12	13	14	15
11	1.00000				
12	-0.12988	1.00000			
13	-0.84803	0.04338	1.00000		
14	-0.19216	0.00262	0.06411	1.00000	
15	0.15638	0.15780	-0.19071	0.42706	1.00000
16	-0.01655	0.09674	-0.07843	0.83608	0.85293
17	0.18315	-0.01364	-0.05189	-0.99691	-0.42829
18	0.07986	0.13859	-0.13610	0.10474	0.10464
	16	17	18		
16	1.00000				
17	-0.83512	1.00000			
18	0.12468	-0.18183	1.00000		

APPENDIX 10

ABSTRACT OF

Relationships Of Field Dependence And Selected Personality  
Characteristics To Successes And Drop-outs In A Short-Term  
Psychotherapeutic Intervention.

## APPENDIX 10

### ABSTRACT OF

#### Relationships Of Field Dependence And Selected Personality Characteristics To Successes And Drop-outs In A Short-Term Psychotherapeutic Intervention.<sup>1</sup>

This study examined the significance of field dependence levels, age of onset of obesity, degree of overweight prior to treatment commencement, and five motivational scales as predictors of three group psychological obesity treatment criteria. These were: persistence in treatment (i.e. staying in or dropping out), per cent of weight lost, and pounds lost. Fifty-nine obese adult women participated. All were between twenty-five and forty years of age.

Hope, Gratification and Mastery, an analysis of verbal content scale, derived from a five minute free speech, pre-treatment tape recording of each subject, was a highly significant predictor of percentage of weight lost by all subjects, as well as treatment stay-ins only. Although statistically less powerful, Total Integration and Total Conflict scales of the Motivational Analysis Test were also found to be statistically significant predictors of percentage of weight lost. No other variables (examined by full model multiple regression correlation analyses) achieved predictive significance.

---

<sup>1</sup> Kenneth E. Breitman, doctoral thesis presented to the School of Graduate Studies of the University of Ottawa, Ontario, April, 1975, i-181 p.

These results suggested that personality/behavior parameters which measure and predict potentials for therapeutic achievement in obesity treatment both exist, and require further investigation.