Sponsoring Committee: Professor John G. Rockwell, Professor Edward L. Kemp, and Associate Professor Milton Schwebel

DIANETIC THERAPY: AN EXPERIMENTAL EVALUATION

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A Statistical Analysis of the Effect of Dianetic Therapy as Measured by Group Tests of Intelligence, Mathematics and Personality

HARVEY JAY FISCHER

Submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the School of Education of New York University

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An Abstract of

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approved
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An experiment was devised to afford an objective and definitive test of the claims for dianetic therapy. Provision was made for obtaining adequate information without anticipating the direction of the effects of dianetic therapy. Dianetic proponents specifically claim effectiveness in only three areas: intellectual functioning, mathematical ability, and personality conflicts. These areas were measured by tests selected because they were standardized instruments shown to be both reliable and valid. For mathematical ability and intellectual functioning, multiple tests were used in an effort to provide a representative score. Three equated groups of subjects, totalling 36 persons, were selected. The three groups were exposed to different amounts of dianetic therapy during an interval of 60 days, the first having no hours, the second 18 hours, and the third 36 hours. Eighteen hours of dianetic therapy are claimed to afford a significant change in the subjects in the three areas. The design utilized the controls of educational status and age with the influence of sex partialled out. The tests were administered to all subjects both before and after the therapeutic interval. For the second testing session, alternate forms of the tests were used. Difference scores were calculated for each subject in each of the areas measured and these were subjected to statistical analysis. The method of multiple factor analysis of variance was used.

For the population of disturbed persons who applied for dianetic therapy, and who were between the ages of 22 and 47 years, and who had had at least some high school education, regardless of the sex of these persons, it was concluded that: (1) dianetic therapy does not exert a systematic influence either favorably or adversely upon intellectual functioning; (2) dianetic therapy does not exert a systematic influence either favorably or adversely upon mathematical ability; and (3) dianetic therapy does not exert a systematic influence either favorably or adversely upon the degree of personality conflicts.

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June 30, 1953

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CHAPTER I

THE PROBLEM AND ITS SCOPE

General Statement

The purpose of this investigation was to evaluate the claims of the originators and practitioners of dianetic therapy. They reported that this particular technique effects significant changes for the better in the therapy of any mental disorder.

Specific Problems

The specific problems with which this investigation was concerned are:

I. What is the effect of dianetic therapy upon the level of intellectual functioning?

II. What is the effect of dianetic therapy upon the level of mathematical functioning?

III. What is the effect of dianetic therapy upon the degree of personality conflicts?

Definition of Terms

Experimental Terms

A significant change was defined statistically as a refutation of the null hypothesis at the 5% level of confidence..

A change for the better in intellectual performance was defined as a significantly higher score on standardized tests of this function.

A change for the better in mathematical ability was defined as a significantly higher score on standardized tests of this function.

A change for the better in the area of personality conflicts was defined as a significantly lower score on a standardized test of this function.

Dianetic Terms

Dianetic therapy is a method proposed by Hubbard[1] for curing[2] mental disorder by releasing engrams. This therapy is administered by an "auditor" who effects the release, freeing the patient from the deleterious influence of the engrams.

An "auditor" is "Any person who is intelligent and possessed of average persistency and who is willing to read this book (Hubbard's) thoroughly. . ."[3] However, this study set a more rigorous criterion: an "auditor" is a person who has been trained at one of the Hubbard Dianetic Research Foundations and is certified by that foundation to practice dianetic therapy.

A "clear" is "The optimum individual; no longer possessed of any engrams."[4]

"ENGRAM: Any moment of greater or lesser 'unconsciousness' on the part of the analytical mind which permits the reactive mind to record; the total content of the mind with all perceptics."[5] This is the single source of all mental aberrations.[6]

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1. L. R. Hubbard, Dianetics: The Modern Science of Mental Health.
2. Hubbard Dianetic Research Foundation, Inc., Dianetics and Psychoanalysis, p. 5.
3. L. R. Hubbard, Dianetics, p. 173.
4. Ibid., p. 437.
5. Loc. cit.
6. L. R. Hubbard, Dianetics, p. 39.

Unconsciousness is a relative state of awareness, its complete loss being suffered only in death. During the relatively lower periods of awareness, engendered by painful physical or emotional stimuli, all sensory impressions are recorded as engrams.[1]

"ANALYTICAL MIND: That mind which computes - the 'I' and his conscious."[2]

The "reactive mind" is the recording apparatus of the entire organism which is operative during moments of lesser consciousness.[3]

"PERCEPTIC: Any sense message such as sight, sound, smell, etc."[4]

"ABERRATION: Any deviation or departure from rationality. Used in dianetics to include psychoses, neuroses, compulsions and repressions of all kinds and classifications."[5]

"A release is an individual from whom have been released the current or chronic mental and physical difficulties and painful emotion."[6] "If a person has been made less unhappy and above normal, he is to be judged as a release."[7]

Delimitations of the Study

The subjects were chosen from among those who applied for therapy at a dianetic center in a large city.

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1. Ibid., p. 59.
2. Ibid., p. 437.
3. Loc. cit.
4. Loc. cit.
5. L. R. Hubbard, Dianetics, p. 437.
6. Ibid., p. 170.
7. Ibid., p. 312.

The center had a maximum case-load of thirty persons, with more than three times that number of applicants.

The experimental group consisted of the first twenty-four applicants. The following six persons were ignored for purposes of this study. The next twelve persons constituted the control group. The number of subjects in the experimental group (24) was the maximum multiple of the basic experimental design (8) falling within the limits of experimental subjects available (30). The number of controls (12) was one-half the number of the experimental group (24). The latter group was divided into two sections. The final result was three groups of equal size. This was necessary for the statistical method chosen.[1]

The period of time between the first and second tests was sixty days.

There were two therapeutic schedules. The first was two sessions a week with each session lasting one hour. The second was two sessions a week with each session lasting two hours. Thus, after sixty days, one experimental group had eighteen hours of therapy, while the other had thirty-six hours of therapy.

Eighteen hours are claimed by dianetic experts to afford more than a sufficient amount of change to be characterized as significantly better.[2] The first experimental group had this amount of therapy (18 hours) while the other had twice that amount of therapy (36 hours).

This experimental plan is represented in Figure I (p. 14).

The tests were chosen from among measures designed for group presentation. The use of individual measures was contraindicated as an undue

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1. C. Peters and W. Van Voorhis, Statistical Procedures and Their Mathematical Bases, p. 335.

2. L. R. Hubbard, Dianetics, pp. 172, 392.

interference with the dianetic center's operational schedules.

The Need for the Study

Sound ethics require that psychotherapeutic procedures be evaluated. It is an obligation that psychologists should assume in the public interest. In addition, scientific investigation helps to illuminate new therapeutic claims for purposes of education and intelligible communication.

Dianetics is one of the recent methodologies to win public attention. Although it has met with little acclaim in scientific circles, it appears to have attracted a considerable number of adherents elsewhere. The extent and intensity of its adoption indicate the necessity of examining its theories and claims by a practical and objective test of its validity.

This problem is emphasized by Consumer Reports: "Hundreds of 'auditors' have been and are being trained to actively treat sick people. Thousands of sick people are submitting to their ministrations. It is entirely proper and necessary, therefore, that some estimate be made at the present time of the nature and value of these skills and the effect that they will have on the mental and physical well-being of people."[1]

Rubi is distressed by the huge sale of Hubbard's book and looks upon this as ". . . evidence of the frustrated ambitions, hopes, ideals, anxieties and worries of the many persons who through it have sought succor."[2]

Dianetics' popular appeal is attested by the following: Only two months after publication of Hubbard's volume, there were fourteen dianetic groups in New York City and five hundred in the United States; with over

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1. "Dianetics," Consumer Reports, 16 (August, 1951), p. 378.
2. I. Rubi, "Dianetics: The Modern Science of Mental Health," Scientific American, 183 (January, 1951), p. 58.

fifty-five thousand copies sold.[1] After one year of issue, 150,000 copies of this book were sold in the United States and the publishers were then preparing translations into the French, German, Japanese and Scandanavian languages. The number of non-professional clubs had jumped to over 750,[2] and more than 250,000 persons in the United States were undergoing dianetic therapy.[3]

One of the reasons for the growth of dianetics is its clearcut absolution of the patient from any responsibility for his illness.[4] Hubbard also claims that his method infallibly results in a cure where others either fail or result in occasional remissions.[5] He says, "It works. That is the only claim for dianetics or chemistry. They (the principles) may not be True. But they work and work invariably in the finite world."[6]

Hubbard infers medical support through his close association with Dr. J. A. Winters. Winters writes, ". . . the medical profession -- or at least a part of it -- was not only aware of the science of dianetics, but had tested its tenets and techniques, and was willing to admit that there was

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1. "Dianetics," Newsweek, 36 (August, 1950), p. 85.
2. Hermitage House, Inc., "Dianetics," Astounding Science Fiction, 46 (January, 1951), p. 164.
3. D. H. Bulkley, Dianetics. A Scientific Re-Statement And A Summary Of Logic, p. 1.
4. L. R. Hubbard, Dianetics, p. 39.
5. Hubbard Dianetic Research Foundation, Inc., Dianetics and Psychoanalysis, p. 5.
6. L. R. Hubbard, "Dianetics: The Evolution of a Science," Astounding Science Fiction, p. 47.

something to it."[1] He adds that this system was developed through precise engineering principles with emphasis upon scientific method. He also disparages all other psychological systems as being developed through "metaphysical word-juggling."[2] This quasi-scientific testimonial is presented by Hubbard as approval by the medical profession rather than as the personal endoresement it really is.

The lack of conclusive evidence either pro or con has permitted a flurry of opinions. S. Kline[3] reviewed both "The Book" (as the adherents of dianetics refer to Hubbard's volume) and various critical comments, after being favorably impressed by a brief personal experience with dianetic therapy. Schumann[4] presents case histories, including his own, detailing positive therapeutic experiences with dianetics. A review of "The Book" by Time magazine[5] is generally unfavorable as to the theory and its mode of presentation, but testimonials are quoted from three individuals who benefitted from this method. The Science Digest[6] cites sympathetic and hostile critics, yet its tone is essentially negative. A more forceful view is expressed by G. Zilboorg[7] who attacked dianetics before a forum at the New York Academy of Medicine. A group of prominent psychiatrists undertook a survey of

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1. J. A. Winter, A Doctor's Report on Dianetics, p. 43.
2. L. R. Hubbard, "Dianetics," p. 44.
3. S. Kline, "Dianetics is Here: What is It?"
4. F. Schumann, "Peace of Mind in Dianetics?"
5. "Dianetics," Time.
6. "What about Dianetics?"
7. "Dr. Zilboorg Attacks Dianetics," New York Times.

dianetics at the request of the editor of the Journal of the American Medical Association. They found it scientifically unacceptable and denied it psychiatric recognition.[1] The American Psychological Association adopted unanimously a resolution against Hubbard's unsupported statements.[2] Both the Journal of the American Medical Association and the American Journal of Psychiatry rejected articles submitted by Hubbard for publication because of insufficient documentation.[3]

The only published experimental evaluation of dianetics was reported by Colbert.[4] Although his data clearly refute Hubbard's claim of the invariable success of dianetic therapy, his study does not meet accepted scientific criteria for multidimensional analysis. No control groups were used and the expected changes under the experimental conditions could not be determined. In addition, an important characteristic which made for heterogeneity in his population was not controlled— that of previous dianetic therapy.

This lone (and inconclusive) study, with the absence of experimentation using accepted techniques and objective methods, suggests that the profound need for definitive investigation of dianetic therapy has not adequately been met.

Dianetic Theory

A Brief Review[5]

Hubbard visualizes human behavior as the reduction and distortion

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1. "Dianetics," Today's Health.
2. "Psychologists Caution About Dianetics," New York Times.
3. J. A. Winter, A Doctor's Report on Dianetics, p. 18.
4. J. Colbert, An Evaluation of Dianetic Therapy. M. S. Thesis, City College of New York, 1951.
5. The material in this section is taken from L. R. Hubbard, Dianetics.

of native abilities through the perceived sensation of environmental experience. These sensations are supposedly recorded directly within cell structure during moments of stressful experience. This is possible even before birth. The entire pattern of stimuli present at such moments is recorded as a unit (engram) and the repetition of any one of the components is sufficient to reproduce the original sensation and reaction. The verbal content of auditory experience, which is recorded as an engram, exerts a continuous mandatory influence upon the individual to react to the personal meaning of such content. These "commands" (as well as the sensory experience) account for the symptomatology in mental disorder, and they militate against the best interests of the organism for survival. The engram is held separate from other experience and is not ordinarily available for recall.

The therapeutic procedure aims toward making these engrams conscious by introducing "reverie" states (mild trance). The engram's influence is released (rendered neutral) by its disappearance from the "reverie", because the unconscious engrams are recalled only during this special state. Once released, the disturbing engram is "re-filed" in another memory bank (the conscious) and is no longer a source of discomfort.

Background

This brief review and summary of dianetics presents many concepts which bear striking similarities to other psychological doctrines, although the concepts are expressed in new terminology. The development of Hubbard's system appears to be derived from known therapies through an eclectic approach. Some of these sources are more specifically identified below.

Survival as the aim of life is a well-established theme incorporated

in the work of Darwin,[1] Bergson,[2] Jung,[3] and Adler.[4]

Hubbard assumes that heredity is relatively passive and that external forces mold the individual to a greater degree. This is reminiscent of both Pavlov's conditioning[5] and Watson's behaviorism,[6] however, out of context.

The dianetic definition of "engram" was proposed by Richard Semon[7] in 1904 although he probably would not approve of Hubbard's elaboration as to its effects.

The experiential reproduction of a total "engram" by the recall of one of its component parts reminds one of Hollingworth's[8] concept of "redintegration."

Hubbard's suggestion of the "reactive mind" (the total of all engrams) is apparently a combination of Freud's "unconscious" and Pavlov's conditioned behavior.[9]

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1. C. Darwin, The Origin of Species, p. 77.
2. H. Bergson, Selections From Bergson, pp. 63, 105.
3. C. Jung, "The Content of the Psychoses," p. 267 in J. Van Teslaar, An Outline of Psychoanalysis.
4. A. Adler, Understanding Human Nature, pp. 65-66.
5. I. Pavlov, Conditioned Reflexes.
6. J. Watson, Psychological Care of Infant and Child, p. 41 as quoted by G. Allport, Personality, p. 103.
7. Mnemic Psychology.
8. H. Hollingworth, Psychology of the Functional Neuroses as quoted by G. Allport, Personality, p. 203.
9. Davis, op. cit., p. 225.

The therapeutic use of recall is akin to Jung's imagination procedure.[1] Both pastoral religion[2] and Freud have emphasized the efficacy of "abreaction."[3,4]

The influence of verbal content is not new. "Investigators from Freud up to Flanders Dunbar had long since demonstrated one or another type of association of words with illness."[5]

A "reverie" state is little different from a mild hypnotic condition.[6] This concept was developed from Hubbard's first experiences with deep hypnotic states. Davis notes the resemblance to the development of psychoanalytic technique: "Thus, he travelled the same path as Sigmund Freud who discarded hypnosis and for the same reason — therapy proceeds more soundly if the patient retains awareness. Incidentally, both Freudians and Dianeticists use the Couch."[7]

Hubbard's test of whether or not an "engram" has been relieved by therapy is the patient's inability to recall it during the "reverie." He also combines the "reverie" with the administration of a carbon-dioxide mixture;

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1. J. Winter, A Doctor's Report on Dianetics, p. 128.
2. L. D. Weatherhead, Psychology, Religion and Healing.
3. S. Freud, A General Introduction to Psychoanalysis, p. 377.
4. Davis, op. cit., p. 226.
5. J. A. Winter, A Doctor's Report on Dianetics, p. 13.
6. Ibid., pp. 35-37.
7. Davis, op. cit., p. 222.

a procedure initiated by Meduna.[1]

Perls, a staunch adherent of dianetics and a follower of Winter's group, has taken issue with Hubbard. He writes, "Hubbard, with his mixture of science and fiction, his bombastic way of pretending to something new by giving abstract names. . . to processes, his rejection of the patient's responsibility. . . his unsubstantiated claims, makes it easy for anyone to reject his work in toto,. . ."[2]

Another of Hubbard's close associates (Campbell) depreciates the originality of his contribution and states, "His approach is, actually, based on some very early work of Freud's, some work of other men,. . ."[3]

Hubbard admits familiarity with psychological theories but insists that his formulations have not been influenced by any of them.[4]

Rubi feels that "he has borrowed from psychoanalysis, Pavlovian conditioning, hypnosis, and fold beliefs but, except for the last, these debts are fulsomely denied."[5]

Time magazine makes the additional observation that "It has a touch of Coueism and a mild resemblance to Buchmanite confession."[6]

Dianetics is charged by May with a common error;". . . trying to construct a simple science of human behavior based upon mathematics and using for its models the physical sciences and the machine."[7]

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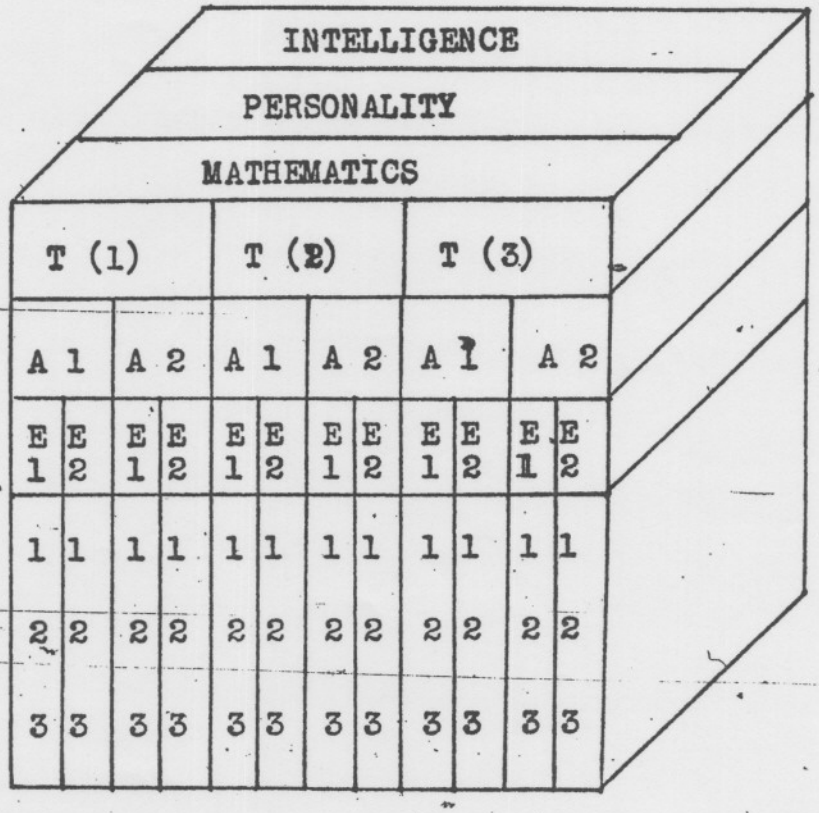
1. Kindwall, J., "Carbon-Dioxide Narcosis Therapy," American Journal of Psychiatry, 105 (March, 1949), p. 682.
2. J. Winter, A Doctor's Report on Dianetics, p. xiv.
3. Ibid., p. 3.
4. L. Hubbard, Dianetics, p. 340.
5. I. Rubi, op. cit., p. 58.
6. "Dianetics: The Modern Science of Mental Health," Time, 56 (July 24, 1950), p. 65.
7. "What About Dianetics?," Science Digest, 28, (October, 1950), p. 46.

Figure I

Experimental Design of the Study



N.B.: "T" indicates therapy group.
"A" indicates age group.
"E" indicates educational group.
The scores in the lower cells are expressed in the standard score differences.

CHAPTER II

PROCEDURES OF THE STUDY

The Experimental Plan

This study utilizes an experimental plan known as a complex factorial design.[1] The design is presented schematically in Figure I, p. 14. Referring to the front face of Figure I, it is noted that there are three variables; therapy, age and education. Therapy is varied in three ways, age is varied in two ways, and education is varied in two ways. Thus, there are twelve separate conditions (or cells) which vary systematically from those (in the first cell) who are characterized as being in therapy group one and age group one and educational group one, to those (in the last cell) who represent the combination of therapy group three and age group two and educational group two.

Within each of these twelve cells (or sets of conditions) there are three numbers representing three persons -- all of whom meet the conditions for that particular cell.

Figure I represents three dimensions. The depth in the design depicts simultaneous measurement in the areas of intelligence, personality and mathematics. The same subjects, then, are measured in each of these areas.

In any area, the score for an individual is entered into its appropriate place within the particular cell which characterizes him.

The score for each individual indicates the quantity of change having occured through the interval between testings.

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1. A. Edwards, Experimental Design in Psychological Research, p. 237.

Selection of Subjects

The dianetic center publicized rather widely (in newspapers and correspondence) the advent of a new series of sessions of dianetic therapy, and called for a meeting of all those interested in participating. At this meeting, the director first talked generally about dianetic therapy. He then pointed out that this next series was planned for the following two month period. He requested that only those apply who could definitely set aside a number of hours each week during this period. The director then discussed the cost of this series. He asked all those who could fulfill the obligation of time and money to come to the secretary at the end of the meeting for the purpose of recording names, addresses and free times.

After the meeting, letters were sent to the first twenty-four applicants, notifying them that another meeting would be held for the purpose of routine psychological testing. No other selective device was utilized.

The Test Materials

Interview

The examiner brought to each personal interview a prepared sheet which called for the name, amount of previous exposure to dianetic therapy, date of birth, and educational history for each subject. Although this statistical information might have been obtained with less trouble by including a specially prepared form with the regular test materials, the interview served as a vehicle for another purpose. The situation provided an opportunity to stimulate motivation. This was attempted by impressing upon the subjects the idea that maximal effort would result in test results that the dianetic center would be able to use to plan his therapeutic procedure to give him greater benefit.

The results of the interviews and tests were not made available to the center until after the completion of the study.

Tests of Intellectual Functioning

There is a high intercorrelation among most of the standard tests of intellectual functioning. Because of their variability of content, however, it is desirable to have more than one measure so that the mean result will be more valid and reliable in terms of internal ecological considerations.[1] That is to say, the combined score is a more representative measure than either of its components.

The first test in this area was the SRA Non-Verbal Form.[2] The alternate form for this test is the SRA Verbal Form.[3] The forms are highly correlated and both show significant validity and reliability.[4,5] The Non-Verbal Form was given in the first testing situation and the Verbal Form in the second.

The second test in this area was the Revised Alpha Examination Form.[6] The alternate form for this test is the Revised Alpha Examination Form.[7] Both

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1. E. Brunswik, Systematic and Representative Design of Psychological Experiments, p. 3.
2. R. McMurray and J. King, SRA Non-Verbal Form.
3. T. Thurstone and L. Thurstone, SRA Verbal Form.
4. Examiner Manual for the SRA Verbal and Non-Verbal Forms.
5. O. Buros, The Third Mental Measurements Yearbook, pp. 263-264.
6. Revised Alpha Examination Form 5.
7. Revised Alpha Examination Form 7.

forms are highly correlated and show significant validity and reliability.[1,2,3] Form 5 was given in the first testing situation, and Form 7 in the second.

Since both of these types of tests must be taken into account for better representativeness in the area of intellectual functioning, some combination of their scores is necessary. The SRA Manual[4] gives enough data for the calculation of normative standard deviations, as does the Wells' Manual.[5] Since both of these error terms reflect the variation of a normal population, the difference between them is due mostly to differences in test construction. Then, the standard scores are comparable -- being corrected for differences in test construction. The raw scores were converted, by means of the appropriate standard deviation, into standard scores, and these were then combined for each subject to represent his performances in the area of intellectual functioning.

Tests of Arithmetical Ability

In the area of mathematical ability, test constuctors have taken cognizance of the factors of manipulation of fundamentals, and special reasoning processes.

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1. F. Wells, Manual of Directions. Revised Alpha Examination Forms 5 and 7.
2. F. Finch and M. Odoroff, "The Reliability of Certain Intelligence Tests," Journal of Applied Psychology, 21 (February, 1937), pp. 104-106.
3. G. Bennett, "Distribution of Scores of Army Alpha," Journal of Applied Psychology, 27 (April, 1943), pp. 100-101.
4. Examiner Manual for the SRA Verbal and Non-Verbal Forms.
5. F. Wells, op. cit.

This kind of reasoning was measured by the Arithmetical Reasoning Test.[14,15] [1,2] This test has alternate forms (A and B). The forms are highly correlated and both show significant validity and reliability.[3] [16] Form A was administered in the first testing situation and Form B in the second.

The manipulation of fundamentals was measured by the Schorling-Clark-Potter Hundred Problem Arithmetic Test.[17,18] [4,5] This test has alternate forms (V and W). The forms are highly correlated and both show significant validity and reliability.[19,20] [6,7] Form V was administered in the first testing situation and Form W in the second.

Since both of these factors must enter into any consideration of arithmetical ability, some combination of them would best represent performance in this area. Thus, it was necessary to find some means of equating the two tests. The Schorling Manual[21] [8] presents normative standard deviations while the

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1. [14] A. Cardall, Arithmetical Reasoning Test. Form A.
2. [15] A. Cardall, Arithmetical Reasoning Test. Form B.
3. [16] A. Cardall, Preliminary Manual for the Arithmetical Reasoning Test.
4. [17] R. Schorling, J. Clark and M. Potter, Hundred Problem Arithmetic Test. Form V.
5. [18] R. Schorling, J. Clark and M. Potter, Hundred Problem Arithmetic Test. Form W.
6. [19] R. Schorling, J. Clark and M. Potter, Hundred Problem Arithmetic Test. Manual of Directions.
7. [20] O. Buros, The Third Mental Measurements Yearbook, p. 344.
8. [21] Schorling, et. al., op. cit.

Cardall Manual[1] gives enough data for these to be calculated. Since these error terms both reflect the variation of a normal population, the difference between them is due mostly to differences in test construction. Then, the standard scores are comparable -- being corrected for differences in test construction. The raw scores were converted, by means of the appropriate standard deviation, into standard scores and these were then combined for each subject to represent his performance in the area of arithmetical ability.

Test of Personality Conflicts

To measure personality conflicts, the test chosen was Rotter's Incomplete Sentence Blank -- Adult Form.[2] This provided a valid and reliable score which indicated the effect of the intensity of conflicts in personality.[3]

The area which subsumes personality conflicts is probably the least clearly delineated in psychology. This emphasizes the need for representativeness in measurement. However, a study of the literature of available tests did not reveal any two group tests whose scores were comparable. Thus, the choice was narrowed to a single measure.

The advantages of Rotter's form were that it was specifically designed to measure personality conflicts, and that it presented more difficulty than the other tests to the subjects in anticipating what was being scored.

General Remarks

It will be noted that the tests chosen have met the criteria of being practical for group administration, having equivalent alternate forms, and being both valid and reliable measures. Group tests were used because the

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1. Cardall, op. cit.
2. J. Rotter, Incomplete Sentences Blank -- Adult Form.
3. J. Rotter, and J. Rafferty, Manual. The Rotter Incomplete Sentences Blank, pp. 7-10.

time involved in the administration of individual measures constituted an undue interference with the dianetic center's schedules. Alternate forms were used because, in the retest situation, it was desirable to avoid the complications that arise with increasing familiarity with the test material. The insistence upon the criterion of a high degree of validity and reliability was pronounced beyond the levels which are usually set. This was desirable in that it provided a finer degree of measurement so that subtle variations in change, if present, would be isolated in the extremely refined statistical analysis.

Each of the tests in this study has a manual with specific directions for administration. These were followed exactly.

The Testing Situations

The dianetic center offered the use of a large auditorium for the test sessions. The arms of the chairs were equipped with writing surfaces. There was enough room for the subjects to be seated both a row and a seat apart to forstall collaboration.

The subjects were tested simultaneously at one uninterrupted session.

Tabulation of Data

The tests were first scored by the experimenter and then checked independently by two graduate students in psychology who were enlisted for this purpose.

The same procedure was followed with other data.

The number of therapeutic hours for each subject during the experimental period was cross-checked. First, this information was kept as a continuous record by the dianetic center. Second, this information was

obtained directly from the subjects during the second testing session, after the therapeutic interval, during the untimed Rotter test.

Statistical Treatment of the Data

The method for the statistical treatment of the data -- the analysis of variance of a complex factorial design -- was chosen for three reasons: (1) It affords the maximum surety of the result with the smallest number of cases, (2) It enables an analysis of the interactions of the variables with maximum surety of the result because of its simultaneous nature, and (3) It is a refined technique which is sensitive to slight changes.[1]

Difference Scores

For each subject, in each area of measurement, there was a first testing session score and a second testing session score. The first score was subtracted from the second. Thus, a positive difference indicated a greater numerical performance in the second test. A zero difference indicated that the performance of the first test was the same as the performance on the second. A negative difference indicated a lesser numerical performance on the second test.

Scanning the array of difference scores for all subjects in each area, the greatest negative value was noted. Then, the value of plus one was added to the real value (disregarding sign) of this greatest negative and the resultant number was taken as a constant to add to each difference score in the array for each area. Thus, these final coded values preserved the relative amounts of change among the subjects for each area. The coding also took

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1. A. Edwards, Experimental Design in Psychological Research, pp. 174-175.

away all negative values; a condition necessary for the statistical analysis.[1]

The coded scores were then entered into a table of analysis for each area similar to the front face of the design represented in Figure I, p. 14.

Prerequisite Test of Homogeneity

Within each area of measurement, the main extractable variables (age, education, therapy and random sequence) were each subjected to the test for homogeneity of variance.[2] This is a necessary condition which must obtain in the data before the extraction and analysis of variances.[3]

In all of the tests of homogeneity, except for one, the hypothesis was upheld. In this case, the data were transformed in scale[4] until homogeneity was found a tenable hypothesis.

Extraction of Variances

For each of the areas of measurement, the variances were extracted and tabled.

When this was completed, a summary of the variances in each area of measurement was tabled.

Test of Variances

The choice of an appropriate error term with which to test the mean variances of the summary tables depended upon the possible hypotheses which might derive from the experimental design.

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1. Ibid., p. 203.
2. Ibid., p. 196.
3. C. Peters and Van Voorhis, Statistical Procedures and Their Mathematical Bases, p. 334.
4. Edwards, op. cit., p. 199.

The first possible error term is that of the highest order interaction.[1] However, this makes the assumption that the categories within each of the controlling variables is a random selection.[2] This assumption had not been met in this study, and that error term was discarded.

The other possible error term is that of the residual mean variance.[3] The use of this error term confines speculation to these particular age categories, these particular educational categories, and these particular therapy categories. It provides no test for speculations beyond the limits actually incorporated in the raw data.[4]

The mean variances for the variables and their interactions (for each summary table) could be tested against the appropriate residual variance. However, since this error term was able to be broken down into two components (variance due to random variation and residual error variance), a finer test of the difference is afforded by using the residual error after the extraction of the sampling error. This was done and the results incorporated into the summary tables.

A Brief Note

This study was designed to afford an objective test of the claims for dianetic therapy, and to do this with definitiveness. It provided for adequate information without anticipating the direction of the effects of dianetic therapy. The data derived permitted an extensive analysis of the

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1. Edwards, op. cit., p. 248.
2. Loc. cit.
3. Loc. cit.
4. Loc. cit.

therapy because of the range of the measured controlling factors. Since dianetic claims only specifically emphasize the areas of mathematical ability, intellectual functioning and personality conflicts, this study utilized standardized tests which were especially designed to measure these areas. The total design is somewhat complex, but an attempt was made to clarify it by representing it diagramatically (see Figure I, p. 14).

TABLE I

Coded Difference Scores of Intellectual Functioning

	Age To 35		Age Over 36	
Therapy Hours	High School	College	High School	College
0	95	99	88	96
	63	96	66	80
	77	90	95	55
1-15	92	89	89	94
	81	95	72	73
	54	95	62	70
16 plus	96	93	78	97
	81	99	68	84
	93	91	82	56

TABLE II

Tests of Homogeneity For Intellectual Functioning

Variable	Chi Square	Degrees of Freedom	Probability
Therapy	2.487	2	.20
Education	0.010	1	.90
Age	0.151	1	.60
Random Sequence (1)	10.889	2	.01
" (2)	18.21	2	.01
" (3)	18.47	2	.01
" (4)	15.121	2	.01
" (5)	66.330	2	.01
" (6)	2.214	2	.30

N.B. (1) Natural variation
(2) Square root transformation
(3) Logarithmic transformation
(4) Inverse sine transformation
(5) Reciprocal transformation
(6) "z" transformation

TABLE III

Summary of Variation
For Intellectual Functioning

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARES	F
Ages	841.00	1	841.00	4.47*
Educations	400.00	1	400.00	2.13
Therapies	116.23	2	58.12	None
A x E	336.11	1	336.11	1.79
A x T	114.00	2	57.00	None
E x T	88.66	2	44.33	None
Residual	170.89	2	85.45	None
TOTAL BETWEEN	2066.89	11	187.90	1.00
Random Sequence	1264.04	2	- - -	- - -
Residual	3250.63	22	147.76	- - -
TOTAL WITHIN	4514.67	24	188.11	- - - -
GRAND TOTAL	6581.56	35	- - -	- - -

*Significant difference

TABLE IV

Coded Difference Scores of Arithmetical Ability

	Age To 35		Age Over 36	
Therapy Hours	High School	College	High School	College
0	24	23	5	16
	18	7	23	11
	20	2	15	12
1-15	10	18	16	17
	17	16	20	23
	14	20	25	4
16 plus	14	2	19	12
	15	19	2	25
	10	16	21	28

TABLE V

Tests of Homogeneity For Arithmetical Ability

Variable	Chi Square	Degrees of Freedom	Probability
Therapy	1.7725	2	.40
Education	2.8188	1	.10
Age	0.0372	1	.80
Random Sequence	0.037	2	.98

TABLE VI

Summary of Variation
For Arithmetical Ability

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARES	F
Ages	23.36	1	23.36	None
Educations	8.03	1	8.03	None
Therapies	25.39	2	12.70	None
A x E	12.25	1	12.25	None
A x T	77.06	2	38.53	None
A x T	126.39	2	63.20	1.70*
Residual	171.16	2	85.58	2.31*
TOTAL BETWEEN	443.64	11	40.33	None
Random Sequence	16.73	2	- - -	- - -
Residual	1001.61	22	45.53	1.07*
TOTAL WITHIN	1018.34	24	42.43	- - -
GRAND TOTAL	1461.98	35	- - -	- - -

*Non-significant difference

TABLE VII

Coded Difference Scores of Personality Conflicts

	Age To 35		Age Over 36	
Therapy Hours	High School	College	High School	College
0	70	56	56	71
	52	41	62	45
	1	60	71	62
1-15	73	66	83	40
	64	56	70	71
	61	49	7	62
16 plus	83	37	52	36
	65	61	26	35
	26	80	53	84

TABLE VIII

Tests of Homogeneity For Personality Conflicts

Variable	Chi Square	Degrees of Freedom	Probability
Therapy	0.1629	2	.40
Education	3.5222	1	.08
Age	0.0102	2	.90
Random Sequence	4.77	2	.10

TABLE IX

Summary of Variation
For Personality Conflicts

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARES	F
Ages	6.25	1	6.25	None
Educations	38.00	1	38.00	None
Therapies	200.08	2	100.04	None
A x E	6.27	1	6.27	None
A x T	1095.47	2	547.74	1.10*
E x T	87.72	2	43.86	None
Residual	329.18	2	164.59	None
TOTAL BETWEEN	1762.97	11	160.27	None
Random Sequence	502.72	2	- - -	- - -
Residual	11423.95	22	519.27	- - -
TOTAL WITHIN	11926.67	24	496.94	- - -
GRAND TOTAL	13689.64	35	- - -	- - -

*Non-significant difference

CHAPTER III

PRESENTATION AND ANALYSIS OF THE DATA

Description of Subjects

There was an equal number of male (18) and female (19) subjects. None of the subjects had had previous psychotherapy, dianetic or otherwise. The average age of the subjects was thirty-four years, with 70% falling between twenty-two and forty-seven years.

Half the group had either started high school or graduated from high school. The other half had completed at least two years of college, and two of the eighteen had Master of Arts degrees. These were distributed approximately equally in each of the three groups.

From the average scores of the tests of intellectual functioning used in this study, it was noted that the average subject was placed in the eighty-fourth percentile of the general population. The mean score for personality conflicts placed the average subject in the sixty-first percentile of the general population, which indicates a significant degree of personality disturbance according to the data published by Rotter.

Intellectual Functioning

The raw score of intellectual functioning on each of the two tests was obtained for each subject. These raw scores were then transformed into standard scores by dividing the difference from the published normative mean by the standard deviation for the respective test. The negative values were then coded out by the addition of a constant which was a number greater by

one than the lowest value. This same procedure was repeated for the results of the second testing session which were obtained after the therapeutic interval.

For each subject, the difference between the average score on the first test and the average score on the second test was calculated. The sign was kept so that a positive value stood for an increase in score. These scores were thereafter coded so that negative values were obviated.

The final result was a coded difference score of intellectual functioning for each subject. These were tabulated in accordance with the experimental design and are presented below in Table I, page 27.

The division of a variable into sub-categories makes the assumption in sampling that although the means of the categories are significantly different (by construction), the sampling of these categories should be from a common population. Since, in this study, no controls, other than the variables themselves were used, randomness in a tenable a priori assumption. However, there is always a possibility that a statistical artifact has occured which resulted in non-randomness of the scores of the subjects who were randomly selected. This must always be tested first before the variance of the scores is analyzed, since it is a necessary condition for the analysis. This test of homogeneity was performed for each of the major variables and the results are given below in Table II, page 28.

From Table II it is noted that the probability levels for the first three variables (therapy, education and age) indicate a sufficient degree of tenability for the hypothesis of homogeneity between the subcategories.

However, the scores of random sequence are significantly different among the sub-categories of first, second and third choice for each of the twelve sets of conditions. It should be remembered that the subjects were

assigned randomly to their positions in the sets of conditions. Thus, a lack of randomness in the scores of these subjects is most likely a statistical artifact rather than a reflection of the systematic influence of some extrinsic factor. In this case, following common procedure,[1] an attempt was made to reduce the artifact in the direction of homogeneity by transformations of the data.

The first of these transformations -- indicated in Table II by random sequence (2) -- utilized the square roots of the data. This was chosen because it is recommended[2] when the means and the variances tend to be proportional. This condition obtained in these data. However, the probability associated with this transformation still did not permit the hypothesis of homogeneity.

The second transformation utilized logarithmic values. This is also recommended when the means and variances tend to be proportional.[3] Again, the hypothesis of homogeneity was found to be untenable.

Following the rationale of Peters and Van Voorhis[4] for log logs which approximate the inverse sine, the third transformation utilized the inverse sines of the data. But, once more, the hypothesis of homogeneity was found to be untenable.

Since the means were not only proportional to the variances but were also similar to asymtotic relationships, the reciprocal values were used

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1. A. Edwards, Experimental Design in Psychological Research, pp. 198-199.
2. Ibid., pp. 199-200.
3. Ibid., pp. 202-203.
4. Statistical Procedures and Their Mathematical Bases, p. 438.

for the next transformation.[1] Still, the hypothesis of homogeneity was found to be untenable.

Because none of these transformations had performed the necessary stabilization of variance, reduction of skewness and normalizing of the scores,[2] the data were converted to "z" values under the normal curve. This was tested -- indicated in Table II by random sequence (6) -- and the hypothesis of homogeneity was found to be tenable.

Using these tested data, the various combinations of variance were calculated. The results are presented in Table III, page 31.

From Table III it is noted that the only significant difference resides between the sub-categories of the age variable. This demonstrates that, for this study, intellectual functioning varies with a change in age. The average score for the younger group in 87.7 while the average score for the older group is 78.1. The average age for the younger group is twenty-seven while the average age for the older group is forty-one. Thus we find that persons of forty-one do not score on tests of intellectual functioning as well as persons of twenty-seven years of age. Of course, this finding cannot be justifiably extended to the general population because this sampling is not representative of the general population -- or, at least, this has not been demonstrated. Since the scores on these tests of intellectual functioning are not corrected for age differences within the adult population, it is not totally surprising that there is a decrement after the age of thirty-five. David Wechsler reports[3] a decrement for the general population on his test of intellectual functioning between the ages of twenty-seven and forty-one which

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1. Edwards, op. cit., p. 203.

2. Ibid., p. 199.

3. Measurement of Adult Intelligence. Baltimore: The Williams and Wilkins Company, 1944, p. 29.

is 9 points. The data from this study show a decrement of 9.6 points. It seems that these findings are mutually supporting.

Referring back to the first problem (page 1) for which this study was designed to provide an answer, the data of Table III support the conclusion that there is no systematic influence exerted by dianetic therapy upon the level of intellectual functioning. This evidence does not support that the claims for dianetic therapy in this area are true. In addition, the data hold as unsupportable any claim that dianetics will favorably affect intellectual functioning, but this statement obtains only within the population which is sampled by this study (persons from twenty-two to forty-seven years of age who have had at least some high school education regardless of their sex).

Arithmetical Ability

The raw score of arithmetical ability on each of the two tests was obtained for each subject. These raw scores were then transformed into standard scores through the division of the difference from the published normative mean, by the standard deviation for the respective test. The negative values were then coded out by the addition of a constant -- a number greater by one than the lowest value. This same procedure was repeated for the results of the second testing situation which were obtained after the therapeutic interval.

For each subject, the difference between the average score on the first test and the average score on the second test was calculated. The sign was kept so that a positive value stood for an increase in score. These scores were coded so that negative values were obviated. The final result was a coded difference score of mathematical ability for each subject. These scores were tabulated in accordance with the experimental design and are presented

in Table IV, page 34.

Following the rationale presented in the discussion of the analysis of the scores of intellectual functioning (p. 34), the data of Table IV were tested for homogeneity of variance. The results are given in Table V, page 35.

From Table V it was noted that the probability level associated with each of the major variables is of a degree sufficient to allow as tenable the hypothesis of homogeneity between sub-categories. This satisfied the pre-requisite condition for the analysis of the variance. Using these tested data, the various combinations of variance were calculated. The results are presented in Table VI, page 36.

The data of Table VI provide an answer to the second problem (page 1) which this study was designed to investigate. The data show no evidence of a systematic influence exerted by dianetic therapy upon the level of mathematical ability. This evidence denies that the claims for dianetic therapy in this area are ture. In addition, the data hold as unsupportable any contention that dianetic therapy will favorably affect mathematical ability, but this statement holds only within the limits of the population which was sampled by this study (persons from twnety-two to forty-seven years of age who have had at least some high school education regardless of their sex).

Personality Conflicts

The raw score expressing the degree of personality conflicts was obtained for each subject from Rotter's test for this characteristic. This information was obtained again from the results of the second testing session which took place after the therapeutic interval. For each subject, the difference between the first test score and the second test score was calculated.

The sign was kept so that a positive value stood for an increase in score (since the score itself is of an unfavorable characteristic, an increase in score is an unfavorable outcome). These scores were coded so that negative values were obviated. The final result was a coded difference score of personality conflicts for each subject. These were tabulated in accordance with the experimental design and are presented below in Table VII, page 38.

Following the rationale presented under the foregoing discussion of the analysis of the scores of intellectual functioning (page 26), the data of Table VII were tested for homogeneity of variance. The results are given in Table VIII, page 39.

From Table VIII it was noted that the probability level associated with each of the major variables was of a degree sufficient to allow as tenable the hypothesis of homogeneity between sub-categories. This satisfied the prerequisite condition for the analysis of the variance. Using these tested data, the various combinations of variance were calculated. The results are presented below in Table IX, page 40.

The data of Table IX provide an answer to the third and last problem (page 1) which this study was designed to measure. The data support the finding that there is no systematic influence exerted by dianetic therapy upon the degree of personality conflicts. This evidence denies that the claims for dianetic therapy in this area are true. In addition, the data hold as unsupportable any claim that dianetic therapy will favorably affect the degree of personality conflicts, but this statement holds only within the limits of the population which is sampled in this study (persons from twenty-two to forty-seven years of age who have had at least some high school education, regardless of the sex of these persons).

CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary

An experiment was designed to afford an objective and definitive test of the claims for dianetic therapy. Provision was made for obtaining adequate information without anticipating the direction of the effects of dianetic therapy. Dianetic proponents specifically claim effectiveness in only three areas: intellectual functioning, mathematical ability, and personality conflicts. These areas were measured by tests selected because they were standardized instruments shown to be valid and reliable. For mathematical ability and intellectual functioning, multiple tests were used in an effort to provide a representative score. Three groups of subjects totalling thirty-six persons, were selected. The three groups were exposed to different amounts of dianetic therapy during an interval of sixty days, the first having no hours, the second eighteen hours and the third thirty-six hours. Eighteen hours of dianetic therapy are claimed to afford a significant change in the subjects. The design utilized the controls of educational status and age with the influence of sex partialed out. The tests were administered to all subjects both before and after the therapeutic interval. For the second testing session, alternate forms were used. Difference scores were calculated for each subject in each of the areas measured and these were subjected to statistical analysis. The method of multiple factor analysis of variance was used.

Conclusions

For the population of disturbed persons who applied for dianetic therapy, and who were between the ages of twenty-two and forty-seven years, and who had at least some high school education, regardless of the sex of these persons, it was concluded that:

1. Dianetic therapy does not systematically, favorably or adversely influence the ability to perform on tests of intellectual functioning.

2. Dianetic therapy does not systematically, favorably or adversely influence the ability to perform on tests of mathematical ability.

3. Dianetic therapy does not systematically, favorably or adversely influence the degree of personality conflicts.

CHAPTER V

DISCUSSION

The Experiment

A helpful technique in planning experimentation is the use of a diagramatic representation of the design. This is an aid to communication and understanding of the procedure. It is suggested that more experimenters might profitably make use of this technique.

The value of the analysis of variance of complex factors is greatest in obtaining knowledge of factors which might significantly affect the variables. Rather than incurring the expense of an elaborate setup (in an ideal situation) which makes perfect provision for all contingencies, an estimate of that result may be achieved with the method which is herein offered. Although the analysis of variance of complex factors is not a finite statistic in any sense, it does deal effectively with small samples of variables and their interrelationships. It is an indicator of whether or not further research is needed and where. Thereafter, one may more profitably make use of large samples and the greater definitive means afforded by intercorrelations, regressions, matched groups, etc.

The design used in this study is a modification of a more perfect procedure. This change was necessitated by practical limitations which were outlined in the text. Limitations must always be recognized. But we may still hold before us a more perfect goal. This more ideal experiment would include the following:

I. The variable to be investigated (therapy)

A. Sampling of facets of operation (levels of personality efficiency, intellectual functioning, intellectual capacity, etc.)

B. Measures of each facet

1. I. Q. (verbal, non-verbal, total)

2. Mathematics (fundamentals, reasoning)

3. Etc.

C. Sampling of measures of each facet

1. Verbal I. Q. (SRA Verbal Form, Wechsler-Bellevue Verbal I. Q., etc.)

2. Etc.

II. Demonstrated and suspected controls

A. Age

1. Group one

2. Etc.

B. Socio-economic status

1. Group one

2. Etc.

C. Previous therapy

1. Therapy one

a. Amount group one

b. Etc.

2. Etc.

D. Present therapy

1. None

2. Some

3. More

4. Still more

E. Etc.

III. The population of which description and prediction are desirable

An adequate small sample (37) for each of the sets of independent conditions is described as: age group one, therapy group one, sex group one, etc. The number 37 for the sample size is chosen because it is small enough to be practical and yet large enough to be more than suggestive. It will be noted that 37 is one greater than a perfect square. This facilitates computation since the formulae for small samples call for the square root of the sample size minus one. In the event that the total sample size is not practical because of time, money, etc., it is recommended that expense be cut down in the sampling of the independent conditions rather than in the sampling of variables. This will give less surety in the tendencies of the data but will, at least, enable an intelligent interpretation of the information obtained concerning all the variables and controls.

IV. The Situation

In some instances, evidence — both logical and experimental — may indicate that response will vary with the situation. This may be related to the weather, geographical location, illumination, dietary factors, etc. Should this be suspected, the measurement of these factors would provide some idea of their influence upon response.

V. The Sampling

In experimentation it is always the least desirable solution to proceed on the basis of random sampling in the attempt to obviate the influence of uncontrolled variables. If the variable is important enough to merit the experimenter's attempt to equalize its influence, then it is important enough

to measure. The measurement, for this method, need not be highly refined and may, in many instances, be confined to categorization -- either real or systematic. For example, I. Q. need not be numerically determined as the score on the measure but, rather, as the category into which that score falls (average, superior, etc.). In this instance there is good reason to believe that categorization is even more adequate a measure than the raw number since the scores may result in artificial relationships that are statistical accidents of the numbers involved.

It is inferred that randomization in justified only when the available evidence, both experimental and logical, reveals that no further variables may influence the experiment.

Dianetic Therapy

This research has demonstrated that dianetic therapy -- as practiced by trained expert dianetic therapists -- does not exert a systematic influence upon the individual's functioning in the areas of intelligence, mathematics and personality conflicts. This statement is not being advanced as a claim for the general applicability of these findings. The results are presented as having significance within the limits of the sampling of both the subjects and the measuring instruments and, therefore, is restricted to similar populations only.

Since the three areas sampled are important aspects of personality adjustment, and since neither positive nor negative movement in these areas results from dianetic therapy, one may infer that no systematic change in character structure or personality functioning results from this therapeutic technique. However, this interpretation neither denies nor affirms that other changes may have taken place under the impetus of the therapeutic situation.

If one conceives of personality as an integrated functioning of all the facets of human activity, including hereditary, congenital, constitutional and psychological components, then it might be reasonably expected that changes impinging upon one area would have measureable effects upon other areas. Thus, a significant alteration in one or more of the functions studied in this investigation (mathematical ability, intellectual functioning and personality conflicts) should have some noticeable effect upon one or more of the others. It seems important to take into account the fact that the proponents of dianetics are aware of this condition and have not dealt directly with mathematical ability or intellectual functioning. Their claims of improvement in these two areas are conceived as the result of a direct attack upon personality conflicts. Since no significant change in the population studied results from dianetic therapy in any of the three areas measured, it may well be inferred that, in fact, the dianetic therapy has consistently failed in respect to its specific goals.

It is possible that the proponents of dianetics may revise their claims in terms of the number of hours needed to effect significant changes. It may be that extended therapy (dianetic) will result in significant improvement; however, the data provide no hint of such a direction. In fact, this study tends to demonstrate that there are decrements in the scores measuring functioning in the three areas. It is more likely that, with continuation of therapy, the trend of the data would persist rather than be reversed.

Still, if dianetic therapy has only a chance effect, it would be contraindicated for those patients whose illness is progressive. In such cases there is danger that a false sense of security will be engendered and the patient will not have the opportunity to receive a more appropriate therapy.

A possibility involving danger for the mental status of the patient is the method of therapy. This procedure releases unconscious material by relaxation of conscious controls. In the event that a patient's problem is his difficulty in controlling such unconscious material, then this method can have nothing but a seriously disturbing effect.

In the appraisal of any psychotherapeutic technique, the role of the therapist (auditor) is of primary importance. It seems curious that in dianetic therapy the auditor is an insignificant figure whose skill is inconsequential and whose training, therefore, is perfunctory and superficial. It is difficult to comprehend how any lay person with little appreciation for the complexities of human thought and behavior could, in the space of four weeks, become qualified in practicing an art for which other therapies require so high an order of professional competence. It is doubtful that in any therapy the training and ability of the therapist can be deemphasized as is the case in dianetics.

It seems that the reservations expressed in scientific circles about dianetic therapy are well-founded. If a method is based upon loosely documented theory, then there is little hope for the efficacy of the method. The results of this study should serve as an example that a theoretical groundwork should be most thoroughly laid out before its tenets are tested. Dianetic theory seems to have been developed through an eclectic approach that takes material out of context from other theoretical formulations and molds them to fit a contention which is not only unestablished (the memory engram) but which has much evidence against it.

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