MENTAL HEALTH CONCEPTS, THEIR CHANGE AND SIGNIFICANCE IN PSYCHIATRIC NURSING STUDENTS

by Marvin L. Denburg

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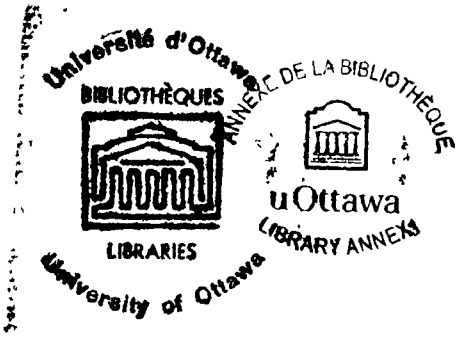

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CURRICULUM STUDIORUM

Marvin L. Denburg was born February 1, 1936, in Newark, New Jersey. He received the Bachelor of Arts degree in Psychology from Michigan State University, East Lansing, Michigan, in 1958.

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INTRODUCTION

With the advent of Osgood's Semantic Differential,[1] a means for linking certain aspects of psycholinguistics with attitude and opinion studies was found. Osgood's theory is concerned with meaning and in the theory, meaning is identified with a mediating response. Osgood's approach is to postulate that every stimulus (sign) is connected to a hypothetical response (its representational mediation process) and then to infer the nature of that response on the basis of the Semantic Differential, a new technique for rating attitudinal response.

Psychological approaches to the problem of linguistic meaning can be divided into "(a) process approaches, which are concerned with the acquisition and comprehension of linguistic meaning and (b) analytic approaches which specify dimensions of meaning or index meaning similarity."[2]

"American behavioral psychologists have almost entirely limited themselves to the problem of reference, which is less general than that of meaning."[3] Their terms have

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1 C.E. Osgood, G.J. Suci and P.H. Tannenbaum, The Measurement of Meaning, Urbana, University of Illinois Press, 1957, p. 1-342.

2 S.M. Ervin-Tripp and D.I. Slobin, "Psycholinguistics", Annual Review of Psychology, Vol. 17, 1966, p. 450.

3 Ibid.

evolved from "conditioned response through response disposition, fractional anticipatory goal response to representational mediating response."[4]

Many psychologists would probably agree that how "a person behaves in a situation depends upon what that situation means or signifies to him."[5] Most would also "agree that one of the most important factors in social activity is meaning and change in meaning whether it be termed attitude or value."[6]

Many professional pursuits, however, (nursing, medicine) are also concerned with the attitudes of their students and whether or not they meet what the profession as a group has set as a standard of professional beliefs or conduct. With students all too often, the measurements to which they are subjected are used to appraise their informational background or knowledge.

As Chapter I, the review of the literature shows, many people have negative, indifferent and uninformed attitudes toward mental health concepts. Even professional persons such as physicians show some indication of a bias toward "mental" disorders. The subjects of this study, student

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4 Ibid.

5 Osgood, et al., Op. Cit., p. 1.

6 Ibid.

nurses, must certainly manifest some attitude toward "mental" phenomena or concepts as well. Student nurses in the course of their preparation for licensing are compelled to spend twelve weeks in an approved psychiatric hospital setting. Throughout the course of twelve weeks, they attend lectures, pass examinations and give reasonable evidence that they have absorbed "bits" of knowledge. What of their attitudes? Specifically what changes, if any, do they show in the way of attitudes toward "mental" concepts or mental health professionals? This thesis attempts to approach this problem by subjecting a group of student nurses to a series of nine mental health concepts measured against a group of fifteen Semantic Differential scales. The procedure and tools to accomplish this step are outlined in Chapter II, design of the experiment. This is then followed by Chapter III, the results, Chapter IV, discussion and a conclusion that is suggested by this study. The closing statements lead the reader to possible suggestions for further research and practical advantages that may be gained through further studies.

CHAPTER I

REVIEW OF THE LITERATURE

This first chapter is divided into three basic sections. The first two sections are concerned with the theoretical aspect of words, concepts, attitudes, mediating response and the term meaning. The third section is a description of prior studies on mental health concepts and the public's reaction to these concepts as measured by Semantic Differential measurements.

1. Theoretical Discussion of Meaning, Concepts and Words.

When human beings think, they use concepts. Osgood, in one instance, refers to concept as "[...] a common response made to a class of phenomena the members of which display certain common characteristics."[1] He goes on to describe this type of situation as when a child discriminates the label 'kitty' in response to situations having fur, four legs and a 'meow' in common. This, however, does not require that the child be able to make explicit these common characteristics of the concept term. Osgood points out that "adults use many concepts more or less accurately that they find hard to define."

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1 C.E. Osgood, Method and Theory of Experimental Psychology, New York, Oxford University Press, 1953, v-800 p.

Experimental studies have been concerned with the question of what are the common characteristics upon which concepts are based? One group of investigators have maintained that the common characteristics are relations among the parts of each member of[2] the class. Osgood offers that perhaps the "only essential common characteristic is that a group of discrete situations be associated through learning with the same mediating or symbolic reaction."

Individual differences in word usage relate not only to obvious differences but also to subtle differences in the ways people learn, perceive and interact socially.[3]

Words are of psychological importance because of their close affiliation with the thinking process. The belief that language and thought processes interact is quite old. The hypothesis grew out of cross-cultural comparisons of verbal behavior in studies by linguists and other behavioral scientists. Differences in cognitive processes, between cultures may be due to differences in language behavior but equally they may be due to differences in social organization, geographic surroundings, etc. "Individual differences in word usage indicate differences in what has happened to people previously."[4]

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2 J.C. Nunnally and R.L. Flaugher, "Psychological Implications of Word Usage," Science, Vol. 140, No. 3568, 1963, p. 775-781.

3 Ibid., p. 776.

4 Ibid.

Individual differences in word usage at one point in time related to new forms of behavior; in other words, there is a causal relationship between word usage and cognitive behavior.[5] Within the general framework of learning theory, Osgood has tried to identify this cognitive state "meaning," with a representational mediation process.[6]

A theoretical analysis of meaning change starts with the assumption that 'semantic change' refers to the change in the reference of a linguistic sign and not to change in the significance of the objects themselves.[7] The great stumbling block in theories of meaning has always been that they had to operate with subjective and intangible mental processes.[8] As Ullman, one of the critics of these theories wrote: "An empirical science cannot be content to rely on a procedure of people looking into their minds, each into his own."[9] With Osgood, it seems possible to envisage a theory resting on sound empirical foundations. It may be argued that the data dealt with in semantic measurement are essentially subjective--introspections about meanings on the part

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5 Ibid.

6 Osgood, et al., Op. Cit.

7 C.E. Osgood and T.A. Sebeok, (Eds.), "Psycholinguistics, A Survey of Theory and Research Problems", Journal of Abnormal and Social Psychology, Vol. 49, Supplement, 1954, p. 203.

8 Stephen Ullman, Semantics - The Science of Meaning, Oxford, England, Alder Press, 1962, p. 70.

9 Ibid.

of subjects--and that all that is done is to objectify expressions of these subjective states.[10] Objectivity concerns the role of the observer, not the observed. These procedures completely eliminate the idiosyncrasies of the investigator in arriving at the final index of meaning, and this is the essence of objectivity.[11] In other words, each person records his own private, entirely subjective reactions, but by the time the analysis has been completed, the result will represent a kind of semantic average reached by purely objective statistical methods.

One of the principal sources of vagueness in meaning or understanding is the generic character of words. Except for proper names and a small number of common nouns referring to unique objects, words denote not single items but classes of things or events bound together by some common element.[12] In the case of more complex terms, the process of generalization works somewhat differently. Wittgenstein has examined, for example, the nature of the concept game. By comparing various types of games--board-games, card-games, ball games, olympic games, he found a "complicated network of similarities overlapping and criss-crossing with common features appearing

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10 Ibid.

11 Ibid.

12 Ibid., p. 116.

and disappearing as we consider more and more games."[13] The conclusion is that the similarities are rather like family resemblances. In this sense the various phenomena known as games form a family. Still another source of vagueness in the meaning of words is a lack of familiarity with the things they stand for.

Distinction can be made between the words an individual knows--words he can define or use properly in sentences--and the words an individual frequently employs in daily life.[14] Although one would expect a close relationship between an individual's knowledge of words of a particular kind and the frequency with which he employs words of that kind in daily life, the degree of relationships for different categories of words has not been fully explored.[15] Although not a great deal has been done to determine word frequency in conversation, a good deal of work has been done to determine word frequency in various types of written materials. The best source of such information is the Thorndike-Lorge word list which shows the frequency with which words are used in textbooks, school readers, etc.[16]

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13 Ibid.

14 Munnally and Flaugher, Op. Cit., p. 776.

15 Ibid.

16 Ibid.

Osgood's Semantic Differential[17] (a technique for the measurement of meaning) could be extended to a large sample of vocabulary and thereby be of considerable value. The gradual construction of a functional dictionary of connotative meanings can be envisioned. Connotative refers to those aspects of cognition which represent the affective feeling tones of meaning. Nouns, adjectives, verbs and adverbs would be listed according to their location in the semantic space. Osgood postulates this semantic space as a region of some unknown dimensionality. Each semantic scale, defined by a pair of polar adjectives, "is assumed to represent a straight line function that passes through the origin of this space and a sample of such scales then represents a multidimensional space."[18] This point in space is one of representing the meaning of a concept.

2. Attitudes, Habit-Families and Mediating Response.

Attitude and opinion data provide a basis for inferring the meaning of opinions held by individuals and groups and also for predictions about their future behavior. A problem in the analysis of public opinion data is the meaning that one can ascribe to the observed distributions and trends

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17 Osgood, et al., Op. Cit.

18 Ibid., p. 25.

and to the views expressed by particular individuals and segments of the population.[19] Some elements of solution to this problem come from the discussion of habit-families and mediating responses.

Cofer[20] seems to conceive of habit-families in thinking both on the basis of semantic characteristics of the words and also in terms of the direct associations between words. In this sense, clusters of words which are related to each other in any way could be termed habit-families.

Cofer and Foley,[21] Osgood[22] and Staats and Staats[23] have discussed word meaning in terms of Hullian concepts as an implicit, mediating response--when a word is contiguously presented with a stimulus object. Some of the unconditioned responses elicited by the object will be conditioned to the

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19 H.C. Kullman, "Processes of Opinion Change" Public Opinion Quarterly, Vol. 25, 1961, p. 57-78.

20 C.N. Cofer, "Verbal Behavior in Relation to Reasoning and Values", in H. Quetzkow (Ed.), Groups, Leadership and Men. Pittsburgh, Carnegie, 1951.

21 C.N. Cofer and J.P. Foley, "Mediated Generalization and the Interpretation of Verbal Behavior: I. Prologemena", Psychological Review, Vol. 49, 1947, p. 513-540.

22 C.E. Osgood, Method and Theory in Experimental Psychology, New York, Oxford University Press, 1953.

23 A.W. Staats and C.K. Staats, "Effect of Number of Trials on the Language Condition of Meanings", Journal of Genetic Psychology, Vol. 61, 1959, p. 211-223; "Meaning and M: Separate but Correlated", Psychological Review, Vol. 66, 1959, p. 136-144.

word. These responses when stably conditioned become the meaning of the word. Osgood's concept of a representational mediating response which may form the meaning of a word is an elaboration of Hull's[24] rg or "pure stimulus act."

A verbal habit-family exists when an anticipatory meaning response component elicited by a stimulus has tendencies to elicit a class of word responses and each of these word responses has tendencies to elicit the same common meaning response component.

Hull[25] originally felt that concepts are developed by abstracting the common stimulus elements in a series of stimulus objects. Osgood,[26] however, feels that consideration of concept formation as the abstraction of identical stimulus elements would not distinguish the process from all learning, making the term useless. Osgood, while rejecting the notion that concepts are based upon identical stimulus elements, does not adequately specify how the objects come to elicit a common response or what the common response is.

A concept, therefore, could be regarded, in Osgood terms, as a verbal habit-family formed usually on the basis

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24 C.L. Hull, "Knowledge and Purpose as Habit Mechanisms", Psychological Review, Vol. 37, 1930, p. 511-525.

25 --------, "Quantitative Aspects of the Evaluation of Concepts", Psychological Monographs, Vol. 28, No. 1, Whole No. 123, 1920.

26 Osgood, Op. Cit.

of a class of stimulus objects having identical elements. Take, for example, the "animal" concept. The individual words in the concept will gain meaning through classical conditioning where the word is paired with the appropriate stimulus object. Each of the stimulus objects in the class has certain identical elements (i.e. legs, fur, etc.) and the objects in the class will thus elicit sensory response components which also have identical elements. In this respect, part of the meaning response components conditioned to the word horse or dog could be identical for concepts of cow or pig--the common response could be cumulatively called the "animal meaning." Each of the animal words comes to elicit an animal meaning response component shared by the others and also a specific meaning response component which none of the others elicits.

Osgood was correct in stating that a rat cannot understand a concept, not because it cannot form a common response to a class of stimulus objects; (this part of concept learning the animal would be capable of) but because the rat is not capable of acquiring symbolic habit-families to correspond to such concept mechanisms and the power of abstraction is thus lost to the animal.

Staats[27] expects that the greater extent of overlap in meaning response components between any two habit-families, or any two words, the greater the amount of generalization that would occur.

Salzinger[28] suggests that studies of semantic generalization or measurements of the connotative meaning of words may be used to discover response classes.

Wallach[29] suggests four ways of defining psychological similarity. The first he derives from Hume's approach. Hume, in equating potential psychological similarity, supposes that if common properties are present in the environment, they will be perceived by the person. Here, the impressions of similarities can be directly controlled by varying the environment's potential similarity in the sense of the common values of attitudes it displays. With this postulate the selecting and ignoring capacities of the organism are neglected and psychological similarity is defined in terms of common environmental properties.[30] Another approach

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27 A.W. Staats, "Verbal Habit Families, Concepts and the Operant Conditioning of Word Classes", Psychological Review, Vol. 68, 1961, p. 190-264.

28 K. Salzinger, "Experimental Manipulation of Verbal Behavior: A Review", Journal of Genetic Psychology, Vol. 61, 1959, p. 65-94.

29 M.A. Wallach, "On Psychological Similarity", Psychological Review, Vol. 65, 1958, p. 103-116.

30 Ibid.

is to recognize the organism's selective functions and suggest that recognition of common environmental properties depends upon making a common response to instances that share this attitude-value. Psychological similarity here, is defined in terms of common responses. A third approach is to suggest there are neural traces laid down along various dimensions when a stimulus impinges and psychological similarity depends on how far a new stimulus is from the old stimulus. The fourth approach suggests that recognition of similarity depends on applying a rule which leads one to assign items to a common category.

Mediating responses have been employed by Osgood[31] to explain concept formation and a mediating or implicit response has also been used as a main theoretical construct in Doob's outline of attitude theory. Doob calls attitude "an implicit drive producing response considered socially significant in the individual's society."[32] This viewpoint has been criticized by Chein for a number of reasons, including the fact that it does not clearly indicate the evaluative nature of attitudes. Chein would rather call attitude a "disposition to evaluate certain objects, actions and situations

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31 Osgood, Op. Cit.

32 L.W. Doob, "The Behavior of Attitudes", Psychological Review, Vol. 54, 1947, p. 130.

in certain ways."[33] Although many researchers in the field of attitudes might concur with Chein on his definition, a single meaning of attitude upon which there is close agreement is not available. Nelson's[34] review of the literature disclosed twenty-three more or less different definitions of attitude.

If an attitude is taken to be a concept with an evaluative dimension, its meaning may be derived from an explanation of concept formation. A concept is sometimes thought of as a psychological mechanism that represents a set of stimulus patterns; and sometimes a concept is considered a mental principle through which an individual can classify a number of stimuli in his stimulus world. On a practical level, concepts are developed over a period of time through a series of experiences. The child learns the concept "cow" because his parents and others point to objects in the field or in pictures and call them by that name. Osgood[35] defines a concept as the associations between a common response and a set of stimuli. These stimuli frequently comprise a class of phenomena which display certain common characteristics.

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33 I. Chein, "Behavior Theory and the Behavior of attitudes: Some Critical Comments", Psychological Review, Vol. 55, 1948, p. 177.

34 E. Nelson, "Attitudes: I. Their Nature and Development", Journal of Genetic Psychology, Vol. 21, 1939, p. 367-399.

35 Osgood, Op. Cit.

Osgood suggests that the only essential condition for concept formation is the associations between a common response and a variety of stimuli. There are no obvious stimulus characteristics common to hourglass, ruler and mental test, all of which are measuring instruments. These items have in common the overt response of naming them and of theoretical importance, a common mediating process.

Osgood et al.[36] points out that, "words represent things because they produce in human organisms some replica of the actual behavior toward these things, as a mediation process."

> It is because language signs have certain meanings in the psychological sense (i.e., are associated with certain representational processes) that they are used consistently in certain situations and consistently produce certain behaviors--sociological meaning--and this is also the reason in part at least, that they occur in predictable association with other signs in messages--linguistic meaning.[37]

The mediating response, Hull's pure stimulus act, can be any fraction of a total response pattern. As a result of the organism's capacity to discriminate, the mediating response will tend to become as fractionated as possible without destroying its cue function.

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36 Osgood et al., Op. Cit., p. 7.

37 Ibid., p. 9-10.

> The greater the discriminating capacity of an organism, the more reduced and implicit can become the (detachable) reactions finally included in the stable mediation processes. The higher the organism in the evolutionary scale, the finer the discriminations it can usually make and the less gross its representing processes. Similarly, the more mature and intelligent the human individual, the less overt his symbolic processes. The hosts of fine discriminations that characterize language behavior are Nature's farthest step in this direction.[38]

Osgood has found it feasible to identify "attitude" as one of the major dimensions of meaning-in-general. Most researchers agree that attitudes are learned, that they are predispositions to respond, but are distinguished from other such states of readiness in that they predispose toward an "evaluative" response. Thus, attitudes can be referred to as 'tendencies of approach or avoidance' or as "favorable or unfavorable." This notion relates to Osgood's expression

> [...] that attitudes can be ascribed to some basic bipolar continuum with a neutral or zero reference point, implying that they have both direction and intensity and providing a basis for the qualitative indexing of attitudes.[39]

Attitude is the paramount part of the internal mediational activity that operates between most stimulus and response patterns.

In all of the factor analyses that Osgood and his associates have completed a factor readily identifiable as

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38 Osgood, Op. Cit., p. 393.

39 Ibid., p. 190.

evaluative has appeared. Despite different concepts and different criteria for selecting scales, high and restricted loadings on this factor were consistently obtained for scales like good-bad, fair-unfair and valuable-worthless. It seems reasonable to identify attitude with the evaluative dimensions of the total semantic space, as this is isolated in the factorization of meaningful judgments.[40]

To index attitude, sets of scales with high loadings on the evaluative factor across concepts generally and negligible loadings on other factors are used. This technique will be more thoroughly explored in the chapter entitled Design of the Experiment. The next section describes prior studies aimed at determining the public attitude and/or perception to mental health concepts and mental health personnel.

3. The Results of Prior Studies of Mental Health Concepts Utilizing the Semantic Differential.

For centuries man has been concerned with disorders of an immediate, visible kind. The physical diseases that pain, cripple and kill. At the present rate of progress, the future should see man living in a world relatively free from major physical disorders and diseases. As this gradually comes about attention will probably shift to the least understood human malfunctions, the mental disorders and to mental

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40 Ibid.

'health' or productivity in general,--human happiness and social effectiveness.

First a look at some of the existing conceptions of mental health or mental phenomena. The term mental health is so global as to include much of what is abnormal behavior and what could also be called 'problems in living.' Therefore, in an effort to tap meaningful expression of attitude or feeling towards mental health phenomena researchers have often used attitudes toward mental health professionals as one index of attitude toward this vast area of mental health.

Information studies by Nunnally and his associates[41] have shown that public information toward mental health concepts was not highly structured. They also found that people are unsure of the correctness of their information and will change their attitude readily. Regardless of the way in which the public made comparisons, mean responses from the public are not markedly different in most cases from mean responses from experts, when it comes to mental health phenomena. The 'average' man and the 'average' expert disagree most on some techniques required to maintain personal adjustment and to restore personal adjustment once it is lost. On the average, the members of the public generally agree with experts but there are two groups in the population whose

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[41] Jum C. Nunnally, Jr., Popular Conceptions of Mental Health, New York, Holt, Rinehart and Winston, 1961, v-311 p.

knowledge is apparently inaccurate. These people are with less than a high school education and people over fifty years of age. In other words, older people as a group hold less accurate information than younger adults. The relationship still holds when statistical adjustments are made to discount the differences in years of education of older and younger adults; older people and younger adults with the same number of years of formal schooling have different ideas about mental health. Nunnally suggests[42] two feasible explanations of the tendency for older people to hold less correct information. First, it is possible that the aging process and personality changes which occur affect beliefs about mental health. Secondly, and he thinks this is a more plausible explanation--older people and younger adults with the same years education have received different kinds of education. The social studies are emphasized more now, and it is also likely that younger people discuss matters related to mental health more than older people. Nunnally points out the distinction between misinformation and lack of information. It could be said that the average man probably is very much uninformed. The 'average' man does reject the superstitions and obvious misconceptions about mental health. Going from information to attitudes toward the mentally ill was Nunnally's[43] next

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[42] Ibid.

[43] Ibid.

research approach wherein he used the Semantic Differential as his measuring instrument. In their studies they were interested in ratings of concepts to mental health, such as a mentally ill person, insane man, nervous breakdown, psychologist, nurse. As may be commonly suspected, the mentally ill are regarded with fear, distrust and dislike by the general public. Comparing public attitudes toward mentally ill (concepts like mental patient, insane woman, neurotic woman and neurotic man) with public attitudes toward 'normal' persons (concepts like average man, me, my father) the mentally ill are regarded as relatively worthless, dirty, dangerous, cold, unpredictable, insincere and so on. The two scales which most clearly distinguish the "normal" concepts from the mental disorders are the Semantic Differential scales of predictable-unpredictable and tense-relaxed.

Although neurotic concepts (neurotic man, neurotic woman, person with a nervous breakdown, etc.) and psychotic concepts (insane man, mental patient, etc.) are both regarded with fear and distrust, some distinctions are made between the two. Psychotics are generally held in lower esteem than neurotics, being rated as more worthless, bad, dirty and so on. Neurotics are viewed as being less potent than psychotics, being rated as more weak and delicate. The scale that best differentiates the two kinds of disorders is "predictable" the psychotics being rated as much more unpredictable.

Whereas it was found that there are marked differences in the kinds of information held by old as compared with young people and by more educated as compared with less educated people, differences in attitudes of these and other sub-groups are relatively small. There is a small, but statistically significant tendency for more educated people to hold less derogatory attitudes toward the mentally ill. Even in the better educated group, there is a marked tendency to isolate the mentally ill as relatively bad, dirty, dangerous, etc. In general it was found that sub-groups in the population do not differ substantially in their attitudes toward the mentally ill.

In addition to studies on attitudinal approaches toward mental health concepts, Nunnally and his staff evaluated attitudes toward mental-health professionals (psychologists, psychiatrists, nurse, social worker, etc.). This study was performed on Nunnally's opinion panel. The panel, a group of about 239, were mailed copies of the Semantic Differential to complete. Of these 207 or 86.6 per cent were returned on time for the experimenters to evaluate the data. The data were so arranged that a high score indicates a judgment toward the "favorable" end of the scale. The "unfavorable" pole of our seven-step scale is 1 and the "favorable" pole is 7. To elaborate on their results, the following concepts were ranked starting with the most

"favorable". Along side each concept is their mean position to further help in comprehending this data. For the scale insincere-sincere the following concepts could be ranked in such a manner that the most sincere judgment fell to the first concept: Doctor, 6.46; Nurse, 6.43; Physicians, 6.42; Research Psychologist, 6.26; Social Worker, 6.22; Clinical Psychologist, 6.13; Psychologist, 6.09; Psychiatrist, 6.07; Psychoanalyst, 6.00; mental patient, 3.86. By comparison on a scale of weak-strong the following series could be evaluated: Physician, 6.12; Doctor, 6.10; Nurse, 5.92; mental hospital attendant, 5.87; Social Worker, 5.47; Clinical Psychologist, 5.45; Psychiatrist, 5.45; Psychoanalyst, 5.45; Research Psychologist, 5.43; Psychologist, 5.35; mental patient, 2.75. The scale slow-fast showed the following comparisons: Nurse, 5.56, (or fastest); mental hospital attendant, 5.27; Physician, 5.03; Doctor, 5.02; Social Worker, 4.42; Clinical Psychologist, 4.32; Psychiatrist, 4.32; Psychoanalyst, 4.32; Research Psychologist, 4.27; Psychologist, 4.23; mental patient, 3.55. For the scale worthless-valuable the most valuable was seen as: Physician, 6.67; Doctor, 6.65; Nurse, 6.55; mental hospital attendant, 6.22; Research Psychologist, 6.13; Social Worker, 6.09; Psychiatrist, 6.06; Psychologist, 5.98; Clinical Psychologist, 5.96; Psychoanalyst, 5.84; mental patient, 3.76. The final scale for consideration at this time is the excitable-calm, with the highest score falling to the calmest: Doctor, 6.13; Physician,

6.12; Nurse, 5.97; Psychiatrist, 5.80; Psychoanalyst, 5.71; Clinical Psychologist, 5.70; Psychologist, 5.69; mental hospital attendant, 5.59; Research Psychologist, 5.47; Social Worker, 5.36; mental patient, 1.93.

In general, the public holds moderately high positive attitudes toward mental health professionals. The "mental" professions are rated as more sincere, effective, dependable, and so on. This is illustrated by the fact that the mental professions have an average score on the evaluative factor (attitude related) of about 6.00. Because the mean could not be larger than 7.00, a mean of 6.00 is a high positive rating. A distinction must be made between attitudes toward professionals and attitudes toward the tools and methods used by professionals. A possibility which is often overlooked is that the public may place high evaluations on the mental health professions but low evaluations on the techniques that the profession uses. For example, the psychiatrist may be held in high esteem as an individual, but the techniques that he uses--psychotherapy, shock treatment and others--may be viewed with suspicion.

The public places higher evaluations on professionals who treat physical disorders than on professions who treat mental disorders. Nunnally[44] points out that there are

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[44] Ibid.

significant differences between the concept doctor or physician and the cluster of concepts whose titles start with "psych--". In the case of the comparison between doctor and psychiatrist, psychiatrist is rated less favorably on every scale, with an average absolute difference of .50 scale units. On fourteen of the nineteen scales Munnally used, this difference is significant beyond the .01 level by t-test. When psychologist is compared to doctor, the average absolute difference (showing the doctor as more generally favorable) is significant beyond the .01 level sixteen out of nineteen times. In general, nurse is rated more favorably than psychiatrist. On fourteen scales the differences are significant at the .01 level of confidence by t-test.

No significant differences are found among public attitudes toward the various mental-health professions. The failure of the public to distinguish among the mental-health professions should be interpreted with respect to the measuring instrument used. The Semantic Differential is intended to measure some aspects of connotative meaning. Consequently, the findings here do not mean that the public makes no distinctions at all among the mental-health professions but only that it makes no connotative or attitudinal distinctions.

Munnally pursued a second analysis of this same data to determine whether groups with different amounts of formal

education showed marked differences in attitudes. The sample was divided into a low-education group, all of whom had less than a full high school education; a high-education group, whose members all had at least some college training. There was an apparent tendency for the low-education group to rate the "mental-health" professions more highly than did the high-education group.

The concept mental-hospital attendant is rated more favorably than psychiatrist on thirteen out of nineteen scales. On the list of concepts, the high-education group rates mental-hospital attendant next to last, above only mental patient, while the low-education group rates mental-hospital attendant high, above all of the mental-health professions. There were no significant differences between the ratings of doctor and physician. In a technical sense the word doctor covers holders of numerous academic degrees besides those in medicine, but the public tends to equate doctor with physician.

From two additional studies, Nunnally[45] tried to learn whom the public would contact in case of mental illness in the family and whose professional advice the public would most trust. The data indicate that the public considers the psychiatrist the final expert on the treatment of mental

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45 Ibid.

illness. The psychologist comes next, followed by medical doctor and then minister.

As a contrast to public attitudes toward mental-health concepts, the literature shows similar data for the attitude measurement of general practioner (physicians). Utilizing Semantic Differential technique, Kennally[46] was able to index further mean ratings for a series of concepts. On the worthless-valuable scale against a somewhat different line-up of concepts the following were held by general practice physicians to represent their attitude to these concepts: general practitioners, 6.59, (most valuable); general hospital, 6.52; mental hospital, 6.43; psychiatrists, 6.30; psychotherapy, 6.05, a person who has ulcers, 5.93; tranquilizing drugs, 5.09; a person who has epilepsy, 5.15; neurotic person, 4.96; psychotic person, 3.21. On another scale, weak-strong, the general practitioners again see themselves in the number one spot, that is as the strongest and interestingly enough see the psychotic person as stronger than the neurotic. Whereas in worthless-valuable scale, psychotherapy was seen as more valuable than tranquilizing drugs, the drugs are now seen as stronger than psychotherapy. To clarify this second scale the following ranking for weak-strong are listed: (stronger) general practitioners, 5.78; general hospital, 5.37;

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46 Ibid.

psychiatrists, 5.35; mental hospital, 5.09; a person who has ulcers, 4.79; tranquilizing drugs, 4.66; psychotherapy, 4.66; a person who has epilepsy, 4.25; psychotic person, 3.70; neurotic person, 3.35. In general, it could be said that general practitioners have a relatively negative or poorer appraisal of the mental or emotionally based disorders.

General practitioners give high ratings to psychiatrists on such scales as valuable-worthless and sincere-insincere. When general practitioners are asked more concretely what percentage of the cases referred to psychiatrists are actually helped, however, they rated psychiatric treatment as helping "considerably" in only about half of the cases and as helping "little or not at all" in about one third of the cases. Also, general practitioners do not give very high ratings to psychiatrists on "effectiveness." In other words, general practitioners apparently have high respect for psychiatrists as persons and respect for what they are trying to do, but they do not believe that the total "mental" treatment is at present highly successful.

Nunnally states that he and his colleagues are led to conclude that the public's vocabulary for discussing mental-health phenomena is quite limited. They feel that particular terms suggest explanations, and it is hard for the individual to avoid certain logical consequences. For example, it seems that the term "mental", when used to modify a disorder such

as in "mental illness", suggests that the disorder is without cause. The public, therefore, tends to think of a mental disorder as being "uncaused." If a cause can be stated, then the disorder is no longer mental, as the reasoning goes. In the same way, the term "neurosis indicates tenseness and anxiety and members of the public probably find it difficult to consider in which the symptoms are torpidity and shallowness of feeling."[47]

The studies of public attitudes show quite clearly that the terms used in the mental-health field carry connotations of low esteem, distrust and fear. One of Nunnally's studies demonstrates this point clearly. The study concerned the effect of "mixing" concepts on public attitudes. A form of the Semantic Differential was administered to a diverse collection of 160 persons in Lafayette, Indiana. In the first part of the form, the subjects rated concepts like mother, father, insane woman and neurotic man. In the second part of the form, subjects rated mixtures of concepts given in the first part, like insane mother, neurotic father, etc. The purpose of the study was to determine how the concepts would "mix" which would provide some clues about ways of changing popular attitudes. They found that the concepts did not "mix." The mixed concept insane mother was rated more

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47 Ibid., p. 140.

negatively than insane woman, indicating that, if anything, an insane mother "is more reprehensible than an insane woman without the accompanying symbol of motherhood."[48] Osgood's congruity principle applies to these word mixture examples. The

> [...] essence of the principal is that when two cognitive events are simultaneously elicited, each exerts a modifying pressure on the other, in proportion to its own degree of polarization and in the direction of the other's position of perfect congruence.[49]

The results of some of these experimental studies of attitude change show that public attitudes toward some terms and concepts are fixed and nearly immovable. For example, they found very little attitude change toward the concept insane man. When they translated insane man into concepts like mental-hospital patient and mentally ill person, however, attitude changes occurred.

It could be argued that the importance of terms applies only to the terms themselves and not to the phenomena which they denote. Even though people manifest more negative attitudes toward the concept insane man than they do toward the concept mental patient the use of one label rather than the other makes a difference in their attitudes toward a

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[48] Ibid., p. 142.

[49] Osgood et al., Op. Cit., p. 277.

person who is mentally ill. The following experiment points out that "what you call it" is important.

In the experiment each subject read one of two paragraph descriptions of persons showing mental disorder behavior. One case was viewed as a paranoid behavior, the other, chronic anxiety. Four versions of each story were used in the experiment. The first version was the original form. In the remaining versions, the first sentence was altered. For one version, the stories were introduced with "this is about a mentally ill man." For another version, the paragraph was introduced by the following, "this is about an emotionally disturbed man." In the fourth version, the paragraphs were introduced by, "this is about an insane man." On the first page of the Semantic Differential, the label that was applied to the particular version of the story appeared as the concept to be rated. The group which read the unlabeled description was asked to rate the man in the story. The group which read the story introduced by the sentence "This is about a mentally ill man" was asked to rate "the mentally ill man in the story" and so on for the other two versions. On the succeeding pages of the Semantic Differential form the subjects were asked to rate the labels generally. This procedure provided the experimenters with a

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50 Ibid., p. 143.

three-way comparison: the effects of the cases without labels, the effects of the cases combined with labels and the effects of the labels by themselves. Considering that the higher the mean, the more the meaning is like the factor name, the "emotionally disturbed man" has a mean of 4.13, and the "insane man" a mean of 3.34. As another example, "insane man" is rated as much more 'dangerous' than "mentally ill man."

The three labels receive different ratings when they are applied to case descriptions. When the paranoid case is introduced with "this is about an insane man", the case received a rating of 3.27. When the same case is introduced by "this is about an emotionally disturbed man", the rating goes up to 3.5. Analysis of variance tests were made of the different labels. Three are significant beyond the .01 level.

These results support the contention that labels are important determiners of attitudes toward the mentally ill. They also suggest two further hypotheses: (1) "labels are more influential determiners of attitudes when they are applied to relatively unfamiliar phenomena" and (2) "labels are more influential determiners of attitudes when they are perceived as being realistically related to the phenomena described."[51]

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51 Ibid., p. 147.

It is further found that among terms which can be used to describe the same behavior, such as an "emotionally unbalanced person" and an "emotionally sick person", the addition of words connotive of physical illness seems to have a favorable influence. As an example, an "emotionally sick person" is rated as less negative than an "emotionally unbalanced person."

Correlations between intelligence-test scores and semantic differential ratings of mental health concepts are nil.[52] Persons who scored high on intelligence tests gave about the same ratings to concepts like former mental patient, neurotic person, mental hospital and psychotherapy as did people who scored low on intelligence tests. It is also more difficult to change attitudes toward mental-health concepts than to increase knowledge of mental-health phenomena. Nunnally gives the example that although they found large changes in information during one-semester courses in mental hygiene, they found relatively small changes in attitudes toward concepts like mental patient, psychotherapy psychiatrist and neurotic person.[53] Nunnally's experimental studies showed much larger changes in information than in attitudes. Also, kinds of information change and kinds of

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52 Ibid., p. 211.

53 Ibid., p. 220.

attitude change are relatively independent of each other. This can best be seen by the following comparison of the attitude and information changes in two psychology classes in two different high schools. The classes were taught by different teachers, using different texts and subject-matter varied widely. In both schools, the experimenters found large changes in information and small but significant attitude changes. An analysis was made to see if the same kinds of attitude changes occurred in both schools. Mean changes in Semantic Differential ratings from "before" to "after" in the two schools were correlated over all scales over the concepts pertaining to mental-health issues, psychiatrist, neurotic woman, insane man, etc. They found a correlation (Spearman's Rho) of .73 which shows that similar kinds of changes occurred in the two schools. The difference (mean) in the over-all amount of change in the two schools was not statistically significant "showing that approximately the same amount as well as kind of attitude change occurred in the two schools."[54] The attitudes were in the direction of viewing psychiatrists as more valuable, strong and effective, and of regarding individuals with mental disorders as less foolish, dangerous, dirty, and worthless.

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[54] Ibid., p. 223.

It was found that changes in attitudes in the above study fit a definite and meaningful pattern while changes in information at neither of these two schools conformed to any meaningful pattern.

Nunnally strongly argues that attitude changes toward mental-health concepts are largely independent of information changes. He states that:

> If particular kinds of information changes led to particular kinds of attitude changes, we would expect to find substantial correlations between changes scores on the information factors and change scores on the semantic differential factors applied to the mental-health concepts.[55]

The mean correlation between the two sets of measures is only .16 which shows that even if some of the correlations are "real" on the average they are low and near zero. "Consequently, the conservative conclusion is that there are no substantial correlations between information changes and attitude changes" in this above study.[56]

4. Summary and Hypothesis.

The term "mental health" certainly leaves much to be desired as a means of defining the wide spectrum of behavior dysfunction and "general problems in living." In addition to poor definition in the "mental health" area, there is also

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55 Ibid., p. 223.

56 Ibid.

considerable data to indicate that the public at large attach a stigma or bias to the mentally ill or those things that are associated with this group. Even professionals, people like the physicians earlier mentioned, showed lower opinions or regard for the "mental" or emotionally disorganized patient. To measure the public's outlook on "mental-health" attitudes, data on the mental health specialists, psychologists, psychiatrists, etc. were examined. The public held moderately high, favorable attitudes toward mental specialists as individuals. At the same time, the public shows some evidence of distrust of mental treatment methods and institutions.

Students as well as other members of society have been followed with the general public studies. It could be acknowledged by most people that nursing students probably enter their training like the rest of the public with some preconceived notion of "mental illness" and mental patients and mental specialists. It is proposed that a worthwhile experiment would be the assessment of nursing students when they first enter a training program in a state mental institution. It would be interesting to note their attitudes and attitude change to various "mental-health" concepts, not in <u>what</u> produces particular kinds of change, but in <u>how</u> they change, if and when they do change. It could be estimated in what ways nursing students are like the general public

and in what ways are they like the physicians mentioned in the previous pages. In order to gather this information, a wide grouping of concepts would have to be selected and a systematic selection of scales for the Semantic Differential organized. Once reaching this point, differences or changes in these students' attitude response, over time could be determined. This could be expressed formally as: there is no difference between attitude rating of nursing students, as expressed on the Semantic Differential, towards each of nine "mental-health" concepts on the first, second and third exposure to the measuring instrument.

CHAPTER II

EXPERIMENTAL DESIGN

This chapter is concerned with the tools, subjects and method necessary to test the hypothesis presented in the last chapter.

Osgood *et al.*[1] have identified "attitude" as one of the major dimensions of "meaning-in-general and thus extend the measurement procedures of the Semantic Differential to an important area of social psychology." As was pointed out in the preceding chapter, attitudes are tendencies of "approach or avoidance" or "favorable or unfavorable". The term "concept" refers to the stimulus to which the subject's checking operation is a terminal response. Scales are the bipolar adjectives with which each concept is rated. The meaning of a concept to an individual subject is defined operationally as the set of factor scores in the column representing that concept.

1. Tools of the Experiment.

The Semantic Differential is a "highly generalizable technique of measurement which must be adapted to the

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1 C.E. Osgood, G.J. Suci and P.H. Tannenbaum, *The Measurement of Meaning*, Urbana, University of Illinois Press, 1957, p. 189.

requirements of each research problem.[2] This technique has no standard concepts or scales but rather scales and concepts are employed depending upon the nature of the problem.

> Standardization [...] lies in the allocation of concepts to a common semantic space defined by a common set of general factors, despite variability in the particular concepts and scales employed.[3]

Osgood found that the Semantic Differential fell into highly intercorrelated clusters. He points out that the scales fair-unfair, high-low, kind-cruel, valuable-worthless, Christian-anti-Christian and honest-dishonest were all found to correlate together at .90 or better. He perceived that such a cluster represents the operation of a single, general factor in social judgments. In this specific case an "evaluative" factor.[4]

In an effort to test the hypothesis a combination of professional and category terms familiar to the "mental health" field were employed, also several concepts of a more neutral nature. The following nine concepts constituted the concept portion of the technique: Sickness, Medication, Psychiatrist, A Mental Patient, Head Nurse, Parents, Psychologist, Mental Illness, Schizophrenia.

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2 Ibid., p. 76.

3 Ibid.

4 Ibid., p. 24.

To index an attitude, sets of scales which had high loadings on the evaluative factor across concepts generally and minimal loadings on other factors were used. For each of the factors: "evaluative", "potency" and "activity" five scales were selected which showed exceptional loadings for the factor they were to represent.

For the purpose of scoring consistency, the unfavorable pole of the bipolar scale (bad, unfair, worthless) was given the score of one and favorable poles (good, fair, valuable) the score of seven.

Scales were selected to represent factorial composition.

> Ideally we should like to use one specific scale to represent each of the factors or dimensions of the semantic space, this scale being both perfectly aligned with or loaded on its factor and perfectly reliable.[5]
>
> In practice, however, since specific scales are neither, we use a small sample of closely related scales to represent each factor, deriving a score from their average which is assumed to be more representative and more reliable than scores on individual scales.[6]

When collecting data to test a hypothesis it is usually recommended that a considerable number of scales representing other factors be included. This is done to obscure somewhat the purpose of the measurement and to provide additional

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5 Ibid., p. 78.

6 Ibid.

information on the meaning of the concept as a whole, aside from the attitude or evaluative factor toward it.

The scales were picked from a table of scales showing the highest factor loading for its respective factor.[7] Five scales were picked per factor. The scales were randomly organized and rotated so that the positive aspect to the bipolar continuum was not always on the same side. The concepts were also randomly ordered following a table of random numbers. Such ordering producing a nine-page booklet of concepts which were rated on fifteen scales comprised of three factors.

The technique originator, Osgood[8] points out that a seven-step scale was utilized because over a large number of different subjects, in different experiments, it was found that with seven alternatives all of them tend to be used with roughly equal frequencies. Appendix 2 shows a copy of the fifteen scales with their seven-point continuum between semantic points, or opposites. Each concept was typed at the top of the sheet. The seven-step scales were then used to rate each concept.

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7 Ibid., p. 37.

8 Ibid., p. 85.

2. The Subjects.

The subjects used in this project were thirty-nine female nursing students in their second or junior year of training. For all subjects this was their first and compulsory twelve weeks of psychiatric affiliation necessary for them to complete their registered nurse program. These subjects had a mean chronological age of 20.41 years, with a range of four years.

3. Method of the Experiment.

Each subject was given upon entrance for their first day of psychiatric nursing training, a sheet of instructions, (see appendix1) and one nine-page booklet with the nine previously mentioned concepts. They were able to read from their instructions that the purpose of this study was to measure the meanings of certain things to various people by having them judge them against a series of descriptive scales.

The subjects were assured that this study had nothing to do with their class performance or standing and was being utilized as a study by persons outside of the School of Nursing. They were asked to place a number one on the lower left hand corner and also to place their name along side the number. One half hour after the completion of the first nine-page booklet, each subject was given another booklet, asked to place the number two and their name on the front and told

to re-read their directions. This served as the test-retest for reliability evaluations.

At the close of the first week of their program all the subjects were asked to place their name and the number three on their booklet. At the end of their fifth week they again went through this procedure and identified their booklet with their name and the number four. On their tenth week all subjects were asked for the final time to read the directions and complete the booklet placing the number five and their name on the corner. All such measures were conducted within the same room.

4. The Organization of the Data.

Each of the nine concepts was scored for all fifteen scales on the five occasions. Checkmarks for these bipolar scales were scored 1 - 7.

Comparison is made between the difference in meaning for one concept on two occasions. Significance is determined therefore by comparing initial performance with performance at the end of one week, then at the fifth week and finally at the tenth week.

"The two-sample statistical tests are used when the researcher wishes to establish whether two treatments are different or whether one treatment is 'better' than another."[9]

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9 Sidney Siegel, Nonparametric Statistics, New York, McGraw Hill, 1956, p. 61.

> One way to overcome the difficulty imposed by extraneous differences between groups is to use two related samples in the research. This matching may be achieved by using each subject as his own control, or by pairing subjects and then assigning the two members of each pair to the two conditions. When a subject serves as his own control, he is exposed to both treatments at different times.[10]
>
> Where feasible, the method of using each subject as his own control is preferable to the pairing method.[11]
>
> If ordinal measurements within pairs is possible (i.e., if the score of one member of a pair can be ranked as greater than the score of the other member of the same pair) then the sign test is applicable.[12]

In applying the sign test the focus is on the direction of the differences between every pair. If the null hypothesis were true, it would be expected about half of the differences to be negative and half to be positive. The null hypothesis is rejected if too few differences of one sign occur.[13]

If N is larger than twenty-five, the following formula is utilized.[14]

$$Z = \frac{(X \pm .5) - \frac{1}{2}N}{\frac{1}{2}\sqrt{N}}$$

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10 Ibid.

11 Ibid., p. 43.

12 Ibid.

13 Ibid., p. 66.

14 Ibid., p. 72.

The significance of an obtained z may be determined by reference to Table A in the Appendix of Siegel, Nonparametric Statistics.[15]

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15 Ibid., p. 247.

CHAPTER III

RESULTS

This chapter reports the results of the study which tested nine concepts on three separate occasions for evidence of significant change from initial measurements. The concepts which were measured against a battery of Semantic Differential scales were assessed for change on the close of the first week, fifth week and tenth week of the subjects program. Significance of change was determined for each initial measure compared at each time interval separately.

1. Significant Concept Change.

The null hypothesis of no difference between initial Semantic Differential measurements and performance at the end of the first week, fifth week and tenth week was rejected at the .01 level of confidence for the following two concepts when utilizing a two-tailed region of rejection. For two concepts, HEAD NURSE and PSYCHIATRIST, the level of significance increased progressively with the lengthening of the time span. Change for the concept HEAD NURSE at the end of the first week showed a .03 level of significance with .02 on the fifth week and a highly significant .002 on the tenth week. The results for the second concept PSYCHIATRIST was not significant at the first week but registered a .03 level

of confidence at the fifth week and .01 level of significance at the tenth week. The exact probability levels for these two concepts appear in Table I.

These results indicate that when utilizing the .01 level of confidence as the critical level for significance, only these two concepts at only the tenth week measure, meet this criterion for change. The subjects do, therefore, see the concept HEAD NURSE and PSYCHIATRIST significantly different after ten weeks but not before, suggesting that significant perception of attitudinal change require at a minimum ten weeks for subjects such as ours in this type of setting.

2. Non-significant Concept Change.

The null hypothesis of no difference between initial Semantic Differential measurements and performance at the end of the first week, fifth week and tenth week was upheld for seven concepts. The concept PARENTS, one of these seven, showed significant differences on test-retest and was, therefore, dropped from further consideration. The remaining six concepts were: MENTAL ILLNESS, MENTAL PATIENT, SCHIZOPHRENIA, MEDICATION, SICKNESS and PSYCHOLOGIST.

The concepts MENTAL ILLNESS, SCHIZOPHRENIA and PSYCHOLOGIST all showed similar patterns in movement. For these three concepts, time span (measured in weeks) was related with increasing distance away from our chosen level of

Table I.-

A Level of Significance for Two Concepts Measured on Four Occasions.

Concept	Time Interval	Significance[a]
HEAD NURSE	Test-retest	p = .4902
	1st week	p = .0308
	5th week	p = .0214
	10th week	p = .0020
PSYCHIATRIST	Test-retest	p = .7114
	1st week	p = .8650
	5th week	p = .0366
	10th week	p = .0178

a Two-tailed region of rejection.

confidence, .01. This means that the subjects, when rating these three concepts showed less significant change at the tenth week than the fifth or first week. This suggests that the experimental procedure had, if anything, initial effect upon the subjects' judgments of these concepts but with greater time little or no effect upon their perceptions of these concepts. This could be further considered as perceptual areas that are quickly hit by the new environment but fail to be reinforced over time and so lose perceptual significance to the subjects.

The remaining three concepts: MENTAL PATIENT, MEDICATION and SICKNESS showed greater change toward a .01 significance level with the later or tenth week measures than the measures of the fifth or first week. Specifically, the concept MENTAL PATIENT with a .07 level of change from initial to tenth week performance was the closest approximation to the critical level of .01. The concept MEDICATION followed with the concept SICKNESS showing the weakest approach to the criterion significance level of .01. This series of three concepts suggests that with prolonged time exposure the trend was in a more statistically significant direction. If the concept of "mental patient" is perceived to change over time, it is understandable that the subjects see similar changes in their perception of the concepts MEDICATION and SICKNESS. This suggests that the broad areas of mental

patient, medication and its relationship to the concept sickness is altered when subjects are placed in a mental hospital setting with their own prior background being general medical settings. It is possible that with a statistical test for change at twenty weeks rather than the ten used in this study these three concepts may have shown changes at a .01 level of confidence.

3. Direction of Change.

The concept HEAD NURSE showed direction change from more to less. That is, initial scores were higher than final scores. Concept PSYCHIATRIST showed the same pattern with the final scores being lower than the initial scores. It was the concept MENTAL PATIENT only that showed initial scores as lower and final scores as higher. As noted in the design of the experiment, higher scores are indications of more favorable directions or attitudes, lower scores of more negative or "less favorable' attitude toward the concept under consideration. In view of this, the attitude of these student nurses became more negative (less favorable) towards the concepts HEAD NURSE and PSYCHIATRIST than they manifested on initial evaluation. This change was as mentioned previously, statistically significant. While still keeping in mind the limited statistical value of the scores for the concept MENTAL PATIENT, it was still found to have changed in a more

positive or "more favorable" direction suggesting that these student nurses saw the concept MENTAL PATIENT in a more positive perception than initial measurements revealed.

CHAPTER IV

DISCUSSION

Utilizing a series of Semantic Differential scales, nine concepts were rated over time with the resulting changes showing statistical significance in two concepts. This chapter discusses the possible meanings of these changes in light of the earlier reported literature. This is then followed by a discussion of the limitations of the study and suggestions for further research.

The change in meaning was significant for the concepts HEAD NURSE and PSYCHIATRIST. Since these were the only significant changes encountered some relationship could be considered as existing between these two terms. It is possible that the concepts HEAD NURSE and PSYCHIATRIST elicit the same common meaning response component. In Osgood terms, a verbal habit family is usually formed on the basis of a class of stimulus objects having identical elements. The common response for HEAD NURSE and PSYCHIATRIST could be, for example, cumulatively referred to as the "medical authority."

Staats[1] was previously cited as expecting that the greater extent of overlap in meaning response components between any two habit-families, or any two words, the greater

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1 A.W. Staats, "Verbal Habit Families, Concepts and the Operant Conditioning of Word Classes", Psychological Review, Vol. 68, 1961, p. 190-204.

the amount of generalization that would occur. If Staats' approach is considered then it would seem that student nurses see HEAD NURSE and PSYCHIATRIST as having some sort of overlapping meaning.

Osgood mentions that the essential condition for concept formation is the association between a common response and a variety of stimuli. As an example, he mentions common characteristics to determine hour glass, ruler, and mental test, all of which he puts under a common mediating process called "measuring instruments." The concepts HEAD NURSE and PSYCHIATRIST's common mediating process could be called "authority figures." In view of this suggested mediating process, it is possible to see how the concept PSYCHOLOGIST falls outside of the "authority figure" definition. The psychologist in the research setting was, of course, one of the staff members, but he differed from head nurse and psychiatrist in not being an authority figure, medical assistant or medical expert.

Munnally's experimental studies[2] showed much larger changes in information than in attitudes. Also, he stated that kinds of information change and kinds of attitude change are relatively independent of each other. This was best seen

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2 Jum C. Munnally, Jr., Popular Conceptions of Mental Health, New York, Holt, Rinehart and Winston, 1961, p. 220.

by the comparison of the attitude and information changes in two psychology classes in two different high schools. In both schools, the experimenters found large changes in information and small but significant attitude changes. Results showed that approximately the same amount as well as kind of attitude change occurred in the two schools. These attitudes were in the socially expected direction of viewing psychiatrist as more valuable, strong and effective. However, the subjects, (nursing students) by evidence of their passing their psychiatric affiliation exams, absorb knowledge of a psychiatric nature. When it comes to attitudes, this study's subjects show an opposite direction from the Munnally studies. The subjects viewed psychiatrist as less valuable, strong and effective, despite their studies. This suggests that location, contact with patients or the process of institutionalisation may have been responsible for reversing the attitudinal direction of the students in this study by contrast with the Munnally students.

Whatever impact the environment had on these nursing students, it was directed at two roles in a negative rather than favorable sense.

1. Limitations of the Study.

Our first limitation has to do with the difference in connotative and denotative meaning.

> One thinks of denotative meaning as something that is socially prescribed. Connotative meaning, however, banks heavily on those aspects of concepts that are widely shared yet non-criterial and perhaps affective-emotional - in content.[3]

Although Osgood et al.[4] mention the difference between denotative and connotative meanings, nowhere in their text are they precisely defined. While they state that the "evaluative factor of the semantic differential is an index of attitude" they agree that it does not tap much of the content of an attitude in the denotative sense, but rather it seems "to provide an index to the location of the attitude object along a general evaluative continuum."[5] Osgood et al. refer themselves, to critics asking them, if they are not really measuring the emotive reaction to words rather than 'meaning'. To define a word, as a dictionary does, is simply to explain the word with more words. "The meaning of a term lies in its operations, the things done, that establish its validity, rather than in verbal definitions."[6] The study of meaning, therefore, is a comparative study of the kinds of responses

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3 J.B. Carroll, "Words, Meanings and Concepts", Harvard Educational Review, Vol. 34, 1964, p. 186.

4 C.E. Osgood, G.J. Suci, P.H. Tannenbaum, The Measurement of Meaning, Urbana, University of Illinois Press, 1957, 1-342 p.

5 Ibid., p. 195.

6 S.I. Hayakawa, "How Words Change Our Lives", Adventures of the Mind, New York, Alfred A. Knopf, 1960, p. 239.

people make to the symbols and signs around them. One of the major uses of the Semantic Differential is to measure such responses among people.

Once having measured the responses of subjects, it is difficult to determine the reasons for this change. While this study was not concerned with why subjects change, there are still some interesting proposals that can be suggested. If student nurses learn to see each particular superior or head nurse in a negative sense after they have gotten to know their superior then they would probably form significant changes to the concept HEAD NURSE while in other settings. The changes toward the concept HEAD NURSE may have nothing to do with 'mental health' attitude or philosophy but interpersonal difficulties or conflict with authority. It is proposed that a means for studying this problem could be sought by evaluating changes in attitudes of student nurses over a reasonable period of time utilizing concepts like HEAD NURSE, but while the subjects were in training in a general medical center. It was also assumed that the subjects might have commonly reacted to the concepts HEAD NURSE and PSYCHIATRIST due to their having in common an "authority" meaning to them which may have excluded the concept PSYCHOLOGIST. Further evaluations could be uncertaken in other settings in which the psychologist functions without the support, interaction or subordination to medical personnel. Under these circumstances

the perception of the subjects may change significantly when evaluating a concept like PSYCHOLOGIST.

In view of the direction of change it is also highly desirable to suggest that more detailed studies of a social psychological nature be conducted to explore student nurses' attitudes toward superiors in affiliating institutions. While these students may have pleasant perceptions of their home superiors, that is base hospital or nursing school instructor, the "negativism" may be projected only toward the nursing authorities in the agencies in which they take their affiliation. In any case, the exploration of nursing student attitudes toward their superiors, other nurses, patients and other professions may provide insights into new training methods and procedures.

Considering that this experimental procedure was started with nine concepts and finished with only two concepts reaching statistical significance, is in itself a future problem. While there is some vague implication of directionality with the non-significant concepts, by nature of their lack of significance, are prone to chance factors creating whatever trend appears evident. It is highly possible that many of these non-significant concepts would show statistical significance if the research procedure was instituted under different circumstances. It is hard to accept that student nurses in training could so strongly modify their reaction to a concept like HEAD NURSE and not to one like MENTAL PATIENT. If, however, we assume that threats or attacks that are personal

or meaningful elicit the greatest change, then the perception of HEAD NURSE is seen as an inconsistent and professionally dissatisfied relationship. Such relationship being meaningful and personal enough to elicit a strong attitudinal shift.

SUMMARY AND CONCLUSIONS

This thesis reports the results of a study determined to measure 'semantic change' among student nurses, over time. This was accomplished by rating a series of mental health concepts or terms against Semantic Differential scales.

The review of the literature attempted to explore the nature of meaning or specifically 'meaning change' by approaching the nature of words, attitudes, concepts and their relationship to the measuring instrument, the Semantic Differential.

Thirty-nine female nursing students were utilized as subjects in a procedure determined to test for attitude change over time. Attitudes were defined by the subjects' reaction to nine concepts that were rated on fifteen scales for each concept. Ratings were obtained for the subjects on their initial entrance to the psychiatric training program, then again at the end of the first, fifth and tenth week. The null hypothesis of no difference between initial Semantic Differential measurements and performance at the end of the first, fifth and tenth weeks was rejected at a .01 level of confidence utilizing the Sign Test and a two-tailed region of rejection for two concepts out of an initial series of nine concepts. This indicated that for the concepts HEAD NURSE and PSYCHIATRIST by the tenth week of the program, the student

nurses had in fact seen these two concepts in a significantly different way. The significant change for the concept HEAD NURSE was at a .002 level of confidence while the concept PSYCHIATRIST reached the critical level of .01.

The null hypothesis of no difference between initial Semantic Differential measurements and performance at the end of the first, fifth and tenth weeks of the subjects' program was upheld for the remaining seven conc pts. Briefly then, these concepts can be conceived as not changing over time since they fail to meet our critical level (.01) of significance.

The results suggest that student nurses see the concepts HEAD NURSE and PSYCHIATRIST in a more negative or less "favorable" direction at the tenth week than they did intially in their training program. The relationship of similarity between the movement of these two concepts could be explained by each having the same common meaning response component, in this case, called "authority" or "medical authority." The results also appear to support in part Nunnally's[1] experimental studies in which he found greater informational changes in his student subjects than attitudinal change. In view of the significant direction of negative

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1 Jum C. Nunnally, Jr., Popular Conceptions of Mental Health, New York, Holt, Rinehart and Winston, 1961, p. 220.

change toward the concepts HEAD NURSE and PSYCHIATRIST, it is suggested that further studies of a social psychological nature be explored to more clearly determine the attitudes and feelings of student nurses toward superiors, patients and other professionals. Since the results may have only shown less "favorable" attitude change due to the setting in which the study was conducted, new and different environments are suggested for further research which may produce further understanding into the attitudinal structure of this type of subject and thereby benefit their training programs, and the people they will serve in the future.

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APPENDIX 1

INSTRUCTIONS FOR THE UTILIZATION OF THE SEMANTIC DIFFERENTIAL

APPENDIX 1

INSTRUCTIONS FOR THE UTILIZATION OF THE SEMANTIC DIFFERENTIAL

The purpose of this study is to measure the <u>meanings</u> of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these things mean to <u>you</u>. On each page of this booklet you will find a different concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order.

Here is how you are to use these scales: If you feel that the concept at the top of the page is <u>very closely related</u> to one end of the scale, you should place your checkmark as follows:

fair__X__:_____:_____:_____:_____:_____:_____: unfair

fair_____:_____:_____:_____:_____:_____:__X__ unfair

If you feel that the concept is <u>quite closely related</u> to one or the other end of the scale (but not extremely), you should place your checkmark as follows:

strong_____:__X__:_____:_____:_____:_____:_____ weak

strong_____:_____:_____:_____:_____:__X__:_____ weak

If the concept seems <u>only slightly related</u> to one side as opposed to the other side (but is not really neutral), then you should check as follows:

active_____:_____:__X__:_____:_____:_____:_____ passive

active_____:_____:_____:_____:__X__:_____:_____ passive

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you are judging.

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevant, unrelated to the concept, then you should place your checkmark in the middle space:

safe _____:_____:_____:__X__:_____:_____:_____ dangerous

IMPORTANT: (1) Place your checkmark in the middle of spaces not on the boundaries:

			THIS		NOT THIS	
_____	_____	_____	__X__	_____	_____	_____

(2) Be sure you check every scale for every concept - do not omit any.

(3) Never put more than one checkmark on a single scale.

Sometimes you may feel as though you have had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgment. Work at fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

APPENDIX 2

SEMANTIC DIFFERENTIAL SCORING BLANK

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SEMANTIC DIFFERENTIAL SCORING BLANK

Concept

Good	_____:_____:_____:_____:_____:_____:_____	Bad
Strong	_____:_____:_____:_____:_____:_____:_____	Weak
Active	_____:_____:_____:_____:_____:_____:_____	Passive
Worthless	_____:_____:_____:_____:_____:_____:_____	Valuable
Shallow	_____:_____:_____:_____:_____:_____:_____	Deep
Slow	_____:_____:_____:_____:_____:_____:_____	Fast
Tasty	_____:_____:_____:_____:_____:_____:_____	Distasteful
Large	_____:_____:_____:_____:_____:_____:_____	Small
Excitable	_____:_____:_____:_____:_____:_____:_____	Calm
Unpleasant	_____:_____:_____:_____:_____:_____:_____	Pleasant
Soft	_____:_____:_____:_____:_____:_____:_____	Hard
Dull	_____:_____:_____:_____:_____:_____:_____	Sharp
Clean	_____:_____:_____:_____:_____:_____:_____	Dirty
Heavy	_____:_____:_____:_____:_____:_____:_____	Light
Rash	_____:_____:_____:_____:_____:_____:_____	Cautious

APPENDIX 3

CONCEPTS WITH NON-SIGNIFICANT PROBABILITY LEVELS

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CONCEPTS WITH NON-SIGNIFICANT PROBABILITY LEVELS

CONCEPT	TIME INTERVAL	TWO-TAILED LEVEL
Mental Illness	Test-retest	p .2670
	1st week	.3124
	5th week	.4840
	10th week	.9204
Mental Patient	Test-retest	.7490
	1st week	.3124
	5th week	.8728
	10th week	.0750
Schizophrenia	Test-retest	.6100
	1st week	.8728
	5th week	.8728
	10th week	.8966
Medication	Test-retest	.8728
	1st week	.8650
	5th week	.5156
	10th week	.2670
Sickness	Test-retest	.8728
	1st week	.7490
	5th week	1.0000
	10th week	.6170
Psychologist	Test-retest	.1770
	1st week	.5028
	5th week	.4180
	10th week	.7490
Parents	Test-retest	.0070
	Since test-retest show significant changes, hence poor reliability, this concept was dropped from further consideration.	

NOTE: All time intervals are made from a base of the initial or first measurement and thereby compared with the retest, first week, fifth week and tenth week measures.

APPENDIX 4

ABSTRACT OF

Mental Health Concepts, Their Change and Significance in Psychiatric Nursing Students

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ABSTRACT OF

Mental Health Concepts, Their Change and Significance in Psychiatric Nursing Students[1]

The literature indicates that many people, including professional persons have negative, indifferent and uninformed attitudes toward mental health concepts. This study was concerned with measuring attitude change in student nurses who are in their psychiatric affiliation program and who in fact show informational changes during this training time. The problem was approached by subjecting thirty-nine nursing students to a series of nine mental health concepts measured against a group of fifteen Semantic Differential scales. Ratings were obtained for the subjects on their initial entrance to the psychiatric training program, then again at the end of the first, fifth and tenth week.

The null hypothesis of no difference between initial Semantic Differential measurements and performance at the end of the first, fifth and tenth weeks was rejected at a .01 level of confidence utilizing the Sign Test and a two-tailed region of rejection for two concepts out of an initial series of nine concepts. This suggested that for the concepts HEAD

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1 Marvin L. Denburg, Master's thesis presented to the Faculty of Psychology and Education of the University of Ottawa, Ontario, November 1966, viii-63 p.

NURSE and PSYCHIATRIST by the tenth week of the students' program, they had seen these two concepts in a significantly different way. The students see these two concepts in a more negative or less "favorable" direction at the tenth week than they did initially in their training program. The relationship of similarity between the movement of these two concepts is explained by each having the same common meaning response component, in this case, called "authority" or "medical authority." The results also appear to give support to prior studies in which it was found that greater informational changes occur than attitudinal change.