

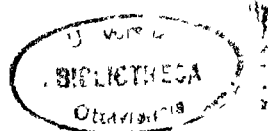
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A STUDY OF
DIFFERENCES IN BODY IMAGE OF
NORMAL AND PSYCHOTIC AGED MEN

by Ralph E. Davis

Thesis presented to the School of Psychology
and Education of the University of Ottawa, in
fulfillment of the requirement for the degree
Doctor of Philosophy.

Clarks Summit, Pennsylvania, 1960



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CURRICULUM STED FORUM

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INTRODUCTION

It was for many years traditional to think of the psychosis of the aged to be a result of degenerative cerebral changes. However, it was shown that normal aged persons also revealed similar changes. New theories began to appear to explain the behavior of the aged. Many writers felt that it was due to constitutional factors, some gave social and psychological causes and others advanced the theory that the personality is the prime determining agent of such behavior.

One such theory suggests that the individual's self concept is the most important aspect of the personality and that it is the effort on the part of the individual to maintain his self concept or self-image that creates change in behavior. Although many writers have advanced hypotheses about this self-image and have constructed theories about the aged based on these hypotheses, few have made any serious investigation of the self-image.

This investigation has undertaken to examine the body-image as represented by the Draw-A-Person Test of the two groups of aged subjects, one group considered normal and the other a psychotic institutionalized group. Comparisons of the body-image were made between the two groups to determine what differences, if any, exist and what these differences imply in terms of the personality of the subjects.

This report will present the results of this investigation. It will also attempt to describe certain characteristics

of the personality of the aged which may be useful in further investigation of the aged.

Chapter I is concerned with the historical background and traditional thinking as regards the aged. It shows the development of the concept held today and brings into focus the purpose of this study.

Chapter II presents a review of the research literature as regards the personality of the aged and also points out the need and urgency for continued study of this subject. The last section of this Chapter sets forth the research hypothesis used for this investigation.

Chapter III describes the design of this study. The psychological techniques used are described and support for their selection is furnished by the presentation of a brief history of the DAP and the results of studies concerning its validity. The sample used in this investigation is described in this Chapter, how it was collected; how it is treated and some of the problems that arose in obtaining the sample are discussed. The last section of this Chapter is concerned with the test administration and the procedures used in handling the data.

Chapter IV presents the results of the investigation. These appear in the form of figures and tables which are discussed in detail.

Chapter V is a discussion which attempts to integrate these results into a composite picture of the personality of the aged subjects in the two groups.

The last Chapter, Chapter VI, presents a summary of the study along with the conclusions drawn regarding the personality of the aged.

CHAPTER I

HISTORICAL AND THEORETICAL PERSPECTIVES

For many years the psychosis associated with the aged was considered solely to be a result of damage to the brain caused by the process of deterioration. Recently, however, studies have come to the fore that indicate this view to be somewhat outmoded and entirely too restrictive.

Perhaps the foremost study responsible for this change in perspective is the one by Rothschild¹. In this study the author performed autopsies on the brains of two groups of aged persons, one group evidencing gross symptomology of senile psychosis and the other group being symptom-free. The results of the examinations proved that no correlation exists between the extent or type of pathology and pre-morbid behavior. In elaborating on his findings, Rothschild points out that in some cases those persons with the most marked clinical disturbances show the least amount of anatomic involvement and those with only mild alterations of behavior often reveal the most extensive and severe pathological changes.

In a later paper Rothschild² mentions that other studies have also demonstrated this fact and in particular

¹David Rothschild, "Pathologic Changes in Senile Psychosis and Their Psychobiologic Significance", in the American Journal of Psychiatry, Vol. 93, 1937, p. 757.

²-----, "Senile Psychosis and Psychosis with Cerebral Arteriosclerosis", in Oscar J. Kaplan, Mental Disorders in Later Life, California, Stanford University, 1945, p. v-436.

refers to a study by Gellerstadt who did exhaustive research on senile changes in normal old people. Gellerstadt's work revealed that normal old persons often show cerebral changes that are similar both qualitatively and quantitatively to those found in the senile and arteriosclerotic person.

Rothschild points out that these studies by Gellerstadt and others are in contradiction to the traditional belief that brain damage as such is the cause of mental disorder of later life. He suggests that if one considers anatomic change in the brain without a preconceived idea of its importance, it becomes evident that such changes are only one element of the total picture and other factors must be considered of importance in some cases.

This concept is supported by Malmud³, who has pursued a number of studies of the aged and their pathology which are similar in nature to those of Rothschild. Malmud, after examining the literature on neuropathological studies of the aged, summarizes the knowledge concerning the causes of the psychosis of old age. Brief, he reports the traditional view that since pathological changes do occur in the aged and that there are also characteristic disturbances in

³William Malmud, "Psychopathological Aspects: Problems of Aging", in Problems of Aging, Transactions of The Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1951, p. 140-175.

the personality, then it must follow that the pathology is responsible for the personality changes. However, Malmud points out that further investigations of a more systematic nature reveal that:

(a) similar changes, both qualitative and quantitative, are found in old people who do not show the types of disturbances that occur in the psychosis; (b) that in some people who manifested marked personality disturbances the neuropathological changes were minimal⁴.

To support this summary, Malmud relates a study done by him and his associates wherein they obtained microscopic sections of various parts of the brains of two groups of older persons. One group were from a psychotic population in Worcester State Hospital and the other group from a so-called normal population. By normal Malmud refers to persons living outside and not behind lock and key and making a fairly adequate adjustment.

The slides were coded so that the normal group could not be distinguished from the psychotic group. The author was then asked to separate the slides into three groups on the basis of severe, moderate or mild pathology. After the groupings were completed, the results showed that as many slides of the normal group were found in the severe group as there were psychotic persons in the mild group. In other

⁴Op. cit. p. 142.

words, the author was unable to show a direct relationship between brain pathology and behavior.

Malmud refers to other studies⁵ that investigate other areas of change such as endocrine function, tissue change and blood vessel pathology. The findings of these studies also show the lack of direct correlation between pathology and psychosis.

Studies along these lines have continued and the results point more and more toward the rejection of the traditional concept of a one-to-one relationship between brain pathology and psychosis of the aged⁶.

Malmud⁷ in his paper on the psychopathological aspects of aging mentions that his experience indicates that other factors such as personality type and psychological and sociological stress perhaps play a major role in the causality of the psychosis of the aged. It is his contention that certain types of personality structure when subjected to specific social and psychological stress are particularly vulnerable to psychosis during the involuntional and senium periods.

⁵Op. cit. p. 140-175.

⁶Clark Tibbets, Md., "Final Report Second International Gerontological Congress", in the Journal of Gerontology, Vol. 7, No. 2, issue of April, 1952, p. 289-290.

⁷Ibid.

Rothschild⁸ in a later study in 1952 reaffirms his position and offers support to Malsud's hypothesis. In this study the authors offer the theory that the pathologic reactions of the aged are a result of special vulnerabilities of certain personality types in response to certain socio-psychiatric stresses and the presence of organic cerebral disease. They also hypothesize that the organic process itself may be influenced by the personality makeup of the individual. This is not to say that organic changes are without effect in producing a psychosis; the authors grant that in certain cases this is undoubtedly the critical factor. However, it is their contention that one must examine all aspects of an individual's life history as well as the pathology in order to understand the reactions of an individual to the process of aging.

To further explain this view, the authors look at the ever-present problem of why one individual develops a psychosis during his fifties whereas another person does not develop a psychosis until he is past seventy or eighty. It is their feeling that this can be explained primarily in terms of what kinds of stress each has experienced up to and including the

⁸Sidney L. Sands and David Rothschild, "Socio-psychiatric Foundations for a Theory of the Reactions to Aging", in the Journal of Nervous and Mental Diseases, Vol. 116, 1952, p. 233-241.

involutional period. It is their feeling that those individuals who have made adequate adjustments to a variety of stresses prior to involution have built up a system of adjustment that permits them to deal with future stress with less expenditure of energy or emotional strain; whereas, the person lacking this experiential background is less able to handle the stresses of the involutional period or of cerebral damage. This person is much more handicapped than the more experienced individual, since beyond the involutional period there is usually a loss of capacities. In other words, faced with a situation and lacking full capacities to meet it, the person with more experience to draw upon will be in a better position to adjust.

The authors feel that a person who develops severe cerebral arteriosclerosis does so as a result of a combination of personality and somatic factors and even though psychotic behavior may emerge when organic factors reach a certain point, that point is determined at least in part by the strength or weakness of the personality.

Authors such as Clow and Allen⁹, Cameron¹⁰, Wolff¹¹,

⁹Hollis E. Clow and Edward B. Allen, "A Study of Depressive States in the Aging", in Geriatrics, Vol. 4, No. 1, issue of January-February, 1949, p. 11-17.

¹⁰Herman Cameron, "Neurosis of Later Maturity", in Mental Disorders in Later Life, Stanford University, 1945, p. 143-186.

¹¹Kurt Wolff, "Definition of the Geriatric Patient", in Geriatrics, Vol. 12, No. 2, issue of February, 1957, p. 102-108.

and others, have also expressed the importance of the personality as a determining agent of one's behavior as one gets older.

The area of agreement among these authors is that the behavioral changes of aging are dependent upon the pre-morbid personality characteristics and that the senium in some cases provides the opportune time for the brittle personality to collapse. When this occurs the behavior is thought to be merely a reflection of previous neurotic or psychotic tendencies.

An example of this type of conceptualizing that offers a more systemized and detailed explanation than most is the theoretical structure presented by Weinberg¹².

Weinberg sees aging as one of the developmental phases of life. He does not see aging as static phenomena but as a fluid state influenced by the individual's psychology, physiology, and attitudes of the cultural and economic society in which he lives. He sees these variables as being responsible for the variations in the reactions of different individuals to the process of aging. It is his feeling that only by understanding these variables can one really deal effectively with the aged and he offers three hypotheses as a guide for those who would treat the aged:

¹² Jack Weinberg, "Personal and Social Adjustment", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D. C., p. 17-20.

(1) Man, no matter what his age, is heir to any of the disease processes that organic matter is susceptible to in its attempts to adaptation. Neuroses can, therefore, and do make their appearance with astonishing frequency in later life.

(2) The understanding of the psychological disease entities in old age is, as in any age, dependent upon the knowledge and understanding of the premorbid personality structure and its historical development. For whether the disease is organic or functional the psychological picture will depend not so much on the site of the lesion as on the premorbid character structure.

(3) The protective quality inherent in all symptom formation¹³.

The first two hypotheses are self-explanatory in the opinion of the author but the third, he feels, is of the most vital importance in understanding the aged. This serves as the basis for his theory that the symptoms of the aged are in reality defense mechanisms of the ego in its attempts to prevent complete dissolution of its boundaries. The author regards the ego as the guardian of the person and has as its job the maintenance of a balance of the psyche at all costs. Thus the degree of or type of adaptive efforts of the person facing an aging crisis will depend more upon the flexibility and strength of the ego than on any other factor.

Linden and Courtney also present an hypothesis of a similar nature. It is their contention that "senility as

¹³
Op. cit. p. 17-18.

an isolable fact is largely a cultural artifact and that senile organic deterioration may be consequent upon attitudinal alterations¹⁴." Their rationale for this concept stems also from a developmental approach to understanding personality. This approach sees personality development as a continuum from birth to death. Throughout this cycle the personality reaches different levels of integration and at each level a different faculty becomes dominant. This does not occur as a smooth-flowing transition from one level to another, but takes place in a series of stages regarded as early, middle and late. Each of these stages is introduced by a period of physiological upheaval which taxes the defense structure of the individual and leads to a psychic disturbance. This essentially is the concept of psychosomatic unity wherein the loss of psychic defense mechanisms are directly related to the loss of physical defenses. Once this cycle of loss of defense is begun, it continues unless, in the opinion of the authors, strong measures are introduced to strengthen the psychic structure. It is the opinion of the authors that therapeutic programs which offer environmental manipulation, interested care and psychotherapy will impede the organic deterioration.

¹⁴Maurice E. Linden and Douglas Courtney, "The Human Life Cycle and Its Interruptions, A Psychologic Hypothesis, Studies in Gerontologic Human Relations I.", in the American Journal of Psychiatry, Vol. 109, No. 12, issue of June, 1953, p. 101-137.

The view taken by Linden and Courtney¹⁵ is that life is a continuum from conception to death rather than from birth to involution. To explain this view, they divide the life cycle into two periods, one preceding involution which they call evolescence and a period following which is called senescence. Briefly described, evolescence is the period from infancy through adolescence to adulthood and is primarily filled with instinct gratifying behavior. Senescence is that period following involution and is more concerned with preservation of culture.

The involutinal division is seen as a period of physiological upheaval similar to that which occurs during adolescence. The outcome of the individual is at this time dependent upon his system of defense and ability to adapt in much the same manner as the adolescent. There is, however, this exception: the person at involution has to deal with whatever unresolved conflicts that remain from adolescence as well as the problems of adjustment made necessary by the physical losses. It is their opinion that the psychoses that occur following the involutinal period are a result of the loss of ability to maintain the former defense structure and that the latent conflicts of evolescence break through into consciousness. Since the individual is less equipped

¹⁵Op. cit. p. 101-137.

at this point in life to deal effectively with this return of repressed conflict, psychosis results. Whether or not this is the case will depend upon the latest psycho-social orientation of the individual and the dominant attitudinal set he holds about his stage of maturation.

Summarizing this theory, Linden and Courtney hypothesize that some time around the involutitional period an interruption of the life cycle occurs which is similar to that of the adolescent period. This opens the way for a new period of life which they call senescence. This period they feel is rich in actuality and potential and differs from the term senility. Senility the authors reserve for a pathological entity which frequently occurs late in the period of senescence and should not be confused with the normal stages of deterioration preceding death. This theory offers the idea that there is a point of maturation which lies beyond that accepted by today's society and that if the stages in this second period of development can be defined and described, society may discover that what appears to be a problem group of people may not be a problem at all but an overlooked, not understood, asset.

Although Linden and Courtney express the idea that senility is a cultural artifact in a rather concise way, the concept is not new. One finds frequent reference made to the importance of social and cultural factors as determinants

of mental disorders in later life by many writers but few have focused study upon this area.

Dunham¹⁶ in 1945 presents perhaps the most extensive coverage of these sociological aspects and their relation to the process of aging. His analysis of the problem suggests that many of the psychic disturbances of the aged are precipitated by the changes in the family structure and economic development of the society. He points out that the new attitude of families toward parents and grandparents makes for an increasing isolation of the oldster. This in turn increases their feelings of worthlessness and of not being wanted. The economy of today, which places value only on production and demands greater speed and efficiency if one is to earn an adequate income, also makes it extremely difficult for the aged person to maintain his standard of living of twenty years ago. Regardless of these changes, the needs of the person have not changed, only the opportunity to satisfy them. Thus many a person is compelled to change an otherwise well organized life plan at a time when one is thinking of reaping the harvest of forty or fifty years of planting. Whether or not one is able to make this change

¹⁶H. Warren Dunham, "Sociological Aspects of Mental Disorders in Later Life", in Oscar Kaplan, Ed., Mental Disorders in Later Life, Stanford University, 1945, p. 117-133.

will depend upon his type of personality structure and integration developed in the previous years.

However, even the most well-integrated oldster finds it difficult to adjust because of the stereotyped roles the society has written for the aged person. In general, society provides means for the aged to wither comfortably. It provides in terms of physical, mechanical, financial and sedentary measures but fails to offer any support to those psychical needs which make adjustment possible.

In fact, one might even consider that these provisions for the aged are designed more toward segregation of the aged rather than continued integration in the general society.

Tuckman and Lorge^{17, 18} have investigated some of the attitudes and stereotypes held by people about the demarcation between young and old. In one study the authors asked four groups of people, with mean ages of 19.8, 31.7, 50.3 and 74.8, respectively, the following question: "In your opinion when does old age begin?" and "In your opinion when is a worker old?" The results indicate that the majority of people

¹⁷Jacob Tuckman and Irving Lorge, "When Does Old Age Begin and a Worker Grow Old?", in the Journal of Gerontology, Vol. 8, No. 4, issue of October, 1953, p. 483-488.

¹⁸-----, "When Aging Begins and Stereotypes About Aging", in the Journal of Gerontology, Vol. 8, No. 4, issue of October, 1953, p. 489-491.

use chronological age as a criterion. This is an inadequate device since it fails to account for the wide range of individual differences and the variety of abilities and skills required for different occupations. Interestingly, those groups who were older and more informed concerning the aged were less inclined to use chronological age as the beginning of old age or the time when a worker becomes old. Also, that group having the oldest mean age deny that a worker ever becomes old or that old age ever begins. The chronological ages most frequently given by those groups who hold this to be a criterion are sixty to sixty-five. These ages have been used as an actuarial base by insurance companies and industries for pension plans and retirement ages for a number of years and it becomes apparent that it has received widespread acceptance as being indicative of being old.

Using the same sample the authors investigated the relationship between the responses to the questions and the number of stereotypes held about old people¹⁹. This information was obtained by using two questionnaires to which the respondents were required to give a yes or no answer. The first questionnaire contained one hundred thirty-seven questions about old people covering such areas as physical

¹⁹Op. cit. p. 489-491.

changes, family relationships, personality traits, conservatism, etc. The second questionnaire consisted of fifty-one statements concerning the older worker and such areas as physical and mental decline, reaction to job, etc. Except for the questions concerning the physical changes that occur with age, which have been substantiated, the statements in the questionnaires were essentially misconceptions and stereotypes about the aged person.

The results of this study showed that those people who use chronological age as a criterion of aging believe the stereotypes about aging to be true more than do those people who use some other criterion for judging old age. Also, those who are closer in age to the age they specify as being indicative of being old or an older worker, agree more to the stereotypes held about the aged than do those who show a greater difference between their own age and the age they specified as being older.

These studies are indicative of how important a part the attitudes of society play in reenforcing whatever real or imaged losses the aged person suffers. These results also support the concepts of Dunham and others who feel that the sociological stresses are also of as much import in the mental disorders of later life as the so-called organic stresses experienced by the individual.

Jones and Kaplan²⁰ report that studies by Cameron, Naxberg, Williams, et al, and others point out the significance of cultural factors in certain forms of mental disease. They also relate that it is difficult to measure the importance of these cultural factors as compared with the biological and organic factors, since these and a particular disease can vary from individual to individual. It is the opinion of the authors that the existence of the relationship between social environment and personality is so generally accepted that further elaboration would be presumptuous and unnecessary. Unfortunately, those who have examined this relationship seldom include the older age groups in their data. It is their feeling that it is extremely difficult to measure the relative importance of one cultural factor such as economy as compared to interpersonal factors and that if one is to gain a comprehensive view of the causes of mental disease in later life, the approach must be one of examining numerous factors and their inter-relationships rather than focusing on a single element.

In recent years other investigators like Havighurst²¹,

²⁰Harold L. Jones and Oscar J. Kaplan, "Psychological Aspects of Mental Disorders of Later Life", in Oscar J. Kaplan, Ed., Mental Disorders of Later Life, Stanford University, 1945, p. 66-118.

²¹Robert J. Havighurst, "Social and Psychological Needs of the Aging", in the Annals of the American Academy of Political and Social Science, Philadelphia, January, 1952, p. 11-17.

Granick²², Britton²³ and others have focused their work more toward the social problems of the aging and their studies in general support the validity of the hypothesis that aging cannot be defined in unitary terms of chronological, physiological or sociological criteria, but that each has its part in the definition.

These findings are not particularly unique, however, when one considers that the personality is a product of both the internal environment and the external milieu and that all of the forces from both, within and without, play a part in determining behavior. Therefore, to draw conclusions about the total personality based on observations of only one aspect of the person's behavior would result in an incomplete picture since the other factors and their influence would be ignored.

Gravat²⁴ in his review of Family Relations in Middle and Old Age reviews and discusses twenty-eight studies dealing

²²Samuel Granick, "Adjustment of Older People in Two Florida Communities", in the Journal of Gerontology, Vol. 7, No. 3, issue of July, 1952, p. 419-425.

²³Joseph H. Britton, "The Personal Adjustment of Retired School Teachers", in the Journal of Gerontology, Vol. 8, No. 3, issue of July, 1953, p. 333-339.

²⁴Arthur E. Gravat, "Family Relations in Middle and Old Age, A Review", in the Journal of Gerontology, Vol. 8, No. 2, issue of April, 1953, p. 197-201.

with family adjustments during these stages. He concludes that these studies indicate a continuity in the personality adjustment throughout these stages even though they may demand behavior changes. He also points out that this apparent continuity has resulted in the authors' postulating theories to account for the deviations of behavior observed. These theories according to Gravat are somewhat inadequate but serve to accentuate the necessity for studies of personality development that continue beyond the adult stage.

At this point one becomes aware that there is enough evidence appearing in the field of aging to contradict the acceptance of the traditional view that organic factors are the sole cause of the mental disorders of later life. It, also, is apparent that this evidence is not at the present time well-integrated into a definite theory or theories regarding the process of aging.

However, there does appear throughout much of the writing a recurring theme. This theme is the same as that presented by Rothschild in his paper on the socio-psychiatric foundations for a theory of the reactions of aging²⁵; i.e., the behavior of the aged individual is dependent upon the

²⁵Sidney L. Sands and David Rothschild, "Socio-psychiatric Foundations for a Theory of the Reactions to Aging", in the Journal of Nervous and Mental Diseases, Vol. 116, 1952, p. 233-241.

pre-morbid personality structure and the social and cultural conditions in which one lives.

Prior to Rothschild, the importance of such a conceptual frame of reference was discussed extensively in the Twelfth Conference on Problems of Aging²⁶. This conference focused its discussions on the personal, social and economic aspects of aging people, although representatives from other disciplines participated.

The opening paper by Frank²⁷ was essentially an appeal for a conceptual framework from which to interpret the data that are beginning to accumulate and to use as a basis for further research into these areas of change that occur as an individual enters into the period of old age.

As his contribution to meet this need, Frank presents his particular view of personality development. In essence, it does not differ radically from that of other writers in that he sees the personality as a result of a continuing, persisting process that the organism goes through in its life history. The events that take place within one's life history require the organism to modify, alter, and transform itself in order to maintain its existence.

²⁶Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 9-218.

²⁷Lawrence K. Frank, "Intrapersonal Aspects of Gerontology", in Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 13-67.

The author suggests that we look at the personality process as:

...that which is uniquely a human capacity which makes possible the transformation of the human infant, starting as a young mammalian organism, into a participating member of society, a bearer of traditions, who learns to live in a symbolic cultural world and, while undergoing these varied experiences, emerges as a personality²⁸.

He feels that in relation to the problems of gerontology, it is important that the personality be viewed as an expression of this continuing process of the organism as it moves through its life cycle. For only by seeing the organism as having a persistent and identifiable pattern to this process can that which is responsible for its existence be recognized and examined.

Frank argues that even though the organism undergoes many changes and is transformed by socializing and culturing, there develops an approach to life which is used to interpret and meet the demands and opportunities of childhood, adolescence, adulthood, involution and senescence. Along with the development of such an individual approach, the person also takes on an image of self, which is established by parents and other significant people in his life space. It is this image according to the author that is the significant element in understanding the behavior of the individual.

²⁸Ibid. p. 16.

Of importance to the problems of the aged, Frank points out the impossibility of maintaining this image in the face of the handicaps he suffers as a result of becoming old. For example, the attitudes that society hold toward the aged tend to destroy this image held and attempt to force the individual to take on another which may not be conducive to satisfying the person's needs. Also, there is the loss of those significant persons who are necessary to support the individual's image of self and the realistic facts that the individual's approach to life is no longer adequate or effective as a means of maintaining and defending his private world.

Donahue comments that the work done with normal old people supports this idea of the continuation of the personality as being of prime importance. She states that she has been:

....impressed by the fact that the continuation of the personality is the rule rather than the exception. The individual personality tends to persist often in the face of rather obvious and profound physiological changes²⁰.

Donahue feels that one of the main characteristics of the old person is an effort to preserve the self image he has formed under the changing conditions brought about by

²⁰Wilma Donahue, in Nathan W. Shook, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 57.

environmental pressures and the changes in his physical and physiological capacities.

It is her opinion that the aged individual's altered physiological status is of less importance to him than the attitudes that others hold toward him as an old person and the limited opportunity to satisfy his needs.

It is Donahue's concept that adjustment in old age depends upon one's ability to modify his self image. In other words, if the aged person is able to accept the alterations that society forces upon the old person and is able to compromise them with his own image, he is then able to make an adequate adjustment.

The same approach to understanding the aged finds support among authors such as Kuhlen³⁰, who agrees with the importance of the self concept as a determining factor in the behavior of the aged. Kuhlen, however, prefers to use the term self-regarding attitudes. Malmud³¹ approaches the problem in terms of constitutional characteristics; Havighurst³² uses

³⁰Raymond G. Kuhlen, in Nathan W. Shock, Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 60-62.

³¹William Malmud, in Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 44-46.

³²Robert J. Havighurst, "Interpersonal Aspects of Gerontology", in Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 68-112.

personal adjustment; and Linden³³ stresses the social aspects of the self. Basically, however, all of these views can be considered as pertinent to the self concept theory.

This theory holds that the individual has a preferred view of himself. This view he holds becomes a dominant force in determining his behavior, in that he attempts to keep his self picture a consistent one in the face of the innumerable internal and external changes that occur in the process of living.

Mason³⁴, Bugental³⁵ and others credit V. C. Mead with the development of this theory, but the basic idea of the importance of the self is not new. Mead³⁶ in his *Mind, Self and Society*, written in 1934, speaks of the self as an object to the person and having certain contents of its experience accessible only to the individual. This self, Mead comments, is the reflection of the complete social process of one's existence.

³³Maurice E. Linden, "Effects of Social Attitudes on the Mental Health of the Aging", in Geriatrics, Vol. 12, No. 2, issue of February, 1957, p. 109-114.

³⁴Lvelyn P. Mason, "Some Correlates of Self-Judgments of the Aged", in the Journal of Gerontology, Vol. 9, No. 3, issue of July, 1954, p. 324-337.

³⁵James F. Thomas Bugental, "An Investigation of the Relationship of the Conceptual Matrix to the Self-Concept", in Abstracts of Doctoral Dissertations, No. 57, Ohio State University, 1949, p. 27-33.

³⁶George H. Mead, Mind, Self and Society, The University of Chicago Press, Chicago, Illinois, 1934, p. v-400.

This self concept an individual holds has both a physical and a psychological component and each is incomplete alone. Together these form the total concept of self or the real self that other people deal with and that the individual strives consistently to maintain. If at any time this self is threatened, externally or internally, every attempt is made to keep the self concept intact.

Other writers, such as Rogers³⁷, Murphy³⁸, Allport³⁹, etc., have developed theories of personality with the self as the core idea. Intensive explanation of these theories here would be superfluous to the purpose of this paper. However, it is necessary to examine certain of the hypothesis of these theories to establish the point of investigation of this paper.

For example, the theories regarding the self generally agree as to the existence of a unity about the self concept. They also agree that its formation is a result of many variables such as development factors; i.e., organic needs, constitutional makeup, social factors, economic and cultural

³⁷ Carl R. Rogers, Client-Centered Therapy, Its Current Practice, Implications and Theory, Houghton, Mifflin, New York, 1951, p. vii-560.

³⁸ Gardner Murphy, Historical Introduction to Modern Psychology, Harcourt, Brace, New York, 1940, p. vii-466.

³⁹ Gordon W. Allport, Personality, A Psychological Interpretation, Henry Holt, New York, 1937, p. viii-588.

environment. Each author, of course, emphasizes one variable or the other but generally agrees that the individual may have many selves. These selves arise out of the individual's need to meet and adjust to the various situations he encounters. Therefore, at one time the person may be emphasizing his social self and at yet another time be presenting his physical self.

Regardless of which self is dominant, the person still maintains his consistent self and, as a result, is able to adjust or not in terms of the value and worth he places on this view. These different selves, however, do reflect basic personality components and by observation of these selves it is possible to gain insight into the manner in which the personality functions.

Although the word self-image is used by many writers, they seldom describe how this image or picture appears to the individual. It is obvious, however, that if one has a self image, it must have form. Schilder⁴⁰ uses the form of the body as the basic construct in his theory of personality and refers to it as the body-image. The body-image is described by him as "the picture of our own body which we form in our mind, that is to say the way in which the body appears to ourselves." Schilder states that this image:

⁴⁰Paul Schilder, The Image and Appearance of the Human Body, International Universities Press, New York, 1938, p. 5-353.

....is acquired, built up, and gets its structure by a continual contact with the world. It is not a structure but a structuralization in which continual changes take place and all these changes have relations to mobility and to actions in the outside world⁴¹.

Therefore, the body image is effected by all experiences that the individual may be exposed to during his life span.

Thus, since the body image does reflect what is taking place within the personality in terms of all experience; i.e., social, cultural and physiological and psychological, it will also reflect how these experiences effect the individual, what they mean to him and how and what he does in the way of adjustment.

Basic to the construction of the body image, is the individual's organic development of his sense organs. It is through these that he perceives the world and responds to his perceptions. Any alteration of this system will, of course, result in either a distorted perception of the situation or an inability to respond appropriately. Whatever the case may be, there will be some change required in the body image of the person. An examination of persons suffering from organic impairment proves this to be a valid assumption⁴².

The importance of this as related to the aged individual is that it is generally agreed that as one grows older,

⁴¹Op. cit. p. 174.

⁴²Op. cit. p. 181-188.

There is a progressive loss of perceptual ability. Thus one of the adjustments required of the aged will be to learn methods of meeting life's situations with lowered capacity.

Whether or not the person is able to make a successful adjustment will depend upon the many variables mentioned previously but whatever the case, the method or manner of adjustment will be reflected in the personality. Since the body-image of the person is considered to be basic to the personality, it would seem appropriate that a study of the changes in the body-image would give some indication of the manner of adjustment.

This investigation is designed to examine two groups of aged persons; one group that has apparently adjusted successfully to the process of aging, and another group that has become mentally ill.

The purpose will be to discover in which way the personalities of the successful group, as expressed in their body-image, differs from the psychotic or unsuccessful group. It is hoped that the results will show that the psychotic group will reveal personality differences over and above those revealed by the normal or senescent group.

If such changes are found, they should be of use in understanding the role played by the personality of the individual in determining his reaction to the process of aging.

such changes would be useful in planning further research into the problems of prevention of the psychoses of the aged and utilizing the potential of this rapidly rising segment of our society.

CHAPTER II

PERSPECTIVE

A. Review of the Literature

An examination of the literature concerning the personality of the aged reveals that there are many investigations about the subject but few on the subject. Many of the conclusions about the personality of the aged are a result of investigations done on peripheral or tangential aspects of the behavior or performance of the individual. Also much of what has been done is in the nature of descriptive or anecdotal material.

Affirmation of this state of the research is well described by Watson¹ in his review of the literature on the personality of the aged. In his introduction, he sets forth in concise terms what one can expect to find in a search of the available material. He points out that if the review were to contain only rigorous studies, "it would be of necessity brief, for such studies in the field of the personality of the aged are exceedingly rare."

By way of explanation of this situation, the author compares the field of the aged to the field of biology in its beginnings, wherein the scientists made use of "readily

¹Robert L. Watson, "The Personality of the Aged, A Review", in the Journal of Gerontology, Vol. 9, No. 3, issue of July, 1954, p. 309-315.

A. Review of the Literature (Continued)

observable isolated characteristics and reported in terms of rough comparisons."

To continue the analogy, this period is seen as the fact-finding, empirical exploration of the field. Later, according to Watson, rigor, experimental design and data that could be correlated with other fields came into being and gave precision to the manner of investigations.

It is his feeling that such is the state of the field of the psychology of the aged. He states:

This period of sophistication has arrived in certain areas such as in the investigation of intellectual functioning, but personality functions are still being examined in a naturalistic exploratory fashion².

As evidence for this, Watson points to the fact that much of the information about the aged personality is a result of studies on adjustment problems and is more oriented toward the social and personal welfare of the aged person. Such studies he feels are worthy but are limited in such important matters as control and alteration of variables so necessary to the scientific method.

There have been numerous conferences of persons interested in improving the situation of the aged and the

²Op. cit. p. 309.

A. Review of the Literature (Continued)

programs have covered very broad areas ranging from social welfare, employment practices and economic problems to sections on the medical and psychologic aspects of the aged.

Watson comments on these conferences and states that in the psychologic section:

Some attention is inevitably given to adjustment problems. Faced with the necessity of saying something and lacking tested knowledge, i.e. research, the speaker often draws upon anecdotal and clinical observation for his information about the personality of the aged³.

These two approaches, "application of adjustment issues" and "anecdotal character of the evidence", Watson describes as characterizing both the direct and indirect references to personality presented at these conferences.

In describing investigations more directly concerned with the personality of the aged, Watson refers to a review by Granick in 1950. This review lists only twenty studies of the personality of the aged as against seventy-two on intelligence and learning. Of importance to this study is the fact that only three of the twenty studies employed projective techniques and each study the same technique, that of the Rorschach. The other seventeen studies used the self report type of questionnaire.

³Op. cit. p. 309.

A. Review of the Literature (Continued)

The author criticizes the studies in Granick's review from the standpoint that the majority of the studies, except for those which used projective techniques, used the short interview technique. This he feels is a worthy approach but needs support from more objective instruments before the validity of the results can be fully accepted. Those using the Rorschach are of questionable value according to Watson, since the protocols of the aged were interpreted using standards of younger persons. These standards possibly have no significance if applied to a group of aged.

Watson also covers the 1950 report on government conducted research by Shock and Wehrwein and the report on university sponsored research by Kirk in 1951. Both reports have nothing to say about research in personality; in fact, the report by Kirk specifically excludes all psychological investigations.

As further indication of the paucity of the literature on the personality of the aged, Watson mentions that in the reported account of the first national conference on aging, only five lines in a chapter of twenty pages are devoted to personality. In Simms' report of government supported research in private institutions, little or no recognition is given to the importance of studies of the personality of the aged. Although, Watson reports, there is some reference to studies

A. Review of the Literature (Continued)

of stress reaction and social adjustment as being worthy of investigation, this approach he feels is rather characteristic of much of the investigations of the aged, in that the personality of the aged is studied in terms of the environment rather than in terms of the individual.

After this rather bleak look at the literature, Watson finally sounds a positive chord when he reviews the papers of the Second International Gerontological Congress in September, 1951. Although specific studies of the personality were not presented, Watson draws attention to the fact that some fourteen studies were suggested. These studies had the "motif of personality investigation" as an apparent objective.

An examination of the Final Report of This Congress⁴ shows that these studies mention such specific aspects of personality as studies of the early life of the aged, rigidity, social roles, self concept and study of the personality of the aged in relation to existing theories.

At this point in the literature, personality studies as such begin to receive more notice. However, the situation does not show much in the way of drastic change in the type

⁴Op. cit. p. 259-290.

A. Review of the Literature (Continued)

of investigations carried on. There are many studies proposed or in the planning stages, but few in the reporting stage.

Arneff⁵, in his discussion of the research problems in Gerontology, also supports this opinion. It is his feeling that, although there is a great quantity of literature that describe changes in the body, there is little or no evidence that any of these changes are correlated with the concomitant psychologic and sociologic changes. It is also apparent, the author states, that much of the data has come from studies done in institutions and homes for the mentally ill and infirm. Generalizations are drawn from this type of population and used to describe old people in general. This situation obviously shows a lack of scientific attention to such important matters as control and selection of sampling. In addition, according to Arneff, the amount of data available on normal old people is extremely rare and incomplete. The need for this type of data is of extreme importance, since the differences in motivation and self concept between the two groups would exert a strong force in determining one's present behavior.

⁵Franklyn N. Arneff, "Research Problems in Gerontology, in the Journal of Gerontology, Vol. 10, No. 4, issue of October, 1955, p. 452-465.

A. Review of the Literature (Continued)

Throughout this review, the author points out, the studies make the assumption that the process of aging is a deteriorative process and as such the older will of necessity show decline. He feels that, although this may be the case, there is still wisdom and experience in the person which are not being tapped. As a possible explanation of why this is so, Arnoff offers the view that our present techniques and methods have been designed around standards formed by younger groups and as such are not valid measures by which to judge the performance of older persons. He feels that there is need, not only for research on the aged, but more important for research in the development of tools and techniques that have been standardized for use with older age groups.

The development of such tools is entirely possible according to the author and as evidence he points to the extension of the intelligence curve into the older age limits in recent years. Specifically, he mentions Wechsler's revised intelligence scale, which compensates for age so that the older person does not suffer when compared to his younger competitor. This revision of measuring techniques has not occurred to any great extent in other areas, but Arnoff feels that it would be a relatively simple task to apply these same measurements at higher age levels and set up standards that

A. Review of the Literature (Continued)

would be more valid for the aged. Arneff also draws attention to those few studies that have been done on the aged and points out that the results show more age differences than age changes, which do not take into account the changes in culture that have occurred during the last five decades.

As far as research on the personality of the aged, Arneff cites only one study concerned with the development of the aged personality. This study he criticizes because of its inadequately controlled, gross data. Personality studies, as a rule, he feels lack the information that is needed since most of them are either cross-sectional or comparisons of hospitalized groups. What is needed, the author states, is more information about the healthy normal aged person who is still maintaining himself in an independent manner.

A still more comprehensive and extensive review of the literature on the psychological problems of the aged is that presented by Donahue⁶. Prior to her statement of the needed research in Gerontology, the author presents a rather encompassing view of the literature beginning with a search

⁶Wilma Donahue, "Psychological Research Needs in Gerontology", in the Journal of Gerontology, Vol. 11, No. 2, issue of April, 1956, p. 198-203.

A. Review of the Literature (Continued)

of the Psychological Abstracts from the year 1930 to the year 1955.

She comments that until 1945, the terms "gerontology" and "geriatrics" were not listed at all and that "old age" was always treated as a sub-category in the listings. The years following 1945 showed a tremendous increase in the literature, yet the kinds of studies and the amount necessary to meet the needs of the problems were not forthcoming.

The exigency of this situation prompted the Division of Maturity and Old Age of the American Psychological Association to call a conference to assist the progress of the research on the aged in an effort to determine what areas called for immediate assistance. This conference⁷, attended by some thirty psychologists, adjourned after three days. Their contribution was to add mountainous support to the already known fact that the gaps in the research of the aged are wide and in need of more extensive studies dealing with some of the more basic concepts of the nature of the aging process. The conference did, however, postulate a number of areas that are in need of immediate attention. But in spite

⁷John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D. C., 1966, p. 30-41.

A. Review of the Literature (Continued)

of this, according to Donahue⁸, the papers presented served only to prove that the psychologists have failed to come up with the information necessary to solve these problems.

The author continued to emphasize the lack of this information and buttressed her argument by referring to the text by Gilbert and the studies of Zubeck and Solberg. Her comment on these references is that Gilbert:

....whose *Understanding Old Age* is the only text to date devoted entirely to the psychology of ageing, was forced to supplement the meager research studies available on the subject with a record of present points of view regarding social policy and solutions to the problems of ageing and with descriptions of non-research-based action programs designed hopefully to alleviate various difficulties of older people....⁹

and that the studies of Zubeck and Solberg which were designed to provide a picture of behavioral development of the individual beyond adolescence, failed in this attempt. One reason for this failure is:

....a result of the fact that research data documenting age changes in the later years in such important psychologic characteristics as emotion, imagination, creativeness, attitudes and beliefs, social behavior, and personality structure are largely non-existent¹⁰.

⁸Op. cit. p. 197. - 4.

⁹Ibid.

¹⁰Op. cit. p. 197.

A. Review of the Literature (Continued)

Donahue further comments that after the authors finished discussing developmental changes in the sensory, motor and intellectual spheres, they could do little more than reiterate the need for better controlled investigations of older and middle aged groups.

Donahue continues her examination of the current status of the research by focusing her attention to the number of methodological problems that the researcher must of necessity concern himself. These problems such as sampling, instruments and techniques, design and research, are all discussed in detail and the reader is given adequate references to further augment his understanding of them.

Of particular importance to this study is the author's reference to the need for studies that would provide information and insight into the personality structure and functioning of older people. Her perusal of this area of investigation is rather unrewarding, in that her comment is that it is unfortunate but "relatively few data on the age-associated changes in personality or on the quality of adjustment in the later years" exist. This area of investigation is being approached by a number of researchers who are attempting to uncover changes that occur with age and to determine which are associated with good adjustment. However, there are no studies

A. Review of the Literature (Continued)

that attempt to relate the behavior of the aged with any particular view of personality.

In another review of studies on Aging and Psychological Adjustment, Shock¹¹ presents the results of some ninety-nine investigations dealing with age changes in needs, goals, interests, attitudes, estimates of happiness and unhappiness, sources of anxiety, adjustment, performance capacities and abilities, change in strength and motor skills, incidence of disease, intelligence, learning and memory and the role of culture and social environment

Throughout most of the studies reported, one significant fact stands out: although changes are seen and described among the different age levels, the individual differences within these groups is great. As such these changes cannot be considered as valid representations of what occurs in all older persons, or, for that matter, the majority of old people.

Shock mentions in summary that there is much more known about the age changes in the older person's capacity for physical and mental performance than about the changes in the needs and goals of individuals. It is also his feeling

¹¹Nathan W. Shock, "Aging and Psychological Adjustment", in the Review of Educational Research, Vol. 25, No. 5, issue of December, 1955, p. 477-486.

A. Review of the Literature (Continued)

that the significance of the known loss of physical and perceptual abilities of the aged is minimal, since many of them can be corrected or the person can make adjustments in living, if he is given the education and is willing to accept his limitations.

After each section of studies reviewed, Shock points out that although these studies serve well to identify and offer some method of approach to the problems, they do not supply much in the way of answers but only re-emphasize the need for more investigation.

It is of importance to note that out of the number of studies reviewed, there were none specifically concerned with the personality of the aged in general or with the body image of the aged specifically. What made up the bulk of the research were studies of the motor and perceptual skills and investigations of the social problems of the aged.

This pattern could well be considered an adequate sampling of the bulk of the research on the aged to date. This is to say that most investigators show more concern with the decrement of physical functions and the problems created by the aged person in society; i.e., problems in industry, living conditions, economic welfare, social and community relations, etc. It is also representative in that more problems are described than investigated.

A. Review of the Literature (Continued)

Dennis¹² the following year presented a very well screened review of the literature on the aged. This review contained only those studies that included a sufficient number of subjects and reported statistical results that were significant at the five per cent level of confidence. This review covers some one hundred ninety-three studies which are divided into four categories in the following manner: Social Behavior and Personality; Mental Abilities and Mental Achievements; Psychomotor Skills and Abilities; and Sensory and Perceptual Skills. The author also comments on previous reviews and writings on the problems of aging, going back to G. Stanley Hall's book, "Senescence", published in 1922, up to Shock's "Trends in Gerontology" in 1951. In general, it is the author's feeling that these reviews, although comprehensive in scope, suffer from being either outdated or too philosophical or speculative.

The largest amount of data on Dennis' report is to be found in the chapter on Social Behavior and Personality. However, this heading is quite misleading and one finds more studies related to interests than to personality.

¹²Wayne Dennis, "Age and Behavior, A Survey of the Literature", Project No. 21-0202-0005, Report No. 1, Air University, U.S.A.F. School of Aviation Medicine, Randolph Field, Texas, May, 1953, p. v-146.

A. Review of the Literature (Continued)

The author is aware of this and comments that this section may be disappointing to the reader, but adequate knowledge of the personality must come in the future. He is of the opinion that regardless of how much research is accumulated in the future, information using chronological age as an indicator of personal and social qualifications will never prove to be of value in the assessment of the aged. The results of these studies do little more than indicate that there are differences in individuals in all spheres of interests and no particular group of interests are associated with any age level.

Havighurst and Orr, writing in the Review of Educational Research hold this to be valid also. They state:

The past three years have seen a considerable amount of study of the psychological adjustment of people as they grow older. But the concept of adjustment as applied to adults in a modern society is so complex that these studies have merely served to outline the problem and to suggest some useful approaches to it, leaving a thorough exploration of it to the future¹³.

The authors proceed to re-enforce this comment by reviewing studies similar in nature to those already mentioned with the

¹³Robert J. Havighurst and Betty B. Orr, "Ageing and Psychological Adjustment", in Review of Educational Research, Vol. 25, No. 5, issue of December, 1955, p. 477-486.

A. Review of the Literature (Continued)

exception that these studies are more concerned with adjustment of the aged specifically. The results of these studies, however, are again general in nature and not related to any particular concept or theory of personality.

Other reviews of the literature on the aged such as those by Shock¹⁴ and Kleemier¹⁵ also report on studies of interests and adjustment, and end their reviews on the need for more information about personality structure and function.

Perhaps the review by Lorge¹⁶ best sums up the research and the present orientation of the investigators. He describes the research as being centered around the problem of caring for older people who cannot adequately take care of themselves. This is evidenced by the number of publications that emphasize the individual and social welfare of the aged and also by the increase in the number of reports dealing with rehabilitation, therapy and psychotherapy of the older person.

¹⁴Nathan W. Shock, Trends in Gerontology, Stanford University, California, 1957, p. viii-214.

¹⁵Robert W. Kleemier, Psychological Development in The Later Years; Increment or Decrement, Kooselaven Research Laboratory, Orange Park, Florida, May 24, 1955, p. 1-14.

¹⁶Irving Lorge, "Gerontology (Later Maturity)", in the Annual Review of Psychology, Vol. 7, 1956, p. 349-364.

A. Review of the Literature (Continued)

There is also more accent on the facts and the implications of these facts in regard to the care of the aged and little interest in theory, which the author feels is necessary to real progress in dealing efficiently with the problems associated in caring for the aged.

Large¹⁷ does, however, mention the studies of Linden and Courtney and Slotkin as representing a more positive attempt to classify the aged in terms of developmental theory but more research is required before such plans become meaningful. Such studies as these and the others reviewed, the author feels, have resulted in a number of cliché statements about the process of aging. These clichés and stereotypes, however, should be considered as presenting areas to be probed more deeply until sounder theoretical constructs are found for gaining knowledge of the phenomena called "ageing".

Anderson takes a less severe position regarding the research on the aged in that he feels the movement away from normative and purely descriptive studies toward research in terms of theoretical models and constructs is much in advance of the present stage of knowledge on the aged. He states:

¹⁷ *op. cit.* p. 350.

A. Review of the Literature (Continued)

....such developments represent an advanced stage in the history of science which appears only after a great wealth of descriptive, observational and crude experimental data are available. From this point of view the scientific study of aging is still largely in the exploratory and programming stage¹⁸.

He feels that the aged possess a number of undeveloped capacities which for the lack of time remain inert, and that studies designed to test older persons in the process of trying to use these capacities, would be of great significance in determining the personality potential of the aged.

Anderson's comments and ideas in his paper are also representative to a very great extent of all that has been reviewed in this paper so far. Of significance, however, is his feeling that all of the research to date, regardless of its scientific method, is of value and a necessary stage in trying to understand any new phenomena.

Although Anderson is willing to give credit to all types of research, there are still relatively few investigations of the self concept of the aged and only one that specifically deals with the body image of older persons.

¹⁸ John E. Anderson, "Research Problems in Aging", in John E. Anderson, Ed., Psychological Problems of Aging, American Psychological Association, Washington, D. C., 1958, p. 78.

A. Review of the Literature (Continued)

Kuhlen¹⁹ writes that favorable attitudes toward one's self is an indication of good adjustment and that all people beyond a certain age suffer progressive losses in self concept. There is also an increasing insecurity and lowered resistance to fears which would increase the need to protect and conserve against these losses. This need often is expressed in a negative vein and as such is often handicapping and restrictive. These conditions might well explain the behavior of the aged to which others respond in a negative way, thus re-enforcing the older person's view of self.

Another source of threat, perhaps, is that of the biological changes. Kuhlen feels that although there has been a great amount of study about these changes in themselves, little has been done in the way of examining them in terms of how they are viewed by the individual. He states:

There is reason to believe that the status losses such changes imply and the consequent threat to self are much more significant psychologically than any diminution of actual functional capacity²⁰.

By way of explanation of these conditions and their effect on behavior, the authors use the example of the

¹⁹Raymond G. Kuhlen, "Changing Personal Adjustment During the Adult Years", in John E. Anderson, Ed., Psychological Problems of Aging, American Psychological Association, Washington, D. C., 1956, p. 21-29.

²⁰Op. cit. p. 24.

A. Review of the Literature (Continued)

relationship of time and life. They feel that at some point in adulthood, which may be different for each person, there comes the realization that life and time have real limits and at this point the person becomes increasingly aware of his potential for growth and his limitations for achieving goals. As a result, goals become more specific, self evaluations more real and the energy expended toward these goals is viewed more significantly in terms of their day-to-day importance.

There is perhaps a period such as this wherein the person begins to look at his self concept, appraise it and make decisions regarding the need to modify its appearance and the possibilities of making such changes. The results of such analysis of the self may well be the key-determining factor in the person's future behavior. Whether or not continued expansion is possible or worth it will, of course, depend upon the individual's inner life and external conditions. An investigation whereby a number of measures would be taken of groups at different points in the adult age span, the author feels, would be extremely valuable in testing the hypotheses of the role of insecurity and the loss of speed in performance.

A. Review of the Literature (Continued)

Henry²¹ suggests that a study of the individual's ability to deal effectively with complex affective experiences is of importance in making successful adjustments to life situations. This ability which he terms affective complexity could well serve as the basis for a theoretical framework in which to study persons judged to be successful or unsuccessful.

The author states his approach has two major concepts; one, the inner aspects of the individual or the affective complexity. Affective complexity is defined as:

....condition of the person in which a variety and range of emotional connotations are available as a basis for reaction external to life events²².

The other major concept is that of the outer or social aspects of adjustment which are termed role perceptions and defined as:

....a factor which gives organization and structure to the individual's relations with the outer world and which defines for him and others the nature of their mutual interaction²³.

²¹William E. Henry, "Affective Complexity and Role Perceptions: Suggestions for a Conceptual Framework for the Study of Adult Personality", in John E. Anderson, ed., Psychological Aspects of Aging, American Psychological Association, Washington, D.C., 1956, p. 30-41.

²²Ibid. p. 41.

²³Ibid. p. 41.

A. Review of the Literature (Continued)

As one of the sub-categories of the study of the inner life of the person, the author suggests that a study of the body image would give valuable information about the manner of adjustment of the person. He mentions that in a previous study of old people, interest about and pre-occupation with the body appeared first among a group of people in their forties. Unfortunately, this study did not include persons beyond the age of fifty and the author feels that before any decisions regarding theory can be made, information of this nature in the groups beyond this age must be obtained.

Peck²⁴ proposes the theory that there is a developmental process in the second half of life that is being retarded because of lack of understanding of the process of aging by society and also by certain inevitable animal limitations. It is his opinion that wisdom is only acquired and used by living, experimenting and being motivated.

As a method of investigating this second half of life, he suggests that an approach similar to Erickson's or Freud's; i.e., the designation of stages of development, which the person must master before proceeding to the next

²⁴Robert Peck, "Psychological Developments in the Second Half of Life", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D. C., 1956, p. 42-53.

A. Review of the Literature (Continued)

level. He suggests two periods, Middle Age and Old Age, each with developmental stages that may occur at different times for different individuals.

Under Middle Age, the stages would be: (1) Valuing Wisdom vs. Valuing Physical Powers. This stage would best be described in terms of how successfully the individual is able to make the shift from physique based values to wisdom or mental based values, since the physical decline is inevitable. (2) Socializing vs. Sexualizing in Human Relationships. This stage is characterized by the ability of the person to define these in terms of companions as individuals rather than as sex objects. (3) Cathetic Flexibility vs. Cathetic Impoverishment. The characteristics of this stage are essentially one's capacity to shift emotional events from one individual to another and from one-type activity to a different type. This is made necessary by the inevitable events in one's life such as death of significant persons and the loss of objective value through the normal course of events. (4) Mental Flexibility vs. Mental Rigidity. The problem at this stage is one of how the individual is able to relinquish former methods of handling experiences when these methods are no longer adequate because of the changes both within the self and the external world.

A. Review of the Literature (Continued)

The next category, Old Age, and its stages is of more significance to this paper. Under this period, Peck proposed three stages: (1) Ego Differentiation vs. Work Role. The prime requisite for successful adjustment at this stage according to the author is the person's ability to establish a variety of valued activities and self attributes, so that the loss of gainful work will not mean loss of the total means of satisfaction and self worth. (2) Body Transcendence vs. Body Preoccupation. The author states that this stage is one of the most obvious to all old persons, since physical decline is inevitable and there will of necessity be body discomfort to a greater degree as one ages. The successful person is one who is able to transcend being preoccupied with his ailment and gains his satisfactions from his social and mental activities. (3) Ego Transcendence vs. Ego Preoccupation. This is essentially the individual's view of life and death. The successful and constructive way to live, according to Peck, might be defined as follows:

To live so generously and unselfishly that the prospect of personal death - the night of the ego, it might be called - looks and feels less important than the secure knowledge that one has built for a broader, longer future than any one ego could ever encompass²⁵.

²⁵Op. cit. p. 48.

A. Review of the Literature (Continued)

Peck suggests that studies of these stages could be examined, from various points of view, and that the results would be of extreme value in broadening our perspective of the aged. He also suggests a framework for studying the factors of successful aging to be used in future research. This outline is based upon his proposed developmental stages but he offers a number of smaller divisions that could be studied more discretely. Of importance to this investigation is his suggestion of studying the Body-Concept of the aged. His proposal is to study the:

1. Degree of body awareness and preoccupation.
2. Feeling of body adequacy and attractiveness, from pride and liking to shame or disgust. (Descriptively specifying particular body parts of special pride or concern to subject.)
3. Degree of integration of body image.
4. Degree of body-self integration²⁶.

Although the author presents a well-structured outline for a method of investigation of the personality of the aged, he does not present any information about what occurs or what one may expect to find.

Other writers who participated in the Bethesda Conference also offer suggestions for the study of the aged that more or less center around the self-concept. Specifically

²⁶Op. cit. p. 53.

A. Review of the Literature (Continued)

such writers as Mensch²⁷, Loeb²⁸, and others, offer ideas for research rather than research results. For example, Mensch feels that these areas of study may be important to the "understanding of the perception of the aging as well as the perceptions in aging."

Along these lines, Anderson²⁹ in his summary of the papers draws attention to the fact that among the specific problems brought up were the restrictions that occur on both a physical and mental level which effect a person's view of himself. In his summary Anderson points out that many of the participants referred to the importance of studying the self image and to what extent does this change as the person grows older. He feels that appropriate studies using projective techniques would provide some insight into the personality of the older person.

As mentioned at the beginning of this Chapter, the number of studies in the field of aging that employed

²⁷Ivan Norman Mensch, "Psychological Aspects of Aging; Perceptual Research", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, 1956, Washington, D. C., p. 140-146.

²⁸Martin B. Loeb, "Motivational Patterns and Educational Programs", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D. C., 1956, p. 186-190.

²⁹Op. cit. p. 283.

A. Review of the Literature (Continued)

projective techniques is rather small and unfortunately many of them used the same technique.

Caldwell³⁰ in the preface to her study reviews three previous investigations of the personality by means of the Rorschach. Her criticism of these studies is that the rationale of the Rorschach was applied to the aged without consideration of the fact that such rationale may not be applicable, because of the extreme differences in cultural background and the higher ages of the subjects.

Her study, which was designed to establish the relationship between test variables and age, offers evidence that the Rorschach as now standardized cannot be considered a valid measure of any significant variable of the personality of the aged. She draws attention to the fact that the Rorschach is essentially a perceptual test and as such is dependent to a great extent on the individual's visual acuity. When dealing with older age groups, this factor is almost without exception reduced and would place a limit upon performance.

³⁰ Betty McD. Caldwell, "The Use of the Rorschach in Personality Research with the Aged", in the Journal of Gerontology, Vol. 9, No. 3, issue of July, 1954, p. 318-325.

A. Review of the Literature (Continued)

The study by Prados and Fried³¹, although open to Caldwell's criticism, does offer some facts that are useful. It is their conclusion that there is no single age period where a general adaption to aging is likely to occur. Adaptation is more of an individual thing and can occur at any level and different types of adaptation can occur within the same group. Their analysis of the results leads them to the conclusion that the picture of the aged person is not one of individuals who are unable to reconcile their instinctive strivings with the demands of the external world but rather people who are unable to respond to stimulation because their capacity for response has been reduced. Whatever emotional life takes place within the older person, the authors feel, is of a somewhat primitive and infantile nature.

Mason³² used two projective tests in her battery to explore the self concept of the aged person; the W.A.Y. Technique and the Caldwell Picture Series. Her hypothesis was that variables such as age, attitude toward aging, length of residence, educational level, judgment of health

³¹Miguel Prados and Edrita G. Fried, "Personality Structure of the Older Age Groups", in the Journal of Clinical Psychology, Vol. III, No. 2, issue of April, 1947, p. 113-120.

³²Evelyn P. Mason, "Some Correlates of Self-Judgments of the Aged", in the Journal of Gerontology, Vol. 9, No. 3, issue of July, 1954, p. 324-337.

A. Review of the Literature (Continued)

status, family and social success, employment, religion, free time activities, mood of life and present mood, level of social maturity and intelligence are all related to the view a person holds of himself.

Mason studied three groups of people to evaluate the relationship of these variables to age and the self concept. There were two groups of aged individuals; one an indigent group above age sixty-five, the other a group of persons still maintaining an independent existence above the age of sixty. A third group of individuals of young adults were studied to permit a comparison of the self concept between two different age groups.

Her results showed that an aged institutionalized group of people are more negative in their view of self worth than the group of non-institutionalized aged. (1) This group, however, see themselves more negatively than the young adult group. (2) Although there were marked differences in the living conditions of both aged groups, no difference in the negative attitudes toward their present state of happiness and ability to contribute was found. Thus, old age is related to negative feelings of self worth. (3) The two old age groups view their self worth more negatively than the younger adults but have more inter-individual variability in the positive to negative continuum. In other words, the

A. Review of the Literature (Continued)

degree to which the older person begins to accept negative attitudes about himself varies greatly. (4) Age and economic status apparently have no effect as regards a person's social and intellectual functioning. (5) The two aged groups showed a significant relationship between positive views of self worth and environmental variables that showed positive attitudes toward present style of life; the younger adult group showed a positive relationship toward roles that they were actively engaged in each day. The aged independent group felt that the level of social maturity and a positive attitude toward self are related.

Mason suggests that one's ability to continue to function adequately socially in an independent manner is of importance in maintaining a positive self-concept in the aged.

Lorge³⁵ has also used a projective technique, that of the Draw-A-Person, the technique to be used in this investigation. Lorge compared the drawings of the self made by a group of seventy-seven students in a graduate course and a group of one hundred four subjects between the ages of sixty and ninety. The older group were selected partly from an

³⁵Irving Lorge, et al., "Human Figure Drawings by Younger and Older Adults", in the American Psychologist, Vol. 9, No. 8, issue of August, 1954, p. 420-421.

A. Review of the Literature (Continued)

institution for the aged and partly from a recreational day center. The results showed the drawings of the aged to be incomplete, lacking integration, being of one or two dimensionality, lacking in proportion, bizarre and showing poor motor control. The author states drawings of the aged "can be used as evidence of the intactness of physiological and psychological adjustment."

There are no other studies similar to this in the literature reviewed. However, some references to drawings of the aged appear in some writings. For example, Machover states:

Old, primitive, and regressed individuals, who are no longer plastic, give the same drawing from one time to the next, while younger and growing persons, as well as persons who are responding to treatment, tend to give variations of drawing productions consistent with the variations in their personality.³⁴

This general statement and the findings of Lorge³⁵ constitute the available material on investigations of the body-image of the aged through the use of the Human Figure Drawings.

³⁴Karen Machover, "Drawing of the Human Figure, Method of Personality Investigation", in Harold H. Anderson and Gladys L. Anderson, Editors, An Introduction to Projective Techniques, Gravette-Hall, New York, 1953, p. 348.

³⁵Op. cit. p. 420-421.

B. Need for the Study

The mental diseases associated with old age are rapidly assuming a position in our society as the prime socio-economic problem. This is due largely to the recent advancements in medicine and improved public health measures.

The average life span of the individual has increased from forty-seven to sixty-eight years during the last half century. It is estimated that by 1970 there will be nearly one-half million people sixty-five years of age or over³⁶.

Of importance is also the fact that many of these individuals over the age of sixty-five will have one or more chronic diseases and usually find their way to a hospital to wait until death occurs. This becomes an obvious problem, both from the standpoint of being a financial burden and a humanitarian one of finding places to care for the aged, as the overcrowding conditions of hospitals force them to refuse new admissions.

This situation has already started to form in some area. Stearns is quoted as describing this as a "sociological

³⁶ Anon., "The Problem of the Aged Patient in Public Psychiatric Hospital", in the Group for the Advancement of Psychiatry, Published Reports, No. 14, Vol. Special, 3617 W. Sixth Avenue, Topeka, Kansas, August, 1950, p. 1-6.

B. Need for the Study (Continued)

phenomena by which sick persons are being cared for in hospitals rather than in their homes³⁷." The increased rate of admission to state mental hospitals provides very tangible evidence to support this fact^{38, 39, 40}.

An analysis of the aged population of mental hospitals reveals that many of the patients show nothing more pathological than poor memory, mild confusion and physical infirmity. Linden⁴¹ has conducted group therapy among the aged and his results show a great deal of successful recovery of these symptoms. In addition, the morale and adjustment of the patient to the hospital was decidedly improved. Such results are indicative of the importance of recognizing that

³⁷ A. Warren Stearns, "Psychiatric Aspects of Senility", in the J. Main Medical Association, Vol. 38, No. 257, issue of November, 1947, p. 60-64.

³⁸ Kurt Wolff, "Definition of the Geriatric Patient", in Geriatrics, Vol. 12, No. 2, issue of February, 1947, p. 102-106.

³⁹ Otto L. Bettag, "Hospitalization of Persons over 65", in Geriatrics, Vol. 12, No. 2, issue of February, 1947, p. 107-114.

⁴⁰ Leroy E. Chapman, "The Aging Problem in Pennsylvania", Report on the Investigation Conducted by the Sub-Committee in Aging of the Joint State Government Commission, Talk given at the Pennsylvania State College, August 19, 1953, before the Annual Health Conference, p. 1-11.

⁴¹ Maurice E. Linden, "The Miracle in Building #53", in Current, issue of January, 1954, published by Pennsylvania Citizens Association, Philadelphia, Pa.

B. Need for the Study (Continued)

the aged are not doomed to withering but still is capable of adjustment and have a potential for continued life.

The effect of this growing group of aged persons is being felt in almost every sphere of society. For example, the type of living accommodations required by the aged person calls for a review of present standards, since his needs are vastly different than those of the younger person. The implications of the importance of the proper housing facilities to the health of the aged is well brought forth by Johnson and Pond⁴⁸. The authors point out that housing can be a positive factor in the health of the aging, and that only by considerable knowledge about the psychological and physiological needs of the aged can principles of healthful housing for the aged be developed. This is an obvious need when one considers the steady increase in the number of chronically ill among the older people.

In industry the aged groups are becoming a dominant factor to be considered in planning policies concerning retirement practices, manpower utilization and community

⁴⁸ Ralph J. Johnson and M. Allen Pond, "Health Standards of Housing for the Aging Population", in the Journal of Gerontology, Vol. 7, No. 2, issue of April, 1952, p. 254-258.

B. Need for the Study (Continued)

relations⁴³, 44, 45. Insurance companies and hospitalization plans are having to revise their actuarial data to adjust to the rapid rise of this group.

In community life the growth of the aged population has made many changes necessary. Recreation facilities are having to be provided in some areas⁴⁶, counselling services specifically for the problems of the aged need to be offered and the growth of Senior Citizens Clubs call for additional space and facilities for meeting places. Adult education programs are becoming increasingly in demand as the retired person looks for places to find satisfaction for his needs.

Shook⁴⁷ suggests that we view the problems of the aged as "a large map made up of some areas of knowledge, but

⁴³Milton L. Barron, "Minority Group Characteristics of the Aged in American Society", in the Journal of Gerontology, Vol. 8, No. 4, issue of Dec., 1953, p. 477-481.

⁴⁴Evan Clague, "Labor Force Trends in the United States", in the Journal of Gerontology, Vol. 7, No. 1, issue of January, 1952, p. 82-90.

⁴⁵Helen G. Laws, "A Community Plans a Recreation Program for the Aged", in the Journal of Gerontology, Vol. 8, No. 1, issue of January, 1953, p. 86-89.

⁴⁶Jacob Pashman and Irving Lorge, "Retirement Practices in Business and Industry", in the Journal of Gerontology, Vol. 7, No. 1, issue of January, 1952, p. 77-86.

⁴⁷Nathan W. Shook, "The World of Aging", in the Newsletter of the Gerontological Society, Vol. 4, No. 3, issue of September, 1957, p. 13-10.

B. Need for the Study (Continued)

including large expanses of unknown territory". Using this analogy the author divides the areas of his map into four general problem areas; (1) social and economic, (2) psychological, (3) physiological, and (4) biological. Although these divisions are made, there are no lines of demarcation and the boundaries overlap.

It is his contention that without exception one cannot raise a problem without it either effecting or being effected by the aged in our population. He also sees all of these problems as interrelated and as having implications for the future that, of necessity, demand more and more basic knowledge.

Summarizing his view of the problems, Shock states:

"The complex social problems with which we are confronted, and on which we must take immediate action, are clearly related to the psychological components of aging, which, in turn, are related to physiological problems with their roots in cellular function. We thus have a progression of problem areas and note that no one can stand in isolation; each has pseudopods that extend into others⁴⁸."

There is evidence throughout the literature on the aged that suggests and, in fact, points out that this need not be the outcome. Although, as one examines the needs and problems of the aged and the problems that are predicted

⁴⁸Op. cit. p. 10.

B. Need for the Study (Continued)

will arise in society as a result of this group, it is possible that the picture seems filled with apprehension and the aged persons begin to take on the appearance of a malignant growth that will have disastrous effects upon the health of the world. Such a view is erroneous and distorted.

It is obvious, however, that this particular age group is becoming of such proportion that it can no longer be completely ignored or dealt with superficially. This fact is not unnoticed and the awareness of the problem is evidenced by the Division of Maturity and Old Age, of the American Psychological Association when it called together a group of some thirty psychologists to discuss the status of the research on the subject. The outcome of this conference attests to the complexities of the situation, and the potential that is possible. Donahue sums up the thinking of this group and states:

Underlying the thinking of the Bethesda Conference was the realization that psychologists today have an obligation to explore much more thoroughly than they have in the past, that segment of human behavior which constitutes the period of later maturity. It was recognized that changes in the psychologic and physical status of older people and the current social and economic trends make the perpetuation of the unmodified goals of middle-age and earlier life impossible. The last phase of the life cycle is, therefore, unique in comparison with any of those preceding it, and, hence, may be expected to have a psychology of its own as definitive as that of childhood, adolescence, or early adulthood⁴⁹.

⁴⁹Op. cit., Wilma Donahue, p. 196.

B. Need for the Study (Continued)

This will be possible only after more and more investigations into the field of aging bring out facts and information to provide society with the means to meet these problems with satisfactory solutions.

C. Research Hypothesis

It has been hypothesized that an individual's response to aging is determined to a great extent by the strength or weakness of his personality structure. In fact, the theory has been offered that the personality of the individual may be responsible for determining the point at which the person succumbs to the effects of growing old. However, at the present time little is known about the manner in which the personality directly or indirectly influences the aging process or the adjustments it makes in response to the process.

It would seem relevant to understanding the personality of the aged person to investigate differences in personality between a group of aged individuals who have apparently made an adequate adjustment in old age and a group of aged persons who have become psychotic.

To investigate personality in its totality would be an almost impossible task. However, one can examine certain variables of the personality that will provide information

C. Research Hypothesis (Continued)

relevant to the total structure. One such variable of personality that is ever present is the body and this will be the particular focus of this investigation.

The approach to examining the body will be to study the body-image, or the picture a person has formed in his mind of his body, as expressed in drawings of the human figure. This area has been chosen for investigation because of the importance of the role of the body in the aged person.

One reason for the body assuming such importance in the aged is due to the fact that one of the inevitable results of aging is physical decline and loss of capacities. This comes about through constant organic change and continued stress. The effects of these factors are experienced in the body of the person as it undergoes alteration due to these changes. The body is also the means of maintaining its contact with the environment and, depending upon its condition, we are required to restrict our range of activity or we are permitted to continue to extend our present boundaries in terms of our interaction with life.

The body in old age thus becomes for many people the frame of reference for judging one's capacities, limitations and potential for continued existence. As one views his body and its change, the need for adjusting one's way of life and altering one's concept of self becomes obvious. These

C. Research Hypothesis (Continued)

adjustments and alterations of self are reflected in the body image, since it will necessarily change as the person adjusts.

Therefore, an examination of the body image of a group of normal well-functioning aged individuals as compared to a group of psychotic aged persons should provide some information about those variables of the personality which make successful adjustment in later life possible.

1. Assumptions:

As stated previously, this investigation will be concerned with the body image as a basic construct of the personality. This variable, however, cannot be separated entirely from other variables and for this reason the following assumptions will be made to provide a framework for this investigation.

(a) The process of aging is accompanied by progressive organic and physiological changes of a deteriorative nature.

(b) Any change of an organic, physiological or psychological nature is accompanied by a change of body image.

(c) The body image of a person is integrally related to feelings about the "self".

(d) The body image reflects the manner in which an individual adjusts to the effects of growing old.

C. Research Hypothesis (Continued)**2. Hypotheses:**

The general hypothesis will be the null hypothesis; i.e., there are no quantitative or qualitative differences between the body-image, as expressed in human figure drawings between a group of psychotic aged men and a group of normal aged men.

The sub-hypotheses to be examined are as follows:

(a) Changes in the body-image will not distinguish between a normal group of aged male subjects and a group of psychotic aged male subjects.

(b) Among the normal group:

(1) There are no differences in the body-image that will distinguish between different age levels.

(2) There is no increase in the number of negative changes in the body image as the age level increases.

(c) Among the psychotic group:

(1) There are no differences in the body image that will distinguish between different age levels.

(2) There is no increase in the number of negative changes in the body image as the age level increases.

(d) There are no differences in the body images of the normal group and the psychotic group at different age levels that will distinguish between the two groups at each age level.

(e) There are no specific aspects of the body image that will be characteristic of each age level in both groups.

CHAPTER III

EXPERIMENTAL DESIGN

A. Psychological Techniques

The method used to obtain the data concerning the body image will be that of a projective technique, specifically the Draw-A-Person Test as proposed by Machover¹. This test will be referred to throughout this investigation as the DAP. The test will be used according to the procedure presented by Machover with the exception that only the drawing of the male figure will be analyzed. The test will also differ in that it will be scored following the systems of Goodenough² and Buck³.

The reason for choosing this technique is that it is simply administered, requires little time to complete, needs a minimum of materials and is less dependent upon perceptual ability than other projective tests. There are few limitations regarding age, education or artistic skill. It is relatively unstructured, has few directions to follow and is easily applied to either groups or individuals.

¹Karen Machover, Personality Projection in the Drawing of the Human Figure, (A Method of Personality Investigation), Charles C. Thomas, Springfield, Illinois, 1949, p. vii-181.

²Florence L. Goodenough, The Measurement of Intelligence by Drawings, New York, World Book, 1926, p. 111-177.

³John H. Buck, "The D-T- Technique", in the Journal of Clinical Psychology, Monograph Supplement, No. 5, Issue of October, 1948, p. 3-118.

A. Psychological Techniques (Continued)

These considerations are of importance when dealing with the subjects in the sample being examined. For example, the psychotic aged often show defects of a perceptual nature, poor attention, and memory span and lack comprehension. The normal aged subject also may have many of the same limitations but, perhaps to a lesser degree and, in addition, are often reluctant to participate in experiments that are time consuming or involve complex questions of a too personal nature.

The factors of education are also important in that persons of this age range are limited in the availability of institutions for learning and the educational requirements of the culture at that time were of less significance than the ability, desire and willingness to work. Also of importance to this study is the availability of the sample. The difficulties of finding individuals of this age range are numerous, to get them together in groups and all willing to participate almost impossible. Therefore, the technique used had to be flexible, available at an instant and simple to perform.

In view of these difficulties presented by the sample and the characteristics of the DAP in that it is relatively unaffected by such variables, it appeared well suited to the investigation.

A. Psychological Techniques (Continued)

However, the test is subject to differences of opinion because of its relative newness and the subjectivity of its rationale. Therefore, the next chapter will concern itself with the validity of the DAP technique.

The use of Human Figure Drawings as a method of investigating the personality has achieved widespread acceptance among contemporary clinical psychologists. Although there is a wide divergence of views concerning its validity, its clinical validity is such that its inclusion in a test battery is almost standard practice.

Human Figure Drawings have been of considerable interest for at least the past thirty years, and Goodenough⁴ is generally credited with being the first individual to apply objective measurements to such drawings. In 1926, Goodenough developed a scale whereby children's drawings of a man could be scored to obtain a measure of intelligence. Although this was the original intent of the test, Goodenough at the time mentioned that the test held many implications for understanding the personality.

Interest in the Human Figure Drawing as a means of describing personality was given impetus by Machover⁵ when she

⁴Op. cit. p. 111-177.

⁵Op. cit. p. vii-181.

A. Psychological Techniques (Continued)

published the monograph on Personality Projection. This publication became the main source of information regarding the interpretation of Human Figure Drawings. Machover's hypotheses have been subject to much investigation and the results are somewhat inconsistent and fail to bring forth solid evidence by which the test can be rejected or accepted completely.

The most intensive review of the investigation of the Human Figure Drawing Test is perhaps the one by Swensen⁶. The author reports on some eighty-seven studies that had as their objective the determination of the validity of Machover's hypotheses concerning the DAP. Swensen's conclusions about the investigations indicate that Machover's hypotheses are seldom supported by the research and he feels that it is of doubtful value in clinical work. However, he does suggest that the DAP is of value as a rough screening device and as a rough indication of an individual's level of adjustment.

Although the above review is comprehensive in its scope, it has certain limitations that are relevant to this investigation. The author attempted to show that the specific

⁶Clifford H. Swensen, Jr., "Empirical Evaluations of Human Figure Drawings", in the Psychological Bulletin, Vol. 54, No. 6, issue of November, 1957, p. 431-466.

A. Psychological Techniques (Continued.)

interpretations of drawings given by Machover failed to hold up under investigation. However, his review is more heavily weighted with studies which test the significance of the meanings which Machover assigns to the various parts of the body. Although Swensen presents a number of cases that show a lack of agreement between theory and practice, he also makes light of significant findings when they do occur. Of importance to this study is the hypothesis that the DAP represents the body-image and on this point Swensen does offer the suggestion that there is some basis for believing this to be a valid hypothesis.

A study of the differences in drawings between obese women and ideal weight women by Kotkov and Goodman⁷ suggests that the figures drawn by the female subjects were a projection of the body-image.

Lehner and Silver⁸ investigated the relationship between the subject's own age and the age assigned to male and female figure drawings and found that beyond the age of

⁷ Benjamin Kotkov and Morris Goodman, "The Draw-A-Person Test of Obese Women", in the Journal of Clinical Psychology, Vol. 12, No. 4, Issue of October, 1953, p. 382-384.

⁸ G. F. J. Lehner and H. Silver, "Age Relationships on the Draw-A-Person Test", in the Journal of Personality, Vol. 17, No. 3, Issue of December, 1948, p. 195-209.

A. Psychological Techniques (Continued)

twenty-five both women and men assign ages younger than their true age to the figures drawn. This result, they feel is a reflection of the cultural emphasis on youth. Of importance, also, was their observation that there was a high consistency in the way each sex draws the figure of his or her sex. This consistency, the authors feel, indicates that each sex projects itself into the figures drawn in a "consistent and characteristic manner."

In a later study, Lehner and Gundersen⁹ attempted to determine the relationship of sex and age to the height of the figure drawn by subjects who were given the DAP test. The results indicate that significant differences in the height of figures drawn by men and women appeared at certain ages and tended to remain constant over a period of time. It is the authors' hypothesis that the size of the figure drawn reflects the self-concept of the drawer and is an index of the self valuation of the person.

In terms of this hypothesis, the study showed that men tend to increase their self value up to the age of thirty and then show a decline. Women show an increase in self

⁹George F. J. Lehner and Eric K. Gundersen, "Height Relationships on the Draw-A-Person Test", in the Journal of Personality, Vol. 21, No. 3, issue of March, 1955, p. 392-399.

A. Psychological Techniques (Continued)

valuation up to the age of forty, then a decline with a sharp drop at the age of fifty. In summary, what happens to men in terms of self valuation at about age thirty, happens to women at forty, but once the decline occurs, it proceeds at about the same rate. The authors also comment that the height variable reflects not only sex differences but age differences as well and that variations in the drawings are a function of and predictable from such dynamics as age and sex if used together.

Berman and Laffal¹⁰ also investigated the hypothesis that the DAF is related to the body-image of the individual. In their investigation the authors compared the body types of neuropsychiatric patients as described by Sheldon's criteria with the body type of figure drawing by the subject. They found a significant correlation between the subject's body type and the body type of the figure drawn by him. These findings, the authors feel, support the validity of the DAF as a projective device since they reveal a relationship between one aspect of the person and the figure drawn. They also hypothesize that this may be partly due to the fact that people tend to draw figures with which they are familiar.

¹⁰Sidney Berman and Julius Laffal, "Body Type and Figure Drawing", in the Journal of Clinical Psychology, Vol. IX, No. 4, issue of October, 1953, p. 368-370.

A. Psychological Techniques (Continued)

that is their own. The authors' findings also support the hypothesis that the DAP is a projection of the body image.

Mainord¹¹ investigating the hypothesis that the DAP is representative of the person's sexual identification; i.e., normal procedure is to draw the self sex first. Mainord found that among male subjects the hypothesis was supported but among female subjects it did not prove valid. Her investigation was designed to discover whether or not drawing the opposite sex than the self sex could be considered a sign of sexual inversion. The results indicate that this drawing of the opposite sex first could not be considered indicative of sexual inversion for females but could be considered valid in the case of male subjects. The author also reports the results of a study by Levy, who used five thousand subjects. He reports that 87% of the subjects drew the figure of their own sex first. Since sexual identification is dependent upon the body image to a great extent, it can be concluded that, since the subjects drew figures that were appropriate to their self sex, the figure drawings represent at least partially the body-image of the person drawing the figure.

¹¹ Florence R. Mainord, "A Note on the Use of Figure Drawings in the Diagnosis of Sexual Inversion", in the Journal of Clinical Psychology, Vol. IX, No. 2, issue of April, 1953, p. 183-185.

1. Psychological Techniques Continued

Weider and Koller¹² in a study of seventy-three boys and eighty girls between the ages of eight and eleven, also report on the relationship between the sex of the subject and the first figure drawn was in a positive direction and statistically significant at the 1% level of confidence. They report that 74% of the boys and 90% of the girls drew the figure of their own sex first.

Other writers have started with the assumption that the human figure drawings are representative of the body image and have proceeded to investigate the validity of the test to differentiate between normal and pathological groups.

Holzberg and Wexler¹³ examined the drawings produced by a group of seventy-eight student nurses, and a group of thirty-eight women diagnosed as schizophrenic. The figures were scored for each of 174 items, a frequency list drawn up and those items that differentiated between groups at the 5% level of confidence were made into a new scale. This scale was then applied to the groups of drawings again to see if

¹²Arthur Weider and Paul A. Koller, "Objective Studies of Children's Drawings of Human Figures", in the Journal of Clinical Psychology, Vol. VI, No. 4, Issue of October, 1950, p. 319-325.

¹³Jules L. Holzberg and Murray Wexler, "The Validity of Human Form Drawings as a Measure of Personality Deviation", in the Journal of Projective Techniques, Vol. 14, No. 4, 1950, p. 343-361.

A. Psychological Techniques (Continued)

they would discriminate between normals and sub groups of paranoid, catatonic and hebephrenic schizophrenic patients. Their result showed statistical significant differences between human figure drawings of normals and schizophrenics and between normals and each of the three sub groups of schizophrenics.

In a later study Holzberg and Wexler¹⁴ repeated the same experiment with a new group of subjects to test the validity of their previous findings. The results of this study confirmed the findings of the earlier study; i.e., the DAP discriminates between normals and psychotics.

Still another approach to the investigation of the reliability of the DAP has been to determine the agreement of judges of the level of adjustment, homosexual tendencies, mental retardation and diagnostic classification of the persons, as expressed in their drawings of the human figure. Perhaps the most significant study of the reliability and validity of judgment of adjustment from drawings is that by Albee and Hamlin¹⁵. In this study the authors obtained

¹⁴Murray Wexler and Jles D. Holzberg, "A Further Study of the Validity of Human Form Drawings in Personality Evaluation", in the Journal of Projective Techniques, Vol. 16, No. 2, 1962, p. 249-251.

¹⁵George W. Albee and Roy W. Hamlin, "An Investigation of the Reliability and Validity of Judgments of Adjustment Inferred from Drawings", in the Journal of Clinical Psychology, Vol. V, No. 4, issue of October, 1949, p. 301-302.

A. Psychological Techniques (Continued).

two hundred drawings of the human figure by individuals who showed adjustment levels ranging from normal to delusional psychotic. They then asked fifteen clinical psychologists to decide which one of a pair of figure drawings reflected the better adjusted person. The psychologists were divided into two groups to test the reliability of the judgments and a linear correlation between the groups was computed. The results showed a linear correlation of .91, which is significant at the 1% level, indicating an extremely high degree of reliability of judgments between the two groups. The rank order between the level of adjustment as determined by the psychologists' rating of the drawings and the level of adjustment as determined by the case record of the subject, showed a correlation of .840, which is significant at the .05% level. The authors conclude that psychologists are able to make reliable judgments concerning the adjustment of an individual from the drawings of the human figure and the results are sufficiently valid to continue the use of the technique as a means of assessing adjustment.

Using the same data from this study, the authors developed a scale of the mean values of the drawings, which permitted placing the drawings on a continuum with unequal intervals ranging from the drawing judged to reflect the poorest adjustment to the drawing reflecting the best level

A. Psychological Techniques (Continued)

of adjustment. Albee and Hamlin¹⁶ then used this scale in another study to determine whether or not the introduction of some objective rating scale would increase the reliability of the judgments and lend some objectivity to the global interpretations. Judges were then asked to place each drawing of a man, taken from three groups of subjects arranged according to level of adjustment, at a point along the criterion scale that corresponded to the judges' opinion of the person's adjustment.

The reliability of the judges was .89 and significant at the 1% level of confidence. The validity of the criterion scale to differentiate between normals and neurotics and normals and schizophrenics was significant at the 1% level of confidence in both instances. The authors state that the use of a criterion scale to aid in the judgment of adjustment from figure drawings lends reliability to the judgments. They also conclude that psychologists can consistently agree with each other in inferring the level of adjustment from drawings and that the inferences reveal a reasonable degree of validity.

¹⁶George W. Albee and Roy W. Hamlin, "Judgment of Adjustment from Drawings: The Applicability of Rating Scale Methods", in the Journal of Clinical Psychology, Vol. VI, No. 4, issue of October, 1950, p. 363-368.

A. Psychological Techniques (Continued)

Lehner and Gunderson¹⁷ developed a rating scale consisting of twenty-one graphic traits such as shading, erasures, body-type, etc., and rated human figure drawings of sixty-six women and twenty-five men in an attempt to determine the reliability of using a rating system to assess the consistency of sets of ratings for the graphic variables. This was done by having the authors rate the drawings originally and then re-rate them one week later to determine the reliability and consistency of the judgments.

To check the test-retest reliability, the subjects were asked to repeat the test about four months later. The inter-rater reliability was checked by having three judges rate the drawings independently and then compare the ratings of the judges to the ratings of the authors.

The results showed a high degree of agreement in the evaluation of graphic indices when using an objective and explicitly formulated rating system. Although, there were some low percentages of agreement, the authors felt this to be due to the complexity of the trait examined or the variability among judges. Of significance to this study was the

¹⁷George P. J. Lehner and Eric K. Gunderson, "Reliability of Graphic Indices in a Projective Test (The Draw-A-Person)" in the Journal of Clinical Psychology, Vol. VIII, No. 2, issue of April, 1952, p. 125-128.

A. Psychological Techniques (Continued)

test-retest ratings of the body-type trait, which was 92%. This would suggest that the body-type of the figure drawn tends to remain constant over a period of time. The authors report that there is a tendency for many of the traits to remain constant. They summarize their study by pointing out that a high degree of objectivity may be obtained with the DAP when an objective rating scale is used in analyzing the drawings.

Although the literature reviewed here is supportive of the DAP as a valid instrument with which to assess personality, there are other studies which tend to negate its value. Those studies which do not provide supportive evidence, however, almost without fail mention that its value in terms of its clinical validity is most worthy and should receive consideration and be employed whenever personality assessment is required.

It has also been noted that when the DAP is used in conjunction with some method of scoring that provides for objective measurement, its reliability and validity increases. There have been a number of such scoring methods offered as possibilities but most are still in the investigative stage.

One such method, however, is available, and although not specifically oriented to the DAP as such, provides a

A. Psychological Techniques (Continued)

method for measuring certain aspects of the Human Figure Drawing. This method is that proposed by Buck¹⁸ in the H-T-P Test. In the manual for the test, criteria for assessing the drawing of a person are provided and as such permit quantitative measurement that lends itself to statistical examination rather than subjective interpretation.

This method will be used to examine the Human Figure Drawings in this study.

B. The Sample

The subjects of this study will be 108 males, ranging in age from 60 to 92 years. The population is composed of two groups of 54 subjects each.

One group is composed of normal well functioning individuals living independently outside of institutions ranging in age from 60 to 84.

The other group is composed of psychotic individuals living within a mental hospital, who have been diagnosed as chronic brain syndrome with cerebral arteriosclerosis ranging in age from 60 to 92.

Table I compares the two groups for age distribution and mean age.

¹⁸John N. Buck, Op. cit. p. 3-118.

B. The Sample (Continued)

Table I - Distribution of ages and mean age of Normal and Psychotic subjects.

Ages	Psychotic	Normal
	f	f
92-93	3	0
90-91	0	0
88-89	0	0
86-87	0	0
84-85	4	1
82-83	2	3
80-81	3	1
78-79	5	3
76-77	3	5
74-75	6	6
72-73	5	5
70-71	7	6
68-69	2	0
66-67	1	4
64-65	7	8
62-63	3	10
60-61	3	2
N	54	54
Mean	63.01	70.09
Sigma	6.60	5.58
t = .58		

B. The Sample (Continued)

Table I shows that the number of subjects in each age interval are approximately equal except for the interval 62 to 63 years and the interval 84 to 85 years. However, these differences do not affect the similarity of the groups to any significant degree as evidenced by the t score of .58. Therefore, both groups can be assumed to be equal in regard to age.

It is also noted that the range of the normal subjects stops at interval 84-85 years, whereas the psychotic group continues to interval 92-93 years but contains only three subjects all at this interval.

C. Collecting the Sample

1. Normal Group - The subjects for the normal group were obtained by two methods. First was that of the group method whereby the writer contacted the Welfare Council of Pittsburgh and obtained a list of all old age clubs in the Greater Pittsburgh Area. There were twenty-six such clubs, sixteen were composed of men only, the others were mixed; i. some were composed of women only and others made up of both sexes.

The writer contacted the directors, presidents or executive boards, depending upon the organizational structure of the club, and attempted to make an appointment to present

C. Collecting the Sample (Continued)

the proposed investigation for their approval and permission to contact the members of the club. It is interesting to note that out of the sixteen clubs contacted, the writer was given an appointment to present his case in person by only six of the organizations, and only three out of the sixth agreed to participate.

The reasons for refusal were generally vague and filled with uncertainty. On a number of occasions the writer felt that perhaps the project was not explained fully enough or that its purpose was not clear because of the difficulty in communicating by telephone. In this situation a request was made for permission to visit the person contacted and to personally clarify the problem. In all such instances, the request was refused. There was a denial on the part of many of the persons contacted that there was a lack of understanding on their part of the proposal.

Those groups that were contacted personally and refused to participate were somewhat less vague but still failed to give reasons based on logical objective ground.

No record was kept of the reason for refusal but the general attitude could best be described as a desire on the part of the aged persons contacted to be left alone. One director stated that heth felt the aged had done enough and

C. Collecting the Sample (Continued)

now wanted to enjoy the leisure-time available. The author also met with hostility in some instances, because of the feeling that the test was prying into the personal life of the subjects, despite repeated assurances that no personal identifying information was required other than age, school level and occupation.

These difficulties are similar in nature to those encountered by Havighurst in his study of the aged in a mid-western community¹⁹. He feels that the older person must be sought out individually and that one should expect some difficulty in obtaining information due to poor health and the defenses against research procedures which are opposite from the defenses of children who usually enjoy and accept such situations.

Havighurst's suggestion that the aged are best contacted individually was used as the basis for the second method of obtaining the data. The writer began a personal search through friends, colleagues and relatives for persons over the age of 60 years who could be contacted.

All individuals referred by these sources were contacted personally and tested by the writer. Only those

¹⁹Robert J. Havighurst, "Problems of Sampling and Interviewing in Studies of Old People", in the Journal of Gerontology, Vol. 5, No. 2, Issue of April, 1950, p. 155-167.

C. Collecting the Sample (Continued)

persons who would cooperate with the examiner were used even though a number of individuals offered to perform the test alone or for their friends⁴ and relatives. The reason for not accepting such cases was that there was a possibility that the test would be invalidated due to a desire on the part of the interested persons to have the aged individual make a good showing. In one such instance the aged individual mailed in a Human Figure Drawing that was a tracing of an advertisement from a magazine.

All subjects chosen for the sample were living outside of any form of home for the aged or institution, were ambulatory and not under the care of a physician for any chronic disease or physical condition.

As a further check in the health of the subjects, each person was interviewed to determine whether or not he had suffered any sudden dizzy spells, bizarre feelings of pain, double vision, occasional stumbling or mental confusion. These symptoms are said to be indicative of minor cerebral accidents and the appearance of such conditions would be cause for eliminating the subject, since the assumption of normal well-functioning individuals would be negated.

Another factor that is considered of importance in terms of its effect upon the body-image, is that of mental

C. Collecting the Sample (Continued)

deficiency. Such a condition could be due to a lack of development and would, therefore, limit the construction of the body-image. It was, therefore, decided to eliminate mental deficient subjects from the study.

The assumption of average intelligence of the normal subjects was made upon the basis of their ability to communicate with the examiner and to comprehend the test instructions in addition to having completed at least three years of schooling. Table II shows the distribution of the educational level of the normal group.

C. Collecting the Sample (Continued)

Table II - Distribution of the educational level attained by Normal aged men between the ages of 60 and 85 years.

Grades Completed	Number of Subjects
College	11
10 - 12	12
7 - 9	11
4 - 6	5
0 - 3	4

C. Collecting the Sample (Continued)

Examination of Table II shows that the greater number of subjects in the Normal group were educated beyond grade school. Of this group almost half attended or were graduated from college. Of those remaining subjects in the Normal group, more than half were educated beyond the sixth grade. None of the subjects from which this information was available stopped his education before the third grade. This distribution suggests that one can assume the intellectual level of the group to be at least average.

8. Psychotic Group - The subjects of this group were drawn from the male geriatric service of Woodville State Hospital, Woodville, Pennsylvania. The subjects chosen were patients admitted to this service within a two year period of time to eliminate possible effects of institution-ization on their self concept. Each subject was given a complete physical and laboratory examination upon admission. Examination of the patients' medical records made it possible to eliminate those subjects suffering from diseases or injuries that effect the central nervous system, since it has been hypothesized that such conditions have an effect upon the body-image of a specific nature over and above the process of aging. Those subjects suffering from extensive sensory or motor impairment were also eliminated from the study.

C. Collecting the Sample (Continued)

Effects on the body-image due to lack of development were also controlled in this group by eliminating mental defective subjects and using only those subjects assumed to be of average or better intellectual capacity. The estimate of intellectual level was difficult to determine in this group due to lack of information about their educational background or as a result of poor memory and confusion on the part of the patient. The failure on the part of the medical staff to make a diagnosis of mental deficiency was considered sufficient basis for assuming average intellectual capacity.

As with the normal group, all subjects of this group were ambulatory and able to comprehend the test instructions.

D. Division of the Sample

In addition to information concerning differences in the body-image between a normal aged male population and a psychotic aged population, information concerning differences in the body-image of subjects at different age levels was also desired. Therefore, to permit examination of such differences, the two large groups were sub-divided into smaller groups.

The rationale for the division was based upon the age ranges used by the United States Bureau of Census in

D. Division of the Sample (Continued)

compiling the 1950 population statistics²⁰. These age groupings were in five step intervals and the sub groups of this study will correspond in age range to those of the census data except for the ranges 60-64 and 65-69.

When the divisions of the sample were made, it was discovered that the age group 65-69 was inadequately represented. Therefore, to accommodate for this, both groups 60-64 and 65-69 were combined into one group. Beyond the age of 69, the subjects were grouped in five step intervals. Table III shows the manner in which the groups were subdivided and the number of subjects in each group.

²⁰ -----, "Census of Population", Vol. IV, Special Reports, Part I, Chapter A, Employment and Personal Characteristics, Table 1, 1950, Superintendent of Documents, Washington 25, D. C.

D. Division of the Sample (Continued)

Table III - Showing age levels of the Normal (N-54) and Psychotic (P-54) sub-groups and distribution of cases.

Sub-Group	Age Level	Normal (N) f	Psychotic (P) f
V	85 and above	0	5
IV	80-84	8	7
III	75-79	10	11
II	70-74	15	15
I	60-69	24	16

D. Division of the Sample (Continued)

Table III shows that such a division of the large group will permit the examination of changes which may occur between one age level and another. Each sub-group of each sample will be designated by the prefix N for the Normal subjects and P for the Psychotic subjects before the appropriate group number such as: NI - Normal subjects between ages 60-69 years. This designation will be used in presenting the results which will appear in proper tabular form.

The Normal groups were sub-divided into four smaller groups and designated as NI, NII, NIII and NIV. The psychotic group was sub-divided into five smaller groups and designated as PI, PII, PIII, PIV and PV.

This division will permit the examination of differences in the body-image of subjects at different age levels and will give some indication of the differential effects created by living beyond the ages of 70 or 80 years. It is also hoped that such divisions will provide a means of examining trends in body-image changes as one grows older.

E. Procedures

1. Administering the Test - Each subject was presented with two sheets of blank white paper size 8-1/2" by 11", and two medium soft lead pencils with attached erasures. The

E. Procedures (Continued)

subjects were then seated at a table and given the following instructions:

"I would like you to draw a picture of a person. Make it as good a drawing as you can, in any way that you wish, but if at all possible, make it full length. Please do not worry about being an artist; this is not important. Just do the best you can and when you are through, put your pencil down so that I will know that you are finished."

No other instructions were given at this time. All inquiries regarding the type of figure to draw or what sex it should be were all answered with, "Any way you wish to do it will be all right."

After the subject finished the drawing, the following instructions were presented:

"Now, in the right hand corner of the paper on which you have drawn the figure, write the number 1. Under this number write the sex of the figure you have just drawn. Under this, please list your age and occupation. Now write the word 'best' under your age and occupation. Right beside the word 'best', write the part of the drawing you feel is the best part. Under the word 'best', write the word 'worst' and beside this write the part of the drawing you feel is the worst part."

When the subject had finished these instructions, he was asked to take the other sheet of paper and proceed according to the following instructions:

E. Procedures (Continued)

"Now, I would like you to draw me a picture of a person of the sex that is different from the first drawing you made. For example, if you drew a picture of a man, you would now draw a picture of a woman. Again, do not worry about how good or bad it may be; just do the best you can. When you are through, let me know by putting your pencil on the table."

After the drawing was completed, the subjects were then asked to follow the procedure for naming the best and worst part of the drawing.

After this was completed, the subjects were thanked for their cooperation and told they were free to go or ask further questions, if they so desired.

2. Scoring the Drawings - Only the drawings of the male figure were scored and used in the study and comparisons and analysis were made of Raw scores only.

Each drawing was first²¹ scored according to the system of Goodenough²¹, where the subject is given a credit of one point for each item of a list of 51 present in the drawing. The sum of these points is the total score of the drawing and is designated as OTS. For a more detailed explanation of the scoring, see Appendix A.

²¹Florence L. Goodenough, op. cit. p. 111-177.

E. Procedures (Continued)

Each drawing was then scored following the instructions in the manual of the H-T-P Test²², using only the system for scoring the Person.

This system provides scores for the following categories:

- | | |
|---------------|---|
| Details - | Which refer to any discrete, identifiable part of the whole figure drawn. |
| Proportion - | The ratio of height to width in a given detail. |
| Ratio - | Which refers to the size of one detail in relation to the size of another detail. |
| Perspective - | Which refers to:
<ol style="list-style-type: none">(1) The placement or presentation of one or more details of the figure, such as the arm with the elbow flexed.(2) The presentation of the whole figure, such as full face or in profile.(3) The placement of the whole figure on the page, such as having the feet of the figure cut off by the bottom of the page. |

Each of these categories is further segregated as to Good items and Flaw items. These items designated as Good refer to details or characteristics of the drawing that are deemed

²²John N. Buck, op. cit. p. 3-118.

Procedures (Continued)

necessary in the production of a satisfactory Person. These items designated as Flaw refer to the subject's omission or misuse of details or faulty assignment of proportional and spatial relationships to the drawing of a Person.

For example, a drawing of the Person could be scored as follows:

Details -	Raw Flaw Score -	4	
	Raw Good Score -		8
Proportion -	Raw Flaw Score -	3	
	Raw Good Score -		6
Ratio -	Raw Flaw Score -	2	
	Raw Good Score -		5
Perspective -	Raw Flaw Score -	4	
	Raw Good Score -		7
	Total Flaw Score	<u>13</u>	
	Total Good Score		<u>26</u>

This scoring system allows one to examine not only what aspects of the body-image remain intact as one ages, but also which items tend to be discarded. This system makes judgments possible concerning the relative importance or unimportance of different aspects of the body-image. The manner of arriving at such conclusions will be discussed in a later section.

3. Comparison of the Scores - The scores obtained from the data, using mean scores as a basis of comparison of the Normal group and the Psychotic group, and rank order of

E. Procedures (Continued)

scores for comparison of the sub-groups, will be compared as shown in the following lists:

1. MGTS of Normal group with MGTS of Psychotic group.
2. GTS of NI with GTS of PI
3. GTS of NII with GTS of PII
4. GTS of NIII with GTS of PIII
5. GTS of NIV with GTS of PIV
6. GTS of NI with GTS of NII
7. GTS of NII with GTS of NIII
8. GTS of NIII with GTS of NIV
9. GTS of PI with GTS of PII
10. GTS of PII with GTS of PIII
11. GTS of PIII with GTS of PIV
12. GTS of PIV with GTS of PV

The rank order of Raw Flaw and Raw Good scores of the sub groups for the categories of Detail, Proportion, Ratio and Perspective and total scores will be compared as follows:

Flaw Scores

NI to NII
NII to NIII
NIII to NIV

PI to PII
PII to PIII
PIII to PIV
PIV to PV

NI to PI
NII to PII
NIII to PIII
NIV to PIV

Good Scores

NI to NII
NII to NIII
NIII to NIV

PI to PII
PII to PIII
PIII to PIV
PIV to PV

NI to PI
NII to PII
NIII to PIII
NIV to PIV

In addition, a comparison of the total Flaw scores of the Normal group with the total Flaw scores of the Psychotic group will be made.

E. Procedures (Continued)

Also, the same procedure will be followed for the total Good scores.

The results of these comparisons will provide information regarding differences in the body-image of the subjects herein considered at different age levels and levels of adjustment.

These differences will be subjected to statistical analysis to determine their level of significance and conclusions will be drawn about the personality of the subjects in the study.

4. *Statistical Methods* - The method of examining the data is that of comparisons of groups and the results obtained will be in terms of differences between these groups. Before valid conclusions concerning these differences can be inferred, it will first be necessary to determine the statistical significance of the differences found.

The method of choice for determining this significance for the total Normal group as compared to the total Psychotic group will be that of the t-technique²³. This technique is appropriate to the study in view of the characteristics of the population. For example, it was impossible under the

²³Quinn McNemar, Psychological Statistics, Wiley and Sons, New York, 1949, p. 216-234.

2. Procedure (Continued)

conditions of the study to obtain sufficiently large numbers of subjects for each of the different ages, to adequately represent the total universe of aged persons. It was also impossible to avoid using expected frequencies of less than five. These conditions, according to McNemar, are sufficient to indicate the use of small sample statistics²⁴. In this respect the population could much better be described as a small sample in that, even though the N is larger than 30, it is decidedly less than 100. In addition, the trait under study is assumed to be distributed normally and the variances of the two groups are considered equal. In view of these characteristics, the t-technique is considered more powerful in its ability to reject the null hypothesis when it should be rejected than are large sample techniques. The t-technique, also, permits allowances for samples where N is small and is, therefore, well suited for use in this investigation.

The method of choice for determining the significance of the difference between the sub-groups will be that of a non parametric technique, specifically the Mann-Whitney U Test²⁵.

²⁴Op. cit. p. 216-234.

²⁵Sidney Siegel, Non Parametric Statistics for the Behavioral Sciences, McGraw-Hill, New York, 1956, p. 116-126.

.. Procedures (Continued)

The reason for this choice is based upon the following considerations:

(a) The size of the N for some groups is smaller than 6. Parametric techniques are not suitable for N this small, unless the exact distribution of the population is known. This condition is not met in this study.

(b) The nature of the characteristics under study are such that one can only infer that one group has more or less of one characteristic than the other but it is impossible to say how much more or less.

(c) The objects scored permit ranking or ordinal measurement.

When the above conditions are satisfied and it is questionable whether or not the assumptions necessary for the use of the t -technique are met, the Mann-Whitney U Test is considered the most useful alternative. Its power efficiency approaches 95% for even moderate size samples and increases as the N increases.

Since the division of the two large groups into smaller groups alters their characteristics, the assumptions made previous to the division may no longer be valid. Therefore, it would be more appropriate to use a statistic which is

2. Procedures (Continued)

not restricted by these requirements, in this case the Mann-Whitney U Test.

In addition to examining the drawings of the subjects from the formal point of view as expressed in the scoring systems used in the study, a measure of the subjective feelings of the subjects was also desired. In the instructions to the subjects, it will be recalled that they were asked to list those parts of the drawings that they felt were the best and worst.

To determine which, if any, part of the body-image is of more or less significance to the subjects, a simple frequency count will be conducted and a distribution of the number of times an item is mentioned by subjects within the groups will be made and the results presented in a simple frequency distribution table. Examination of this table should provide some information about the relative importance or unimportance of specific parts of the body-image of persons at different age levels.

CHAPTER IV

RESULTS

The results of this study will be presented by Tables showing the t-scores and U scores of the differences found between the samples. Differences found to be statistically significant at the .05 level of confidence or above will be marked with an asterisk (*).

In addition, Tables showing the frequency distribution of the best and worst parts of the figure chosen by the subjects will also be presented.

To present a pictorial representation of the results, as well as a statistical view, graphs showing the distribution of median scores for the Normal group and Psychotic group will be shown. Graphs showing the distribution of the median scores for each age level of the Normal group and the Psychotic group for the Detail Raw Good and Detail Raw Flaw scores will be presented.

A discussion of the information shown on the Tables will follow each table presented.

Table IV on the following page will present the results of the comparison of the difference of means between the Goodenough total score, the total Raw Flaw and total Raw Good score for the Normal and Psychotic group, plus the mean Raw Flaw scores and mean Raw Good scores for the categories of Detail, Proportion, Ratio and Perspective.

Table IV - Means, sigmas and t's of Age, GTS, TRF, TRG, RF, RG¹ for the categories of Detail, Proportion, Ratio and Perspective for the Normal group compared to the Psychotic group.

	Normal		Psychotic		t's
	Means	Sigmas	Means	Sigmas	
Age	70.09	6.60	68.01	3.55	.58
GTS	27.96	9.78	17.86	9.78	5.14*
Details					
RF	4.44	2.90	6.64	3.14	5.77*
RG	6.62	2.98	4.92	1.18	5.98*
Proportion					
RF	1.20	1.00	1.70	.67	2.75*
RG	1.24	.67	1.26	1.03	.25
Ratio					
RF	1.25	.96	1.40	1.22	.74
RG	1.61	.90	1.11	1.08	2.54*
Perspective					
RF	3.40	1.18	4.26	2.08	3.18*
RG	1.92	1.17	1.46	1.15	2.17*
Total					
RF	10.50	4.82	13.77	5.21	3.28*
RG	9.77	5.20	8.77	5.72	2.17*

*significant at .05 level of confidence.

- ¹GTS - Goodenough Total Score
- TRF - Total Raw Flaw Score
- TRG - Total Raw Good Score
- RF - Raw Flaw Score
- RG - Raw Good Score

Table IV shows that when the mean CTS and mean TAC score of the two groups were compared, it was found that the normal group obtained significantly higher scores than the psychotic group. This suggests that the body-image of the normal group contains more significant details, is better proportioned and placed in a more realistic perspective than is the body-image of the psychotic group. The mean IIF score of the normal group was significantly lower than that of the psychotic group. However, rather than indicating a reversal of performance, this supports the results of the comparisons of mean CTS and mean TAC, in that the IIF indicates omissions, distortions and mistakes in the body-image as represented by the DAP.

A comparison of the mean scores for such specific items of the DAP as Details, Proportion, Ratio and Perspective for both groups revealed significant differences on all items except Raw Good Proportion and Raw Flaw Ratio. These differences followed the same trend as when the DAP was examined in total and suggests that the Normal group uses accurately and includes more specific essential details of a person in their body-image, makes less mistakes in assigning proportional relationships to the details and wholes of the body-image and are more accurate in their perception of the spatial relationships of the parts which make up the whole body-image.

No significant difference was found in the ability of each group to present a given detail of the DAP accurately as regards its height and width. Both groups, however, made errors in assigning the proper size relationships between a given detail and the whole of the figure. There was no significant difference found between the groups in the number of such errors. This suggests that both groups see their body-image as having certain details which are out of proportion in relation to the whole body-image, but see these details as correct and proportionate in of themselves. This would suggest the implication that the aged male tends to give more attention to specific parts of the body-image and is less concerned with their inter-function and inter-relatedness with the whole.

In summary, the findings resulting from the comparisons of both groups by the method described indicate rejection of the null hypothesis; i.e., there are no differences in the body-image of a group of Normal aged male subjects and a group of Psychotic aged male subjects, providing that items of Proportion Raw Good scores and Ratio Raw Flaw scores are not included as part of or used as the sole criteria for comparison.

This hypothesis must also be qualified in that the groups were compared on the basis of mean age of the groups

as a whole without regard to difference in age levels within the groups.

In order to determine whether or not the body-image as a whole undergoes significant changes from one age level to the next, both groups were broken down into smaller groups according to age levels as described in Table III and comparisons were made of the OTS of the Normal sub-groups, the Psychotic sub-groups and then each sub-group of the Normal group was compared to the corresponding sub-group of the Psychotic group.

Table V on the following page shows the results of these comparisons.

Table V - z scores and U's for the comparison of the Normal sub-groups, Psychotic sub-groups and the Normal sub-groups versus the Psychotic sub-groups.

Normal			Psychotic			Normal vs. Psychotic		
Groups ¹	z	U	Groups	z	U	Groups	z	U
NI-NII	.255		PI-PII	.919		NI-PI	.415	
NII-NIII		61.5	PII-PIII		17.5	NII-PII		48.6*
NIII-NIV		20.5	PIII-PIV		19.5	NIII-PIII		39.0
			PIV-PV		18.0	NIV-PIV		16.5

*Significant at the .01 level of confidence.

- ¹
- NI - Age range 60-69
 - NII - Age range 70-74
 - NIII - Age range 75-79
 - NIV - Age range 80-84
 - PI - Age range 60-69
 - PII - Age range 70-74
 - PIII - Age range 75-79
 - PIV - Age range 80-84
 - PV - Age range 85-over

When between-group comparisons were made of the OTS of the sub-groups of the Normal sample, the results, as shown by Table V, did not reveal any significant difference in the scores obtained by individuals at different age levels. Similar results were found when the Psychotic sub-groups were compared with each other.

These results suggest that the total body-image as represented by the DAP does not change or differ significantly from one age level to another in given populations of Normal or Psychotic aged men.

However, between the ages of 70 and 74, the Psychotic sample shows a significantly lower OTS than does the Normal sample at this age level. At the next age level, i.e., 75 to 79 and up to age level 80 to 84, the difference between the OTS of both groups is not found to be of significance.

It would, therefore, be suggested that the body-image of both groups is similar up to the age of 69 years, but from this point to age 74 years, the body-image of the Psychotic group changes significantly in a negative fashion, whereas body-image of the Normal group continues in a positive direction.

These findings support the hypothesis that differences in the body-image will not distinguish between different age levels within a given Normal or Psychotic sample when the body-image is considered as a whole. However, the hypothesis

that there are no differences in the body-images of a Normal group and a psychotic group at different age levels that will distinguish between the two groups at each level is rejected for the age level of 70 to 74 years. The hypothesis can be accepted for other age levels.

Although no significant differences were found between the sub-groups below age 70 years or beyond age 74 years, changes in the body-image did occur between each age level. These changes are of importance since they are suggestive of the manner in which the body-image is altered or modified as an individual goes through the process of aging.

Figure 1 on the following page illustrates graphically the direction of these changes. The graph is constructed using the median OIS of each age level. The OIS represents the intactness or accuracy of the body-image held by a particular age group.

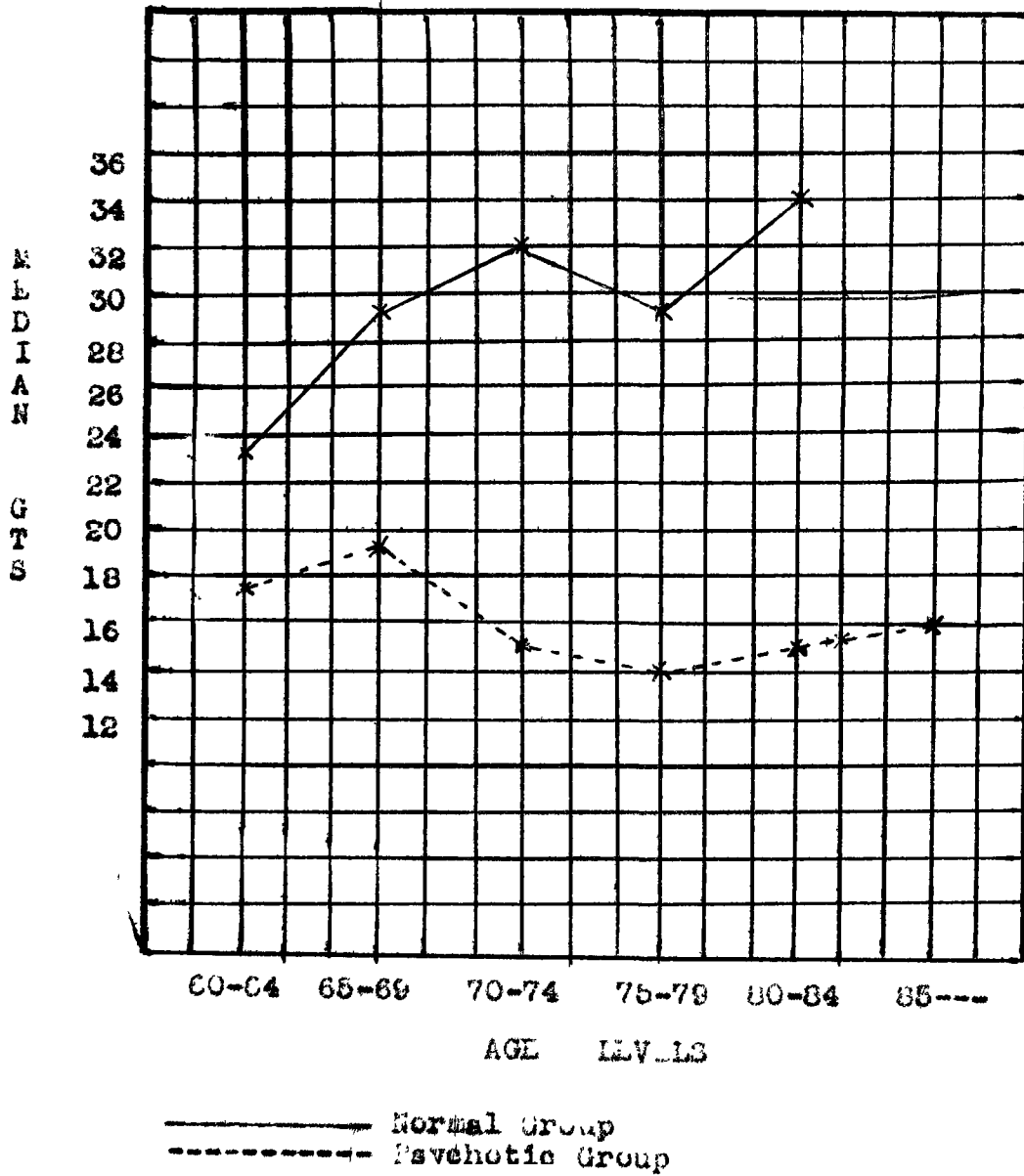


Figure 1 - Showing changes in median GTS for the Normal and Psychotic groups at different age levels.

As shown in Figure 1, the median OTS of both the Normal and Psychotic sub-groups follow a pattern that is almost parallel. Both groups show an increase in the OTS up to the age level 60-69 but from this level to the next, i.e., 70-74, the Psychotic group OTS is decreased while the Normal OTS increases. At the age level 70-74 both groups are again parallel and show a decrease in the OTS to the age level 75-79. At this point, both groups show an increase in the OTS obtained up to age level 80-84. However, the increase for the Normal group shows a much sharper rise than does the Psychotic group.

These findings suggest that up to the age level of 65-69 the body-image as a whole of both groups show changes that are in the same direction which is toward a more correct and intact body-image.

From this point, however, the Normal group continues in the direction of a more correct and intact body-image while the body-image of the Psychotic group becomes less correct and accurate. This condition remains until age level 70-74 is reached and at this point both groups show a decrease in the accuracy of the body-image until age level 75-79, where the body-image of both groups begins to show a slight improvement until age level 80 to 84 years.

This variation between the different age levels suggests the possibility that changes are occurring within

specific parts of the body-image but are so slight or gradual that the body-image as a whole is not significantly affected.

It would be of value to know what parts of the total show these changes and something of the nature of the changes since it is postulated that certain parts of the body may have special significance to the person. It is also hypothesized that the treatment of certain parts of the body as represented by the DAP provide information concerning the needs, fears, strivings, conflicts, etc., of the individual drawing the figure. Such information would be of importance in understanding the personality of individuals as they grow older.

In order to obtain such information, the subject's presentation of the items of Detail, Proportion, Ratio and Perspective were scored and examined separately.

The scores for each item obtained by the individuals at separate age levels were then compared.

The scores for each item obtained by individuals of different age levels of each group were first compared with each other and then a comparison was drawn between the scores of each age level of the Normal sample with the corresponding age level of the Psychotic group.

The results of the comparisons made for the Normal group are presented in Table VI on the following page.

Table VI - z scores and U's resulting from the comparison of the Normal Sub-group Raw Flaw and Raw Good scores for the categories of Detail, Proportion, Ratio and Perspective.

Categories ¹	Groups NI - NII		Groups NII - NIII		Groups NIII - NIV	
	z's		U's		U's	
	RG	RF	RG	RF	RG	RF
D. --	.132	.328	61.0	39.5*	20.5	17.5
Pr. --	.009	.456	59.0	28.0*	12.0	13.0
R. --	.260	.657	66.0	22.0 [#]	20.0	22.0
Per. --	.190	.132	60.0	65.5	12.5	13.0

*significant at .05 level of confidence.

[#]significant at .01 level of confidence.

¹D. -- Detail
Pr. -- Proportion
R. -- Ratio
Per. -- Perspective

In Table VI items examined were scored to determine not only the accuracy of their presentation (RG scores) but for omissions, errors or inaccuracies (RF score) made as well. Therefore, both scores; i.e., RG and RF, for each item are presented in Table VI and in each of the Tables to follow.

Table VI shows that Normal aged men between the ages of 60 to 69 years do not show a significant difference in the manner in which they present the items of Detail, Proportion, Ratio and Perspective than do Normal aged men between the ages of 70-74. They do not differ in the accuracy in which they present these items or in the number of errors, omissions or inaccuracies they commit.

However, Normal individuals between the ages of 75 to 79 make significantly less omissions, distortions and failures to show proper spatial relationships in their presentations of the items of Detail, Proportion and Ratio than individuals between the ages of 70-74. No significant difference was found in the manner of presentation of these items by persons between the ages of 75-79 and persons between the ages of 80 to 84 years.

These findings suggest that Normal aged men between the ages of 60 and 74 do not appear to consider any one of the items of the body-image examined as being more significant or less significant than any other part. However, beyond this age and up to age 79 the items of Detail, Proportion and

Ratio appear to be considered as areas of difficulty in terms of a loss of ability to avoid mistakes in producing these items in the drawing of a Person. Beyond the age of 70, these items do not appear to become more difficult.

These results suggest that for the Normal group the hypothesis that there are no specific aspects of the body-image that are characteristic of each age level, can be rejected with certain qualifications. These qualifications apply to the age levels of 75 to 79 years. Individuals within these ages show significantly less negative changes in the items of Detail, Proportion and Ratio than do individuals between the ages of 60 to 69 years and the ages of 80 to 84 years. It would appear that, for some reason presently unknown, Normal aged men between the ages of 75 to 79 years have more ability to avoid mistakes in presenting details accurately and in using them appropriately within a given whole. Beyond this age level to age 84, there is no significant loss in this ability but individuals younger than 75 years down to age 60 years show less of this ability. Possible explanations of this variation between age levels will be offered in the section on the discussion of results.

The treatment of these items by the individuals of the Psychotic group differs from the Normal group insofar as variation within age levels and presentation of specific details is concerned. Where these variations occurred and

for which items, can be seen by an examination of Table VII on the next page.

RESULTS

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Table VII - z-scores and U's resulting from comparison of the Psychotic sub-group Raw Flaw and Raw Good scores for the categories of Detail, Proportion, Ratio and Perspective.

Category ¹	PI-PII		PII-PIII		PIII-PIV		PIV-PV	
	z		U		U		U	
	RG	RF	RG	RF	RG	RF	RG	RF
D. --	.475	.105	77.0	71.5	9.50*	37.5	14.0	17.5
Pr.--	.765	.657	80.5	74.0	28.5	45.5	15.0	9.50
R. --	.654	1.72*	76.5	57.5	34.5	29.0	14.0	9.50
Per.--	.231	.593	73.5	36.5*	33.0	26.5	5.50*	16.5

*Significant at the .05 level of confidence.

#Significant at the .01 level of confidence.

¹D. - Detail
 Pr. - Proportion
 R. - Ratio
 Per.- Perspective

Table VII shows that the drawings produced by the Psychotic sample do not reveal any significant difference in the number or presentation of essential details until the age of 74 years. At this point the drawings show a significant increase in the accuracy and number of details which continues up to the age of 79. No significant difference was found in the drawings produced by persons in the succeeding age levels up to 85 years and beyond.

These findings suggest that the body-image of Psychotic persons at age level 60-69 years is somewhat more distorted than the body-image of older Psychotic persons. The distortion occurs between the size of a particular detail in relation to the size of the whole, which suggests that specific parts of the body are of more concern to Psychotic persons at this age level and this concern appears to be over the difficulty which these items present in terms of drawing them accurately in relation to the whole figure. This could also be suggestive of a tendency for individuals of this age level to have problems and difficulties which center about a specific area of the body rather than the body as a whole.

Persons within each succeeding age level of the Psychotic group do not appear to show this characteristic to any significant degree. Psychotic persons within the age range 75 to 79 years make significantly more mistakes in

assigning proper spatial relationships to the details and total figure in their human figure drawings than do Psychotic persons within the age levels 60 to 69 years and 70 to 74 years. No significant difference was found between the age levels 75 to 79 years and 80-84 years, or between the age levels 80 to 84 years and 85 years and above, although a tendency toward more errors in perspective was found. These findings suggest that persons within the age level 75 to 79 years misplace details of the figure or the figure as a whole in their drawings significantly more often than do individuals between the ages of 60 to 74 years. These findings also suggest that the age level of 75 to 79 years represents a point in the life span of Psychotic persons where they suffer a drastic loss of their ability to view the body-image realistically, which is never regained.

These results suggest that for the Psychotic sample the hypothesis that, as the age level increases the number of negative changes in the body-image will not increase, can be rejected insofar as the perspective Raw Flaw score is indicative of negative changes.

The hypothesis that differences in the body-image will not distinguish between age levels is also rejected for the items of Detail at age level 75 to 79 and of Ratio at age level 70 to 74 years.

The results so far have presented information concerning the performance of individuals at different age

levels with each of the samples, but does not provide any data concerning the difference in performance of the two samples. To obtain such data the performance of each age level of the Normal sample was compared with the performance of the corresponding age level of the Psychotic sample. The results of these comparisons are shown in Table VIII on the following page.

Table VIII - z scores and U's resulting from the comparison of the Psychotic sub-group Raw Flaw and Raw Good scores with the Normal sub-group Raw Flaw and Raw Good scores for the categories of Detail, Proportion, Ratio and Perspective.

Category ¹	NI-PI		NII-PII		NIII-PIII		NIV-PIV	
	z		U		U		U	
	RG	RF	RG	RF	RG	RF	RG	RF
D. --	.104	.284	63.0*	110	47.5	31.5*	17.0	11.0
Pr. --	.349	.052	86.0	49.5#	50.0	35.0	6.50	15.0
R. --	1.06	.026	70.0*	86.0	46.0	51.5	15.0	15.5
Per. --	.629	.122	109	79.5	46.5	41.5	14.5	16.0

*Significant at the .05 level of confidence.

#Significant at the .01 level of confidence.

¹D. - Detail
 Pr. - Proportion
 R. - Ratio
 Per. - Perspective

An examination of the results shown in Table VIII does not reveal any significant difference between the Normal sample and the Psychotic sample for the age levels 60 to 69 years and 80 to 84 years, as regards the items of Detail, Proportion, Ratio and Perspective. These findings would suggest acceptance of the hypothesis that no differences exist in the body-image at different age levels that will distinguish between a Normal sample and a Psychotic sample at each age level as regards the above two age levels.

At the age levels of 70 to 74 years and 80 to 84 years, however, significant differences occur which will distinguish between the two samples.

It was found that Normal individuals within the ages of 70 to 74 years presented a significant difference in the number and accuracy of details used in portraying the human figure than did Psychotic persons within the same age range. Psychotic individuals within this age range differed significantly in their ability to avoid mistakes in assigning proportional relationship to details and the whole in the W.P. test.

These findings suggest that the construction of the body-image of a group of Normal persons within the ages of 60 to 69 years does not differ significantly from the body-image of a group of Psychotic persons of the same ages. However, between the ages of 70 to 79 years the body-image of a group of Normal individuals does show a significant difference

in construction than does the body-image of a group of psychotic persons within the same age range. Beyond this age, however, no significant difference was found between the two samples. This result suggests that the decade between 70 and 79 years may represent a period in the life span of the aged men where the process of aging begins to show its effects in terms of loss of ability to maintain a constant body-image.

In view of these findings, the hypothesis that there are no differences in the body-image that will distinguish between a Normal population and a Psychotic population at different age levels is rejected for the age levels 70 to 74 years and 75 to 79 years.

The nature and direction of these differences as regards the items of Detail is demonstrated by Figures 2 and 3 which follow. Figure 2 on the next page shows the difference in the Raw Good scores obtained by Normal and Psychotic individuals within different age levels.

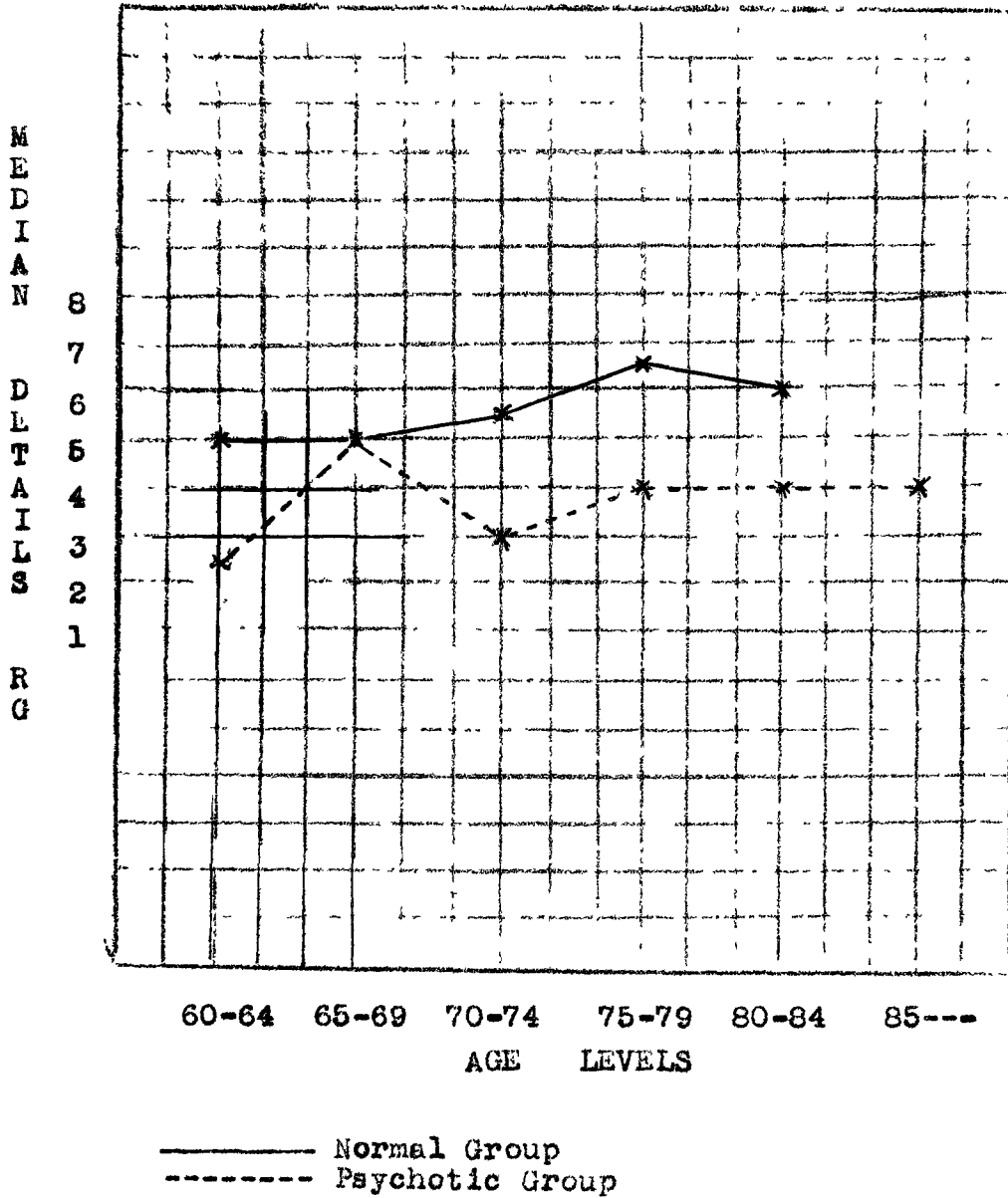


Figure 2 - Showing the difference in Detail Raw Good scores between the Normal and Psychotic subjects between age levels.

The Detail Raw Good scores obtained by persons between the ages of 60 to 64 years have been included in Figure 2 to show the difference between the groups prior to the age level of 65 to 69 years. Although this difference is not significant, it shows that there is a tendency for Psychotic individuals between the ages of 60 to 64 years to have a poorer concept of the elements necessary to the production of a drawing of a person than do Normal persons between these ages. It is interesting to note, however, that Psychotic individuals between the ages of 65 to 69 years improve in their concept of these details to a degree that is equal to Normal individuals within this age range. Psychotic individuals between the ages of 70 to 74 years, however, differ significantly in their concept of these details.

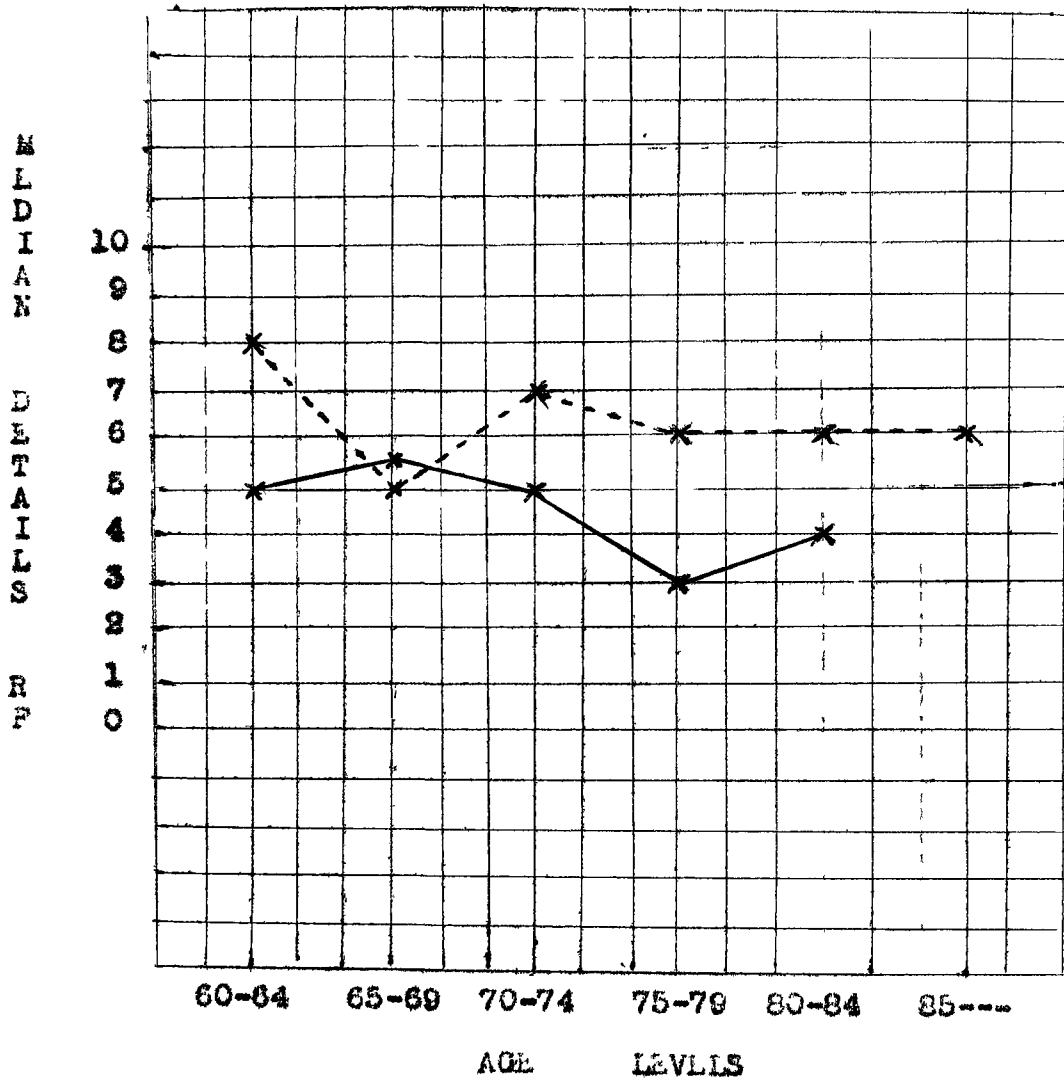
The concept of these details held by Psychotic individuals between the ages of 70 to 74 differs significantly from that held by Normal individuals within this age range, in that the Normal group employs more details and presents them more accurately in constructing this body-image. These results suggest that Psychotic subjects between ages 70-74 years show a loss in ability to maintain a constant body-image insofar as they are able to accurately use these details in the construction of the body-image.

There appears to be a tendency for both Normal and Psychotic individuals between the ages of 74 to 79 to show

an improvement in their concept of the use of details in constructing the body-image. From this age until age 84, however, Normal persons do show a slight tendency toward misuse of the details whereas Psychotic individuals of these ages do not show such a trend.

These findings suggest that the body-image of Normal individuals between the ages of 74 to 79 years, as expressed in the DAP test, differ slightly in the number and accuracy of essential details used in its construction than does the body-image of Psychotic persons of the same age. Between the ages of 65 to 69, however, no such difference is found, which suggests that whatever distortions made by Psychotic persons below age 65 in the construction of the body-image do not appear in the drawings produced by Psychotic subjects between the ages of 65 to 69 years.

Support for this suggestion is supplied in Figure 3 on the following page. This Figure represents the comparison of the number of errors in the use of details (Detail Raw Flaw Score) made by the subjects on the DAP test.



_____ Normal Group
 - - - - - Psychotic Group

Figure 3 - showing the differences in detail raw flow scores between the Normal and psychotic subjects between age levels.

An examination of Figure 3 shows an interesting parallel to Figure 2 in that the nature of the changes in scores are similar and occur at the same age levels. For example, prior to age level 65-69, Normal individuals made less mistakes in using details than Psychotic subjects of the same age range. At the level of 65 to 69 years, however, there is a decided drop in the number of mistakes made by the Psychotic group which suggests a tendency for an improvement in their concept of details of the body-image. This tendency for the Psychotic group to show similar scores at this age level lends support to the previous statement that distortions in the use of details by Psychotic subjects below age 65 do not continue to appear in drawings produced by subjects between the ages of 65 to 69 years. Psychotic subjects between the ages of 70 to 74 years made significantly more mistakes in the use of details in the DAF than do Normal subjects between these ages.

The Detail Law Flaw pattern for each succeeding age level of the Psychotic group follows that of the Normal group.

This parallel performance supports the observation made concerning Detail Law Good scores in that as the ability to use details accurately decreases, more mistakes will occur.

As stated previously, information concerning the importance or unimportance of specific details was also desired. Therefore, a frequency count of the number of times a

detail was mentioned as the Best Part or Worst Part of the drawing was conducted. The results of this procedure appear in Table IX on the following page.

The significance of these findings as regards the personality of the subjects will be discussed in the following page.

Table IX - Showing number of times each item was designated as a Best or Worst Part of the body by subjects in both the Normal and Psychotic samples.

	Psychotic Sample		Normal Sample	
	Best	Worst	Best	Worst
Head	12	2	20	6
Face and Parts	10	6	11	5
Neck	2	1	--	1
Arms and Hands	7	7	2	6
Legs and Feet	3	15	6	15
Trunk (Body)	6	5	6	12
Shoulders	2	--	--	1
Waistline	1	--	--	--
Joints	--	1	--	--
Clothing	1	2	3	1
Genitals	1	1	--	--
Anatomy (Stomach)	--	1	--	--
Other (Mind)	1	--	--	1

An examination of Table IX shows that subjects in both groups mentioned the head as the best part of the body more frequently than any other part. The face and parts of the face were the next most frequently mentioned details, and the trunk and body third in order of frequency.

Both groups mentioned the legs and feet as being the worst part of the body more frequently than any other part of the body. The Psychotic subjects mentioned the trunk and body next in order of frequency. Both groups mentioned arms and hands as being the worst part of the body with almost the same degree of frequency.

These findings suggest that subjects of both groups appear to consider the same parts of the body as important and also consider the same parts of the body as being inadequate. The Psychotic group differs somewhat concerning the trunk and body in that it is more frequently mentioned as being the worst part by these subjects than do subjects of the Normal group.

CHAPTER V

DISCUSSION OF RESULTS

This Chapter will attempt to integrate the results of this study into a composite picture of the personality of the subjects. However, it will first be necessary to provide a rationale for the interpretation of the quantitative scores of the DAP. The rationale to be used is as follows:¹

OTC - reflects the intactness and complexity of the personality.

Details - reflects the subject's ability to recognize and use correctly the elements of everyday life.

Proportion - reflects the subject's ability to use efficient judgment in solving basic concrete problems of everyday living.

Ratio - reflects the degree of satisfaction and feelings of adequacy the subject holds of himself.

Perspective - reflects the degree of insight the subject has into his relationships with others and the environment.

The results of the study show that the personality of Normal aged persons between the ages of 60 and 84 years is generally better integrated and of a more complex nature than is the personality of Psychotic aged persons of the same age range. Both groups are similar, however, in the degree to which they are aware of and respond to the basic concrete

¹This rationale is a composite of that generally used by psychologists in interpreting the DAP, most of which can be found in the texts of Machover and Buck.

elements of everyday life. This finding is not unusual in that this trait is almost a complete necessity to maintaining life. Both groups also expressed a similar degree of dissatisfaction about themselves and show similar feelings of inadequacy. These feelings possibly arise from the inevitable aches and pains that accompany old age and the losses or slowing down of vital functions which also occur as one grows older. It is interesting to note that these feelings are not specific to just the psychotic aged but occur in normal aged subjects as well. This would imply that, in general, negative feelings about the self accompany old age regardless of mental status.

The discussion so far, it should be noted, concerns the aged as a large group and does not reveal any information regarding the variability of the personality of the subjects at different ages. It was found, however, that between the ages of 70 and 74 years the psychotic subjects showed significantly less integration and complexity than did normal subjects of this age range. This could possibly indicate a critical period of psychotic subjects wherein the accumulative effects of aging begin to seriously impair their ability to maintain their previous degree of integration. This suggests that those subjects with a personality makeup which is perhaps predisposed to psychosis are no longer able to maintain adequate defenses for preservation of the self

image. It is also interesting to note that no significant variations in personality as a whole, between different ages, was found in the normal group or the psychotic group.

Although no significant variation of personality as a whole was evident between ages in the group, variations were found among certain aspects of the personality. It was found that normal subjects between the ages of 75 to 79 years show less dissatisfactions with themselves, use better judgment in viewing everyday problems and are more aware of and better able to appraise reality and function appropriately than are persons below or above these ages. It should be noted, however, that these traits begin to appear in subjects between the ages of 70 to 74 years, which suggests that this age level possibly represents a period of re-appraisal of the self and the beginning of a new level of integration. This re-integration appears to continue until age 79, at which point the normal person begins to show a loss in these abilities. This pattern lends support to the idea that middle age represents a period in the life cycle wherein the personality is disrupted and subjected to new forms of stress.

These results also support the hypothesis that this period is not of necessity the start of a continual deterioration but may be the beginning of a new period of life, full of potentiality. Whether or not one is able to recover from this period appears to depend upon the personality

characteristics of the subject prior to age 70 years and the treatment he receives during this disruptive period.

The latter statement is substantiated by the variations displayed by psychotic subjects of different ages. It was found, for example, that psychotic subjects between the ages of 70 and 74 years also show a disruption of personality in that they feel inadequate and are dissatisfied with themselves to a greater degree than younger psychotic subjects. Contrary to the pattern of the normal subjects, the psychotic subjects show an increase in these feelings as age increases.

It is also of importance to note that the psychotic subject's insight into his relationship with the environment becomes progressively impaired as the age level increases. This pattern may possibly be due to the effects of the environment of the institution in that there is less need to respond or understand the environment because of its routine structure. Since there is approximately the same disruptions of personality of the normal subjects between the ages 70 to 74, and they apparently recover, this would seem to contra indicate institutionalization as a method of treatment of the psychotic aged. Further evidence for this is suggested by the manner in which both the psychotic subjects' and normal subjects' behavior is equivalent between the ages of 65 to 69 years. The institution being one recognizable

variable between the two groups, would attest to its importance in determining behavior.

When the pattern of behavior of the two groups was compared, it was found that up to age level 70 to 74 years no significant variation was found in the feelings of self satisfaction, awareness of basic elements necessary to life or ability to solve simple problems of living. Beyond these ages, however, the psychotic subjects showed a significant loss in these traits, whereas the normal subjects showed improvement.

Beyond this level up to the level of 75 to 79 years, both groups showed an improvement in these traits. The normal group, however, showed a significantly greater degree of improvement than did the psychotic group. Of importance, however, is that beyond this age level no significant difference was found between the groups. These findings suggest that perhaps this age level can be more appropriately considered as the point where senility as a pathological entity begins rather than at younger ages, as has been the general point of view. These findings lend support to the idea that the behavior of older persons prior to age 75 years show no correlation to their chronological age.

As regards the importance or inadequacy of specific aspects of the personality, it was found that the subjects of both groups appear to feel the same. The results suggest that

both groups value the intellectual aspects of the self more highly than other features such as the physical or emotional aspects. Both groups also appear to have conflicts concerning their ability to be mobile and remain active.

This discussion has covered differences in the body-image of the aged as represented by the BAI. It should be noted that the findings are in terms of gross differences and change. This is a result in part of the relative subjectivity and lack of precision of the scoring system. At this point, however, this system represents the only relatively objective system available.

The difficulties of devising a scoring system that would cover all aspects of the body-image are obvious. However, it would seem indicated from the results of this study that a more precise method of examination is needed and would be worthwhile in that more specific information about the personality of the aged could be obtained.

These findings are also in terms of comparisons of groups of subjects at different age levels, which does not give an accurate presentation of the continuity of the personality. It would be of value to investigate changes in the body-image of the same subjects over a period of years to uncover the manner of change as a continuing process.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The DAP test was administered to a group of normal aged men between the ages of 60 and 84 years and also to a group of psychotic aged men between the ages of 60 and 84 years. The drawings were then studied to determine differences in the body-image between the groups.

These two groups were then divided into sub-groups which permitted comparisons of the body-image at different age levels. Comparisons between the different age levels of each group were made.

Comparisons of the body-image between both groups at each age level were also drawn. It was hypothesized that the body-image reflects personality characteristics and, therefore, an examination of the body-image would provide information concerning the personality of the aged subjects studied.

1. The hypothesis that there are no differences in the body-image of a group of normal aged men and a group of psychotic aged men is rejected. It is also concluded that the personality of the normal group is better integrated and more complex in its structure than is the personality of the psychotic group.

2. The hypothesis that there are no differences in the body-image that will distinguish between age levels is rejected for the age level 75 to 79 years for both groups. It is also concluded that this age level represents a period when subjects in both groups begin to show negative personality changes only.

3. The hypothesis that there is no increase in the number of negative changes in the body-image as the age increases is rejected for the psychotic group but not for the normal group.

4. The hypothesis that there are no differences in the body-image that will distinguish between the normal group and the psychotic group at certain age levels is rejected for the age level 70 to 74 years. Psychotic subjects between the ages of 70 to 74 years show more negative feelings about themselves, are less well-integrated and less able to appraise reality than normal subjects within these ages.

5. Normal subjects between the ages of 70 to 74 years and 71 to 79 years are significantly more positive in their view of themselves, are in better contact with reality and solve everyday problems more adequately than do psychotic subjects within these age levels or normal subjects between the ages of 60 to 69 years.

6. The age level 60 to 70 years appears to represent a period of disturbance in the life cycle for subjects in both groups.

7. Regardless of age or mental condition, subjects of both groups are equally aware of and respond to the basic elements necessary to life.

8. The manner of adjustment of the groups prior to age 70 years reflects the manner of adjustment of older groups.

9. Institutional environment appears to effect the personality of older subjects in a negative manner.

10. Negative feelings about the self are commensurate with age beyond the age of 60 years.

11. Regardless of age or mental condition, the intellectual aspects of the self are regarded as the most important to subjects in both groups. Next in importance to both groups is the ability to maintain communication with others in the environment.

12. Poor locomotor ability is the primary concern of subjects in both groups.

13. The age level of 75 to 79 years appears more appropriate for the beginning of senility as a pathological entity rather than younger years.

14. Personality disturbance in aged men between the ages of 60 to 74 do not appear to be irreversible.

15. The process of aging is not essentially one of progressive deterioration.

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Investigates ability of psychologists to judge subjects' adjustment by examining human figure drawings made by subjects. Results show high degree of reliability of judges and support use of IAP to assess adjustment of subjects.

-----, "Judgment of Adjustment from Drawings: the Applicability of Rating Scale Methods", in the Journal of Clinical Psychology, Vol. VI, No. 4, issue of October, 1950, p. 363-368.

Investigates ability of psychologists to judge adjustment of subjects from human figure drawings used with an objective rating scale. Results show higher reliability of judgments when scale is used than without scale. Report validity of DAP to judge adjustment is increased when scored objectively.

ANDERSON, John L., Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D.C., 1956, p. 30-41.

Reports on conference on planning research. Shows failure of scientists to produce meaningful research and the lag in research on aging as compared to other areas. Suggests less theorizing and more investigations with results.

-----, "Research Problems in Aging", in John L. Anderson, Ed., Psychological Problems of Aging, American Psychological Association, Washington, D. C., 1956, p. 267-289.

Summarizes paper presented at conference on planning research. Points out that the field in spite of research conducted so far is virgin. Feels greater quantity of data is needed before accurate research planning can take place. Stresses importance of this information to develop systematic theories of the personality of the aged.

ANONYMOUS, "The Problem of the Aged Patient in the Public Psychiatric Hospital", in the Group for the Advancement of Psychiatry, Published Reports, No. 14, Vol. Special, 3617 W. Sixth Avenue, Topeka, Kansas, August, 1950, p. 1-6.

Describes admissions to hospitals of the aged person, his problems, community responsibility and points out need for recognition of the aged as a major health problem. Supports the need for more research of the aged.

ARNOFF, Franklyn N., "Research Problems in Gerontology", in the Journal of Gerontology, Vol. 10, No. 4, issue of October, 1955, p. 452-455.

Reviews and reflects on the inadequacy and incompleteness of the literature regarding psychiatric and psychological changes in the aged. Demonstrates need for more investigations with better designed tools.

BARRON, Milton L., "Minority Group Characteristics of the Aged in American Society", in the Journal of Gerontology, Vol. 8, No. 4, issue of Oct, 1953, p. 477-481.

Studied characteristics of the aged and showed relation to characteristics of minority groups. Points out that the aged as a group possess great potential but are discriminated against by younger persons. Supports the idea that the aged behavior may be due in part to attitudes of others.

BERMAN, Sidney and Julius L. FIAL, "Body Type and Figure Drawing", in the Journal of Clinical Psychology, Vol. IX, No. 4, issue of October, 1953, p. 360-370.

Compared actual body type of subjects with body type of figures drawn. Found significant correlation suggesting DAP is projection of self-image.

BRITTON, Joseph H., "The Personal Adjustment of Retired School Teachers", in the Journal of Gerontology, Vol. 8, No. 3, issue of July, 1953, p. 333-338.

Studied the adjustment of retired school teachers for Chicago Schools as measured by an inventory titled "Your Activities and Attitudes". Found great similarity between adjustment factors of male and female subjects. Provides information on factors which make for good adjustment in old age.

BUCK, John W., "The H-T-P Test", in the Journal of Clinical Psychology, Monograph Supplement, No. 3, issue of October, 1948, p. 3-118.

Developes method of assessing personality by examination of drawings of a house, a tree, and a person. Presents theory and shows method of scoring drawing objectively. Also presents rationale for interpretation of scores in terms of personality characteristics.

BUONALTA, James F. Thomas, "An Investigation of the Relationship of the Conceptual Matrix of the Self-Concept", in Abstracts of Doctoral Dissertations, No. 57, Ohio State University, 1949, p. 27-33.

Investigates feelings of individuals as to what parts of the self they consider as part of self or not part of self. Adds support to and extends self concept theory.

CALDWELL, Betty MEd., "The Use of the Rorschach in Personality Research with the Aged", in the Journal of Gerontology, Vol. 9, No. 3, issue of July, 1954, p. 316-323.

Reports on Rorschach studies of the aged and shows the lack of validity of present rationale when used with aged subjects. Suggests need for developing new rationale for the aged groups. Shows unreliability of present methods of investigating personality.

CAMBRON, Norman, "Neurosis of Later Maturity", in Mental Disorder in Later Life, Stanford University, 1945, p. 143-186.

Examines the neuroses occurring in later years and stresses the importance of psychological factors as causal effects. Offers the theory that the pre-morbid personality is the most important factor in predicting one's adjustment in later years.

CHAPMAN, Leroy E., "The Aging Problem in Pennsylvania", Report on the Investigation Conducted by the Sub-Committee on Aging of the Joint State Government Commission, Talk given at the Pennsylvania State College, August, 19, 1953, before the Annual Health Conference, p. 1-11.

Describes increase in number of aged in Pennsylvania, their problems and need to study this group to supply their needs.

CLAGUE, Ewan, "Labor Force Trends in the United States", in the Journal of Gerontology, Vol. 7, No. 1, issue of January, 1953, p. 92-95.

Reports on increasing number of older workers in industry and the need to revise national estimates of manpower. Shows significance of lack of correlation between age and ability to work.

CLOW, Hollis E. and Edward B. ALLEN, "A Study of Depressive States in the Aging", in Geriatrics, Vol. 4, No. 1, issue of January-February, 1949, p. 11-17.

Contrasts depressions in aged and younger groups. Emphasizes importance of social and economic influences of the aged as a major factor in depressions of the aged.

DENNIS, Wayne, "Age and Behavior, A Survey of the Literature", in Project No. 21-0203-0005, Report No. 1, Air University, U.S.A.F. School of Aviation Medicine, Randolph Field, Texas, May, 1953, p. v-146.

Reports review of selected literature on aging. Points out lack of studies of personality and emphasis on psychomotor and physical abilities.

DONAHUE, Wilma, In Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 57-60.

Reports that work done with normal old people supports the idea of the continuation of personality. Also supports the idea that the self-image is one of the main aspects in determining behavior.

-----, "Psychological Research Needs in Gerontology", in the Journal of Gerontology, Vol. 11, No. 2, issue of April, 1956, p. 196-203.

Reports on a rather exhaustive search of the literature of the aged, plus the 1956 Conference on Psychological Aspects of Aging. Shows the lack of sound research in the areas of personality and the nature of the process of aging and points up the need for such studies if the aging problem is to be solved.

DUNHAM, H. Warren, "Sociological Aspects of Mental Disorders in Later Life", in Oscar Kaplan, Ed., Mental Disorders in Later Life, Stanford University, 1945, p. 117-133.

Offers the suggestion that many of the psychic disturbances of the aged are due to changes in the structure of the family and society rather than other factors. Offers much support to the idea of personality in earlier years as being the major factor in maintaining one's integration in later years.

FRANK, Lawrence H., "Intrapersonal Aspects of Gerontology", in Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 15-37.

Offers the theory that the personality of the aged be viewed as continuing to develop and having a persistent and identifiable pattern. Suggests that the self image is the significant element in understanding the individual.

MOORENOUGH, Florence L., The Measurement of Intelligence by Drawings, Yonkers-on-the-Hudson, World Book, 1929, p. 141-177.

Presents technique of assessing intelligence of children by use of drawings of a man. Develops scoring system and establishes norms for different ages. Gives objective method of making drawings.

GRANICK, Samuel, "Adjustment of Older People in Two Florida Communities", in the Journal of Gerontology, Vol. 7, No. 3, issue of July, 1952, p. 410-425.

Studied two groups of older persons from different socio-economic levels in two different communities as regards attitude toward life, religion and politics. Found the similarities greater than the differences. Presents some information regarding the self view of the aged.

GRAVAT, Arthur L., "Family Relations in Middle and Old Age, A Review", in the Journal of Gerontology, Vol. 8, No. 2, issue of April, 1953, p. 197-201.

Studied family adjustments during middle and older ages. Certain personality traits remain constant.

HAVIGHURST, Robert J., "Social and Psychological Needs of the Aging", in the Annals of the American Academy of Political and Social Science, Philadelphia, January, 1952, p. 11-17.

Reports on studies of the social problems of the aging and points out the need to study the aged from a multi-disciplinary approach.

-----, "Interpersonal Aspects of Gerontology", in Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 68-112.

Suggests that the aged be studied in terms of their personal adjustment. Emphasizes the need to focus investigations on the aged individual.

-----, "Problems of Sampling and Interviewing in Studies of Old People", in the Journal of Gerontology, Vol. 5, No. 2, issue of April, 1950, p. 150-167.

Discusses problems encountered in obtaining sample of older subjects for study of older persons of typical midwestern community. Found personal interview best method of obtaining data on older persons. Incapacity and resistance were major difficulties encountered.

HAVIDORST, Robert J. and Betty E. ORR, "Aging and Psychological Adjustment", in Review of Educational Research, Vol. 25, No. 5, issue of December, 1955, p. 477-486.

Reports literature survey on psychological adjustment of the aged. Points to growing interest in aged and need for preventative mental health information.

HENNY, William E., "Affective Complexity and Role Perceptions: Suggestions for a Conceptual Framework for the Study of Adult Personality", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D. C., 1956, p. 30-41.

Presents a conceptual frame of reference for research on personality attributes of the aged. Feels that the body image and social roles are essential elements in understanding the aged.

HOLZBERG, Jules D. and Murray WEXLER, "The Validity of Human Form Drawings as a Measure of Personality Deviation", in the Journal of Projective Techniques, Vol. 14, No. 4, 1950, p. 343-361.

Used DAP to distinguish between normal and schizophrenic subjects. Results support validity of DAP.

JOHNSON, Ralph J. and M. Allen POND, "Health Standards of Housing for the Aging Population", in the Journal of Gerontology, Vol. 7, No. 2, issue of April, 1952, p. 254-258.

Reports housing related to health of the aged; suggests research headed on needs and wants of the aged to improve housing and thus health.

JONES, Harold L. and Oscar J. KAPLAN, "Psychological Aspects of Mental Disorders of Later Life", in Oscar J. Kaplan, Ed., Mental Disorders of Later Life, Stanford University, 1945, p. 69-115.

Reviews studies of the psychological factor in the psychosis of the aged and suggests that no one factor determines behavior but rather an inter-relationship of these factors. Offers support for the need to study these factors in elder groups.

KLEEMER, Robert W., Psychological Development in Later Years: Increment or Decrement, Looschaven Research Laboratory, Orange Park, Florida, May 24, 1955, p. 1-14.

Reviews literature on the aged to determine relative increment or decrement of changes which occur as one grows older. Feels misconceptions held regarding the decrements of aging can be changed through more research.

KOTKOV, Benjamin and Morris FISHMAN, "The Draw-A-Person Test of Obese Women", in the Journal of Clinical Psychology, Vol. IX, No. 4, issue of October, 1953, p. 363-364.

Used DAP in study of body image of obese and ideal weight female subjects. Suggests DAP represents projection of self.

KUHLER, Raymond G., in Nathan W. Shock, Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 60-62.

Offers the theory that the attitudes the aged hold toward himself is of importance in determining his behavior. Supports the need to investigate the self image of the aged.

LAUL, Helen G., "A Community Plans a Recreation Program for the Aged", in the Journal of Gerontology, Vol. 8, No. 1, issue of January, 1953, p. 86-89.

Describes recreation as one method of combatting the boredom of the aged. Stresses importance of considering the aged in future community planning.

LEHNER, George F. J. and Eric K. GUNDERSON, "Reliability of Graphic Indices in a Projective Test (The Draw-A-Person)", in the Journal of Clinical Psychology, Vol. VIII, No. 2, issue of April, 1952, p. 125-128.

Developed rating scale for scoring human figure drawings. Suggests objective scoring methods add to reliability and validity of the DAP.

-----, "Height Relationships on the Draw-A-Person Test", in the Journal of Personality, Vol. 21, No. 3, issue of March, 1953, p. 392-399.

Studied relationship between sex and age of subject and height of figure drawn. Hypothesizes height reflects drawer's self valuation.

LEHNER, G. F. J. and H. SILVER, "Age Relationships on the Draw-A-Person Test", in the Journal of Personality, Vol. 17, No. 2, issue of December, 1948, p. 199-209.

Investigated relationships of subject's age to age assigned to figures drawn. Supports idea that DAP represents a projection of self.

LINDEN, Maurice L., "Effects of Social Attitudes on the Mental Health of the Aging", in Geriatrics, Vol. 12, No. 2, issue of February, 1957, p. 109-114.

Stresses the importance of the social aspects of the self as being significant in determining one's reaction to the process of aging. Emphasizes the loss of social contacts as contributing to mental illness in the aged rather than organic factors as such.

-----, "The Miracle in Building #53", in Current, issue of January, 1964, published by Pennsylvania Citizens Association, Philadelphia, p. 2-17.

Reports group therapy discussion with aged women in mental hospital. Shows how psychotherapy brings results and is indicated in the treatment of the aged.

LINDEN, Maurice L. and Douglas COURTNEY, "The Human Life Cycle and Its Interruptions, A Psychologic Hypothesis, Studies in Gerontologic Human Relations I", in The American Journal of Psychiatry, Vol. 109, No. 12, issue of June, 1953, p. 101-137.

Presents a theoretic approach to aging wherein the latter half of the life span is not considered a barren interlude before death but has much in the way of potential. Contributes to reject the idea that behavior disorders of the aged are irreversible because of organic pathologic changes.

LOEB, Martin B., "Motivational Patterns and Educational Programs", in John L. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D. C., 1956, p. 185-190.

Describes how cultural changes effect the motivation of the aged. Suggests need for adult education to maintain stability.

LORGE, Irving, "Gerontology (Later Maturity)", in the Annual Review of Psychology, Vol. 7, 1956, p. 349-364.

Reviews literature on aged and its emphasis on care of the aged. Points out need for research on stereotypes of the aged and the personality in general. Suggests research design be more precise.

LORGE, Irving et al., "Human Figure Drawings by Younger and Older Adults", in the American Psychologist, Vol. 9, No. 8, issue of August, 1954, p. 420-421.

Examines human figure drawings of normal and institutionalized aged subjects. Results show primitive distorted and more crude drawings by psychotics.

MACHOVER, Karen, Personality Projection in the Drawing of the Human Figure, (A Method of Personality Investigation), Charles C. Thomas, Springfield, Illinois, 1949, p. vii-181.

Presents theory and development of use of human figure drawing as a projective method of assessing personality. Sets forth structure and framework for interpretation of drawings.

-----, "Drawing of the Human Figure", in An Introduction to Projective Techniques, Harold K. Anderson and Gladys L. Anderson, Ed., Prentice-Hall, New York, 1951, p. 348.

States that aged persons tend to draw primitive regressed drawings. Suggests this is due to organicity. Provides information as to expected performance of aged on the D.F. test.

MAINOLD, Florence H., "A Note on the Use of Figure Drawings in the Diagnosis of Sexual Inversion", in the Journal of Clinical Psychology, Vol. IX, No. 2, issue of April, 1933, p. 183-185.

Investigated hypothesis that DA² represents subject's sexual identification. Results support hypothesis for male subjects, not for female subjects.

MALMUD, William, in Nathan W. Shock, Ed., Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 44-46.

Suggests that constitutional characteristics must also be considered as prime factors in determining behavior of the aged. Stresses the need to study aged from a number of points of view.

-----, "Psychopathological Aspects: Problems of Aging", in Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1951, p. 140-175.

Reports research, points out no correlation between pathological findings and behavior. Suggests personality type and psycho-social stress determine behavior.

MASON, Evelyn P., "Some Correlates of Self-Judgments of the Aged", in the Journal of Gerontology, Vol. 9, No. 3, issue of July, 1954, p. 324-337.

Reports data on ability of aged to view themselves realistically in environment. Provides information concerning self concept of the aged.

MEAD, George H., Mind, Self and Society, The University of Chicago Press, Chicago, Illinois, 1934, p. v-400.

Develops the theory that the self arises out of social context. Provides foundations for the self concept theory.

MENSCH, Ivan Norman, "Psychological Aspects of Aging; Perceptual Research", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, 1956, Washington, D. C., p. 140-146.

Reviews literature on perception in the aged. Suggests aged persons perception of self reflects personality characteristics.

PECK, Robert, "Psychological Development in the Second Half of Life", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D. C., 1956, p. 42-53.

Describes the concept of the aged which views second half of life as having developmental stages. Uses body image as construct and stresses need for emphasis on wisdom and experience.

PRADOS, Miguel and Lidita G. FRED, "Personality Structure of the Older Age Groups", in the Journal of Clinical Psychology, Vol. III, No. 2, Issue of April, 1957, p. 113-120.

Used Rorschach to examine group of aged subjects. Results suggest that no single crucial age period exists as regards adaptation to aging.

ROTHSCHILD, David, "Pathologic Changes in Senile Psychosis and Their Psychobiologic Significance", in the American Journal of Psychiatry, Vol. 63, 1937, p. 757.

Studied cerebral pathology of deceased normal and psychotic aged subjects. Results show no difference in extent or degree of pathology between groups.

-----, "Benile Psychosis and Psychosis with Cerebral Arteriosclerosis", in Oscar J. Kaplan, Mental Disorders in Later Life, California, Stanford University, 1945, p. v-436.

Reviews studies of senile cerebral changes in normal aged people and offers the hypothesis that brain damage as such cannot be considered to be solely responsible for psychotic behavior in later years.

SANDS, Sidney and David ROTHSCHILD, "Socio-psychiatric Foundations for a Theory of the Reactions to Aging", in the Journal of Nervous and Mental Diseases, Vol. 116, 1952, p. 233-241.

Offer theory and evidence that psychosis of the aged result from combination of organic cerebral disease; socio-psychiatric stress and certain vulnerabilities of the personality.

SCHILDER, Paul, The Image and Appearance of the Human Body, International Universities Press, New York, 1938, p. 3-303.

Offers a theory of the development of the body-image that incorporates the organic, functional and psychological theories. Provides a method of investigating personality by examination of the body-image.

SHOCK, Nathan W., Trends in Gerontology, Stanford University, California, 1957, p. viii-214.

Describes trends of the aged in the areas of population, employment, education, etc. Reports growth of problems and stresses need for a continuing research.

-----, "The World of Aging", in the Newsletter of the Gerontological Society, Vol. 4, No. 3, issue of September, 1947, p. 3-10.

Describes problem areas of the aged. Stresses need for research in all areas.

-----, Problems of Aging, Transactions of the Twelfth Conference, Josiah Macy, Jr., Foundation, New York, 1950, p. 9-215.

Describes proceedings of conference. Stresses the need to view aged in new perspective, emphasizing personal, social and economic factors.

STEARNS, A. Warren, "Psychiatric Aspects of Senility", in the J. Main Medical Association, Vol. 38, No. 257, issue of November, 1947, p. 60-64.

Describes increase in admission of aged to hospitals as a sociological phenomena. Suggests hospitalization is not the answer to the needs of the aged.

SWENSEN, Clifford H., Jr., "Empirical Evaluations of Human Figure Drawings", in the Psychological Bulletin, Vol. 54, No. 6, issue of November, 1957, p. 431-486.

Reviews studies of reliability and validity of DAP as regards Machover's interpretations. Suggests DAP is of value as clinical instrument for rough screening and gross indicator of adjustment.

TIBBETS, Clark, "Final Report Second International Gerontological Congress", in the Journal of Gerontology, Vol. 7, No. 2, issue of April, 1952, p. 259-290.

Reports on studies concerning pathology of the aged. Studies fail to show correlation between these variables.

TUCKMAN, Jacob and Irving LONGE, "When Does Old Age Begin and a Worker Grow Old", in the Journal of Gerontology, Vol. 8, No. 4, issue of October, 1953, p. 483-488.

Author reports that chronological age is not valid criteria for judging the beginning of old age or when a worker gets old. Points out misconceptions held about the aged.

-----, "When Aging Begins and Stereotypes about Aging", in the Journal of Gerontology, Vol. 8, No. 4, issue of October, 1953, p. 489-491.

Studied attitudes and stereotypes held concerning the aged. Results show many misconceptions exist.

-----, "Retirement Practices in Business and Industry", in the Journal of Gerontology, Vol. 7, No. 1, issue of January, 1952, p. 77-86.

Reports that industry uses chronological age as criteria for retirement rather than ability. Points out need for revision of such practices.

WATSON, Robert L., "The Personality of the Aged, A Review", in the Journal of Gerontology, Vol. 9, No. 3, issue of July, 1954, p. 309-315.

Describes paucity and inadequacy of literature concerning the personality of the aged. Points out need for more and better designed research on personality.

WEIDER, Arthur and Paul A. NOLLER, "Objective Studies of Children's Drawings of Human Figures", in the Journal of Clinical Psychology, Vol. VI, No. 4, issue of October, 1950, p. 319-325.

Studied relationships between sex of subjects and sex of first figure drawn. Results showed significant correlation. Supports validity of DAP as representing self concept.

WEINBERG, Jack, "Personal and Social Adjustment", in John E. Anderson, Ed., Psychological Aspects of Aging, American Psychological Association, Washington, D.C., 1956, p. 17-20.

Offers theory that adjustment of aged depends upon ego strength more than any other factor. Supports idea of personality rather than organicity as a determinant of psychosis in the aged.

WEXLER, Murray and Jules D. HOLZBERG, "A Further Study of the Validity of Human Form Drawings in Personality Evaluation", in the Journal of Projective Techniques, Vol. 16, No. 2, 1952, p. 249-251.

Repeated previous studies of validity of DAP in distinguishing between normal and psychotic subjects. Results confirmed previous findings.

WOLFF, Kurt, "Definition of the Geriatric Patient", in Geriatrics, Vol. 12, No. 2, issue of February, 1957, p. 102-106.

Suggests that older people be viewed the same as patients of younger years. Suggests that the behavior disorders of the aged are due to the same factors which influence the behavior of younger people.

APPENDIX 1

GOODENOUGH SCORING SYSTEM

Each of the following items if present in the drawing receives a score of one (1). The total score is the sum of all items scored.

1. Head present.
2. Legs present.
3. Arms present.
- 4a. Trunk present.
- 4b. Length of trunk greater than breadth.
- 4c. Shoulders definitely indicated.
- 5a. Attachment of arms and legs.
- 5b. Legs attached to the trunk. Arms attached to the trunk at the correct point.
- 6a. Neck present.
- 6b. Outline of neck continuous with that of the head, of the trunk, or of both.
- 7a. Eyes present.
- 7b. Nose present.
- 7c. Mouth present.
- 7d. Both nose and mouth shown in two dimensions; two lips shown.
- 7e. Nostrils shown.
- 8a. Hair shown.
- 8b. Hair present on more than the circumference of the head. Better than a scribble. Non-transparent; that is, outline of head not showing through the hair.
- 9a. Clothing present.
- 9b. At least two articles of clothing (as hat and trousers) non-transparent; that is, concealing the part of the body which they are supposed to cover.
- 9c. Entire drawing free from transparencies of any sort. Both sleeves and trousers must be shown.
- 9d. At least four articles of clothing definitely indicated.
- 9e. Costume complete without incongruities.
- 10a. Fingers present.
- 10b. Correct number of fingers shown.
- 10c. Detail of fingers correct.
- 10d. Opposition of thumb shown.
- 10e. Hand shown as distinct from fingers or arm.

- 11a. Arm joint shown. Either elbow, shoulder, or both.
- 11b. Leg joint shown. Either knee, hip, or both.
- 12a. Proportion. Head.
Requirement: Area of the head not more than one half or less than one tenth that of the trunk.
- 12b. Proportion. Arms.
Requirement: Arms equal to the trunk in length or slightly longer, but in no case reaching to the knee. Width of arms less than that of trunk.
- 12c. Proportion. Legs.
Requirement: Length of the legs not less than the vertical measurement of the trunk, nor greater than twice that measurement. Width of the legs less than that of the trunk.
- 12d. Proportion. Feet.
Requirement: The feet and legs must be shown in two dimensions. The feet must not be "clubbed"; that is, the length of the foot must be greater than its height from sole to instep. The length of the foot must be not more than one third or less than one tenth the total length of the leg.
- 12e. Proportion. Two dimensions.
Requirement: Both arms and legs shown in two dimensions.
13. Heel shown.
- 14a. Motor coordination. Lines A.
Requirement: All lines reasonably firm, for the most part meeting each other cleanly at points of junction, without marked tendency to cross or overlap, or to leave gaps between the ends.
- 14b. Motor coordination. Lines B.
This score is in addition to that for 14a. Scoring should be very strict.
- 14c. Motor coordination. Head outline.
Requirement: Outline of head without obviously unintentional irregularities.
- 14d. Motor coordination. Trunk outline.
Requirement: Same as for the preceding point, but here with reference to the trunk.
- 14e. Motor coordination. Arms and legs.
Requirement: Arms and legs without irregularities as above, and without tendency to narrowing at the point of junction with the body. Both arms and legs must be in two dimensions.

- 14f. Motor coordination. Features.
Requirement: Features symmetrical in all respects.
- 15a. Larynx present.
- 15b. Ears present in correct position and proportion.
- 16a. Eye detail. Brow, lashes, or both shown.
- 16b. Eye detail. Pupil shown.
- 16c. Eye detail. Proportion.
Requirement: The horizontal measurement of the eye must be greater than the vertical measurement.
- 16d. Eye detail. Glance.
Requirement: The face must be shown in profile.
- 17a. Both chin and forehead shown.
- 17b. Projection of chin shown; chin clearly differentiated from lower lip.
- 18a. Profile A.
Requirement: The head, trunk, and feet must be shown in profile without error.
- 18b. Profile B.
Requirement: The figure must be shown in true profile, without error or bodily transparency, except that the shape of the eye may be ignored.

APPENDIX 2

BUCK SCORING SYSTEM

Each drawing is examined for the following list of scoring items. Wherever a scoring item has subheads designed by Arabic numerals, only one subhead is scored, for subheads so designated are presumed to be mutually exclusive. When items are designated by Roman numerals, any or all of the items are scored.

The value given for each item is that of the number following the letter prefix; i.e., A1 is scored 1, D3 is scored 3. Those items prefixed by the letter D are considered Flaw items; those prefixed by A or S are considered Good items. The total Flaw score is the sum of the D items scored and the total Good score is the sum of the combined A and S scores.

For each item in the scoring list, Buck presents plates containing drawings which illustrate the quantitative scoring points specifically. These plates provide some criteria for judging the proper score to assign a given drawing. (See H-T-P Manual)

PERSON

Details

300: Eyes:

- I. (a) Eyes not shown D3
- (b) Incorrect number of eyes D2
- II. (a) Eyes shown by dots, hollow circles, ovals,
 squares, or horizontal lines A1

300: Eyes:	
II. (b)	Eyes shown with two dimensional socket, and the pupils indicated by dots or circles A3
301: Nose:	
(1)	Nose not shown D3
(2)	Nose shown by a single, straight vertical line or a single dot (with the head drawn full face)..... D2
(3)	Nose shown as a triangle, an oval, a square, or a circle..... D1
(4)	Nose shown (in full face) by two dots, circles, or ellipses, or two unjoined vertical lines A1
(5)	Nose shown as conventionally two dimensional parallel lines joined at the bottom or one vertical line curving at its lower end A2
(6)	Definite "flaring" of nostrils in a conventional two dimensional nose S1
302: Mouth:	
(1)	Mouth not shown D3
(2)	One dimensional mouth D1
303: Chin:	
(1)	Indicated in full face by distinct and careful lination S1
(2)	Chin indicated clearly with head in profile A1
(3)	Mandibular line shown with the head in profile: that is the "jaw line" is continued horizontally or obliquely toward the back of the head and is more than a mere continuation of the chin-into-neckline S2
304: Ears:	
(1)	Ears not shown D1
(2)	Ear convolutions shown clearly A3
305: Hair:	
(1)	No hair shown anywhere on the head or face D2
(2)	Hair shown in more than one place on the head as by eyebrows and hair on top of the head or any other combination involving the head A2
306: Neck:	
(1)	No neck shown D2
(2)	One dimensional neck D1
(3)	Two dimensional neck A1

- 307: Trunk:**
- (1) No trunk shown D3
 - (2) One dimensional trunk D2
 - (3) Two dimensional trunk (circular, oval, triangular or box-like in shape D1
 - (4) Two dimensional trunk of conventional shape A1
- 308: Shoulders:**
- (1) No shoulders shown D1
 - (2) Shoulders drawn A1
- 309: Arms:**
- (1) No arms shown D3
 - (2) Incorrect number of arms shown whether one or two dimensional and presence of one arm only not verbally or logically accounted for D3
 - (3) One dimensional arms D2
- 310: Hands:**
- (1) Mitten like, bar like or circular hands without fingers D2
 - (2) Mitten, bar like or circular hands with one dimensional fingers D1
 - (3) Two dimensional wrist clearly shown by the width of the forearm at the wrist end being narrower than at the elbow and then widening towards the fingers, or a joint indicated by a change in direction of the long axis of a two dimensional forearm at the appropriate point A3
- 311: Fingers:**
- (1) No fingers shown D3
 - (2) One dimensional fingers but an improper number shown D2
 - (3) One dimensional fingers of proper number shown D1
 - (4) Two dimensional fingers shown but an improper number D2
 - (5) Two dimensional fingers shown in proper number A2
 - (6) Thumb shown as distinct from the other fingers A3
- 312: Elbows: Elbows indicated clearly either by flexion of a two dimensional arm at the proper point or by careful outlining of the joint if the arm is not flexed A3**

- 313: Legs:**
- (1) No legs shown D3
 - (2) Incorrect number of legs D2
 - (3) One dimensional legs D2
- 314: Knee Joint presented either by actual flexion of the leg at the proper point or by a recognizable outlining of the joint S1**
- 315: Feet:**
- (1) No feet shown D3
 - (2) One dimensional feet or two dimensional feet with incorrect number of toes L2
 - (3) Golf-club-head, oval or square feet without heel D1
 - (4) Heel clearly shown A1
- 316: Clothing:**
- (1) No clothing shown at all and no sexual organs drawn to indicate the presentation in the nude was intended D2
 - (2) Clothing suggested D1
 - (3) Minimum conventional clothing shown and/or more complete clothing suggested A1
 - (4) Person either nude with sexual organs drawn or well-clad A3
- 317: Additional Details such as a Cane, a Basket, Pair of Roller Skates S1**

Proportion

- 318: Facial Inter-part Proportion:**
- (1) Less than three of the following points positive: that is, eyes and mouth of greater width than height and ears and nose of greater height than width D1
 - (2) Three plus: that is, any three of the above proportional requirements are met A1
 - (3) Four plus; that is, all of the above proportional requirements are met S1
- 319: Head Proportion:**
- (1) Face (in full face presentation) an oval whose horizontal measurement is greater than its vertical, or a face in profile with the vertical dimension markedly exceeding the horizontal or vice-versa D1
 - (2) Face (in full face presentation) a circle or almost square A1
 - (3) Face (in profile) with the vertical and horizontal measurements approximately equal. A2
 - (4) Face (in full face presentation) a vertical oval A3

380: Arms:

- (1) Forearms (one or both) wider than upper arm D2
 (2) Arm taper: the forearm is narrower than the upper arm. If both arms are shown both must taper to secure credit A2

381: Leg:

- (1) Lower leg's width is greater than that of the upper leg D2
 (2) Satisfactory leg taper from thigh to ankle A2

383: Ratios:

- I. Face-trunk ratio as to width (with the person in full face)
 (a) Trunk's width less than that of the face .. D2
 (b) Trunk's width approximately that of the face D1
- II. Head-trunk ratio (as to height) the head measurement is taken from the tip of the forehead to the lowest point of the chin with the mouth closed (if the mouth is drawn as open, the point should be approximated); the trunk measurement is taken from the lowest point of the chin to the top of the pelvic crest.
 (a) H: T: : 1: 3 or more, or T: H: : 1: 1 plus D1
 (b) H: T: : 1: 2 or more but less than 3, or H: T: : 1: 1 or more but less than 1½ .. A1
 (c) H: T: : 1: 1½ or more but less than 2 A2
- III. Arm-trunk ratio: (long axis dimension) if the arms are of unequal length take the dimension of the longer arm (the arm dimension is the distance from the tip of the shoulder to the point of the finger farthest therefrom):-
 (a) T: A: : 1: 3 or more, or A: T: : 1: 1 plus D2
 (b) T: A: : 1: 1½ or more, but less than 2 D1
 (c) T: A: : 1: 1 or more, but less than 1½ A2
- IV. Trunk-leg ratio: (long axis dimension) if the legs are of unequal length take the dimension of the longer leg (the leg dimension is the distance from the tip of the pelvic crest to the point of the foot farthest therefrom):-
 (a) T: L: : 1: 4 or more, or L: T: : 1: 1 plus D2
 (b) T: L: : 1: 2 or more, but less than 4 D1
 (c) T: L: : 1: 1 A2
 (d) T: L: : 1: 1 plus, but less than 2 A3

Perspective

324: Arm to Trunk Attachment:

- (1) Arm-trunk attachment segmental, as if the arms were drawn separately from the trunk, then glued on; there is, in short, no appearance of continuation of the shoulder line into the arm. One dimensional arms are always to be considered segmentally attached D1
- (2) Both arms springing from a common or nearly common source D1
- (3) "Ribbon Attachment" of arm or arms to trunk: In such instances the arm looks as if it had been squeezed out of the trunk much like a ribbon of toothpaste from a tube; there is almost always a marked widening of the arm as it leaves the trunk A1
- (4) Complete "Fluidity" of arm-trunk attachment: there is a continuation of the upper shoulder line into the outer arm line; in short, the arm becomes an actual extension of the shoulder. (If both arms are shown, both must have fluid attachment to secure credit here.) A3

325: Malplacement of Arms:

- (1) Arm or arms attached to the head or neck D2
- (2) Arm or arms attached to the trunk definitely below the shoulder level D1

326: Position of Arms:

- (1) With body presented in full face:
 - (a) Both arms extended laterally and approximately at right angles or greater to the trunk D1
 - (b) One or both arms extended laterally at less than right angles to the trunk but not straight down at the sides A1
 - (c) One or both arms straight down at the sides of the body A2
 - (d) With one or both arms (two dimensional) flexed S1
- (2) With body presented in profile:
 - (a) Arm or arms extended forward or backward and/or upward D1
 - (b) Arm or arms extended forward or backward but at less than right angles to the trunk A1
 - (c) Arm or arms hanging straight down at sides A2
 - (d) Arm or arms (two dimensional) with elbow flexed S1

- 387: Finger Attachment:**
 (1) More than one finger shown protruding from the side of the arm D2
 (2) Fingers shown protruding from end of forearm D1
- 388: Mal-attachment of the Legs: One or both legs attached to the head or the neck of the Person or joined to the trunk in some definitely abnormal fashion D3**
- 389: Placement of the Person on the Page:**
 (I) "Paper-chopped" (a margin of the page "chops" off some portion of the Person D2
 (II) Vertical Disparity:
 (a) 2 inches or greater D1
 (b) 1 inch to less than 2 inches A1
 (c) Less than one inch A3
 Note.- By "vertical disparity" is meant the difference between the distance from the top margin of the page and the uppermost point of the Person's skull (not the hat) and the distance from the bottom margin of the page to the point of the Person's foot nearest the page's bottom.
- 330: Method of Presentation of Person:**
 (1) Head drawn in profile; body in full face ... A2
 (2) Full or partial profile for both face and body A3
- 331: Animation of Person: Figure engaged in doing something besides standing still (sitting, walking, running, riding, throwing, or writing, for example) S1**
- 332: Type of Person:**
 I. Person not recognizable as of the sex specified by the subject in his post-drawing (induced) comments, or the subject cannot or will not specify the sex D2
 II. Person recognizable as of an age markedly different from that specified by the subject in his post-drawing (induced) comment D2
- 333: Transparency of a part of the body or the clothing: score once for each "transparency" of body or clothing, except for a pair of shoes lacking complete "top lines", which is counted as one transparency only D1**

APPENDIX 3

ABSTRACT

As a result of recent research, degenerative cerebral changes as the sole cause of the psychosis of the aged has been found to be inadequate. Other theories now offered include such things as constitutional factors, environment, social attitudes and personality. One such theory, that of the self concept, is suggested as being most important.

This investigation undertook the examination of one aspect of the self concept theory, that of the body-image, to determine what if any differences exist between normal aged men and psychotic institutionalized aged men.

The method used to study the body-image was that of the projective test known as the Draw-A-Person test. The drawings were scored objectively using both the Goodenough and Buck systems. Only the drawings of the male figure were used since it was felt that this drawing was more of a projection of self than the female drawing.

The population consisted of a group of fifty-four normal aged men ranging in age from 60 to 84 years and a group of psychotic institutionalized aged men ranging in age from 60 to 90 years.

These two groups were first compared with each other for differences and similarities in body-image. However,

since information concerning changes in the body-image as related to age was also desired, these groups were then broken down into sub-groups. The rationale of this division was based upon the age groupings used by the United States Bureau of Census. The sub-groups ranged in age from 60-69, 70-74, 75-79, 80-84, 85 and over. This division permitted the examination of changes between one age level and another and also between age levels in each group; i.e., normal and psychotic. This also permits examining trends in body-image changes as one grows older.

The drawings were scored first following Goodenough's system and then according to Buck's categories of Detail, Proportion, Ratio and Perspective. Only Raw Scores were used for comparisons.

The statistical methods used to examine the data were those of the t-technique for the two large groups and the Mann-Whitney U Test for the smaller sub-groups.

After the drawings were compared statistically, the results were translated into qualitative language using the rationale of Buck and Machover. In addition, a simple frequency count of the number of times a specific detail was mentioned by the subjects as being the Best or Worst part of the body was also obtained.

The results of the study showed that the body-image of normal aged men between the ages of 60 and 85 years is

generally better integrated and of a more complex nature than is the body-image of psychotic aged men of the same age range. Both groups are similar, however, in the degree to which they are aware of and respond to basic concrete elements of everyday life.

As regards the body-image of the subjects at different ages, it was found that between the ages of 70-74 years, the psychotic subjects showed significantly less integration and complexity than did normal subjects of this age range.

It was also found that normal subjects between the ages of 75-79 years showed less dissatisfaction with themselves, use better judgment and are more reality oriented than persons below or above these ages. These traits begin to appear between the ages of 70-74 years, however, which suggests this age level as a period of disruption, reappraisal of self and a beginning of a new level of integration. This is true of both groups at this age level. However, the psychotic group tends to become less able to cope with the environment as age increases. This may be a result of institutionalization since there is less need to deal with the total environment. This suggests perhaps that institutionalization is contra indicated as treatment for the aged.

When the pattern of test behavior of the two groups was examined, it was found that up to age 70 years no significant variation was found in their feelings of self satisfaction,

awareness of basic elements of life and ability to solve simple problems of life. Beyond 70, however, the psychotic subjects showed a loss in these traits.

Beyond age 74 years up to 79 years, both groups show an improvement in the traits but the normal subjects show a much greater degree of improvement than do the psychotic subjects. After these ages, however, both groups become similar in that they show more disintegration of the body image.

This suggests that the age level of beyond 79 is more appropriate as a point where senility as a pathological entity begins rather than at younger ages.

Both groups value the intellectual aspects of the self more than physical or emotional aspects. Also both groups are concerned with and have conflicts regarding their ability to be active and mobile.

Both groups entertain negative feelings about the self beyond the age of 60 years, regardless of mental status.

Personality disturbances in old age between the ages of 60 to 79 do not appear to be irreversible or is the process of aging essentially one of progressive deterioration.

The manner in which subjects adjusted prior to age 70 years reflects the manner of adjustment of older ages.

These findings are in terms of gross differences due to the subjectivity of the scoring system and also the

comparisons are of different groups at different ages. More precision in scoring and a measurement of changes in the same subjects over a period of years would provide more valuable information about aging as a continuing process.

