THE RELATIONSHIP BETWEEN "ANAL" PERSONALITY TRAITS AND TEMPORAL EXPERIENCE

Thesis for the Degree of M. A.

MICHIGAN STATE UNIVERSITY

Leonard Campos

1959

THE RELATIONSHIP BETWEEN "ANAL" PERSONALITY TRAITS AND TEMPORAL EXPERIENCE

By

Leonard Campos

A THESIS

Submitted to the College of Science and Arts
Michigan State University of Agriculture and
Applied Science in partial fulfillment of
the requirements for the degree of

MASTER OF ARTS

Department of Psychology

1959

Acknowledgements

The graduate student of psychology who must oftentimes grope through unexplored realms of human behavior needs the help of many hands. To Dr. Albert I. Rabin, chairman of my Guidance Committee for his encouragement and confidence in me; to Dr. Gerald F. King for his understanding; and to Dr. Terrence M. Allen for his scepticism, I wish to express my deepest gratitude. I wish also to thank Dr. Charles Wrigley for his generous help and Dr. Joseph Reyher, Paul Berg, M.A., and Eugene Zukowski, M.A., for serving as judges in the content validation of the retentive anal personality scale used in this study.

I wish also to thank my 100 subjects who served in this study and gave freely of their time, as we shall soon see, just as if it were money.

THE RELATIONSHIP BETWEEN "ANAL" PERSONALITY TRAITS AND TEMPORAL EXPERIENCE

By

Leonard Campos

AN ABSTRACT

Submitted to the College of Science and Arts
Michigan State University of Agriculture and
Applied Science in partial fulfillment of
the requirements for the degree of

MASTER OF ARTS

Department of Psychology

1959

THE RELATIONSHIP BETWEEN "ANAL" PERSONALITY TRAITS AND TEMPORAL EXPERIENCE

Leonard Campos

ABSTRACT

This study was designed to explore the relationship between "retentive anal personality" traits as measured by an Anality(A) scale and some aspects of temporal experience of 100 University male subjects. Four aspects of temporal experience were investigated: a) retentiveness of time expenditure as defined by the items of a Time Expenditure (T) scale, b)the estimation of the interval of duration or time taken to fill in the A and T scales(including some filler items), c) accuracy of the estimation, and d) the "tempo" or actual time taken by the subjects to complete the scales. The scores on the A scale were used as a basis for classifying subjects as "high retentive personality(HRP) and "low retentive(or 'expulsive') personality"(LRP).

On the basis of the psychoanalytic theory of the anal personality it was hypothesized that 1) a strong relationship exists between subjects' retentive "anal traits" as measured by total scores on the A scale and retentiveness of time expenditure as measured by total scores on the T scale. It was further hypothesized that 2) the HRP's overvaluation of time would result in a more significant tendency to over-

estimate the duration of the interval of time taken to complete the scales than the LRP. Reasoning from the fact that the HRP is excessively exact and punctual in his time expenditure and hasty and impatient in his actions(expressing a need to save time or avoid the loss of time), it was predicted that 3) the HRP would show a significant tendency to be more exact or accurate in his estimation of time as well as 4) faster in tempo or in actual time taken to complete the scales than the LRP.

The first two hypotheses were confirmed in line with the psychoanalytic theory of the anal personality. There was no difference, however, between the HRP and LRP in accuracy of estimation or in tempo. The results suggested the conclusion that the retentive anal personality or HRP is highly retentive in his time expenditure, and in comparison to the LRP exhibits a significant tendency to overestimate an interval of time. No difference in accuracy of estimation or in tempo was found.

Some proposals for future research were made in the hope that the importance of the relationship between personality variables and temporal experience is given the recognition it deserves.

Approved _____
Major Professor

Date Dec 2, 1957

Table of Contents

List of Tables

I. INTRODUCTION

Purpose

The manifold nature of our temporal experience is expressed through our use of concepts of time such as sequence, duration(time estimation), perpetuation, reaction time, tempo, simultaneity, periodicity, continuity, recurrence, coincidence, and time perspective(past, present, and future). Our percepts and concepts of time derive from many different sources- from our perceptions of change and movement, periodicity of events(internal and external), memory, body awareness, and as psychoanalysts have emphasized, out of our early childhood frustrations and gratifications. "Time" plays a crucial role in our lives, serving to integrate our behavior and mediate our adjustment to our surrounds.

There is a great deal of individual variability in temporal experience much of which is indubitably a function of personality differences. Yet little systematic investigation has been undertaken to explore the relationship between time and personality. In their recent extensive review of the literature of studies of temporal experience, Wallace and Rabin(1959) conclude that the study of the relationship between temporal experience and personality variables is still in its infancy.

There is only one explicit personality theory of temporal

experience extant in the literature. The psychoanalytic theory of personality is a temporal theory of personality in so far as the delay or postponement of gratification is a central concept of its system of postulates about the personality. Although behavioral learning theorists have recognized the importance of time relations between conditioned and unconditioned stimuli and responses they have not related them to a general theory of personality(Woodworth & Schlosberg , 1954).

In our aim to explore the relationship between personality and temporal experience we have chosen the constellation of "traits" observed by the psychoanalysts to characterize a certain kind of personality or character structure known as the "anal personality". We have attempted to examine the relationship of such traits to some aspects of temporal experience as postulated by or predictable from psychoanalytic personality theory.

The impetus for undertaking the present investigation was the conviction that many of the postulates of psychoanalytic personality theory are amenable to test by empirical procedure- contrary to the assertions of some writers that psychoanalysis must be viewed as an art rather than as a science(Symonds, 1931).

Review of the Literature

Theory of the Anal Personality

Freud(1908) observed that some of his patients revealed

an early history of extreme interest in the act and product of defecation which he referred to as "anal eroticism". He found that such individuals tended to postpone defecation to derive an incidental pleasure from it. They also exhibited a history of bowel problems such as chronic diarrhea or constipation. Freud also observed that they were exceptionally orderly, parsimonious, and obstinate. As defined by Freud, "orderliness" included bodily cleanliness, reliability, and conscientiousness in the performance of petty duties; "parsimony" or frugality might be exaggerated to the point of avarice; "obstinacy" may amount to defiance, irascibility and vindictiveness.

Freud conceived of anal eroticism as a component of the sexual instinct(libido), as a "partial instinct" that may be (a) continued after infancy, (b) sublimated(expressed in a socially accepted way), and/or (c) serve as a source of reaction formations in later life. Thus frugality may be a continuation of the early retention or holding habit and can be expressed in acquisitiveness or collecting mania; obstinacy may be an elaboration of the early resistance against training demands during the conflict between parent and child over the enforced regulation of bowel movement; and orderliness may be the outcome of a reaction against the messiness associated with an early interest in the feces because of unconscious feelings of guilt and shame.

As Sears(1942) pointed out, in order to understand Freud's theory of personality one must recognize the fundamental importance of the concept of libido and libido economy. The concept of libido postulated a sexual energy source underlying infantile as well as adult behavior. Such infantile sexuality is expressed via certain erotogenic zones of the body such as the mouth, the anus, and the genitals. "Partial instincts" or impulses arising from the zones are relatively independent of one another at first but in the course of time develop through various stages until unified into the genital sexual impulse in the healthy personality. Infantile sexuality is conceived in terms of a pregenital libido organization of the oral and anal zones. The early oral and anal stages are followed by an early autoerotic genital or phallic stage prior to a latency period and subsequent late mature genital period.

An important concept is the displaceability of libido from one erogenous zone to another and its fixation(object cathexis) on objects. The effect of training during the pregenital period, i.e., the degree of frustration or gratification of the energy discharge accompanying the satisfaction of erotogenic needs, is considered crucial for the formation of later adult personality. In the case of the so-called "anal personality", libido fixated at the anal zone is transformable into anal traits in later adult life.

Jones(1913) observed that obsessional neurotics invariably revealed a history of anal sadism as well as anal erotism in early childhood. The compulsive doubting(folie du doute) and omnipotent thinking of the patients were found to be associated with a history of defecation used as a means of expression of hatred towards the parents. The expressions of hostility stemmed from (1) stringent demands for cleanliness and (2) excessive demands for regularity. Jones(1918) classified what he called "anal erotic" character traits as either (1) sublimations or (2) reaction formations stemming from an interest in both the act and product of defecation.

Interest in the act had two aspects: (a) endeavors of the person to get as much pleasure out of the performance as possible and (b) retention of the control of the performance in opposition against the demands of the environment. From the former, we have such traits as the tendency to procrastinate and then suddenly to hurry; low tolerance for being interfered with; strivings for perfection; and behavior that is symbolic of obedience or compliance with demands for fecal control such as strong attitudes about doing one's duty, being moral, being on time, being regular in spending, etc. From the latter we get traits that reflect (1) opposition against external control- characteristics such as obstinacy(Eigensinn), dislike of being told what to do(resis-

tiveness), taking advice badly, sensitivity about what is "just", a sense of duty, and a dislike for people to use up one's time; and (2) resentment- characteristics such as sadism, irritability, revengefulness, marked individuality, and inadequate satisfaction in any activity not done 'correctly.

Traits stemming from an interest in the product of toilet performance are exhibited in any excessive interest in "coprosymbols"(any matter symbolic of fecal material) such as any material related to one's duty, books(printed matter), money, certain foods, and time. Jones also adds that any excessive interest in the reverse side of things is a sublimation of an early interest in the anal canal.

Jones describes a fourfold classification of anal behavior in terms of what he referred to as the "psychoeconomy of the anal complex", i.e., whether erotization of the toilet performance was in the 'keeping' back(retention) or giving out(expulsion) of feces, as illustrated in table I.

Abraham's(1921) systematization of the stages of pregenital organization recognized early and late anal stages. Early anal behavior is described as the child's indiscriminate disposal of the feces and late anal behavior is described as retentive. Neurotic patients "fixated" at the former stage exhibited a lack of productivity and initiative, overkindness, excessive expenditure of money, extravagance,

tendency to postpone, to interrupt and leave things unfinished, and were chronically diarrheaic; patients fixated at the latter stage had excessive beliefs about the right of self determination, were stubborn, hypercritical, desired to possess things no one else had, used their own system of doing things, excessively scheduled their activities, held strong beliefs about one's right of free choice, were parsimonious (expressed either in stinginess or the tendency not to spend money unless it was in 'lasting' things), and were chronically constipated. Abraham also corroborated Freud's observations that patients' attitudes toward the act, product, and achievement in toilet performance were displaced to personal possessions, money, and time.

Table I

The Psychoeconomy of the Anal Complex
(adapted from Jones, 1913)

Anal Behavior	Sublimation	Reaction Formation
Retention	Parsimony Withholding tendencies Collecting tendencies Dislike to part with money, saving of time, etc.	Orderliness Need to organize, classify, etc. Intolerance of waste Reliability(capacity of being depended upon)
Expulsion	Extravagance Generosity Smearing tendencies Wasting tendencies Love of painting, giving presents, wasting of time, etc.	Disorderliness Exaggerated disgust to soiling
Flatus Complex:	Fondness for sounds and smells associated with flatus	Exaggerated aversion

Up to this time it was clear that two types of "anal erotic" personality were implicitly recognized- the retentive type who was assumed to have derived an excessive pleasure associated with fecal retention and the expulsive type who was assumed to have derived an excessive pleasure associated with fecal expulsion. "Time", among other assumed copro-symbols was purported to be an "ideational representative" of early anal sadism-erotism or coprophilia associated with the act and product of anal performance. Many other early psychoanalytic writers held a similar viewpoint(Sadger, 1910; Klein, 1921; Hollos, 1922; Spielrein, 1923; Harnik, 1925; and Winterstein, 1930).

In their biological orientation and emphasis on anal erotism, Freud, Jones, Abraham, and others of a similar point of view appeared to give inadequate weight to social factors in the formation of the so-called "anal personality". With the rise of "neo-freudianism" in the thirties emphasis shifted to the role of the cultural pattern of interpersonal relations.

Kardiner(1939), Landauer(1939), and others held the view that any constellation of personality traits is a function of social institutions. Orderliness may be a compliance with parental demands; obstinacy, a refractory attitude to such demands; and parsimony, an expression of anxiety over loss of anything valuable(such as maternal love) to the child

and not specifically an expression of anxiety about loss of anal control or pleasure derived from anal erotism. The persistence of so-called "anal erotism" or failure to devalue anal pleasures may be due to inadequate pleasure from other contacts with the world.

Horney(1939) viewed the overall retentiveness found in the retentive anal personality as a defense against anxieties stemming from the totality of influences during childhood training:

> A person does not have tight lips because of tenseness of the sphincter but both because his character trends tend toward one goal- to hold on to what he has and never to give away anything, be it money, love or any kind of spontaneous feeling(p. 61).

Menninger(1943), Krout and Tabin(1954),and others have emphazised the fact that no character trait is purely, anal, genital, or oral, nor any trait a fixed, inflexible characteristic of the personality. They emphazise the relative nature of psychosexual stages and contend that such "stages" should be viewed as areas of behavior that are manifested in different degrees from one individual to another.

Miles(1954) made the important point that characteristics of anality may develop if a person has been deprived of gratification in childhood but they may not if the child felt he was still accepted and loved:

> Lack of complete gratification of the anal zone is never a sufficient condition or erotization a necessary condition; the sufficient condition must be the context of relationships felt as vital to welfare(p. 281)

As viewed by the present writer, the concept of the "anal personality" is a prototype which refers to persons who are either excessively retentive or excessively expulsive in their total behavior. In psychoeconomic terms, the retentive personality is characterized by an overall tenacity, in which "holding" tendencies predominate over "letting go" tendencies induced by early restrictive training and serves as a means of avoidance of loss- loss of anything that may represent to the individual security or love whether it be body products(feces, semen, urine, etc.), food, possessions, money,or time. Less attention is paid in the literature to the so-called expulsive anal personality in which letting go tendencies predominate over holding tendencies induced by early indulgent training. Most references to the "anal personality" in the literature focus on the highly retentive personality; this may indicate the rarity of an excessively "expulsive" person in our culture. For our purposes, the concept of the expulsive personality shall refer to an individual who displays a low degree of retentiveness. Thus, the anal personality can be described in terms of a continuum of retentiveness along which the retentive anal personality shall be referred to as high retentive person(HRP)

and the expulsive anal personality as a low retentive person (LRP).

With respect to temporal behavior, it is generally agreed that a significant part of the child's understanding of time arises out of the enforced scheduling or timing of the child's needs. Arieti(1947) and Fenichel(1945) have emphasized the effects of scheduled anal training during which the child must learn to wait and defecate when told to do so. Other writers have emphasized other training periods such as feeding or nursing waiting periods(Yates, 1955; Bergler & Roheim, 1946; Eissler, 1952) or other timed functions such as sleeping, eating, breathing, etc.(Oberndorf, 1941; Dooley, 1941; Cohen, F., 1957).

As Fenichel(1945) pointed out, anal personality formation is a function of training that is either too early(associated with frustration and the formation of retentive traits) or too late(associated with indulgence and the formation of expulsive traits). In addition to training that is (1) too early or (2) too late, the timing difficulties and attitudes toward time expenditure of the anal personality may be attributed to (3) enforced rushing or haste of training, (4) enforced waiting or delay of training, and (5) excessively interrupted training.

Tables IIa and IIb present the principal anal traits and attitudes toward time expenditure of the high retentive personality as observed by psychoanalysts over more than fifty years of analytical experience. These traits have

Table IIa

The "Anal traits" of the Retentive Anal Personality

I. Order	II. Economy	III. Obstinacy
Overorderliness(keeping order) Perfectionism Symmetry compulsions, compulsive striving and doubting; needs for conclusiveness, completion, closure. Punctiliousness, meticulousness, methodicalness. Need to organize, classify, categorize, be exact in details, pedantry. Neatness, cleanliness. Equitableness, need for 'justice, fairness, righteousness. Dutiness(need to do one's duty), reliability, dependability Belief in self-determination, self-control	Frugality(holding to possessions) Parsimony Thriftiness, stinginess. Need to collect, save Acquisitiveness Overevaluation of 'coprosymbols', i.e., money, food, clothes, etc.	Obstinateness(holding back against someone) Persistence, perserverence. Conscientiousness Stubborness, defiance, belief in right of free choice, feeling that one can do better than another, etc. Resistiveness(doesn't give up) Negativism, mutism, irritability, aggressiveness. Resentfulness(holding of a grudge), vindictiveness, distrustfulness. Overconcern about power.

Table IIb

The Attitudes Toward Time Expenditure
Of the Retentive Anal Personality

I. Order	II. Economy	III. Obstinacy
Overorderly expenditure of time, punctuality Need to schedule, budget time. Punctiliousness in expenditure of time, equitable distribution of time, etc.	Parsimonious expenditure of time Need to save time, not to lose time or waste time. Overevaluation of time Feelings of not having enough time, expenditure of time only in 'lasting' things. Vigilance, not wanting to miss things, overconcern with passage of time. Incapacity to 'lose' oneself in time, preparedness, futuristic looking forward, state of suspense, doubt. Need to 'fill' up time, disposition to boredom, impatience.	Use of time as expressions of obstinacy, revenge, negativism, etc. Keeping others waiting, coming late, squandering others time, use time as a power control. Use of time as an expression of persistence, perseverance, etc.

been classified according to the three dimensions of order, economy, and obstinacy; the same has been done for the attitudes toward time expenditure in the attempt to organize the references scattered throughout the psychoanalytic literature. In terms of this classical "anal triad","order"or orderliness shall be defined as any excessive need for order as manifested in needs for symmetry, perfection, exactitude, equitableness, etc. The compulsive doubting of the anal personality is assumed to be in the service of needs for conclusiveness, completion, and so on; "economy" is defined as any excessive need for parsimony, guarding against loss, acquisitiveness, thrift, etc.; "obstinacy" is defined as any excessive tenacity whether manifested in socially undesirable ways such as resentfulness, resistiveness, distrustfulness, etc., or socially acceptable ways such as persistence, perseverance, conscientiousness, and so on.

There are several points which must be kept in mind in examining the tables of traits. The configuration of personality traits referred to as "anal" expresses prototypical retentive behavior. The anal personality(AP) need not show <u>all</u> such traits. The fundamental aim of such a classification is to indicate the traits which characterize a predominant "holding" tendency in the personality. As we have emphasized before, whether a person is to be classified as "retentive" or "expulsive" depends on the <u>degree</u> of retentiveness. It is assumed that the greater the withholding tendencies of a given individual, the less are the yielding or

or "letting go" tendencies. The holding tendencies of the HRP is manifested in his need to keep order, hold on to his possessions and money(frugality), obstinacy(holding against someone), resistiveness(doesn't give up), resentfulness(holding of a grudge), etc. Psychoanalysts have observed the same tendencies in the AP's time expenditure. Time is spent in an orderly manner, is scheduled punctiliously, and distributed equitably; it is spent parsimoniously to avoid its waste or loss; and it is vigilantly held on to.

In contrast to the HRP, the expulsive person or LRP is excessively disorderly, extravagant, and labile. With respect to time expenditure, the LRP tends to be tardy, squanders his time, has no need to "fill up" his time since he feels he has enough of it, undervalues time and has a high delay tolerance. There is no anxiety about loss of time as exhibited in the HRP.

Another important point that must be borne in mind is the AP's sudden reaction formations. Thus, periodically the HRP will exhibit expulsive behavior, and the LRP, retentive behavior. The habitual punctuality of the HRP may become an exaggerated need to be unpunctual; excessive sloppiness of the LRP may be replaced momentarily by an excessive display of neatness, etc. These periodic departures from the habitual pattern of behavior are usually short-lived, however.

Furthermore, a given anal trait may either express a withholding or yielding tendency and may thus characterize

both the HRP and the LRP. This ambivalence of the AP may account for some of the apparent contradictions in the lists of anal traits found in the literature. Thus, chronic lateness or wasting of time, although considered an "expulsive" characteristic of the LRP may be a retentive characteristic of an individual HRP if it is an expression of obstinacy. "Aggressiveness" in the HRP may be masochistic(holding of aggression), whereas in the LRP it may be sadistic(giving of aggression).

Since much of temporal behavior is interpersonal it must be viewed in relation to other persons. Thus, the HRP may need to save his own time but may tend to squander the time of others. He may tend to interrupt himself(in his attempts to perfect an act, repeat an act owing to excessive doubt as to its correctness or completeness, etc.) but may become upset if interrupted by someone else. He may accelerate his own time(set a clock ahead a few minutes as a means of gaining more time by expanding the apparent length of time) but may decelerate the time of another(setting the clock back a few minutes).

It will be noted that excluded from table IIb are certain other dimensions of temporal behavior characterizing the AP that are indirectly related to time expenditure. A common characteristic of the AP is his dysrhythmia or timing difficulties such as the tendency to do too many things at once, exhibition of poor rhythm, reversals in the temporal

ordering of things, etc. The HRP has also been observed to exhibit an anticipatory overconcern with the end phase of an act in his need to complete an incomplete act, and so on.

A further point to be borne in mind is that in addition to those characteristics already mentioned, the retentiveness of the AP may be expressed via facial expressions(a countenance of 'grim determination'), overall rigidity of body attitude(holding of breath, feces, etc.), and pathology. The psychoanalytic literature is rich in observations of the neurotization of time concepts. Many writers point out neurotic patients' use of time as a means of expressions attitudes towards parents derived from childhood training. Our idiom, "father time", indicates to what extent we have identified time with a parental figure. There are a plethora of observations of patients' use of time as a reparatory means of expressing reactions of hostility, aggression, revenge, protest, and resistance against earlier parental demands (such as enforced waiting and rushing) during training, especially toilet training(Yates, 1935; Oberndorf, 1941; Bergler & Roheim, 1946; Wolff, 1950; Meerloo, 1948, 1950).

Stekel(1927), Bonaparte(1940), Eissler(1952), Eisenbud (1956),and others have also emphasized the underlying oedipal conflict in attitudes toward time. Denials of dependency lie behind attitudes of "triumph" or "conquest" of time; defense against frustration and traumata lie behind attitudes of "escape", "flight", or "struggle" with time. Fenichel(1945)

and Cohen, F.(1957) have observed that the procrastinating rituals of the compulsive neurotic(the prototypical retentive AP) represent a means of resisting time, of resisting "finality", which expresses the early conflicts with imposed training in childhood.

There are many other factors in the attitudes toward time expenditure of the anal personality. Fenichel(1951) has observed that the disposition to boredom, and Altman (1957) has observed that the "waiting syndrome" of the AP, often expresses unconscious anxieties about castration, masturbation, and incestuous desires as well. Unconscious attitudes toward earlier erotization of toilet performance have been found at the source of the psychoses and physically expressed neurotic symptoms such as, e.g., tics(Klein, 1925) and reading difficulties(Strachey, 1930).

Empirical Studies of the Anal Personality

In spite of the innumerable observations accumulated over many years of analytic experience, empirical research in the psychoanalytic theory of the anal personality has been scarce. Beloff(1957) has proposed that the etiological hypothesis that relates the so-called anal traits to early anal training(early psychoanalytic theory) or overall childhood training(revised psychoanalytic theory) should be distinguished from the structural hypothesis that such traits hang together as a functional unity.

A few investigations have been undertaken to test the

etiological hypothesis. Hamilton(1929), using a self report technique in a study of marital adjustment,included among a battery of over 300 questions inquiries about early anal behavior. Subjects were asked whether they recalled achieving a great deal of pleasure out of defecation or having had constipation in their childhood. Other questions inquired 1)whether the spouse considered the subject to be either stingy or extravagant; 2) whether the subject revealed past or present sadistic or 3)masochistic fantasies, impulses or acts; and 4) whether the subject considered himself different from the average in neatness. Out of a group of 100 married men and women, 35 men and 24 women recalled some form of anal erotism or constipation in childhood. These men and women showed a higher frequency of reported stinginess or extravagance than the "non anal" ones, showed more frequently reported fetishism, more concern about clothes, and more sadism and masochism. Despite the shortcomings of such a study- questionability of recall, unrepresentative choice of anal traits, and lack of clear-cut distinction of the difference between retentive and expulsive behavior- these differences are in line with the genetic theory.

Beloff(1957) in her test of the etiological hypothesis obtained bowel training histories of 43 postgraduate students at Queens University(Canada) through interviews with the subjects' mothers. A measure of coerciveness in bowel training was obtained in terms of early and late(below and above

the median) age at completion of training. An anality questionnaire of 28 items(see below) was also administered to the mothers. In an analysis of variance, it was found that only the mothers' anality score contributed the significant variance. Beloff concluded that it is the presence or absence of anal traits in the parent that may be the fundamental factor in the etiology of anal personality traits of the subjects rather than the degree of coerciveness of early bowel training. One cannot divorce the influence of one factor from the other, however.

A few cultural studies suggest a close relationship between severity of training and anal personality formation. Kardiner(1939) mentions the high value on possessions, traits of obstinacy, and high sense of responsibility exhibited by the Tanala of Madagascar, a society in which sphincter control is imposed on infants extremely early(within the first six months of life).

Menninger(1943) notes the absence of anal traits(retentive) among certain tribes of Central Australia, Samoans, and other societies in which anal training is permissive or late in termination. There is no concern about money or time and no hoarding tendencies. Bergler & Roheim(1946) add that among the tribes of the Normandy isles the overconcern about time and the strict planning of the economy is related to anxieties about food and loss of love-object. "The calendar is the ultimate realization of separation anxiety"(p.206).

Whiting & Child(1953), in their cross-cultural study of child training and personality offered some suggestive evidence for severe toilet training among societies of a compulsive, ritualistic sort.

The relationship between anality- as manifested in a constellation of anal traits- and severity of training in childhood found in the aforementioned studies is interpreted here as indicating the importance of the totality of childhood training experience in the etiology of the anal personality and need not be considered evidence for the influence of anal training only.

There are several studies pertaining to the question of the degree to which the anal traits hang together as a functional unity as well as their relationship to other personality variables. Sears(1936) tested the question of whether the classical anal triad of orderliness, stinginess, and obstinacy clustered together in a group of 37 men living together in college fraternities. Using a seven point rating scale for these traits, he found that the correlations among them ranged from .36 to .39, which while low are all positive and in the expected direction. This was so despite the negative correlation between popularity ratings and ratings of obstinacy and stinginess. Stinginess and obstinacy are rated as socially undesirable traits while orderliness is rated as socially desirable.

Blum(1949) explored the psychoanalytic theory of psycho-

sexual development by devising a projective Blacky Test consisting of 11 cartoons depricting a dog, "Blacky", in relation to a mother, father, and sibling under various poses of assumed psychosexual development as follows: I, oral erotism; II, oral sadism; III, anal sadism- retentive and expulsive; IV, oedipal intensity; V, masturbatory guilt; VI, castration anxiety(male) or penis envy(female); VII, positive identification; VIII, sibling rivalry; IX, guilt feelings; X, positive ego ideal(male), love object(female); and XI, positive ego ideal(female), love object(male).

The test was administered to elementary psychology students at Stanford University. The subjects' protocols were rated in terms of their strength of involvement, as 'very strong','fairly strong', 'weak' or 'absent'. With respect to the anal phase, it was found that women avoided("repressed") references to defecation more frequently than men. Development of anal retentiveness was found negatively related to oral sadism; anal expulsiveness was found positively related to oral erotism, oedipal intensity, masturbation guilt, sibling rivalry(for both men and women), and castration anxiety(men), and negatively related to the development of positive ego ideal(men and women).

Blum also found a significant negative correlation between anal retentiveness and anal expulsiveness which is in the direction expected from the premises of the psychoanalytic theory of the anal personality. He explains the finding, however, as merely an artifact of the scoring system(subjects

scored high on retentiveness were necessarily scored low on expulsiveness, and conversely).

Miller & Stine(1951) deduced from psychoanalytic premises concerning pregenitality the hypothesis that degree of pregenitality would vary directly with amount of rejection by one's peers as defined by sociometric status or number of times a subject is chosen or rejected by a classmate. They used a story completion technique to obtain ratings of degree of pregenital involvement and related it to sociometric choice for a group of children, ages seven to fourteen. A positive relationship, contrary to prediction, between anality and acceptance by peers was found, i.e., that chosen subjects had a larger anal score than the rejected subjects. The authors conclude that "anality may be a social asset during the latency period in American culture". Because the authors do not give the reader any clear idea of their criteria of what constitutes "pregenitality" or the rationale for deducing rejection as a function of it, the finding is difficult to interpret.

Barnes(1952) constructed a 255 item inventory of psychosexual traits consisting of statements about oral, anal, and phallic behavior as defined in the psychoanalytic literature in an attempt to find out to what extent the three behavior areas were distinct factors. The test was administered to 266 male subjects at the University of California and the results were factor analyzed. There were not three distinct

factors to account for the intercorrelations. The factors, a total of 11, were found to cut across all levels of development.

In 1954, Krout and Tabin devised a "Personal Preference Scale"(PPS) consisting of items defining 10 distinct areas of psychosexual development: 1)pre-natal and natal; 2)early and 3)late oral; 4)early and 5)late anal; 6)phallic narcissm; 7)feminine and 8)masculine post phallic; 9) sublimated oedipal relations, and 10) mature genital sublimation. Stagner, Lawson, and Moffitt(1955) factor analyzed the Krout and Tabin PPS and found 10 factors to account for the variance. The findings, however, did not fit theoretical expectations completely satisfactorily. The assumed post-genital stages gave good fits but the pregenital stages were somewhat clustered and did not separate clearly.

Factor loadings suggested the hypothesis that successful sublimation is based more on anal traits in women but on a combination of anal and oral characteristics in men. It was also found that aggressive masculinity is loaded with anal items in both sexes while femininity in men is related to orality, in women,to anality.

Farber(1955) constructed a five item anality scale consisting of such assumed anal traits as never changing one's mind, orderliness and neatness, preference for outlining, need for definite conclusions, and caution in spending- all of which hung together significantly, and correlated the

scale with a short four item scale of Political Aggression (mainly against communism). He found a significant relationship between the scales and concluded that, "Aggressive conventionality is a dominant political style" of the anal personality. Rabinowitz(1957), however, presented evidence to suggest that Farber's finding may merely be a function of acquiescence response set.

Beloff(1957) in her test of the structural hypothesis constructed a 28 item, 5 point self-rating questionnaire relating to 14 assumed anal traits: punctuality, collecting, cleanliness, procrastination, quasi-sadism, conscientiousness, "Eigensinn"(self-willedness), pedantry, feelings of superiority, irritability, desire to domineer, need for personal autonomy, parsimony, and orderliness. The questionnaire was administered to 120 undergraduate students and factor analyzed. It was found that a general factor accounted for the intercorrelations; the same was found for the peer ratings of the examinees. Beloff also related the Anality scale to results on the Guilford test of Introversion-Extroversion and found that only the positive relationship with the T factor(thinking introversion) was significant.

It is clear from the foregoing studies that anal traits hang together as a significant functional unity provided that a clear differentiation between retentive and expulsive anal traits is made. When this difference is not recognized significant overlap with other psychosexual traits is found.

In spite of the fact that the psychoanalytic theory of

the anal personality is a temporal theory of personality there has been little investigation of the relationship between anality and temporal behavior. Indeed, it is only within the present decade that a growing recognition of the relationship between <u>any</u> personality constellation, broadly conceived, and temporal experience has been given.

Except for the studies already mentioned demonstrating the significant clustering of punctuality with other retentive anal traits, there is only one empirical study specifically dealing with the relationship between early childhood training and subsequent adult temporal experience. Fisher & Fisher((1953) tested the hypothesis of the psychoanalytic theory of personality that a person subjected to a strict, coercive parent who sets narrow limits and strict rules would carry over such parental injunctions into his feelings about time. In contrast to a permissive parent, he comes to feel that time is something available in limited, controlled quantities. The hypothesis stated was as follows: "The greater the degree of parental dominance, the more would time be overevaluated so that intervals of time are perceived as subjectively larger than they actually are".

The subjects were 54 state hospital employees. Rorchach and TAT cards were utilized to tap unconscious attitudes toward parents. In random order, subjects estimated two 30 second, two 1 minute, and two 3 minute intervals, as well as the estimate of time taken to complete the TAT stories and Rorschach responses. Except for the 3 minute intervals

subjects who had conceived parents as highly dominant overestimated intervals to a greater extent than subjects who conceived parents as low to moderate in dominance. It was found that the parent of the same sex was more influential in inducing the tendency towards overestimation than the parent of the opposite sex. The negative findings with the 3 minute interval is explained as due to the fact that the subjects were more engrossed in the task. Although the differences were not significant, they were in the expected direction.

Hypotheses

On the basis of the findings in the psychoanalytic literature, there are four hypotheses to be tested by the present study.

It is hypothesized that a high retentive personality (HRP) who exhibits an excessive amount of retentiveness in his overall behavior(an overorderly and economical "holding" tendency) will exhibit corresponding retentive attitudes toward his expenditure of time:

Hypothesis I

> The HRP who exhibits an excessive amount of retentiveness in his overall behavior will show corresponding retentive tendencies in his expenditure of time.

There are three corollaries deducible from the first hypothesis. The second hypothesis is of major importance in the interlocking system of propositions or "nomological

network"(Cronbach& Meehl, 1956) that constitutes the theory of the anal personality. The evidence in the experimental literature of time estimation points to the greater tendency to underestimate intervals of time the greater the energy expenditure(or activity) involved in the task(Loehlin, 1956). If it is correct to assume that the retentive personality is characterized by the holding back of energy expenditure or discharge- it is assumed that the energy is consumed or retained for the task of avoidance of anxiety over loss- then it should follow that the HRP will give less underestimation of time or greater overestimation of time than the LRP. It is interesting to note that the retentive personality exhibits those characteristics that have been found in the experimental literature to be associated with the overestimation of intervals of time- attentiveness to the apparent passage of time or vigilance, impatience, need to fill up time, state of boredom, suspense, etc.(Adler, 1954; Loehlin, 1956).

The aim of the AP's need to overevaluate time is attributed to his need to gain time and avoid loss of time. This need for more time is expressed in the extension of apparent lengths of time:

Hypothesis II

The HRP will exhibit a significantly lesser tendency to underestimate or a greater tendency to overestimate duration than the LRP.

If it is correct to assume that the HRP is highly vigilant and punctual in his time expenditure, it should follow -unless offset by the AP's excessive overestimation- that the HRP will be more accurate or exact in his time estimations than the LRP. Indeed, it is this preoccupation with time that may account for the retentive anal personality's incapacity to engross himself in a given activity that normally shortens the apparent length of time:

Hypothesis III

The HRP will be more accurate or exact in his time expenditure than the LRP(as measured by accuracy of time estimations).

If it is correct to assume that the retentive personality is motivated to gain as much time as possible, to lose as little as possible, it should follow that the HRP will complete the task of filling in the scales constructed for the purpose of measuring anality and attitudes toward time expenditure faster(will have a quicker "tempo") than the LRP.

The retentive personality's low waiting tolerance or hastiness manifested in his tempo may be offset, however, by his need to check and recheck his activity to make sure it is correct, complete, perfect, etc., stemming from undue cautiousness derived from his general "withholding" tendencies:

Hypothesis IV

The HRP will exhibit a greater speed("tempo") in a given task than the LRP.

II.

EXPERIMENTAL DESIGN

Subjects

The subjects were 100 male students attending the 1959 summer school session of the Michigan State University. Only men were tested since a pilot study with the Lochlin (1956) "Time Perspective" questionnaire indicated sex differences in the experience of time. An attempt to obtain a random sampleof men from the University mens' residence hall was unsuccessful owing to the presence of a large proportion of foreign students and a high rate of absence of many students. About one third of the subjects were graduate students, the rest undergraduates. The median number of college years of education was 3.8 years indicating that the vast majority of the subjects were upper classmen. The age range of the sample was from 18 to 38 years, with a median age of 22.0 years. Occupational strata ratings of subjects' fathers were also obtained based on Warner, Meeker, and Bell's "Revised Scale for Rating Occupations"(Fink, 1953). The median occupational rating for the sample was 3.0 represented by occupational strata such as social worker and contractor.

The Anality(A) and Time Expenditure(T) Scales

None of the measuring tools dealing with anality or time presently available in the literature are adequate for the purposes of this study. Scales are too short or

too long as well as too heterogeneous to serve as measures of retentiveness. An extensive review of the literature in the measurement of temporal behavior(Campos, 1959) indicated that most tests of "time sense", "time perception", or "time concepts" are primarily concerned with the understanding of chronology, history, and intellectual concepts of time(understanding sequence, simultaneity, periodicity, etc.). We wished to devise scales that would serve to define the rationale of our thesis. Thus, we wished to use items pertaining to behavior that characterized the retentive nature or holding tendencies of the AP. To test the first hypothesis that the retentiveness exhibited in anal traits also pervaded the AP's attitudes toward time expenditure, scales of retentive "anality" and "time expenditure" were devised.

Three judges besides the present author content validated the items used in the final forms of the scales. Three clinically trained judges were orally presented with a list of anal traits culled from the psychoanalytic literature and requested to indicate those traits he felt best characterized the retentive anal personality. Only those traits unanimously agreed to were used in the final form of the scales. The wording of the items are the sole responsibility of the author.

It was reasoned that in order to adequately engross the subject into the task of filling in the scales, the less time used the less the chance of extraneous variables such as external noise or distractions becoming operative. It was

decided to expend about 2 to 5 minutes of the average subject's time. To do this a total of 10 items on the A and T scales plus 10 filler items was finally decided upon. The actual range for the 100 subjects was from 110 seconds(1 minute, 50 seconds) to 560 seconds(9 minutes, 20 seconds) with a median time of 3.6 minutes.

For convenience of scoring and administration both scales were included on one form which we shall refer to as the Anal Personality Scale(APS). To partially control for response set, 10 filler items were interspersed among the anal and time expenditure items. As a further control, most of the filler items and some of the AP items were worded in a negative as well as positive direction. Appendix A gives the APS(filler items have been asterisked).

The 10 items of the A scale are as follows:

3. I believe in being thrifty.
6. I like to act stubbornly.
8. I believe in striving for perfection.
12. I believe in being very conscientious.
15. I like to be very neat.
18. I'm in the habit of checking and rechecking what I do to make sure it is right.
21. I'm in the habit of being attentive to details.
24. I dislike being told how to do something when I know I can do it myself.
27. I like to collect different kinds of objects.
30. I like to keep things in order.

The 10 items of the T scale are as follows:

1. I insist on being punctual.
4. I value my time very highly.
7. I don't have enough time.
10. I like to budget my time.
13. I like to save time.

16. I dislike having to wait a long while.
19. I dislike to kill time.
22. I must know what time it is.
25. I like to do things according to a regular schedule.
28. I dislike to take my time.

Because retentive AP traits may be socially desirable and undesirable no attempt to control for social desirability was made other than to inform the subjects in the instructions that the items were not necessarily either desirable or undesirable as well as requesting of them orally that they answer the items in good faith.

The criterion of strength of retentive anality and time expenditure for both scales was the frequency of occurrence of reported behavior as expressed on a 4 point scale in terms of always, often, rarely, and never. The "forced choice" 4 point scale is assumed to be better adapted to the task of engrossing the subject into the activity of filling in the APS. 'Never' was assigned a score of 0; 'rarely', a score of 1; 'often', a score of 2; and 'always', a score of 3. The strength of retentiveness is assumed measurable in terms of the subjects' total score on each of the scales.

The odd-even reliability coefficients corrected by the Spearman-Brown formula for the A and T scales were .68 and .73 respectively. It is assumed that the scales are adequately reliable for the purposes of this exploratory study.

The median score on the A scale was used as a guide for distinguishing between the HRP and LRP subjects. With a

Table III

Difference Between HRP and LRP in Age,
Father's Occupational Strata, and College Educational Level

	Age				Father's Occupational Strata				College Educational Level			
	Young (18-20 yrs.)	Medium (21-23 yrs.)	Old (24and above)	Total	High (1-2)	Medium (3-4)	Low (5,6,7)	Total	Low (1-2 yrs.)	Medium (3-4yrs.)	High (5yrs & above)	Total
HRP	15	11	20	46	14	15	7	36	10	18	17	45
LRP	18	17	19	54	25	14	13	52	14	23	17	54
Total	33	28	39	100	39	29	20	88	24	41	34	99
	X^2= .95(2 d.f., p <.70)				X^2= 2.11(2 d.f., p <.50)				X^2=.46(2 d.f.,p <.70)			

median score of 19.2 on the A scale(see below), it was decided to classify subjects with anality scores of 20 and above as HRP(high retentive personality) and correspondingly, subjects with anality scores of 19 and below as LRP(low retentive personality).

Table III describes the age, father's occupational strata, and college educational level(in years) for the HRP and LRP subjects. Terciles for each of the distributions were used as a guide for distinguishing the three levels of age, strata, educational level. A Chi-square test of significance of the differences between the two groups indicates that no significant difference exists between the HRP and LRP in age, father's occupation, and level of education.

In filling in the heading of the APS, the subjects were instructed to include their names if they so desired. As a crude means of concurrently validating the distinction of subjects as HRP and LRP, the two groups were compared in the frequency with which they <u>withheld</u> their names. Table IV

Table IV

Difference Between the HRP and LRP In
The frequency of Names Omitted

	Included Name	Withheld Name	Total
HRP	26	20	46
LRP	40	14	54
Total	66	34	100

$X^2 = 3.42 (p < .10)$

shows that whereas 43 % of the HRP withheld their names, only 26 % of the LRP withheld theirs. Although the difference is not significant($p < .10$), it is in the expected direction. It is clear that the HRP's tendency to withhold his name from the examiner(attributable, perhaps, to a tendency to withhold trust) is another instance of his overall trend towards retentiveness.

Procedure

The APS labeled as the "College Student Habit Inventory", was individually administered to each subject in a quiet room of the mens' summer residence hall of Michigan State University. The task of filling in the questionnaire and instructions were standardized for each subject. After the subject filled in the heading, he was further instructed to read the instructions and not to begin until told to do so. After the subject read the instructions and indicated that he understood them, he was directed to immediately inform the examiner as soon as he had completed the last(30th) item. After completing the last item, the subject was then asked to estimate(without looking at his watch or clock) as exactly as possible, in minutes and seconds, how long it took him to complete the questionnaire(between the first and last item).

Each subject was timed with a stopwatch and at no time did the subjects know they were being timed. There was no

attempt to control for any individual idiosyncracies in the subjects' estimates of duration. In a subsequent inquiry it was found that some subjects tried to mentally count the seconds by estimating how long on the average it took them to answer one item and then multiplying by 30; others used their memory, or "felt" the apparent passage of time.

III.

RESULTS AND DISCUSSION

Hypothesis I

To test the hypothesis that the retentive anal personality exhibits a correspondingly retentive attitude in his expenditure of time, total scores on the A(Anality) and T (Time Expenditure) scales for the 100 subjects were correlated. Scores ranged from a low of 10 to a high of 27 on both scales, out of a logically possible range of 0 to 30. The mean score for both the A and T scales was 18.9(the median scores for the A and T scales were 19.2 and 19.3, respectively). The standard deviations for the A and T scales were .93 and 1.06, respectively. A significant positive product moment correlation of .595 or .60(with a standard error of .06) between the A and T scales was found. Correlations of the A and T scales with filler items were .01 and .02, respectively and are not significant.

The evidence strongly suggests that those who are highly retentive, as measured by high retentive anality scores on the A scale, are also highly retentive in the way they expend their time, as measured by high scores on the T scale. Conversely, subjects who are "expulsive"(low in retentive anality) in their attitudes toward possessions, money, and other persons and things, have a similar attitude towards their time expenditure.

It is admitted that the correlational analysis used

here does some violence to the complexity of the facts. A multivariate analysis of the relationships that exist within the scales themselves, would seem more appropriate but premature in an exploratory study utilizing only two short scales. A preliminary inspection of the intercorrelation matrix of the items on the A and T scales(see appendix B), nevertheless, suggests that the correlations may be accounted for by one genral factor which we have referred to as "retentiveness".

Hypothesis II

Important for the predictive validity of the psychoanalytic theory of the AP, is our second hypothesis that states that the overvaluation of time by the retentive AP will be expressed in a tendency to overestimate the apparent length of time intervals. It was predicted that the HRP will exhibit a greater tendency to overestimate the duration of filling in the APS than the LRP. Table V gives

Table V

Difference Between the HRP and LRP
In Frequency of Over and Underestimation

	Overestimation	Underestimation	Total
HRP	36	10	46
LRP	22	32	54
Total	58	42	100

$X^2 = 13.14 (p < .001)$

the results of a chi-square test of significance of the difference between the HRP and LRP in frequency of overestimation and underestimation. Whereas 78% of the HRP overestimated the interval of testing, only 41% of the LRP did so. The difference is significant at the .001 level and indicates that the difference cannot be attributed to chance.

The results in table V are misleading, however, since the difference in estimation between the HRP and LRP may be due to a high frequency of very low overestimation in the HRP group and/or a high frequency of very low underestimation in the LRP group, the difference of which may not be significant. A more valid method of analyzing the data, devised by Rabin(1957), is given in table VI. The direction of estimation of the interval is based on the ratio of estimated time to actual time and is expressed in percentages. Thus, a score of 100% would indicate an exact estimate; a higher percentage would indicate overestimation and less than 100%, underestimation. Terciles were used as the guide for dis-

Table VI

Difference Between HRP and LRP In
Frequency of Under, Close, and Overestimation
(In terms of percentages)

	Underestimation (87% or less)	Close estimation (88 to 123%)	Overestimation (124% or more)	Total
HRP	8	19	19	46
LRP	24	16	14	54
Total	32	35	33	100

$X^2 = 8.41$ (2 d.f., $p < .02$)

tinguishing the three categories of estimation. Table VI shows that the difference between the HRP and LRP groups with respect to direction of estimation is still significant(at the .02 level of significance) and is in the predicted direction. Our finding is line with the Fisher & Fisher(1953) experiment cited above.

Hypothesis III

It was predicted that because the retentive personality is very exact and punctual in his expenditure of time, the HRP would exhibit a more significant tendency to be more exact or accurate in his estimate of time than the LRP. Accuracy of estimation was measured in terms of the difference between the estimated and actual time of filling in the APS. The distribution of the difference was divided into terciles, as in the preceding analysis, for obtaining the three levels (good, medium, and poor) of accuracy. Table VII gives the

Table VII

Difference Between the HRP and LRP in Accuracy Of Estimation

	Good (37 sec. and under)	Medium (38 to 92 seconds)	Poor (93 sec. and over)	Total
HRP	18	13	15	46
LRP	18	19	17	54
Total	36	32	32	100

X^2 = .63(2 d.f., $p < .80$)

result of the chi-square test of significance of the difference in accuracy of estimation(as measured by the difference between estimated and actual time in seconds) between the HRP and LRP. The difference is not significant($p < .80$). It is suggested that this negative finding may be accounted for by the retentive personality's strong tendency to overestimate time intervals.

Hypothesis IV

A final hypothesis was the prediction that the HRP would tend to exhibit greater speed in filling the APS than the LRP because of the former's need not to lose time. We shall assume that the actual time taken to fill in the APS is a rough indication of an individual's habitual rate of activity or "tempo". Terciles of the actual time distribution were used as the basis for classifying tempo as fast, medium, and slow. Table VIII gives the results of the chi-

Table VIII

Difference Between the HRP and LRP in Tempo

	Fast (188 sec. and under)	Medium (189 to 245 sec.)	Slow (246 sec.and over)	Total
HRP	15	16	15	46
LRP	17	21	16	54
Total	32	37	31	100

$X^2 = .19$(2 d.f., $p < .95$)

square analysis. No significant difference in speed or "tempo", i.e., the actual time taken to complete the APS, was found between the HRP and LRP groups($p < .95$). It is suggested that this negative finding may be due to the slowness accompanying the retentive AP's excessive cautiousness in approaching the APS.

IV.

CONCLUSIONS AND PROPOSALS FOR FUTURE RESEARCH AND THERAPY

This investigation was designed to explore the relationship between "retentive" anal personality traits as measured by an Anality Scale(A scale) and some aspects of temporal experience of 100 University male subjects. Four aspects of temporal experience were investigated: a) retentiveness of time expenditure as defined by the items of a Time Expenditure Scale(T scale), b) the estimation of the interval of duration or time taken to fill in the A and T scales(plus a heterogenous scale of filler items), c) accuracy of the estimation, and d) the tempo or speed with which the subjects completed the scales.

On the basis of the psychoanalytic theory of the anal personality it was hypothesized that 1) a strong relationship exists between subjects' retentive "anal traits" or traits defining a predominant holding tendency manifested in a orderly, economical, and obstinate or persistent behavior, and a corresponding retentive way of expending time. It was further hypothesized that 2) the high retentive personality's overvaluation of time would result in a significant tendency to overestimate the duration of the interval taken to complete the scales. Reasoning from the fact that the retentive personality is excessively exact and punctual in his time expenditure and hasty and impatient in his actions (expressing a need to save time or avoid the loss of time),

it was predicted that 3) the high retentive personality would show a significant tendency to be more exact or accurate in his estimations of time as well as 4) faster in tempo or actual time taken to complete the scales than a low retentive personality.

The first two hypotheses were confirmed in line with the psychoanalytic theory of the anal personality. There was no difference, however, between the high retentive personality(HRP) and low retentive personality(LRP) in accuracy of estimation or in tempo. It was suggested that the negative findings in testing the third and fourth hypotheses may be accounted for by the HRP's strong tendency towards overestimation and slowness accompanying his withholding attitude -expressed in undue caution, doubt, distrust, etc.- in approaching the scale items.

It was pointed out that certain methodological limitations of this exploratory study call for caution in interpreting the results. Any conclusions drawn must remain tentative since the question as to what extent our subjects are <u>consistent</u> in their pattern of time estimation, accuracy, and tempo was left unanswered. A multivariate analysis of the personality factors in temporal experience has been suggested. If we grant adequate reliability and validity for our findings, our results suggest the conclusion that the HRP is highly retentive in the way he expends his time, and in comparison to the LRP(or "expulsive" personality) exhibits

a significant tendency to overestimate an interval of time but not any difference from the latter in the accuracy of estimation or in tempo.

Some proposals for future research are made here in the hope that the importance of the relationship between personality variables and temporal experience is given the recognition it deserves. Time expenditure is only one aspect of man's temporal experience. Studies relating personality to other dimensions of time should be undertaken and personality traits other than "anal" traits should be explored. With respect to anal personality traits, if the HRP is in a persistent state of futuristic preparedness as a way of gaining time, he should exhibit a more remote time perspective than the LRP. If hastiness, low waiting tolerance, and impatience does characterize the HRP, then reaction time studies should indicate a low latency or greater tendency to make false starts than the LRP, and so on. Individual differences in the interrelationship between different dimensions of time such as time estimation and reaction time should be more fully explored. If, as contended in this study, the temporal experience of "retentive" and "expulsive" personalities is different, demonstrable differences in the form of their so-called "subjective time scales" should be found(Wallace & Rabin, 1959). There is no limit to the kinds of studies that might be undertaken in the exploration of man's temporal experience.

A further important issue that must be considered for future research is the therapeutic value of our knowledge of the relationship between personality and temporal experience. If temporal experience expresses unconscious attitudes toward parents, significant others, and society, "time" may be utilized as a projective test for tapping such attitudes. Furthermore, the psychologist's understanding of the role of time in the personality of their clients or patients may serve as a useful basis for therapy. Moreno(1946), Horney (1939), Lowen(1952) and many others have stated the fundamental importance of the therapeutic value of making persons aware of their withholding tendencies and encouraging a "letting go" in their behavior. This should also apply to the ways a person copes with time. Clients or patients should be made aware of the retentive nature of their time expenditure for the purposes of encouraging a more healthy form of temporal behavior. And finally, if many neurotic difficulties stem from an early conflict of timing or temporal experience between parent and child, a resolution of this conflict may serve as an essential contribution to the restoration of mental health.

REFERENCES

Abraham, K. Contributions to the theory of the anal character(1921). Selected Papers. (Trans. by Bryan, D. & Strachey, A.) N.Y.: Basic Books, Inc., 1957

Adler, N. Perception of time as a function of self organization. Unpublished doctoral dissertation, Univer. of California, Berkeley, 1954

Altman, L. The waiting syndrome. Psychoanal. Quart., 1957, 26, 508-518

Arieti, S. The processes of expectation and anticipation. J. nerv. ment. Dis., 1947, 106, 471-481

Barnes, C. A statistical study of the freudian theory of levels of psychosexual development. Genet. Psychol. Monogr., 1952, 45, 105-175

Beloff, Halla. The structure and origin of the anal character. Genet. Psychol. Monogr., 1957, 55, 146-172

Bergler, E. On the psychoanalysis of the ability to wait and of impatience. Psychoanal. Rev., 1939, 26, 11-32

Bergler, E. & Roheim, G. Psychology of time perception. Psychoanal. Quart., 1946, 45, 190-206

Blum, G. S. A study of the psychoanalytic theory of psychosexual development. Genet. Psychol. Monogr., 1949, 39, 3-99

Bonaparte, Marie. Time and the Unconscious. Int. J. Psychoanal., 1940, 21, 427-468

Campos, L. The measurement of temporal behavior. Unpublished Research Paper, Michigan State University, 1959

Cohen, F. Time and the ego. Psychoanal. Quart., 1957, 26, 168-189

Cohen, J. The experience of time. Acta. Psychol., 1954, 10, 207-219

Cronbach, L. J. & Meehl, P. E. Construct validity in psychological tests. In Minnesota Studies in the Philosophy of Science, Vol. I.(ed. by Feigl, H. & Scriven, M.) Minneapolis: Univer. of Minn. Press, 1956

Dooley, L. The concept of time in defense of ego integrity. Psychiatry, 1941, 4, 13-23

Dubois, F. The sense of time and its relation to psychiatric illness. Amer. J. Psychiat., 1954, 3, 46-51

Eisenbud, J. Time and the oedipus. Psychoanal. Quart., 1956, 25, 363-384

Eissler, K. Time experience and the mechanisms of isolation. Psychoanal. Rev., 1952, 39, 1-22

Farber, M. The anal character and political. J. abnorm. soc. Psychol., 1955, 51, 486-489

Fenichel, O. The Psychoanalytic Theory of Neuroses. N.Y. : W.W. Norton.& Co., 1945

Fenichel, O. On the psychology of boredom. In D. Rapaport(ed.) Organization and Pathology of Thought. N.Y.: Columbia Univer. Press, 1951, 349-361

Fink, H. The relationship of time perspective to age, institutionalization, and activity. Unpublished doctoral dissertation, Mich. State Univer., 1953

Fisher, S. & Fisher, Rhoda, L. Unconscious conception of parental figures as a factor influencing perception of time. J. Pers., 1953, 21, 496-505

Frank, L. K. Time perspectives. J. Soc. Philo., 1939, 4, 293-312

Fredericson, E. Time and aggression. Psychol. Rev., 1951, 58, 41-51

Freud, S. Three Contributions to the theory of Sex(1905). In A. A. Brill(ed.) The Basic Writings of Sigmund Freud. N.Y.: The Mod. Lib., 1938, 553-632

Freud, S. Character and anal eroticism.(1908). In Collected Papers. Vol. II. London: Hogarth Press, 1953

Freud, S. On the transformation of instincts with special reference to anal erotism(1916). Collected Papers. Vol. II. London: Hogarth Press, 1953

Hamilton, G. V. A Research in Marriage. N.Y.: A & C Boni, 1928

Hilgard, E. Experimental approaches to psychoanalysis. In Psychoanalysis as Science.(ed. by Pumpian-Mindlin, E.) Calif: Stanford Univer. Press, 1952, 3-54

Horney, Karen. New Ways in Psychoanalysis. N.Y.: W.W. Norton & Co., 1939

Klein, Melanie. A contribution to the psychogenesis of tics. (1925). In Contributions to Psychoanalysis(1921-1945). London: Hogarth Press, 1948

Jones, E. Hate and anal erotism in the obsessional neurosis. (1913) In Papers on Psychoanalysis. NY: William Wood & Co., 1923, 553-561

Jones, E. Anal erotic character traits(1918). In Papers on Psychoanalysis. NY: William Wood & Co., 1923, 680-704

Kardiner, A. The Individual and his Society. NY: Columbia Univer. Press, 1939

Krout, M. & Tabin, J. Measuring personality in developmental terms: the Personal Preference Scale. Genet. Psychol. Monogr. 1954, 50, 289-335

Landauer, K. Some remarks on the formation of the anal erotic character. Int. J. Psychoanal., 1939, 20, 418-425

Loehlin, J. The influence of different activities on the perception of time. Unpublished doctoral dissertation., Univer. California, 1956

Lowen, A. Physical Dynamics of Character Structure. NY & London: Grune & Stratton, 1958

Meerloo, A. Father time: I. Psychiatric Quart., 1948, 22, 587-608

Meerloo, A. Father time: II. Psychiatric Quart., 1950, 24, 657-671

Menninger, W. Characterological and symptomatic expressions relating to the anal phase of psychosexual development. Psychoanal. Quart., 1943, 12, 161-193

Miles, D. The import for clinical psychology of the use of tests derived from theories about infantile sexuality and adult character. Genet. Psychol. Monogr., 1954, 50, 227-288

Miller, D. & Stine, M. The prediction of social acceptance by means of psychoanalytic concepts. J. Pers., 1951, 20, 162-174

Oberndorf, C. Time- its relation to reality and purpose. Psychoanal. Rev., 1941, 28, 139-155

Olden, C. The psychology of obstinacy. Psychoanal. Quart., 1943, 12, 240-255

Orlansky. Infant care and personality. Psychol. bull., 1949, 46, 1-43

Rabin, A. I. Time estimation of schizophrenics and non-psychotics. J. Clin. Psychol., 1957, 13, 88-90

Rabinowitz, W. Anality, aggression, and acquiescence. J. abnorm. soc. Psychol., 1957, 54, 140-142

Reich, W. Character Analysis. London: Orgone Institute Press, 1949

Sears, R. R. Survey of Objective Studies of Psychoanalytic Concepts. Social Sci. Res. Council Monogr., 1942

Stagner, R. Lawson, E. & Moffitt, J. The Krout PPS: a factor analytic study. J. clin. Psychol., 1955, 11, 103-113

Stekel, W. Disorders of the Instincts and Emotions. Vol. I. Impotence in the Male. NY: Liveright Co., 1927

Strachey, J. Some unconscious factors in reading. Int. J. Psychoanal., 1939, 11, 322-331

Symonds, P. Diagnosing Personality and Conduct. NY & London: D. Appleton & co., 1931

Wallace, M. & Rabin, A. Temporal experience. Psychol. Bull. In press.

Whiting, J. & Child, I. Child Training and Personality. New Haven: Yale Univer. Press, 1953

Wolff, W. Values and Personality. NY: Grune & Stratton, 1950

Woodworth, R. S. & Schlossberg, H. Experimental Psychology. NY: Henry Holt & Co., 1954

Yates, Sybille. Some aspects of time difficulties and their relation to music. Int. J. Psychoanal., 1935, 16, 341-354

APPENDICES

APPENDIX A

*	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	C	D
	[illegible]	[illegible]	C	D
*	I dislike strange people	A	B	C	D
	I like to act spontaneously	A	B	C	D
	I don't have enough [illegible]	A	B	C	D
	I believe [illegible]	A	B	C	D
*	I dislike to talk [illegible]	A	B	C	D
	I like to budget my [illegible]	A	B	C	D
*	I prefer [illegible]	A	B	C	D
	I [illegible]	A	B	C	D
	[illegible]	A	B	C	D
*	[illegible]	A	B	C	D
	[illegible]	A	B	C	D

* Filler items have been asterisked.

16. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
* 17. I [illegible] to [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18. [illegible] the [illegible] [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19. I dislike to kill [illegible]	[illegible]	D	[illegible]	[illegible]
* 20. I don't have a [illegible] of humor	[illegible]	[illegible]	[illegible]	[illegible]
21. I'm in the [illegible] to [illegible]	[illegible]	D	[illegible]	[illegible]
22. I must know what [illegible]	[illegible]	D	[illegible]	D
* 23. I like to [illegible]	[illegible]	D	[illegible]	D
24. I dislike [illegible] something [illegible] myself	[illegible]	[illegible]	[illegible]	D
25. I like to [illegible] a regular [illegible]	[illegible]	[illegible]	[illegible]	D
* 26. I dislike to [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27. I like to [illegible] of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
28. I dislike [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
* 29. I don't like to [illegible] participate	[illegible]	[illegible]	[illegible]	D
30. I like to [illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] relatable [illegible] this question [illegible]

APPENDIX A

*	[illegible]			
	[illegible]		C	D
	[illegible]		C	D
*	[illegible]		C	D
	[illegible]		C	D
	[illegible]		C	D
	[illegible]		C	D
*	[illegible]		C	D
	[illegible]		C	D
*	[illegible]		C	D
	[illegible]			
	[illegible]			
*	[illegible]			
	[illegible]			

* Filler items have been asterisked.

16. I [illegible]	[illegible]	[illegible]	[illegible]	
* 17. I [illegible] to [illegible]	[illegible]	[illegible]	[illegible]	
18. [illegible] the habit [illegible] realizing what [illegible] is right.		[illegible]	C	
19. I dislike to [illegible]	A	B	[illegible]	D
* 20. I don't have [illegible] of humor.	A	B	C	D
21. I'm [illegible] to [illegible]	A	B	[illegible]	D
22. I must know [illegible]	A	B	C	D
* 23. I like to [illegible]	A	B	C	D
24. I dislike being [illegible] something [illegible] myself.	A	B	C	D
25. I like to [illegible] a regular [illegible]	A	[illegible]	[illegible]	D
* 26. I dislike to [illegible]	A	[illegible]	[illegible]	D
27. I like to [illegible] of others.	A	[illegible]	[illegible]	D
28. I dislike to [illegible]	A	[illegible]	C	D
* 29. I don't like to [illegible] parties.	[illegible]	[illegible]	C	D
30. I like to [illegible]	[illegible]	[illegible]	C	[illegible]

About [illegible] possible. [illegible] this question [illegible]

APPENDIX B

Correlation Matrix of the Anality and Time Expenditure Scales*

Item No.	3	6	8	12	15	18	21	24	27	30	1	4	7	10	13	16	19	22	25	28
3		.02	.19	.16	.13	.18	.31	-.13	.24	.28	.10	.21	-.06	.17	.19	-.01	.25	.16	.18	.17
6			.07	-.17	.01	.01	.13	.07	.11	-.05	.13	-.02	.13	-.06	.05	.12	-.20	.05	.08	.17
8				.36	.25	.26	.36	-.05	.14	.26	.24	.29	.13	.34	.26	-.04	.10	-.09	.22	-.05
12					.08	.13	.47	-.13	.02	.30	.27	.28	.08	.27	-.23	.11	.27	-.09	.24	-.01
15						.28	.15	-.20	.10	.44	.35	.20	-.06	.33	.29	-.07	-.07	.29	.21	.18
18							.16	.21	.21	.26	.24	.26	.13	.31	.20	.02	.06	.14	.15	.08
21								-.08	.26	.37	.36	.15	-.06	.35	.33	.10	.25	.06	.29	.11
24									.09	-.15	.01	.03	.44	-.19	-.05	.37	-.10	.14	.05	-.00
27										.19	-.00	.12	.05	.08	.22	-.10	.12	.11	.21	.18
30											.32	.34	.02	.40	.40	.00	.28	.22	.37	.06
1												.14	-.08	.42	.24	.11	.09	.16	.27	.08
4													.26	.41	.45	.10	.31	.09	.44	.15
7														.17	.13	.17	.00	.18	.13	.13
10															.34	.04	.28	.28	.35	.17
13																.00	.12	.11	.47	-.05
16																	.20	.13	.07	-.02
19																		.24	.07	.04
22																			.16	.22
25																				.19
28																				

*A correlation of .20 is significant at the 5% level.