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THE VALIDITY OF SELF-APPRAISALS OF MENTAL HEALTH

by
Jeremy Milton Katz

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Psychology)
in The University of Michigan
1973

Doctoral Committee:

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CHAPTER I

INTRODUCTION

It is commonplace to doubt that a person who says he is mentally healthy actually is mentally healthy. His self-appraisal is usually not regarded as a valid judgment of his mental health compared to professional assessment in terms of various mental health criteria such as the absence of unresolved unconscious conflict and symptoms of mental illness or the presence of certain positive signs such as the ability to cope well with various situations in life, to get along well with others, to have a sense of identity or to assert oneself when the situation requires it.

There are numerous reasons for this skepticism about self-appraisals of mental health.

First, it can be argued that people may not have a good idea of important mental health criteria. To the extent that people assess their mental health by use of idiosyncratic criteria which do not correspond to those used by experts, one would not expect a correspondence between self-appraisals and professional judgments of mental health.

Second, clinical theory suggests that there are some individuals who are incapable of appraising their own mental health even if they know the proper criteria, because they cannot cope with the anxiety which thorough self-examination would arouse. It predicts

that such individuals, who often do not seek psychological help, may be quite mentally unhealthy, yet unaware of it due to the operation of unconscious defenses. Moreover, clinical theory posits that such individuals may live out their entire lives crippled by unconscious conflicts without being aware of them. For these individuals one would expect little correspondence between self-appraisals and professional judgments of mental health.

Third, people are invested in and feel responsible for their mental health. Thus, they would be expected to become defensive when asked to rate it. This defensiveness should detract from the correspondence between self-appraisals and professional appraisals of mental health since some people may report themselves more mentally healthy than they would be assessed professionally in order to avoid appearing irresponsible or neglectful about their mental health.

Fourth, clinical experience provides many examples which justify deep skepticism about the validity of self-appraisals of mental health. For example, the hypomanic is likely to say that he is quite mentally healthy because he always feels so "good," but in terms of various mental health criteria, a professional would judge him quite mentally unhealthy. A sadistic individual may feel quite mentally healthy because he perceives his life to function well although at the expense of those around him whom he dominates and controls. In terms of professional judgment, such an individual would be viewed as quite mentally unhealthy and simply as having found a

living arrangement which permits the expression of his sadism against others who have an investment in taking it for masochistic reasons. It is not uncommon in psychotherapy to observe a flight into health during which the patient reports that he feels mentally healthy, is cured and is ready to terminate therapy. Such good feelings hardly indicate the presence of good mental health. On the contrary, professional judgment would view them as a defense against the emergence of profoundly disturbing therapeutic material. Also, certain defense mechanisms such as projection and denial may result in certain positive states which the individual may take as a sign of good mental health but which the professional regards as a sign of mental disturbance. Unlike the aforementioned patients who tend to overestimate their degree of mental health, depressed individuals may feel their mental health is much worse than professional assessment would indicate. As a consequence of these and other examples which justify skepticism about self-appraisals of mental health in clinical populations, many clinical psychologists are skeptical of trusting self-appraisals of mental health even in normal populations.

Nevertheless it can be argued that this skepticism regarding the validity of self-appraisals of mental health in clinical groups may not generalize to non-clinical populations. In non-clinical populations a greater correspondence between self-appraisals and professional judgments may exist than clinicians would generally expect. Therefore, one purpose of this dissertation is to investigate the validity of self-appraisals of mental health in a

normal population in the hope of demonstrating a significant positive relationship between self-appraisals and expert judgments of mental health.

However, this dissertation also will posit a specific mechanism by which it is proposed that relatively psychologically unsophisticated subjects will be able to rate their mental health validly.

Of course, it is possible that subjects will rate their mental health much as a clinician judges the mental health of a patient. To do so, the clinician chooses various well-accepted clinical criteria to define mental health such as the ability to cope with stress, presence of identity, adequacy of interpersonal relations, presence of self-actualization, etc. After assessing the standing of the patient on each mental health criteria by a particular technique such as the clinical interview, projective test or questionnaire, he then weights and averages the patient's ratings on various criteria to arrive at a final global judgment of the patient's mental health. Although subjects, of course, will not use the variety of assessment techniques employed by the clinician, nevertheless some subjects may assess their standing on several well-accepted mental health criteria and weight and average these standings in their minds to arrive at a valid global judgment of their mental health.

However, it seems more likely that many relatively psychologically unsophisticated subjects have neither the extensive knowledge nor the conceptual habit to apply these criteria to

themselves as would a clinical psychologist. Moreover, the circumstances under which subjects rated their mental health gave little time for a considered analytic judgment, but required a more immediate response. Therefore, it is proposed that subjects will rate their mental health validly because they will use an immediate, valid, global affective sense of their mental health as the referent in making their self-ratings. Such a mechanism seemed reasonable to the author since he believed that most relatively psychologically unsophisticated subjects would have a valid global affective sense of their mental health, even though they might be unable to judge their mental health in more complex terms.

Therefore, this dissertation will attempt to show:

1. That a measure of mental health defined in global affective terms is valid; i.e., corresponds to well-accepted clinical criteria of mental health.
2. That this affective definition of mental health was used by subjects as the referent to rate their mental health.
3. That <u>therefore</u> self-ratings of mental health also will be valid; i.e., correspond to well-accepted clinical criteria of mental health.

Thus, concern with the validity of a global affective definition of mental health is central to the confirmation or disconfirmation of the major hypothesis of the study concerning the proposed validity of self-ratings of mental health. Hence, the

dissertation is carried out not only in an attempt to demonstrate a positive relationship between self-ratings of mental health and measures of clinical criteria of mental health, but also in an attempt to show a positive relationship between a global affective measure of mental health and the same clinical criteria. It is hoped that by demonstrating this latter relationship, the study will also stimulate greater theoretical concern with and research interest in global affective aspects of the mental health phenomenon.

CHAPTER II

SOME MODELS OF MENTAL HEALTH

Mental health is an extremely complex phenomenon which defies simple definition. Consider the following excerpt from an elementary textbook in psychopathology by Rosen and Gregory (1967). The excerpt comprises the introductory paragraphs to a section labeled "What is abnormality." (The reader may substitute lack of mental health for abnormality or mental health for normality.)

> The cases cited demonstrate that abnormality embraces many different and complicated phenomena. These may be objective or subjective; may be relatively severe or mild; and may occur as difficulties of intellectual functioning, affect and mood, motivation, perception and motor and verbal behavior. The phenomena of abnormality often require analysis at both conscious and unconscious levels. Finally they may or may not involve organic difficulties. The diversity and complexity of the phenomena are so great that it is not an easy matter to formulate an all-inclusive definition of the term "abnormal."
>
> Psychologists and psychiatrists have suggested several different criteria to discriminate the normal from the abnormal. The three most frequently suggested are the statistical criterion, the criterion of personal discomfort and the criterion of social non-conformity. Each is useful, but each has serious shortcoming." (p. 5-6).

After discussing the three criteria listed above, they then discuss several other definitions of abnormality: mental illness defined as exposure to psychiatric treatment, mental illness defined by objective assessment of psychological symptoms, mental health defined as positive striving. Finally, the authors draw the following conclusion under a heading "is an absolute criterion of abnormality possible."

> The logical conclusion of the preceding analysis is that no criterion of abnormality is free of weaknesses. No index so far has been proposed that will unfailingly separate abnormal behavior, and it is doubtful that such an index is possible.
>
> In cases of sufficiently severe disturbance any of the three fundamental criteria is likely to classify the individual as abnormal. The very disturbed individual is statistically different from his fellows, is often [but not always] upset and unhappy and does not conform. The absence of a universal foolproof criterion is important only for borderline and questionable cases. For the most part we may explore abnormal behavior untroubled by our inability to define abnormality precisely. (p. 11).

However, this difficulty in defining normality or mental health is not restricted simply to the one textbook described. Consider Coleman's (1964) discussion of "what do we mean by abnormal behavior" in his elementary textbook:

> Since the word abnormal means "away from the normal," it implies deviation from some clearly defined norm. In the case of physical illness, the norm is the structural and functional integrity of the body and the boundary lines between normality and pathology can usually be clearly delineated by medical science. On a psychological level, however, we have no "ideal model" of man to use as a comparison, nor are we entirely clear as to just what behavior is or is not normal. As a consequence, the problem of defining abnormal behavior has proved to be a most difficult one. However, several criteria have been proposed. (p. 14).

Coleman then discusses

1. Statistical norms;
2. Personal adjustment (adaptation);
3. Personality integration;
4. Personal maturity and growth; and
5. Group well-being and progress;

as criteria for determining whether a person is normal and points out the problem of identifying the term with any of the above criteria.

He concludes:

> Until the social sciences have evolved a more adequate theoretical structure, both general and specific criteria of abnormality will of necessity remain somewhat arbitrary and will be influenced by the theoretical orientation of the person trying to define them . . . But although the social sciences have not yet provided a sufficiently comprehensive and integrated picture of man's nature and behavior to allow us to see just what a "model man" would be like, most social scientists would agree that normal behavior will represent the optimal development and functioning of the individual consistent with the long term well-being and progress of the group (pp. 15, 18).

But agreement about the complexity of mental health or normality extends far beyond introductory textbooks into abnormal behavior. Offer and Sabshin (1966) review the meaning of the term, normality (mental health) in various disciplines including psychiatry, psychoanalysis, psychology, sociology, anthropology and biology. They summarize their findings in terms of four "functional perspectives" or models of normality which are common to most of these disciplines. The models include:

1. Normality as Health.
2. Normality as Utopia.
3. Normality as Average.
4. Normality as Process.

In the remainder of this chapter, each model will be briefly defined, discussed and, in some cases, expanded upon.

Normality as Health

This model defines mental health in terms of the absence of mental illness. Consequently, focus shifts to definitions of mental illness.

Such definitions might include:

1. The presence of well-defined psychiatric syndromes such as hysterical neurosis, obsessive-compulsive neurosis, depressive personality, various character disorders and psychoses including schizophrenia.
2. The presence of anxiety which interferes with normal, daily functioning; or
3. The presence of problems in living (Szasz, 1960, 1964).

Generally this model is not regarded by itself as a sufficient definition of mental health. In fact, Jahoda (1958) rejects the absence of mental disease as an acceptable definition of mental health primarily because she feels no satisfactory concept of mental disease exists as yet. Hence, she feels little would be gained by defining one vague concept, mental health, in terms of another which is not much more precise. She points out various difficulties in defining mental illness including:

1. The cultural relativity of symptom patterns.
2. The difficulty of obtaining expert consensus regarding the diagnosis of mental illness in all but very severe cases of emotional disturbance.

Furthermore, she claims that a view which contends that mental health and mental disease are qualitatively different is gaining currency with many professionals. To the extent that mental health and mental illness are independent dimensions, one cannot be used to define the other. According to this view the opposite

of mental health is lack of mental health, not mental illness; and the opposite of mental illness, is lack of mental illness, not mental health.

Nevertheless the author feels that Jahoda's rejection of the Normality as Health model is too severe. Notwithstanding difficulties in defining mental illness, various definitions are possible. A common one is that involving the presence of anxiety which interferes with normal functioning and with which the individual cannot cope adequately. Since the absence of such anxiety certainly is one aspect of optimal individual functioning, I believe the Normality as Health model can be subsumed best under the Optimal Functioning model to be discussed next. The only difference between the two is that the former model specifies those characteristics whose lack contributes to optimal functioning, while the latter specifies those attributes whose presence so contributes. Thus, although this difference exists between the two models, it should not be permitted to disguise the more important similarity: both models are concerned with personal characteristics required for optimal psychological functioning. Therefore the Normality as Health model can be regarded as a special case of the Optimal Functioning model.

Normality as Utopia

The Normality as Utopia model defines mental health in terms of various ideal personality characteristics which are regarded to describe optimal psychological functioning. Since few individuals

manifest all of these characteristics, this model is utopian. Nevertheless real people may approximate the possession of such attributes to a greater or a lesser degree.

Included under this model of mental health are lists of characteristics possessed by the ideal or optimally functioning person. For example, Maslow (1954) lists the following characteristics of the self-actualized person:

1. More efficient perception of reality and more comfortable relations with it.
2. Acceptance of Self, Others and Nature.
3. Spontaneity.
4. Problem Centering.
5. Quality of detachment; the need for privacy.
6. Autonomy; independence of culture and environment.
7. Continued freshness of appreciation.
8. Mystic experience.
9. Gemeinschaftsgefühl (deep feeling for mankind).
10. Interpersonal Relations (deeper, more profound).
11. Democratic character structure.
12. Discrimination between means and ends.
13. Philosophical, unhostile sense of humor.
14. Creativeness.
15. Resistence to enculturation.

Rogers (1959) also enumerates a similar, yet different list when he describes his model of the "fully functioning person" as the

"endpoint of optimal psychotherapy." Likewise Allport (1960) has created a list of such ideal characteristics.

Perhaps the most comprehensive list has been prepared by Jahoda (1958). Unlike lists which often simply reflect the author's own value orientation, Jahoda's was assembled after a thorough review of the literature to determine various meanings attributed to the term "mental health" by professionals. Therefore, her list will be presented and discussed in detail.

1. Attitudes Toward the Self as Definitions of Mental Health. This includes:
   a. That the self be accessible to consciousness at the appropriate time; i.e., that an individual has the ability to take a mature, detached view of himself.
   b. That this view is realistic and correct.
   c. That the individual feels positive about and accepts himself.
   d. That the individual shows a sense of identity.

   Thus, it is clear that under the criterion of Attitudes Toward Self as possible definitions of mental health we can find at least four:
      1. Mental health defined as the capacity for a detached objective and mature attitude toward the self.
      2. Mental health defined as a realistic view of the self.
      3. Mental health defined as feeling good about or accepting oneself.

4. Mental health as having a sense of one's own identity.

2. Growth, Development and Self-Actualization as Criteria for Defining Mental Health. Included under this category are

   a. The presence of a self-actualizing tendency or growth motive.

   b. The presence of investment in living--a general zest for life, deep and meaningful involvement with life.

Thus we may add two more definitions of mental health to our list:

5. Mental health defined as the presence of the self-actualizing or growth motive.

6. Mental health defined as the presence of investment in living.

3. Integration as a Criterion for Defining Mental Health. Included here are

   a. A balance of psychic forces formulated either as a specific balance of ego, super-ego and id forces or of unconscious, preconscious and conscious psychic events.

   b. A unifying outlook on life. This unifying philosophy need not be articulate in words, but may represent more of a consistent and unified point of view in approaching life. It appears to resemble Erikson's notion of identity in some ways.

   c. The ability to resist stress. Included here are a resilience of character, an ability to withstand adverse events and tolerate anxiety. In terms of integration, the ability

to resist stress can be seen as the ability to resist disintegtration under pressure.

Thus we may add three more possible definitions to our list:

7. Mental health defined as a balance in psychic forces.
8. Mental health defined as a unifying outlook on life.
9. Mental health defined as the ability to resist stress and anxiety.

4. Autonomy as a Criterion for Definitions of Mental Health.

Included here are

a. Regulation of behavior from within. The emphasis here is upon an inner organization of values, needs, beliefs, accomplishments, etc., which guide behavior as opposed to dependence on an external source of guidance.

b. Autonomy as a balance between organizing the objects and events of the world to bring them under one's own control and a willingness to surrender to become part of something that is greater than oneself.

Thus, we may add two more potential definitions of mental health to our list:

10. Mental health defined as the regulation of behavior from within.
11. Mental health defined as a balance between putting one's own stamp on life and becoming part of aspects of life which one did not create.

5. Perception of Reality as a Criterion for the Definition of Mental Health. Included here are

   a. Perception of reality free from gross need distortion; i.e., that in the mentally healthy person's way of perceiving the world, there must be objective cues fitting the resulting percept. This does not mean that his perception is totally free from the influence of needs or wishes. But, it does imply that they do not influence perception to the extent that the resulting percept has no basis in objective cues.

   b. Empathy or social sensitivity--the ability for correct and sensitive perception of the needs, feelings and motives of others.

   Adding two more potential definitions of mental health to our growing list:

   12. Mental health defined as perception of reality free from gross need-distortion.

   13. Mental health defined as the ability for correct and sensitive perception of others.

6. Environmental Mastery as a Criterion for the Definition of Mental Health. Included here are

   a. The ability to love in the genital sense. Here love is entertained as a criterion in the narrow sense of sexual love with a member of the opposite sex with full orgasm and emotional release.

b. Adequacy in love, work and play. This is simply a pragmatic notion that to be able to love, work and play well one must be mentally healthy.

c. Adequacy in interpersonal relations. Several different formulations of this last criteria are possible. The most specific is provided by Conrad (1952) who suggests that an individual is mentally healthy to the extent that he shows

   (i) Positive affective relations with at least one other human being.

   (ii) Promotes anothers welfare.

   (iii) Works with another for mutual benefit.

d. Meeting situational requirements; i.e., that mental health is manifested in the individual's manner of meeting requirements of the situation.

e. Adaptation or active adjustment.

f. Ability to approach problem solving in a way which is most consistent with probable success.

Hense, six more definitions can be added to our list:

14. Mental health defined as the ability to love in the genital sense.

15. Mental health defined as adequacy in love, work and play.

16. Mental health defined as adequacy in interpersonal relations.

17. Mental health defined as the ability to meet difficult situational requirements; i.e., coping.

18. Mental health defined as adaptation or active adjustment.

19. Mental health defined as the ability to approach problem solving in a way which is most consistent with probable success.

Now that nineteen definitions of mental health have been elaborated, the question arises as to which definition is best. One solution to this problem is to consider carefully the definitions presented and eliminate as many as possible, hopefully reducing the list to a single definition so that the meaning of the term "mental health" no longer will be ambiguous. However, such an endeavor clearly is impossible because each definition approaches mental health from a reputable theoretical and conceptual viewpoint, none of which will be easily proved wrong.

For example, the Freudian notion that genital love is the best indicator of mental health might be disputed by Rogerians who maintain that attitudes toward the self-structure are more basic. This in turn could be disputed by those analysts who claim that it is not the attitudes toward the self per se but an ability to synthesize the self into a coherent whole; i.e., to have a strong ego, which is more basic. Those who dispute the notion of a strong synthetic ego as the sine qua non of mental health point out that mental health deals with more than internal attitudes or capacities and involves certain types of critical interactions with the environment as well. For example, social psychologists, might

contend that environmental criteria such as ability to love, work and play or ability to cope with environmental stress really are more basic. However, a Sullivanian might argue that the previous focus is on the wrong critical interaction with the environment--that the quality of an individual's interpersonal relationships is more basic. So it goes--there is not a single criterion on the list which cannot be justified from a respectable theoretical viewpoint. This tends to create great confusion in the field of mental health for it appears the no one definition is adequate.

In view of this state of affairs, a second solution, the multiple criterion approach, has been proposed by Jahoda. This position assumes that there is no one definition of mental health. Moreover, from a pragmatic point of view, it really does not matter because one can proceed empirically with research by assuming that each criterion mentioned is an indicator of mental health. By assuming the independence of these various definitions of mental health, it is possible to define a large number of different types of mental health. For example, empirically one might find individuals who cope well with environmental stress, but have a poor self-structure and poor interpersonal relations, others who cope well with stress and have a strong sense of self but poor interpersonal relations and still others who cope well with stress, have a strong self-structure and good interpersonal relations. Each of these three types would manifest different types of mental health according to the multiple criterion approach.

Just as the "weeding out" approach failed to define mental health unambiguously, so does the multiple criterion approach fail to resolve the meaning of mental health. For if all the multiple criteria of mental health are simultaneously valid definitions of mental health, the term has multiple meanings and still is undefined as a single entity. To quote Jahoda:

> The preceding survey of positive mental health is encouraging in more than one way. The number of ideas is relatively limited; they can be reasonably well grouped under a few headings. In spite of diversified theoretical positions taken by the authors in the field, one gains the impression that there is among many of them a large overlap in meaning and intent when they talk about mental health; certainly there are few, if any, contradictions between the various proposals. A case could be made that several of them tap identical concepts on different levels of concreteness.
>
> But notwithstanding such encouraging features, the survey of the literature does not resolve the complex problem of clarifying the psychological meaning of positive mental health. Indeed, the review makes it quite clear that the least fruitful approach to the subject consists in assuming that anyone has the answer to the problem. We shall have to be content with recognizing that there are many tentative answers or approaches available and that none of them is as yet based on so solid a body of knowledge and facts that it can definitely be singled out as the most promising approach. (p. 65).

Smith (1959, 1961) takes issue with Jahoda's multiple criterion approach. Rather than view mental health as a theoretical concept defined by various criteria which can be combined to define empirically different types of mental health, he relegates the term, mental health to the status of a rubric, chapter heading or label under which fall various value judgments concerning optimal psychological functioning. Smith eschews the search for a unitary or single concept of mental health and the

need to create more and more competing lists of mental health criteria.

Furthermore, he makes explicit the role of values in the mental health phenomenon. Often their role has been disguised in relation to mental illness because close consensus usually can be achieved on those criteria whose presence is bad (or whose absense is good) for optimal psychological functioning. However, such consensus is more difficult to attain for criteria whose presence is good for optimal functioning. This inability to achieve consensus lays bare the value judgments implicit in lists of mental health criteria: the criteria are statements about what is desirable for optimal psychological functioning in the opinion of a given individual. As with any value judgment, which posits how a person ought to be or ought to behave, consensus is difficult, it not impossible, to achieve. This is one reason why it is impossible to define mental health unambiguously.

Smith suggests further that values concerning optimal psychological functioning should meet the following criteria to be included under the mental health rubric:

1. They should be serious contenders in the arena of human values (although an impossible consensus is not required). The posited values should be explicit.
2. They should be capable of measurement or of inference from identifiable aspects of behavior.

3. They should articulate with personality theory (a weak requirement, since the proviso must be added immediately that personality theories will probably need to be extended and modified to make a contact with value dimensions chosen on other grounds).
4. They should be relevant to the social context for which the chapter is being written.

Normality as Average

This model defines normality or mental health in terms of the statistical concept of the norm. It conceives of the middle range of a continuum as normal and both extremes as deviant, unlike the two models previously discussed. The latter models define one extreme as mentally healthy and the other, mentally unhealthy.

The Normality as Average approach is used in normative studies of human behavior and is particularly appropriate to the study of certain characteristics for which both extremes are considered undesirable for optimal psychological functioning. Anxiety, motor activity, need for love and need to be loved are examples of such attributes.

However, there are serious limitations to defining mental health in terms of this model. First, the concept of the statistical norm does not specify how to choose the proper mental health variable to be distributed over a given reference population. For example, it does not specify whether one should choose the

number of smiles per day, the presence of a satisfying occupation, a measure of interpersonal relations or a myriad of other possible variables as a definition of mental health or whether there should be one index or many. Moreover to choose such a variable requires a value judgment concerning optimal functioning. Hence, the Normality as Average model is a less general model of mental health than Normality as Utopia.

Second, the Normality as Average model does not specify how to choose the reference population. It does not specify whether the index is equally applicable to different types of populations; e.g., college students, lower class workers, males, females, etc., or applicable to only a few.

Third, even if one can choose a variable and a reference population on some theoretical or empirical basis, the model defines as abnormal those who have an unusually large amount of the variable as well as those who have too little. This is unacceptable for many mental health criteria. For example, it would define as mentally unhealthy not only those who got along exceptionally poorly with others but also those who got along exceptionally well in violation of the notion that optimal psychological functioning in the area of interpersonal relations involves excellence in interpersonal relations. Clearly, there are limitations to defining mental health in terms of the concept of the norm.

Normality as Process

This model examines normality or mental health from a temporal perspective. It concerns a study of change over time in normality defined in terms of the three models previously discussed. In other words, this model studies temporal changes in mental health defined in terms of the absence of mental illness, presence of ideal characteristics or the statistical norm as a function of various stages in the life cycle. The model emphasizes that what is considered optimal functioning for an individual depends on his age. An example of such a model is Erikson's epigenetic model. It stresses that the critical mental health values conducive to optimal psychological functioning in a given developmental phase differs with each phase of the life cycle.

Additional Definitions

In addition to the four major models proposed by Offer and Sabshin, several other definitions have been proposed. Although one can be subsumed under one of the models already discussed, these definitions raise special issues and thus have been singled out for further discussion.

Two definitions raise the issue regarding the relationship between mental health and cultural norms:

Mental Health as Good Adjustment to Social Norms

This view has been rejected because a workable adjustment need not imply any true self-actualization or identity-achievement,

both of which are generally accepted as better criteria of mental health. On the contrary a "good" adjustment may simply imply a passive acceptance of a relationship between the self and the environment; just the opposite of what many experts mean by mental health.

Mental Health as Socially Desirable Behavior

This view has been rejected because most notions of mental health imply that the mentally healthy individual has achieved a certain degree of independence from the environment, which may lead him to do things which according to prevailing standards are socially unacceptable. While it is generally immaterial whether a mentally healthy individual engages in socially desirable or undesirable behavior, it is more important that he has the autonomy to make the choice himself. However, at least some might question the mental health of an individual who always chose to act in a socially undesirable way.

In general, mental health values postulate a specific type of relationship between the individual and social norms. Usually the relationship implies autonomy and independence from social norms as Maslow (1954) indicates or an identity between the self and some aspect of the culture, as discussed by Erikson (1968). (Identity implies an internalization of the norms and values of at least some group within the larger culture.) In no instance is a mentally healthy relationship between the individual and social norms one of blind conformity or of attempting to

follow social norms to appear socially acceptable in the eyes of others.

Mental Health Defined as Various States of Well-Being

This is the last definition to be discussed. Jahoda (1958) rejects this definition of mental health for various reasons. First, if mental health is simply equated with emotional well-being, she feels it does little more than label it. Second if one accepts the simple presence of certain positive states of contentment, satisfaction, or happiness as the sole criterion for mental health then the occurrence of disaster, misfortunes or stressful environmental disturbances to which a person would react with anxiety, frustration, disappointment or panic, would lead him to be classified as mentally unhealthy. Third, mentally healthy persons may seek out occasions of stress which bring about just the opposite of well-being. However, she indicates that if these positive states are regarded as enduring states or dispositions of an individual which permit expectable or negative reactions to unfavorable or difficult environmental circumstances, this is an acceptable definition of mental health. It is a type of definition of mental health with which this dissertation is centrally concerned.

Summary

In summary, both the Normality as Health and Normality as Utopia models define mental health in terms of values (or criteria) which are qualities of optimal psychological functioning. They

differ in that the Normality as Health model defines mental health in terms of the absence of certain undesirable characteristics while the Normality as Utopia defines mental health in terms of the presence of various desirable attributes. Taken together, the two models perhaps form the most general definition of mental health: values concerned with optimal psychological functioning.

The Normality as Average model is less general than the previous two because a value judgment is required to choose the variable to be distributed normally. Furthermore its application is limited to those mental health values for which an average "amount" is regarded as optimal and both extreme absence or presence are viewed as non-optimal.

The Normality as Process model views mental health from a temporal perspective. Thus, it examines the change in values of optimal functioning for various age levels.

Additional definitions, some of which can be subsumed under the above four models, were also singled out for discussion. Mental health defined in terms of conformity to cultural norms or socially desirable behavior were both rejected and the relationship between mental health and social norms discussed. Finally a definition of mental health in terms of feelings of well-being was presented.

CHAPTER III

HYPOTHESES

In Chapter III the major hypotheses of the study will be elaborated. However, first it is necessary to examine the difference between affective and structural definitions of mental health.

Affective vs. Structural Definitions of Mental Health

Taking the nineteen definitions of mental health which Jahoda has reviewed and which represent criteria on which there there is reasonable expert consensus, the author found it possible to divide them into two main classes: affective and structural criteria of mental health.

Affective criteria of mental health define mental health in terms of various feeling states. Thus, Definition 6, which defines mental health in terms of an investment or a zest in living life, is a global affective definition. Definition 3, which defines mental health in terms of feeling good about oneself is also an affective definition but not quite so global as Definition 6 because it (Definition 3) refers to feeling good about oneself rather than life.

To these affective definitions others could be added. For example, mental health could be defined in terms of an enduring global sense of happiness, contentment, satisfaction, well-being, confidence, trust, excitement or spontaneity in living life.

The remaining seventeen criteria listed by Jahoda are structural definitions of mental health because these criteria define mental health in terms of a particular type of structured relationship between aspects of the self or between the self and aspects of the environment. Thus, Definition 1, which defines mental health as the capacity for a detached, objective and mature attitude toward the self, posits a specific type of structured relationship between an observing, objective portion of the self and other aspects of the self which are immature and given to perceiving the self in terms of fantasy: namely, a relationship in which the objective part of the self has a reasonable amount of control over the unrealistic portion of the self at the appropriate times. Definition 5, which defines mental health in terms of of self-actualization, posits a specific type of structured relationship between the actual self and the potential self in terms of the degree of correspondence between the two. To the extent that the actual self coincides with the potential self, an individual can be said to have realized his potential or be self-actualized. Definition 7, which defines mental health in terms of a balance of psychic forces, implies a specific type of structured relationship between the id, ego and superego; namely, a relationship of balance. Definition 9, which defines mental health in terms of the ability to resist stress and anxiety implies a specific type of structured relationship between the various parts of the personality despite stress and anxiety; namely a harmonious or unified one. Definition 10, which defines mental health in

terms of autonomy or the regulation of behavior from within, implies a particular structured relationship between the self and the environment such that the self is not overly dependent on environmental forces in determining its direction or actions. Definition 16, which defines mental health in terms of adequacy of interpersonal relations implies a certain type of structured relationship between the self and interpersonal aspects of the environment; namely, an adequate one. Additional examples could be presented.

Hypothesis Concerning the Relationship Between Global Affective and Structural Criteria of Mental Health

Having defined the difference between affective and structural definitions of mental health, the author proposes a relationship between the two. Namely, that the structural criteria are the causes of or are responsible for the presence of mental health defined in global affective terms. Therefore, one would expect a global affective measure of mental health to correlate positively with measures of structural criteria.

This relationship can be best seen in Diagram 1 which depicts a model of the source of the global affective sense in terms of four structural mental health criteria. (Str Cr X refers to Structural Criteria X; Subj Cr X refers to the subjective sense of the Structural Criteria X and Subj Aff X refers to the affective accompaniment to the subjective presence of Structural Criteria X.)

The four criteria in the diagram might include the presence of identity, ability to cope with difficult every day situations,

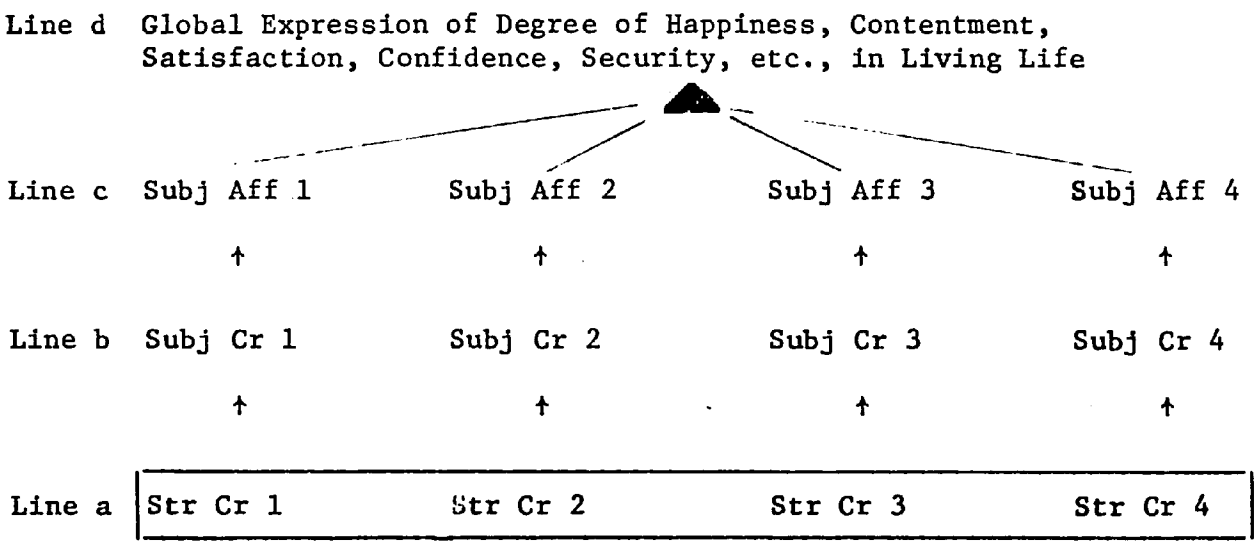


DIAGRAM 1.--Source of Global Affective Sense.

warm interpersonal relations and the ability to assert oneself when the situation requires it. They are listed in Line a. The presence of each one of these criteria is accompanied by a subjective sense of the clinical presence of each criteria. These subjective senses are listed in Line b. For example, the subjective sense of the clinical presence of identity might include a feeling that the person knows where he is going in life and that he feels integrated with significant others who are engaged in pursuits similar to himself. Each subjective sense of the presence of a structural criterion also has an affective accompaniment. These affective reactions are listed in Line c. In the example mentioned previously there exists an affective accompaniment to the sense that the person knows where he is going in life and that he feels integrated with significant others. Such affective reactions might include feelings of security, excitement, pleasure and confidence. Various structural criteria generate different subjective senses of their presence and, in turn, different affective reactions to their subjective presences. These subjective affective reactions then summate into the person's global subjective sense of the degree of happiness, contentment, well-being or security, etc., in living life. This global affective reaction is listed in Line d. Thus, the model in this diagram predicts a positive correlation between a global affective measure of mental health and structural criteria.

Although not specified in the diagram, various structural criteria may be more responsible for the resulting global affective

state than others. Hence, the correlation of the global affective measure with the former structural criteria may be greater than the correlation with the latter.

Moreover, one could expect that the global affective aspects of mental health, although originally caused by the presence of various structural criteria, may also contribute to the maintenance of structural criteria in a feedback fashion. To the extent a person is happy, content, confident, trusting of life, he expresses this in a way he relates to others, receives others more positively and, likewise, is more positively received by them. All this facilitates the maintenance of identity, positive interpersonal relations, coping with difficult situations since one can depend on others more easily when necessary. However, this feedback relationship is not indicated on the diagram.

Error Hypotheses

It is also possible to elaborate two types of error hypotheses for the proposed positive relationship between global affective and structural criteria of mental health.

The first type proposes that the observed correspondence between the global affective criterion of mental health and structural criteria is spuriously high due to the influence of a third factor such as social desirability. For example, people responding in a socially desirable fashion uncritically tend to say socially desirable things about their mental health. Although not consciously trying to deceive, one expects such individuals to say they feel happier or more confident than in fact they do in an attempt to "look good." At

the same time these individuals also present data for expert assessment which often lead to higher assessments than should be the case, especially with questionnaires and projective techniques. In this way social desirability may introduce a spuriously high correspondence between self-appraisals and expert judgments of mental health by artificially inflating them both. Therefore, it is desirable to remove the effect of such a factor to determine the true degree of correspondence.

The second type of error hypothesis attributes failure to achieve the expected degree of correspondence between the global affective criterion and structural criteria of mental health to the existence of several types of individuals who lower it. They include:

1. False positives. These are individuals who say they feel an enduring sense of happiness, well-being or confidence which has little or no basis in terms of structural criteria. They are the individuals whom clinical theory claims are more disturbed than they realize.
2. False negatives. These are individuals who say they do not feel an enduring sense of happiness, well-being or confidence, although one would think they should in terms of structural criteria. One might hypothesize that such persons have an investment in feeling bad and may be depressive personalities.
3. Deliberate deceivers. A special case of false positives or false negatives are deliberate deceivers. Unlike Categories 1 and 2 above, such individuals deliberately falsify their

feelings in order to deceive the experimenter. Nevertheless, the effect on the correspondence between self and expert appraisals of mental health is the same: to lower it.

Extension of Hypotheses

It is also possible to extend the aforementioned hypotheses for a different type of self-appraisal of mental health. The first type of self-appraisal involves a person's report on the extent to which he feels an enduring sense of well-being, trust or confidence in living life. The second type of self-appraisal of mental health is a simple rating of how mentally healthy a person considers himself to be.

In certain respects these measures are very different. The first requires a subject to rate his mental health in terms of a global affective definition. The second presents no definition of mental health to the subject and thus does not constrain him to a particular definition. He could rate himself mentally healthy for numerous idiosyncratic reasons.

Nevertheless it is the contention of the author that the second self-appraisal will be closely equivalent to the first because it is proposed that subjects will use a global affective sense about life or an affective definition of mental health as the referent in rating their mental health. This can be best illustrated in Diagram 2 which extends Diagram 1 through the addition of Line e. The strong, dark arrow going from Line d to Line e depicts the strong, proposed correspondence or equivalence between a global affective measure and self-ratings of mental health.

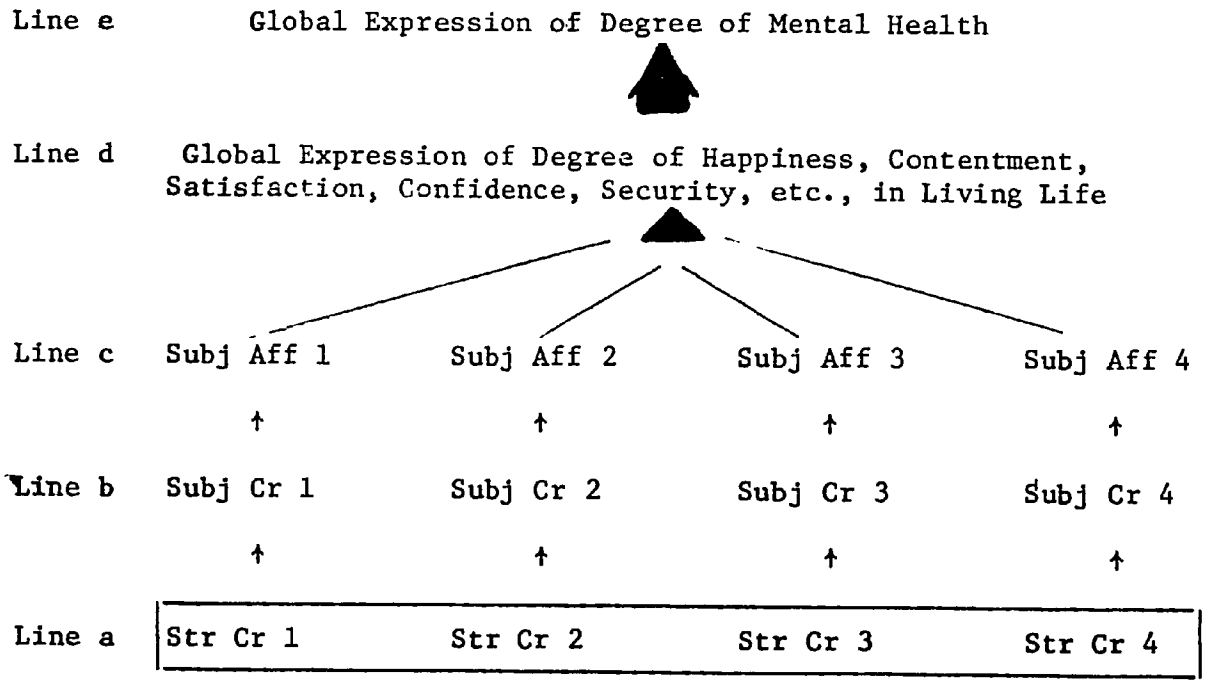


Diagram 2.--Proposed Mechanism of Self-Ratings of Mental Health Using a Global Affective Definition of Mental Health as Referent.

The proposed close equivalence of self-ratings of mental health to a global affective measure of mental health leads to a third prediction: that there will be a positive correspondence between self-ratings of mental health and structural mental health criteria similar to that obtained for the global affective measure of mental health. This predicted relationship can be best illustrated in Diagram 2. If as predicted, the global affective measure (Line d) corresponds positively to structural criteria (Line a), and if the self-ratings of mental health (Line e) correspond very highly to the global affective measure (Line d), then it follows that the self-ratings of mental health (Line e) will also correspond positively to the structural criteria (Line a) in a similar fashion.

However, alternative mechanisms exist which could explain the proposed positive correspondence between self-ratings of mental health and structural criteria. It may be that instead of using the proposed global affective sense as the referent in rating their mental health, subjects may choose several different, well-accepted structural criteria, evaluate themselves with regard to each, and average them mentally in order to arrive at a valid global rating of their mental health. Or subjects may use a combination of several structural criteria in conjunction with affective criteria to arrive at their final self-rating. Nevertheless, because time constraints forced subjects to rate themselves very quickly and because of the general level of psychological sophistication of the subjects, it seemed likely that most subjects

would employ the proposed mechanism in which they would trust a more immediate global affective sense about life than the latter mechanisms which would require a more thoughtful, lengthy analytical procedure.

Just as the original hypothesis which predicted a positive correspondence between a global affective measure of mental health and structural criteria was extended to apply to self-ratings of mental health because self-ratings were proposed to be closely equivalent to the global affective measure, so can the original error hypotheses which were stated in terms of the global affective measure likewise be extended to apply to self-ratings of mental health. Thus, one would expect that social desirability may lead to a spuriously high correspondence between self-ratings of mental health and structural criteria and that the following types of individuals may decrease the expected degree of correspondence:

1. False positives who say they are more mentally healthy than structural criteria would indicate.
2. False negatives who say they are less mentally healthy than structural criteria would indicate.
3. Deliberate deceivers who will not cooperate in reporting how mentally healthy they feel they really are.

Predictions from the Aforementioned Hypotheses

The hypotheses just discussed including the error hypotheses make several predictions which are open to empirical study:

1. Expressions of the degree of well-being, trust or confidence in living life will correspond positively to measures of various structural criteria of mental health.
2. Subjects will use the global affective state give above (1) as the referent to rate their mental health on the self-rating scale.
3. Therefore, subjects' self-ratings of mental health will correspond positively to structural criteria of mental health in a similar fashion as in 1 above.
4. The error hypotheses predict that the proposed correspondence of the two self-appraisals of mental health with structural criteria will be spuriously high due to the effects of social desirability and lower than expected due to false positives, false negatives and deliberate deceivers. Elimination of such persons from the total group of subjects should increase the correspondence.

It will be the purpose of this dissertation to examine the validity of these predictions and their implications.

CHAPTER IV

RESEARCH DESIGN

Since the goal of this study is to test the four predictions elaborated in Chapter III, a research design was need which could accomplish this objective. It was necessary to operationalize the significant terms in the original statement of each prediction and rephrase the original predictions in terms of expected statistical relationships between variables.

Overview

To give the reader an overview of this design, the author will discuss how all significant terms in each of the four original predictions were operationalized and restate the original predictions in statistical terms. In doing so, brief allusion will be made to variables which are discussed in greater detail in Chapter V.

Prediction I: That an expression of the global affective component of mental health will correspond positively to structural criteria.

Method:

1. To operationalize this hypothesis it was necessary to find a measure of global affective component of mental health and measures of structural criteria.

2. To operationalize the global affective component a nine point scale, the Supplementary Mental Health Scale, was included. This required subjects to rate their mental health in terms of an affective definition presented with the scale. The exact wording will be presented in Chapter V.

3. To operationalize the structural criteria, three major standards were taken into consideration. First, that some of the structural measures were widely accepted and used in the mental health field. If the expected correspondence obtains between the Supplementary Mental Health Scale and such measures, its impact will be greater than if the correspondence were with less commonly accepted measures. Second, it was desired to choose measures which encompassed the diversity of concepts which defines mental health. If the expected correspondence obtains between the Supplementary Mental Health Scale and measures of diverse concepts of mental health, its impact will be greater than if the correspondence were only with several measures of the same concept. Third, it was desired that the criteria chosen were assessed by several different techniques commonly used to measure mental health such as the interview, projective test, questionnaire, etc. Since any measure of a mental health concept is limited by the error inherent in the particular measurement technique used to assess the concept, it follows that if the Supplementary Mental Health Scale corresponds with measures based on different techniques, the impact

of this finding is greater than if the correspondence were with measures which employed the same technique.

The well-accepted criterion variables were Block's (1965) Ego Resilience--Obvious and Ego Resilience-Subtle scales--highly reliable measures of the largest of the two factors usually obtained upon factoring the MMPI. The two scales were included primarily because the MMPI was a widely accepted tool in mental health research.

The remaining variables were chosen to cover as many concepts of mental health and assessment techniques as possible. These included:

1. Separate Identity. A fifty-six item true-false questionnaire measure designed especially for this study. A cluster analysis was performed on the fifty-six item scale in a separate population to eliminate unreliable items. The resulting scale was used as a criterion variable.
2. Ego Identity. An interview measure which attempts to operationalize Erikson's notion of ego identity.
3. Variety of Positive Interpersonal Relations. An interview measure to quantify the variety of significantly different, positive interpersonal relationships currently experienced by the subject.
4. Coping (and Dating). Projective measures of coping ability in typical college situations. Coping is a TAT measure, adapted from Coelho (1962). The Coping score is an average of

the subject's scores from the ten pictures to which he wrote stories. Scores from three pictures concerned with dating were averaged to form Dating, a measure of how effectively subject deals with dating situations.

5. Self-Assertion. An original, semi-projective measure of Self-Assertion. It was assessed through administration of eight different situations which required resolution in such a way that the subject must either assert himself or lose out in the situation.

6. Embedded Figures Test. A measure of field approach using the short form of the Embedded Figures Test. Although Witkin (1962) observed that field approach did not relate to mental disturbance, nevertheless, the author wished to confirm this result. Since Witkin observed that a sense of separate identity correlated positively with field approach (field independent subjects tending to have a separate identity), it was also desired to observe the correlation of the Embedded Figures Test with the Separate Identity Scale and the Ego Identity score.

7. Composite Variables. Variables created by averaging together various criterion variables after converting all variables to a common base. These composite scores can serve as more powerful mental health criteria than any one single measure.

In statistical terms Prediction I asserts that the Supplementary Mental Health Scale will correlate positively and

significantly with all of the aforementioned structural criterion variables.

Prediction II: that the expression of how mentally healthy a subject feels he is, is closely equivalent to the global affective component of mental health or the extent to which a subject feels an enduring sense of well-being, confidence or trust in living life. The reason for this equivalence is that the global affective component of mental health is proposed to be the referent which subjects use in rating their own mental health.

Method: The expression of how mentally healthy a subject feels he is, was easy to operationalize. Subjects simply were asked to rate their mental health on a nine point scale (the Mental Health Scale) without being presented any definition of mental health. The global affective component of mental health was operationalized by the Supplementary Mental Health Scale as mentioned in connection with Prediction I.

In statistical terms, Prediction II has two parts.

1. Prediction IIa: Prediction IIa asserts that an oblique factor analysis of the critical variables of the study will yield:
   a. An Affective Mental Health Factor containing only the Mental Health Scale and Supplementary Mental Health Scale.
   b. A Structural Mental Health Factor containing all self-rated and expert-rated structural variables.
   c. A positive correlation of the two factors.

2. Prediction IIb: Prediction IIb is that Mental Health Scale will correlate highly and positively with the Supplementary Mental Health Scale.

If Prediction IIa is confirmed, this will demonstrate that the distinction between affective and structural mental health measures is an empirically valid one. In addition, if Prediction IIb is confirmed, this will further suggest that the Mental Health Scale is equivalent to an empirically valid affective definition of mental health, thus providing evidence that subjects used a global affective definition to rate their mental health on the Mental Health Scale.

To confirm Prediction II statistically, it is necessary that Prediction IIa and IIb <u>both</u> are confirmed. If only Prediction IIa were confirmed, the predicted factor structure would result, yet the Mental Health Scale and Supplementary Mental Health Scale would not correlate highly enough to suggest a possible equivalence between the two measures. Likewise if only Prediction IIb is confirmed, the Mental Health Scale and Supplementary Mental Health Scale would correlate highly yet the predicted factor structure would not be obtained. In this case the high correlation of the Mental Health Scale and Supplementary Health Scale would not suggest that the Mental Health Scale were equivalent to an <u>empirically valid</u> affective definition of mental health because results of the factor analysis would indicate that no empirical distinction existed between affective and structural mental health variables.

In non-statistical terms, Prediction II asserts also that subjects will talk in terms of the global affective component of mental health in discussing why they rated their mental health as they did on the Mental Health Scale. This would provide additional evidence that subjects used an affective definition of mental health as the referent for making their judgments. Data to test this prediction were derived from the Mental Health Interview in which the author discussed with each subject why he rated his mental health as he did (all subjects were males).

Prediction III is that the expression of how mentally healthy a person feels he is also will correspond with structural measures of mental health in the same fashion as did the expression of the extent to which a person feels an enduring sense of well-being, confidence or trust in living life.

Method: As discussed in connection with Prediction II, the expression of how mentally healthy a person feels he is has been operationalized by the Mental Health Scale. The various measures which operationalize the structural criteria and how confident, etc., one is in life have been discussed in connection with Prediction I.

In statistical terms, Prediction III asserts that the Mental Health Scale will correlate significantly, positively and at the same level of magnitude with structural criterion variables as did the Supplementary Mental Health Scale.

Prediction IVa: Error hypothesis 1--that the correspondence of the two self-appraisals of mental health (how trusting or confident, etc., one feels about life and how mentally healthy one

considers oneself) with criterion variables will be spuriously high due to the influence of social desirability. It regards as desirable the elimination of this influence.

Method: Social desirability was operationalized by the Crowne-Marlowe Social Desirability Scale, which measures a tendency for subjects to respond in a socially desirable fashion. The influence of social desirability was eliminated from the correlation between self-appraisals and structural measures of mental health by computing partial correlations of the Supplementary Mental Health Scale and Mental Health Scale with all criterion variables controlling for social desirability. If the partial correlations change very little compared to the corresponding zero order correlations or remain positive and significant, this suggests that there is indeed a very genuine correspondence between self-appraisals and structural measures of mental health which cannot be accounted for by a tendency for people to say the socially desirable thing about their mental health.

Prediction IVb: Error hypotheses 2--that the correspondence between the two self-appraisals of mental health and structural measures of mental health will be lower than expected due to the existence of false positives, false negatives and deliberate deceivers. By eliminating them from a total group of people, the degree of correspondence between self-appraisals and structural measures of mental health should increase for the people remaining.

Method: Prediction IVb was operationalized through use of the Mental Health Interview. During this interview (which was previously mentioned in connection with Prediction II) the author discussed with each subject why he rated himself as he did on the Mental Health Scale and what mental health meant to him. On the basis of various criteria[1] designed to detect false positives, false negatives and deliberate deceivers the subjects were divided into two groups: a Valid and a Non-Valid group. The Valid group contained subjects whose ratings of their mental health were expected to correspond to expert assessments. Such subjects evidenced some understanding of mental health criteria and seemed to be able to reasonably justify how they applied the criteria to themselves. The Non-Valid group contained subjects whose ratings were not expected to correspond to expert judgments. Such subjects either showed little understanding of mental health criteria, could or would not apply the criteria to themselves in a reasonable fashion, or both. In other words, it contained false positives, false negatives, and deliberate deceivers.

In statistical terms, Prediction IVb asserts that the correlations (zero order and partial) of both the Supplementary Mental Health Scale and the Mental Health Scale with all criterion variables in the Valid group will be greater than the corresponding correlations in the Full sample. It also predicts that these same

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[1] To be elaborated in Chapter V.

correlations in the Non-Valid group will be less than corresponding correlations in the Full sample. If the predicted correlational changes result it will suggest that the three types of errors enumerated in Prediction IVb in fact do detract from the degree of correspondence between self-appraisals and structural measures of mental health.

In presenting an overview of research design, numerous variables were mentioned without describing them or their theoretical basis in much detail. A detailed discussion of the variables follows in Chapter V.

CHAPTER V

METHODOLOGY

Chapter V will discuss the following aspects of methodology:

1. A description of all variables in the study. Brief descriptions are given for some variables. For other variables which require a complex reasoning process to arrive at the most suitable method of operationalization, relevant literature as well as the reasoning process will be presented.
2. Internal consistency of measures and interrater reliabilities.
3. Scores used in data analysis.
4. Sampling.
5. Administration of measures.

Description of Scales and Validation Criteria

1. Mental Health Scale (MHS). During the subject recruitment procedure subjects, who were asked to rate their own mental health, were given the following instructions:

> Mental health is a personal thing and means different things to different people. The purpose of this item is to find out how you feel about your own mental health. Rate yourself on the scale below by CIRCLING the whole number from 1 to 9 which corresponds to how you feel about your mental health. If you are unable to rate yourself, you may check instead one of the two categories listed under the scale. Please consider your rating carefully since it is central to the study.

Subjects were asked to rate themselves on this scale which was labeled as follows: 1 = mentally unhealthy; 3 = somewhat mentally unhealthy; 5 = moderately mentally healthy; 7 = in large measure mentally

healthy; and 9 = mentally healthy. The scale also provided two options for subjects who felt they could not rate themselves:

(1) That the subject could not rate himself because he did not feel the dimension of mental health was relevant to the way he thought of himself.

(2) That he could not rate himself for some other reason.

An exact replica of this Scale is presented in Appendix G.

2. The Supplementary Mental Health Scale (SMHS). At the conclusion of the study, subjects were presented with another nine point scale with the scoring direction reversed to prevent subjects from thoughtlessly putting the same numerical values they put on the MHS. They were given the following instructions:

> Since the main goal of this project was to determine the personal meaning of mental health to each subject, it was necessary to refrain from suggesting in any way what mental health might be. Thus, when you filled out the original mental health rating, you may remember that no definition of mental health was offered to aid you in your rating. However, it is also valuable to have subjects rate their mental health according to one of the many definitions proposed by various psychologists. One psychologist offers the following definition:
>
> Mental health is an enduring sense of well-being or confidence in living life. It is a basic trust or faith in oneself, that one can be that which one most truly is, and a faith that this will be acknowledged by those who are most significant to one's life. At the opposite pole is a basic mistrust or lack of faith in oneself and significant others which at its worst manifests itself in panic, hopelessness and despair about life. Between these two poles are various degrees of mental health. If one were to look at the ratio of basic trust or confidence to mistrust or lack of confidence at any given point in time, one could

formulate the five points listed on the scale below:

(1) By far the preponderance of faith and confidence in life.

(3) Greater preponderance of faith and confidence than mistrust.

(5) About an equal preponderance of basic trust or confidence and mistrust.

(7) Greater preponderance of mistrust compared to trust and confidence.

(9) By far the preponderance of mistrust verging on hopelessness and despair.

Using the above definition, rate your mental health on the scale below by CIRCLING the whole number from 1 to 9 which best corresponds to how you feel about yourself. If you cannot rate yourself on this scale, you may check one of the two categories beneath the scale. Please think carefully before rating yourself.

As with MHS, subjects who could not rate themselves on the Scale were offered two options:

(1) That they could not rate themselves because the state described in the above definition did not correspond to anything in their experience.

(2) That they could not rate themselves for some other reason.

3. Ego Resilience-Obvious and Ego Resilience-Subtle (ER-O and ER-S). Block (1965) derived both the Ego Resilience-Obvious and Ego Resilience-Subtle scales by factoring the basic scales of the MMPI on a total of 400 subjects. He obtained the usual two factors: the large first factor which he labeled Alpha and the second smaller factor which he labeled Beta. Selecting two groups of subjects who achieved extreme factor scores on the Alpha dimension, ninety-five high scoring subjects (Alpha highs)

versus ninety-seven low scoring subjects (Alpha lows), Block created the ER-O scale by selecting 108 items, fifty-four keyed in the true direction and fifty-four in the false direction, which discriminated the two groups significantly. Since this scale has an equal number of true and false items, ER-O is an acquiescence-free measure of the Alpha dimension: a measure which is superior to the established scales which load highly on this factor such as SD, Pt, Pn and A in that it is free from an acquiescence response bias interpretation and has superior reliability.

ER-S was derived in exactly the same manner except that it was constructed not only to be free of an acquiescence response bias interpretation, but also neutral with respect to social desirability. It is comprised of forty items, twenty keyed true and twenty keyed false. All items are in the neutral range as judged according to published social desirability scale values of MMPI items. Thus, the scale is a measure of Alpha which is affected neither by a yea-saying nor social desirability response-bias. No item overlap exists between ER-O and ER-S. The scales are presented in Appendix A.

Block also behaviorally validated the Ego-Resilience or Alpha factor by examining Q sort items which significantly discriminated Alpha highs from Alpha lows. Q sort data were generated by trained psychologists who intensely assessed subjects in various situations. Alpha highs, compared to Alpha lows appear more resilient, resourcefully active, etc.

In summary, ER-O is an acquiescence-free measure and ER-S is an acquiescence-free and social desirability-free measure of the behaviorally validated Alpha or Ego Resilience factor of the MMPI.

4. Separate Identity (SI). The Separate Identity Scale was designed to quantify the concept, separate identity. In order to construct items for the scale, it was necessary to determine the attitudes and characteristics of individuals who demonstrate the presence of separate identity. Helpful in this regard was a discussion by Gutmann (1965, 1970) of the characteristics of individuals who function well in an allocentric as opposed to an autocentric milieu. Allocentric milieu require the presence of a strong separate identity for optimal functioning, unlike autocentric milieu in which a strong separate identity may even be maladaptive.

Allocentric milieu have the following properties. Such milieu are impersonal--they are not ordered by the individual. They are unpredictable, subject to political pressures, "laws of the market" or affected by unanticipated plans and goals of others. Constant change is characteristic. They contain individuals who perceive themselves as distinct from others and who take personal responsibility for the realization of their separate goals. In such milieu careful planning is necessary for persons to attain their goals. Also needed is an ability to cope with

and anticipate unpredictable occurrences which may become obstacles to goal realization.

Autocentric milieu on the other hand, are personal and ordered by the self. Constancy rather than change is the keynote. In them individuals are pooled into larger groups, thus blurring the heightened awareness of one's own separateness which is reinforced by the allocentric environment. They require less objective appraisal of reality and are likely to encourage more subjective and emotional appraisals, relevant to one's own wishes, fears and desires.

Keeping in mind the characteristics discussed above as necessary for the adequate functioning of an individual in an allocentric milieu and adding other characteristics which are also adaptive in such a setting, the author constructed items to assess the concept, separate identity. Items subsequently were pretested on a small group of undergraduates. They were asked to criticize the items with regard to wording and content and to create additional items of their own.

The final scale contained fifty-six items: twenty-two scored in the true direction and thirty-four scored in the false direction. The scale then was cluster analyzed in a separate population of 140 males with the criterion that item clustering stop after finding the cluster with the maximum possible coefficient Alpha, a measure of internal consistency. Results of the cluster analysis will be described in Chapter VI.

Item content and the number of items per content category are described below. Each category refers to a component aspect of the concept--Separate Identity:

(1) Sense of being confident of and responsible for one's life direction; 7 items.

(2) Sense of being able to stand on one's own two feet without undue need for support from others; 6 items.

(3) Takes responsibility for the realization of own capacities, does not blame others for shortcomings; 5 items.

(4) Feels he gets sufficient attention and appreciation from others--is not bothered by the "normal" impersonality and lack of positive response from others in everyday life; 11 items.

(5) Can cope with difficult or unexpected situations when they arise; 2 items.

(6) Accepts the unpredictability of life; 3 items.

(7) Sense of knowing who he is--shows a lack of disorganization or chaos in life; 4 items.

(8) Firm sense of self such that the subject is not threatened by positive qualities in others which he lacks; 2 items.

(9) Sense of uniqueness of the self; 3 items.

(10) Positive attitudes toward states of separateness; 3 items.

(11) Awareness and tolerance of differences between people; 4 items.

(12) Sense of continuity of self with past; 3 items.

(13) Miscellaneous; 3 items.

The reader will find a listing of items by content categories in Appendix B.

5. Ego Identity (EI). Few concepts are more difficult to operationalize than ego identity. Therefore, it was necessary to search carefully for a method by which the concept could be best assessed.

That such methods are difficult to come by is acknowledged by Erikson (1968):

> Identity and identity crisis have in popular and scientific usage become terms which alternately circumscribe something so large and so seemingly self-evident that to demand a definition would seem petty, while at other times they designate something so narrow for purposes of measurement that the overall meaning is lost, and it could just as well be called something else . . . Social scientists, on the other hand, sometimes attempt to achieve greater specificity by making such terms as 'identity crisis,' 'self-identity,' or 'sexual identity' fit whatever more measurable item they are investigating at a given time. For the sake of logical or experimental maneuverability [and in order to keep in good academic company] they try to treat these terms as matters of social roles, personal traits, or conscious self-images, shunning the less manageable and more sinister--which often means the more vital--implications of the concept (p. 15-16).

However, it is not surprising that this is the case since the concept is complex: during adolescence, each youth faces the psychosocial crisis of finding an aspect of society or culture with which he can identify. This process of establishing an identity between oneself and an aspect of one's larger society, involves

not only a searching for potential identities which the culture has to offer and perhaps attempting to force society to create new ones, but a working through and synthesis of all that one has been and of results of earlier psychosocial crises from infancy on into a final configuration such that a continuity of personal character is maintained. The net result of this process is a sense of individual identity which at times may be conscious or, when identity has been most stably achieved, simply result in a sense of psychosocial well-being--a sense of confidence that recognition will be forthcoming from those who matter most. Thus, the process of identity achievement or formation involves three aspects:

(1) The creation of an identity between the self and an aspect of the larger society.

(2) A synthetic ability to integrate what society has to offer with the results of psychosocial crises of the past.

(3) A sense of individual identity or psychosocial well-being.

Failure to achieve identity results in role confusion and a sense of being lost and without direction in life.

Although clinical discussion of identity are relatively plentiful, empirical attempts to operationalize the concept are relatively rare. Hauser (1970) reports only three such attempts by Keniston and Scott (1959), Howard (1960), and Dignan (1965). Each employed

a questionnaire measure of identity tapping such dimensions as time perspective, ideology, role experimentation, and sexual identity. Scores from these measures were then correlated with various clinical criteria. However, these measures were seen as unsuitable for the present study since they reveal only the most conscious attitudes and feelings of the subjects. They do not permit evaluation of unconscious aspects of identity or the extent to which a subject's identity truly integrates past psychosocial crises.

Marcia (1964) reports three other empirical studies of identity formation which also fail to operationalize the concept in its full complexity. Bronson (1959) used a structured interview on the topic of "Continuity with Past" and "Freedom from Anxiety" and a sematic differential yielding "Uncertainty of Self Conception" and "Temporal Stability of Self-Rating." Gruen (1960) employed a Q sort to obtain "Real-Ideal Self-Discrepancy" as the main measure of ego identity with a subsidiary fourteen item questionnaire. While not purporting to assess ego identity as such, Block (1961) reasoned from the theory underlying the construct that the extent of "role variability" was a major referent. According to Marcia two themes prevailed throughout the above three studies of ego identity: variability-stability of self-concept and overall adjustment. In no case did they measure ego identity as regards the immediate psychosocial demands placed on the maturing adolescent: the demand to find an occupation and ideological orientation.

However, Marcia (1964) has constructed an interview to assess ego identity as it pertains to these adolescent demands. He justifies his choice of adolescent demands (occupation and ideology) by quoting Erikson (1963): "In general it is primarily the inability to settle on an occupational identity which disturbs young people" (p. 262). In reference to ideology Erikson states:

> To envisage a future the young adult may also need that something which Shaw has called 'a religion' and 'a clear comprehension of life in the light of an intelligible theory.' I indicated at the beginning that we would call this something-between-a-theory -and-a-religion an ideology. Whatever else ideology is and whatever transitory or lasting forms it takes, we will tentatively view it here and discuss it later as a necessity for the growing ego which is involved in the succession of generations, and in adolescence is committed to some new synthesis of past and future: a synthesis which must include but transcend the past, even as identity does (p. 94).

Since the notions of crisis and commitment appear repeatedly in Erikson's writing as ways of dealing with adolescent identity demands, Marcia designed his interview to assess the presence or absence of crisis and commitment in the areas of occupational choice and ideology. He subdivided ideology further into religion and politics. Within each area he classified a subject on the basis of the presence or absence of commitment and crisis into one of four categories called identity statuses: Identity Achievement, showing a past crisis and present commitment; Moratorium, showing present crisis and no commitment or multiple commitments; Foreclosure, showing strong commitment but no crisis; and Diffusion showing no commitment or crisis. After assigning a code value to each identity status, Marcia then averaged a subject's ratings

for the three areas to obtain the subject's final identity status. A copy of Marcia's interview schedule is presented in Appendix C.

However, after pretesting Marcia's interview on the five pretest subjects in the present study, it became clear that revision of the interview was required from both a practical and conceptual viewpoint.

From a practical viewpoint the interview questions designed to ascertain the degree of commitment and crisis in the area of politics and religion confused subjects because they could see little relation between knowing where they were going occupationally and how they stood politically or religiously. This tended to interfere seriously with the smooth flow of the interview.

But, from a conceptual point of view the author also questioned the extent to which commitment and cirsis in these areas were relevant to the concept of ideology. It is true that Marcia (1964), quoting Erikson (see p. 60), indicated that Erikson would "tentatively view it [ideology] as a necessity for the growing ego." However, in another quote Erikson (1968) makes it clear that ideology can mean much more than an individual's political and religious commitments, rather a simplified orientation and understanding of the world which gives one's life meaning and direction. Quoting Erikson (1968):

> More generally an ideological system is a coherent body of shared images, ideas, ideals, which, whether based on a formulated dogma, an implicit weltanschauung, a highly structured world image, a political creed, or indeed, a scientific creed (especially applied to man) or a "way of life," provides for the

> participants a coherent, if systematically simplified, overall orientation in space and time, in means and end (pp. 189-190).

Thus, an ideology may have little to do with religion or politics, and may be implicit rather than explicit and, hence, not assessable by direct questions about the subject's political and religious orientations.

But even more important, it is difficult to determine from Erikson's writings the precise role of ideology in the concept of identity. Since his writings are largely clinical descriptive, they do not define identity in a way which easily permits operationalization by behavioral scientists. Repeated reading of much of Erikson's work concerning identity suggests to this author that the aspects of identity listed previously which include (1) the finding of an identity between an aspect of the culture and the self, (2) which integrates past psychosocial crises and (3) which leads to a sense of identity are more central components of the concept than ideology. Therefore, it was decided to drop ideology from Marcia's interview and assess ego identity with respect to occupation only.

However, it became clear that crisis and commitment in the area of occupation were insufficient to assess ego identity because they failed to operationalize certain important aspects of the concept. As indicated previously, identity includes three important factors:

(1) The creation of an identity between the self and some aspect of the larger culture. To be sure commitment is the final indicator of this accomplishment and crisis usually occurs during

the process of achieving it. Nevertheless, several subjects felt that their identity grew in a gradual way since late childhood and that there was never a period of heightened concern or crisis. This suggests that crisis is a variable of less importance in assessing the existence of identity than commitment. However, even the presence of verbalized commitment is not sufficient to define identity since other criteria must be present if such verbal commitment is to indicate the presence of identity. These are listed in (2) and 3).

(2) The ability to unify or integrate one's occupation or career choice with the results of earlier psychosocial crises. This results in a true personal fit between the subject and the occupation or life direction he has chosen.

(3) A sense of individual identity or the affective consequences of having an identity.

To operationalize these additional aspects of identity, I have proposed a third dimension in addition to commitment and crisis. This third dimension which the author calls Comprehensiveness, can be further subdivided into three aspects: social, personal and affective.

Social Comprehensiveness refers to the degree to which the subject shows a knowledge of the field or occupation he wants to go into. It involves a knowledge of what a person in his intended profession does; what some of the field's important values, beliefs and ways of looking at life are (ideology); knowledge of important people in the

field and what they think; and having opinions about important issues in the field. It involves admiration of certain other members of the profession and wanting to be like them in certain ways.

Personal Comprehensiveness refers to the degree to which the subject relates his choice of occupation to important aspects of his personality including

> constitutional givens, idiosyncratic libidinal needs, favored capacities, significant identifications, effective defenses, successful sublimations and consistent roles.

Of course the subject will not tell the interviewer this in these words. Instead he may say that he has always been interested in a particular thing and was good at it--or that he seemed to be a natural at it, or that some influential person he admired and wanted to be like first awakened his desire to become a _____. Basically the addition of Personal Comprehensiveness to Social Comprehensiveness tells the interviewer that the subject is more than a person who knows a great deal about the occupation he is going into. It indicates that beyond this the subject is concerned that his choice of occupation meets his psychological needs.

Affective Comprehensiveness refers to the subject's expression of how it feels to have an identity. He might say, although the author thinks it unlikely, that he feels a sense of personal continuity or sameness, or more likely, that he has become what he always knew he really was. He may say that he has never felt more that he really can be the person he is or that he never has felt so confident about life and so sure of himself or so generally

excited about living. He may say that he never has felt more confident and trusting of how others will receive him or that he just generally feels a sense of well-being. Or perhaps this affective attitude will simply be reflected in a non-verbal way during the interview in the subject's manner and his choice of words, etc.

Method: With these threevariables (commitment, comprehensiveness and crisis), it was possible to create a semi-structured interview schedule to assess ego identity. This schedule is presented in Appendix C.

The author and an undergraduate rater scored subjects on a nine-point scale by weighing the three dimensions in a clinical fashion. Stronger weight was given to commitment and comprehensiveness than to crisis in determining subjects' final scores.

The author scored all subjects. The undergraduate rater scored only a portion of the subjects for computation of interrater reliability. Only the author's scores were used in data analysis. The following describes the various code categories:

(9) Strong commitment to life direction. Subject knows who he is and where he is going. High comprehensiveness and confident.

(8) Strong commitment to life direction, but some small question as to subject's degree of confidence in himself.

(7) Strong commitment to several alternative life directions. Subject still needs to choose between several alternative life directions, but he is optimistic that he will succeed.

He conceives of school as the right place to make the choice.

(There is a feeling of solidity from 9, 8 and 7's, although in decreasing degree as well as a sense of confidence and a sense of moving forward.)

(6) Probable commitment to a given life orientation. Either subject has a strong commitment to a life orientation which seems foreclosed and which reveals conflict beneath the surface, calling his commitment and identity into question, or subject has some rather well-developed ideas about where he might be headed, but has not yet decided. Regardless of whether subject is of the first or second type, he evidences social comprehensiveness.

(5) Tentative commitment to life orientation and identity. The subject scored 5 differs from a subject scored 6 in that the 5 does not have the comprehensiveness about possible life direction. While both the 5 and the 6 have not decided on life direction, the 5 nevertheless appears less certain of where he is going. Still, by no means is he lost, since he has various ideas.

(4) Little commitment to life orientation. This subject has either an unrealistic notion of who he is or where he is headed, is not concerned with a life orientation but feels confident he will find one, or has made a practical or expedient "commitment"

to something but the predominant tone is one of uncertainty about life direction or being slightly lost.

(3) Subject is fairly lost with respect to finding himself and a life orientation. If the subject has some alternatives they are vague. He feels little commitment. Such alternatives seem almost just like something to say in the interview. In one case where some very well-defined alternatives were present, the heightened sense of being lost made the subject seem fragmented as though he could not put himself together. In two cases the subject had some very tentative goals, but extreme anxiety surrounded them. In a few cases a partial commitment is claimed by subject but strong conflict underlies his choice or choices to the extent that no stable life orientation can be inferred. For example, one subject in this category felt that his father determined his career orientation and his only worry was whether he was worthy of it.

(2) Subject is lost but in addition there is a quality of confusion or underlying desperation about life orientation.

(1) Subject is lost and seemingly paralyzed with regard to identity formation. The subject seems to have given up hope of ever being anything in life.

Summary: Literature was reviewed in an attempt to find a suitable method to operationalize the concept, ego identity. After rejecting most attempts made to date, Marcia's method of operationalizing ego identity appeared suitable. However,

closer examination suggested that the notion of ideology be dropped from his interview and that comprehensiveness be added in its place.

6. Variety of Positive Interpersonal Relations (VPIR). In order to obtain criteria which evaluate mental health from as many viewpoints as possible, it was desirable to select a mental health criterion from the area of interpersonal relations. Various criteria have been suggested as positive mental health criteria in this area. Foote and Cotrell (1955) suggest a general competence in interpersonal relations based on the writings of Sullivan, Horney and other neo-Freudians. They consider that

> competence in interpersonal relations is a means by which members of the family are able to interact effectively in achieving their common ends and their individual self-expression and development.

Jahoda (1958) indicates that among the eight items making up the World Health Organization's concept is the statement that

> the healthy person has the ability to be reasonably aggressive when the occasion demands, but he is free from any inner necessity to dominate other people, to lord it over them or push them around.

Fromm (1941, 1947) and numerous other authors such as Rollo May, see man's alienation from himself, from nature and from his fellow human beings as the crucial problem in mental health, suggesting by contrast that mental health must be the absence of such alienation.

Conrad (1952) specifies several aspects of positive interpersonal relations:

> (1) Has positive affective relationship: the person who is able to relate effectively to even one person demonstrates that he is potentially able to relate to other persons and to society.
>
> (2) Promotes another's welfare: affective relationships make it possible for the person to enlarge his world and to act for the benefit of another, even though that person may profit only remotely . . .
>
> (3) Works with another for mutual benefit: the person is largely formed through social interaction. Perhaps he is most completely a person when he participates in a mutually beneficial relationship. . . .

However, the author would propose an additional criterion: variety of positive interpersonal relations (to be measured by a non-structured clinical interview). To define more precisely what is meant by this criterion, it is necessary to elaborate on the three terms in its definition: (1) variety, (2) positive and (3) interpersonal relations.

Variety implies that the subject has a large number of significantly different interpersonal relationships relative to other subjects. The problem is determining what differences are truly significant. For example, a subject may indicate or imply that he feels differently about various people; he may indicate that he shares different interests with different people; or he may attempt to specify exhaustively all differences he possibly can between the relationships he currently has because of the set given to the subject in the instructions. Nevertheless, a signigificant difference implies that the scorer

feels from the subject's description of his relationships, that different relationships are each felt to be a unique gestalt; because of this, they somehow are not really comparable, just different. For example, in comparing a truly positive and gratifying relationship with a colleague to a truly gratifying marital relationship, it is impossible to say which is more positive. The most you can say is that they are positive in different ways because they are very different kinds of relationships. Thus, in scoring this dimension it was necessary to beware of subjects who made nit-picking distinctions between relationships which were basically the same. If after reading the subject's description of his relationships, the gestalt, "just a friend," was stronger than the gestalt of many unique friendships despite subject's attempt to specify differences, then the scorer assumed no variety because there were no significant differences between the subject's friendships in the rater's opinion.

Positive relationships are those relationships from which the subject derives something positive, such as gratification or enjoyment in the opinion of the scorer. Often the positiveness must be inferred from the way the subject talks about the relationship. Positive relationships may include those which have well-defined limits--and the participants have no desire to expand beyond them. For example, a positive dating

relationship can exist where both parties avoid deeper commitment yet enjoy the relationship as it is. Ambivalent relationships are those in which the subject indirectly criticizes the other, or indicates overtly at times that he dislikes or cannot stand the other. Negative relationships often are overtly specified by the subject: that he cannot stand the other or hates him. However, sometimes, negative interpersonal relationships can be inferred from interpersonal attitudes which the subject interjects while talking about his relationships. For example, the subject may indicate in passing that he hates to socialize and basically dislikes people as he describes relationships which superficially appear positive but shallow. Such passing remarks should be used to evaluate his relationships as more negative than they appear at first.

The term "relationship" implies that there is "something" between two people. In some cases the subject may talk about relationships which are so unimportant or insignificant that one would be hard pressed to say that a real relationship existed. This type of "relationship" is ignored in scoring.

Method: Variety of Positive Interpersonal Relations (VPIR) was evaluated through the Interpersonal Relations Interview conducted by the author. Just prior to the interview, subjects were given the following instructions mimeographed at the top of an otherwise blank sheet of paper:

> I'd like you to list on this sheet the first name and first initial of the last name of those people with whom you currently have positive, important or significant relationships. If the person's sex is not clear from the name, please indicate it in parenthesis after the name. Then asterisk the name or names of those people with whom you have close or intimate relationships.

The interview, which generally lasted 30-45 mintues, was begun with the following instructions designed to get the subject to focus on the differences between the relationships he listed:

> People enjoy different things in their relationships with others. For example, you may share common interest or enjoy doing things with one person, while with another you may enjoy being able to confide very personal matters. In each case, the kind of enjoyment you get is different. I'm interested in finding out the different ways you enjoy your relationships with the people you've listed. So let's start with _____. What do you enjoy about your relationship with him/her.

Each interview was tape recorded and a verbatim copy of the interview was written by hand. The author and later the undergraduate rater scored subjects on a nine point scale which can be described as follows:

(9) Large variety of positive interpersonal relationships.

A subject in this category shows a large number of significantly different, positive interpersonal relationships relative to other subjects. The number of persons listed may vary from as few as five or six to more than twenty. In the former case, practically each relationship appears to be significantly different. Relationships seem affectively genuine and rich as evidenced by words the subject chooses to describe them.

(8) Large variety but not as rich. A subject scored 8 shows about as large a variety of relationships as a subject scored 9, but the descriptions of the relationships are not as affectively rich or positive as the descriptions given by a subject scored 9.

(7) Smaller variety of positive interpersonal relationships. Generally a subject in this category shows a smaller variety of positive interpersonal relationships than a subject scored 8 or 9. Occasionally if a large variety is present, some characteristic of the relationships makes them seem less positive than the relationships of a subject scored 8 or 9.

(6) Two different types of positive interpersonal relationships. A subject scored 6 generally shows only two different types of relationships such as "friends" and a relationship to another person who does not fit the friend pattern. Perhaps more typical is the pattern where everyone the subject lists is described as a friend, but the subject's friendships seem to be divisible into two different types. However, sometimes the line is unclear between this and a subject scored 5 where all friends appear to be of the same type. A subject scored 6 definitely shows less variety than the subject scored 7.

(5) All relationships are "friends." A subject scored 5 appears to have only one basic type of positive relationship--friendships. The number of persons listed is quite variable: as few as four, mostly in the teen , and a few higher. While the subject may try to portray differences in the relationships he lists, he does not give the impression that any of the friendships are unique. Rather everyone seems like "just a friend."

(In general, subjects rated 5 to 9 list relationships which seem basically positive, or neutral at worst. There may be a few exceptions where perhaps one or two relationships are negative or ambivalent, especially with family such as parents or siblings. However, basically one gets the impression of positive relationships. For subjects scored 4 to 1, this is definitely not the case.)

(4) Increasing proportion of negative relationships. A subject scored 4 begins to show an increasing proportion of negative relationships among the positive. Although sometimes only one or two relationships are negative, the emphasis which the subject places on them strongly colors the global impression of all relationships. In several instances, all relationships are ambivalent. Nevertheless compared to a subject scored 3, a subject rated 4 does not express fears or doubts about interpersonal relations. His

interpersonal relationships definitely lack the pathological flavor of a subject rated 3.

(3) Negative interpersonal attitudes. Although a subject in this category may list a large number of relationships with others, he reveals negative interpersonal attitudes as he talks which necessarily must color how one judges descriptions of his relationships. For example, the subject may feel that he gets the same kind of enjoyment from everyone no matter what the relationship; that he cannot relate to people in Ann Arbor, only people back home; that he has trouble meeting people and seeks refuge in his parents; or that he needs the attention of others so much that he is afraid he pushes himself on his friends.

It also would be possible for the subject to have such a large number of negative relationships that he would be scored 3 instead of 4.

(2) Extremely negative interpersonal attitudes. A subject scored 2 has even more pathological interpersonal attitudes than a subject scored 3. For example, a subject scored 2 may be so defensive that he chooses people to be non-threatening rather than for positive attributes; avoids relationships with others because he fears rejection, attack or abandonment; or cannot believe in the permanence or stability of interpersonal relationships.

(1) Interpersonal isolation. A subject scored 1 is isolated from others. Whether he lists only a few relationships--often not with peers--or a large number, he is isolated. For example, the subject may list a large number of relationships, which are characteristically obsessive-compulsive, detached, intellectual, aloof, or simply may shun others in a rather beligerent or antisocial manner. In either case, unlike a subject scored 2 or 3, who has difficulties with interpersonal relations but is not isolated, a subject scored 1 is.

7. Coping and Dating[1] (Cop and Dat). In addition to criteria dealing with aspects of the self-structure and interpersonal relations, it was felt that an important aspect of mental health involves the subject's ability to cope with various difficult situations in his environment.

Such a measure has been developed by Coehlo, Silber and Hamburg (1962). They devised the Student TAT (STAT), a TAT measure designed to quantify "coping behavior potential" of students entering college. Students were shown ten pictures of various college problem situations and asked to write a story about each scene. Each story was rated on three problem-solving dimensions: Solution (presence of a resolution to story), Activity (degree of hero's activity) and Favorableness of Outcome. Stories were rated on a fifteen point scale, from A+ to E-. Not

[1]Dating is a special type of Coping Index.

only was scoring reliability excellent for these dimensions (84-93 per cent between independent judges who rated the complete set of story protocols) but the instrument was able to differentiate college students attending college from a group of students living on a ward for the emotionally disturbed and to predict college dropouts.

In one study, Coelho, Silber and Hamburg (1962) compared STAT scores of three groups of college freshmen: ten students who had shown exceptional competence in social, academic and interpersonal areas of adaptation in college and who were subjects in a larger pilot study of competence in adjusting to college life; ten state university students who had placed at the 85th percentile or above on an advanced placement test and ten patients who were hospitalized for emotional difficulties during their freshman year. The test decisively differentiated between the clinically disturbed and the two normal groups as predicted. This finding has been cross-culturally replicated by Field, Maldonado-Sierra and Coelho (1963).

Besides differentiating currently normal from disturbed students, Coelho et al (1969) have demonstrated the ability of their instrument to predict college dropouts. Three hundred forty-seven students entering a state university were administered the STAT. From this group, thirty-nine dormitory residents were selected who had consistently high, low and mixed ratings on the three STAT measures. Three years later the academic status of these

thirty-nine students was checked. The results indicated that seventeen of the eighteen dropouts came from students with mixed or low STAT ratings--a finding significant at less than the .001 level.

Newman (1965) using male freshmen and sophomores as subjects found that the coping behavior on the STAT was related to similarity between parents and son as rated by the son and similarity with son as rated by the father. She reports that low copers (low scorers) showed more discrepancies in the ways they described themselves and their parents on a semantic differential than did high copers. Similarly, the fathers of low copers showed greater disparities in the way they described themselves and their son than did fathers of high copers. It was also noted that low copers rated themselves and their parents less positively than did high copers. In addition, Newman has modified the original rating schema devised by Coelho, et al (1962) to deal with stories which were difficult to score.

Method: Using the revised rating schema devised by Newman, the author still found large ambiguities and great difficulty in scoring the three rating categories: solution, activity and favorableness. Moreover, the group mode of administration was not feasible in the sample being studied. Therefore, the scoring procedure and method of administration were modified in the following ways, retaining the use of the same ten slides designed by Coelho, et al:

(1) STAT was administered individually by presenting subjects with 8 x 10 color photographs of the slides used by Coelho et al (1962) in group administration.

(2) Subjects, who wrote their stories in a test booklet entitled Pictures, were instructed to include four parts to each story:

(a) What lead up to the situation?

(b) What is presently going on?

(c) What the main character(s) are thinking and feeling?

(d) How the situation will turn out?

Pages on which subjects wrote their stories were divided into these four sections to remind subjects to include each part. This differed from Coelho's mode of administration in which subjects were given the instructions only once and wrote their stories on blank sheets of paper within a four-minute period per picture. The author felt that so structuring the subject's stories eliminated a difficulty with Coelho's scoring: namely, that it was impossible to determine whether an unresolved story reflected the subjects tendency not to cope with difficult situations in real life or his inability to remember the instructions when organizing a story under time pressure.

(3) Each picture (STAT story) was rated on a 1 to 9 point scale, where 9 indicated that the subject dealt effectively with the situation depicted in the photograph with favorable

outcome; while 1 indicated that the subject dealt extremely poorly with the situation with unfavorable outcome. Because ten different pictures were administered and the same picture often elicited stories with so many different themes, it is impossible to specify the code categories used for each picture as was done with the Ego Identity Interview or Interpersonal Relations Interview.

All ten sets of pictures were rated by the author. Three of the ten sets were scored by the undergraduate rater to compute interrater reliabilities. The author's scores from the ten pictures were averaged for each subject to form a Coping score. In a similar fashion, the author's scores from three of the ten pictures having to do with dating were averaged for each subject to form a Dating score. The following situation is an example of the type portrayed in the photographs:

Picture 1: Arrival on Campus--student standing on a crossway of paths on campus with arrows pointing in opposite directions.

A complete list of Picture contents is presented in Appendix D.

8. Self-Assertion (SA). In addition to the previously discussed criteria, it was believed that mental health involves the ability to assert oneself in a reasonable and effective way when the situation requires it.

Method: To operationalize this criterion, eight different situations were designed which required the subject to assert himself or be taken advantage of. These situations were modified by pretesting before arriving at their final form and were presented to each subject in a test booklet called Situations. An example of a typical situation is as follows:

> Situation 2: You have been waiting for service in a restaurant for over thirty minutes after being seated with your date. You are eager to place your order because you are both hungry and want to get to a party, but can see the restaurant is short of help. You have thought of going elsewhere but like the food and don't want to hassle going somewhere else.

Each subject was given the following instructions:

> In this booklet you will find some common, everyday situations which practically everyone has been in. If you have not been in a situation exactly like the one described, you have probably been in one which is similar. Try to VIVIDLY recall such a situation. In doing so, be sure to choose one in which you reacted in a way which you feel is fairly typical of you. Indicate for each situation: (1) What the situation was you were in, (2) What you did in the situation, (3) Why you did it, (4) How you felt in the situation, and (5) How the situation turned out. Be complete in your answer but not overly detailed. Work comfortably but fairly rapidly.

The subject was told to recall a situation he was actually in rather than to imagine himself in a given situation, to assure his full and genuine involvement in the task. If the subject could not recall such a situation, he was asked to vividly imagine himself in a situation. Subjects wrote out each situation on forms with specified places for the five requirements of their response.

Each situation was scored on a nine-point scale where 9 indicates effective self-assertion with positive outcome and 1 indicates totally ineffective self-assertion where subject allows himself to be victimized.

All eight sets of Situations were scored by the author. Three of the eight sets were scored by the undergraduate rater for computation of interrater reliabilities. The subject's final score was the average of the author's scores for all eight situations. A complete listing of the eight situations is presented in Appendix E.

9. Field Approach: Field Dependence-Independence (EFT). Witkin, et al (1962) provide evidence that adequacy of adjustment is unrelated to field approach. They report studies which indicate that both field dependent and independent patients are found in hospitalized populations which contradicts the notion that field independence is associated with superior adjustment. Moreover, these studies generally find that the type of problems presented by patients with the two field approaches differ. Field dependent patients tend to have problems associated with severe identity problems showing lack of struggle for clear self-definition, poorly developed controls resulting in chaotic functioning and strong uncompensated feelings of inadequacy, passivity and helplessness. Field independent patients tend to show expansive and euphoric delusions, self-aggrandizement, outward direction of aggression, isolation, overideation and continuing

struggle for the maintenance of identity no matter how bizarre the attempt. Furthermore, Witkin, et al (1962) report studies by Bennet (1956) and Bailey, Hustmyer and Kristofferson (1961) which show no significant differences in the distribution of Rod and Frame Test scores between schizophrenics and normals. They also report that Bound (1957) finds no relation between perceptual field dependence and an index of "neuroticism" based on performance in three of Eysenck's primary suggestability tests. Franks (1956) reports a low, positive but non-significant relationship between Rod and Frame Test scores and neuroticism measures derived from the Maudsley Personality Inventory. All this suggests that the degree of differentiation and the effectiveness of integration are not closely related.

These findings were surprising to the author since the traits which characterize the field independent person are generally regarded as adaptive while those which characterize the field dependent person often are regarded as maladaptive. Field independent traits include a sense of separate identity, articulated or well-structured perception of the environment, complex as opposed to primitive defensive structure, an analytic approach to problem solving and a well-structured body concept. Field dependent traits involve the lack of field independent traits just mentioned.

Although Witkin repeatedly states that field independent and dependent traits may be both adaptive and maladaptive, the very terms used to describe the characteristics of the field independent individual

connote in ordinary clinical usage characteristics which generally are regarded as desirable for optimal psychological functioning while just the opposite is true for characteristics which describe the field dependent individual. On this basis one would expect a positive correlation between field independence and various mental health criteria. Therefore, the author wished to test Witkin's findings to observe the extent of the correlation which exists between field approach and mental health dimensions.

Method: To measure this dimension, the short form of the Embedded Figures Test was employed using standard instructions. In this form the subject is presented with twelve complex designs each of which contains a simple figure. The subject's task is to isolate perceptually and then trace the simple figure. In administering the test, the subject is first shown the complex design. An opaque card with the simple form on it is then placed over the complex design and finally removed, exposing the complex design for a second time. The subject's score is the number of seconds from the time he is shown the complex design for the second time until he says he sees the simple form, providing he can trace it correctly. His total EFT score is the sum of his times on all twelve items. Subjects who are field independent are able to separate the simple figure from the embedding context more quickly than field dependent persons. Also, Witkin, et al (1962) present findings from their own studies and those of others suggesting a positive correlation exists

between field independence and a sense of separate identity. Separate identity was operationalized in numerous ways including

> limited need for guidance and support from others, ability to establish and, within limits, maintain attitudes, judgments, sentiments without continuous reference to external standards, a stable self view despite various contexts.

Therefore, it was of interest to observe the correlation of EFT scores with the Separate Identity Scale and, to a lesser extent, the Ego Identity measure.

10. Composite Variables (Comp). Composite variables were created by averaging together various individual mental health criteria after converting them to a common base. In some instances these composite variables can serve as a more powerful mental health criterion than a single one alone.

Four composite variables are included in the study:

Comp I, formed by averaging EI and VPIR.

Comp II, created by averaging EI, VPIR, and Cop.

Comp III, created by averaging EI, VPIR, Cop, and SA.

Comp IV, formed by averaging EI, VPIR, Cop, SA and SI.

In certain tables it may be impossible to present the components of each composite variable for reasons of space. Composite variables I, II, III, and IV will always have the composition listed above.

11. Crown-Marlowe Social Desirability Scale (CMSD). In order to explore the degree to which a tendency for subjects to say the socially desirable thing about their mental health could account

for the proposed correspondence between self-appraisals and structural measure of mental health, the Crowne-Marlow Social Desirability scale (CMSD) was included. The scale contains thirty-three items: eighteen keyed true and fifteen keyed false.

The scale is a pathology-free measure of social desirability composed of items requiring the subject essentially to reply that he always does the socially desirable thing or never does the socially undesirable. A typical item keyed true is "I am always willing to admit when I make a mistake." A typical item keyed false is "I sometimes feel resentful when I don't get my way." Items are listed in Appendix F.

The scale represents an improvement over the Edward's social Desirability Scale made up of MMPI items on which judges unanimously or almost unanimously could agree on the socially desirable response. The reason for this is that the Edward's scale fails to separate those who have a tendency to score in the socially desirable scoring direction from those who truly lack pathology, since the socially desirable scoring direction and the scoring direction indicating lack of pathology are the same.

12. The Mental Health Interview (MHIn). Near the end of the last data collection session subjects were interviewed by the author about what mental health meant to them. The interview began with a discussion of why each subject rated himself as he did on

the Mental Health Scale. Various aspects of the subject's responses were then followed up non-directively. In this way, it was possible to find out the personal meaning of mental health to each subject.

The Mental Health Interview also was used to divide subjects into a Valid and Non-Valid group in order to test Prediction IVb (Error Hypothesis 2). Subjects in the Valid group show characteristics which are proposed to lead to a high degree of correspondence between self and expert appraisals of mental health. Subjects in the Non-Valid group lack at least one, if not more, of these characteristics.

A subject in the Valid group shows all of the following characteristics:

(1) The subject addresses himself seriously to the task of explaining why he rated himself as he did. He is neither capricious nor flippant.

(2) The subject is relatively open and honest with himself. Although initially he may not be open with the interviewer, he responds more candidly when the examiner probes.

Generally, an honest subject admits some bad things about himself. Things which he says about himself ring true. He gives the impression of being a real person. An example of a lack of honesty is the subject who reports that he has

absolutely no hangups, that things never both him or that he handles his problems with uncanny efficiency.

(3) The subject does not intimate that social desirability influenced his self-rating. If the subject mentions an awareness of social desirability and its effects on self-ratings, examiner's probes make it clear that it did not seem to influence the subjects own rating.

(4) The subject talks about his mental health in terms which make sense. He may talk about having hangups, or flaws in his personality or talk in terms of interpersonal criteria. He would not define mental health in terms of absolute control of one's feelings, for example.

(5) The subject does not get involved in intellectual hassles about the difficulties of defining mental health but talks in terms of a few criteria which have personal relevance. However, often he is aware of the problems of defining mental health. One does not find confusing discussions about mental health being the norm; therefore mental health is meaningless or totally arbitrary because it depends on the caprice of society.

(6) The subject's rating makes sense in terms of the criteria he has stated and the emotional tone of the interview. A subject who feels he has some not too severe hangups may rate self a 6, 5, or 4.

However, if he rated himself as an 8 or 9, or 2, this would cause him to be placed in the Non-Valid group.

In general a subject in the Valid group demonstrates all of the above characteristics.

A subject is placed in the Non-Valid group if he lacks any of the characteristics discussed above or has any additional characteristics which would be expected to detract from a positive correspondence between self and expert appraisals of mental health. Therefore, a subject is put in the Non-Valid group if he shows any of the characteristics listed below:

(1) The subject does not address himself seriously to the task of explaining why he rated himself as he did. His answers are capricious, flippant or demonstrate little or no thought. Or the subject is uncooperative.

(2) The subject appears dishonest with himself and/or with the interviewer. Things he says about himself simply do not ring true. For example, he may say he rated himself 9 but on second thought he might be an 8.5, since there could be something wrong with him although he is not sure what it is. Or, the subject may talk about mental health in a superficial way which indicates little contact with the phenomenon.

(3) The subject intimates that he would not rate himself low because he would not want to say bad things about himself or an equivalent statement displaced onto others; i.e., the

subject comments that he cannot understand how anybody could rate himself low.

(4) The subject talks about mental health in terms which do not make sense. They often seem contrived, intellectual or appear to reveal emotional conflicts.

(5) The subject gets involved in confusing discussions of mental health and takes the fact that it is difficult to define mental health to reduce the problem of its definition to absurdity.

(6) The subject's rating does not make sense in terms of the criteria he has stated and/or the emotional tone of the interview. Thus, a subject who rates himself 9, may subtly reveal a plethora of insecurities or fears. Or a subject who predominantly talks about all the crises and emotional conflicts in his life rates himself 6 or 7 when clearly he should be 3 or 4.

(7) The subject did not rate himself--chose a or b on the Mental Health Scale.

(8) The subject gets confused about the meaning of the labels on the scale or has some unique bias--such as avoiding extremes no matter what.

(9) The subject is in conflict over how to rate himself. Although he may have rated his mental health low, he really feels his rating

should be higher because he is aware of his problems and is trying to resolve them.

A subject in the Non-Valid group does not demonstrate all of the above characteristics, usually only a few.

13. Validity Selection Variable (VSV). The Validity Selection Variable is derived from the Mental Health Interview by assigning a code value of 1 to subjects in the Valid group and a value of 2 to subjects in the Non-Valid group. It was created to provide a simple filter variable which would allow computer programs to separate the Valid and the Non-Valid groups from the full sample of subjects.

14. Random Variable I and Random Variable II (Rand I and Rand II). Two random variables were included to examine correlations of meaningful variables with variables reflecting a random choice of numbers. They were appropriately chosen from random number tables published by the RAND Corporation.

Internal Consistency of Measures and Interrater Reliabilities

Coefficient Alpha, a measure of internal consistency, has been calculated for all measures which call the magnitude of coefficient Alpha into question. Thus Coefficient Alpha was not computed for ER-O, ER-S or CMSD which have been shown to have high reliabilities. Block (1965) reports Kuder-Richardson formula-20 reliabilities (a special form of Coefficient Alpha for dichotomous items) on nine samples for ER-S: .70, .78, .61, .78, .74, .67, .56, .67 and .61, and likewise for ER-O: .89, .86, .83, .92, .93, .94,

.90, .87 and .93. Crowne and Marlowe (1964) report a Kuder-Richardson formula-20 value of .88 for CMSD. However coefficient Alpha was computed for Self-assertion assessed by the instrument Situations; Coping assessed by Pictures, EFT and Separate Identity.

Interrater agreement was computed for all measures requiring human judgment in scoring. These included Self-Assertion, Coping, Ego Identity, Variety of Positive Interpersonal Relations and the Validity Selection Variable. Each variable was scored by the author and the same trained undergraduate rater[1] whom the author obtained from volunteers in a large abnormal psychology course. (The rater remained ignorant of the goals of the study until finishing his scoring.).

Situations and Pictures were scored in the following way: the author gave the rater a description of the variable to be scored from each of the two instruments; i.e., Self-Assertion and Coping, respectively. Moreover, for each specific Situation or Picture scored, the rater was presented with a description of the nine coding categories.

The rater began by scoring a full set of Situations or Pictures. If interrater agreement between the author and rater was satisfactory, the first set was counted as a valid run and the rater rerated this same set of stories to get interrater reliability with himself, a ceiling measure of reliability. If interrater agreement was not satisfactory, the first set was considered a trial run

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[1]Mr. Howard Torf.

and used to discuss scoring difficulties. However, all subsequent sets of Situations or Pictures were used to compute interrater agreement, whether author-rater agreement was satisfactory or not.[1]

The rater scored only three of eight sets of Situation and three of ten sets of Pictures. The sets were chosen to represent all levels of scoring difficulty. This insured that the final average measure of interrater reliability would reflect as closely as possible the value which would have been obtained if all sets of Pictures and Situations were scored. Each set contained the full sample of subjects.

The three interview variables, Ego Identity (Ego Identity Interview), Variety of Positive Interpersonal Relations (The Interpersonal Relations Interview) and Validity Selection Variable (Mental Health Interview), were scored as follows: for each interview the rater scored two subsamples. First, a smaller subsample of nine subjects to familiarize himself with the variable and coding categories and then a larger subsample of twenty subjects for computing interrater agreement. For each interview the author gave the rater a written description of the variable which the interview was to assess and a more detailed description of coding categories.

For the Ego Identity Interview, which the rater scored first, the larger subsample of twenty subjects was randomly chosen from the total number completed. These twenty subjects represented about one-third of the total number.

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[1]The first sets showed satisfactory author-rater agreement.

The smaller subsample of nine subjects was selected from those subjects remaining by randomly choosing one subject from each of the nine coding categories. The rationale behind this method of selection for the smaller subsample was to provide as much variation as possible along the dimension so that rater could become familiar with every coding category. (He, of course, did not know subjects were chosen this way.)

If scoring reliabilities on the smaller sample of nine subjects were satisfactory, eleven subjects were randomly chosen from the larger subsample. In this case final reliabilities were computed on the basis of these twenty subjects. However, if scoring reliabilities on the smaller subsample were not satisfactory, the smaller subsample was considered a trial run and used to discuss scoring problems. Final reliabilities then were computed only on the twenty subjects in the larger subsample.

Next the rater scored the Interpersonal Relations Interview. Although it would have been ideal for the rater to score it blind with respect to the Ego Identity Interview, unfortunately, this was not possible if he were also to score the Mental Health Interview blind with respect to the other two. Since the latter was deemed more important, it was decided to use a small and large subsample in the Interpersonal Relations Interview comprised of the same subjects used in the Ego Identity Interview. This then would save the remaining subjects for the large subsample of the Mental Health Interview.

As with the Ego Identity Interview, if scoring reliabilities from the smaller subsample were satisfactory, eleven subjects were

chosen from the larger subsample and final reliabilities computed on the basis of the rater's scores from these two pooled groups. If not, final reliabilities were computed on the basis of the rater's scores from the full, larger subsample alone.

Last the rater scored the Mental Health Interview. The larger subsample was composed of twenty subjects for whom the rater had not scored the Ego Identity or Interpersonal Relations Interviews. Thus, the Mental Health Interview was scored blind with respect to the other two. However, by necessity the small subsample was composed of subjects whom the rater had already scored. Therefore reliabilities were computed only on the basis of the larger subsample. Five Valid and four Non-Valid subjects, as rated by the author, were chosen for the smaller subsample.

The rater scored the Variety of Interpersonal Relations and the Validity Selection variables directly from hand-written, verbatim protocols of the Interpersonal Relations and Mental Health Interviews prepared by the author. Since the author wrote only condensed notes on each Ego Identity Interview, the rater was required to listen to each interview and take notes himself before rating subjects.

Interrater reliabilities and coefficient Alphas are presented in Table 1. For all interrater reliabilities three measures are given: the per cent of cases on which the author and the rater agreed exactly on the interview scores, the per cent of cases on which the author and rater agreed within one scoring category and

TABLE 1

INTERRATER RELIABILITIES AND INTERNAL CONSISTENCY VALUES OF VARIOUS MEASURES

Measure	Coefficient Alpha	Per cent Exact Agreement	Per cent Agreement Within 1 Category	Correlation of Author-Rater
SELF-ASSERTION (Situations)	.71			
Author with Self (Situation 2)		74	93	.94
Rater with Self (Situation 3)		74	91	.96
Author-rater				
Situation 1		53	78	.81
Situation 3		47	74	.83
Situation 4		53	83	.90
MEAN: Situations 1,3,4		51	78	.85
COPING (Pictures)	.72			
Author with Self (Picture 1)		72	92	.95
Rater with Self (Picture 1)		58	88	.88
Author-rater				
Picture 1		22	70	.79
Picture 2		38	72	.77
Picture 6		47	71	.79
MEAN: Pictures 1,2,6		36	71	.78
EGO IDENTITY		40	90	.85
VARIETY OF POSITIVE INTERPERSONAL RELATIONS		30	80	.88
VALIDITY SELECTION VARIABLE	---	85	--	.70
EMBEDDED FIGURES TEST	.82	--	--	---
SEPARATE IDENTITY	.84	--	--	---

the Pearson product-moment correlation between the author's and rater's scores.

Discussion of Internal Consistency of Measures and Interrater Reliabilities

In general both coefficient Alpha and measures of interrater agreement are within acceptable limits. Coefficient Alpha for Situations is .71, for Pictures, .72, for EFT, .82, and Separate Identity, .84. The average correlation of the author's and rater's scores for the three sets of Situations is .85 and for the three sets of Pictures, .78. The correlations of the author's and rater's scores for Ego Identity is .85, Variety of Interpersonal Relations, .88 and the Validity Selection Variable, .70.

The per cent exact agreement between the author's and rater's scores is generally low, as one would expect in scoring interview and projective material on a nine-point scale. However, per cent agreement within one scoring category shows considerable improvement compared to the per cent exact agreement value.

Situations shows a higher degree of interrater agreement on all three measures of interrater agreement than Pictures. This is as one would expect since each Situation, compared to each Picture, provides subjects with a more structured stimulus. Such a stimulus elicits stories which can be more reliably scored. Since they are less variable in thematic content, they permit easier coding.

As expected, for both Situations and Pictures, all inter-rater reliability measures of the author or rater with himself, are greater than corresponding author-rater reliabilities.

Scores Used in Data Analysis

In view of the acceptable interrater agreement for all variables which require human judgment in scoring, only the author's scores are used for index construction and subsequent data analysis. They were obtained as follows: ten full sets of Pictures were rated by scoring each Picture for all subjects and then proceeding to the next Picture. Folowing this, eight full sets of Situations were scored in exactly the same fashion. Identification codes were used on all Pictures and Situations to keep data anonymous. Next the Ego Identity Interview was scored. Scores from 1 to 9 were assigned to each subject after carefully reviewing notes taken while listening to tape recordings of each interview. Then Variety of Positive Interpersonal Relations was scored. Scores from 1 to 9 were assigned to each subject after carefully reading and rereading handwritten, verbatim protocols of each Interpersonal Relations Interview. The Validity Selection Variable was scored last. Subjects were divided into a Valid (Code = 1) or a Non-Valid (Code = 2) group on the basis of careful readings of handwritten, verbatim protocols of each Mental Health Interview.

Sampling

Subjects were recruited by the author through administration of the Subject Recruitment Form during the ten minute period before the beginning of various classes in the Departments of History, Political Science and Economics at The University of Michigan. Volunteer subjects rather than subjects from a forced participation subject pool were used to insure maximum cooperation.

Upon entering the class, students were presented with the Subject Recruitment Form composed of a facesheet which described the study and two sheets to be filled out with the following information: Date of recruitment, class where form was completed, sex, race, class year, major, psychology courses completed, psychology courses currently taken, Mental Health Scale and whether the person would participate in the study if selected from a large sample of interested subjects. If the subject agreed to take part, he was asked to fill out an attached 5 x 8 mimeographed card indicating name, phone number and identification code, which was used in place of names on all data to insure confidentiality. If the subject did not agree to participate, he was asked to specify why.

Two face sheets were used in recruiting subjects. The first, Face Sheet I, was short and rather impersonal. After collecting 423 subjects, the author became concerned over the high non-participation rate of nearly fifty per cent and signs of hostility in many of the classrooms he visited. In an attempt to reduce the rejection rate

and the hostility, a new, more personal face sheet was devised, Face Sheet II, with which an additional 889 subjects were recruited, making a grand total of 1,312 subjects.

Subjects in the main sample of the study (the Original Validation Sample) were fifty-five white, male sophomores selected from the large participating sample collected with the second face sheet. They were selected as follows: white, male sophomores were divided into eleven groups according to their rating on the Mental Health Scale (1 to 9, response a and response b). From each numerical group, six subjects were chosen randomly. Since it was impossible to obtain enough white male sophomores who rated themselves 1 or 2, categories 2 and 1 contained only 2 and 1 subjects, respectively. The "can't rate" categories, a and b, each contained five subjects, bringing the total to fifty-five subjects.[1]

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[1] Although such a rectangular distribution violates the assumption of the normal distribution required for product-moment correlations, it was necessary to weigh this sample selection procedure which yields a large variance on MHS against one which would yield a very small one at best. For example, if subjects were randomly selected from the group of 293 white, male sophomores, the variance would be considerably reduced because scores are highly skewed toward the mentally healthy end of the scale. Similar correlations of MHS with SI and CMSD in the Supplementary Questionnaire Sample (in which no such selection procedure was used) and in the Final Validation Sample, suggest this procedure has had little effect. (The Supplementary Questionnaire Sample will be discussed shortly).

White subjects were chosen to eliminate any possible race variance which could not be systematically accounted for given the size of the sample. Subjects were of one sex rather than mixed for the same reason. Males werearbitrarily chosen. All subjects were in the same class year to eliminate any variance in the Ego Identity measure which could be accounted for by this variable; i.e., that the subjects who had been in school longer might have a more stable ego identity. Sophomores were chosen because it was felt that they are the most stably adjusted class year since freshmen are in the process of adjusting to a new environment, while juniors and, especially seniors, are preparing to leave it.

After selecting this sample, subjects were sent individually typed letters on The University of Michigan Psychology Department stationery. The letters explained that they had been chosen for the study and that the writer would phone them soon to make an appointment for the first data collection session and answer any questions they had. The Subject Recruitment Form, Facesheet I and II and letters sent to subjects are presented in Appendix G.

Of the fifty-five subjects selected, five subjects refused to participate. One subject, in a mild state of shock, claimed that he knew nothing about the study. Two subjects, claimed sincerely that their free time had diminished since they filled out the Subject Recruitment Form. Two others simply seemed to back out. Of these five refusals, one rated himself a 7, three rated themselves 3, and one rated himself "irrelevant."

Since this reduced the number of subjects rated "3" to three, it was desirable to find additional subjects for the low end of the scale. Because no low scoring, white, male sophomores recruited with the second facesheet were left in the large sample, seven other low scoring, non-sophomore subjects were contacted by letter. Five subjects agreed to take part. In addition, several pretest subjects were also added to the Original Validation Sample, bringing the Final Validation Sample to a total of sixty. Since six of these ten additional subjects were juniors and one was a freshman, the sample was not totally composed of sophomores. However, it was felt that these few additional non-sophomore subjects would not seriously restrict the generalizability of results. The final distribution of mental health ratings is presented in Table 2.

Besides the Final Validation Sample the study contains two additional samples. The first is the Supplementary Questionnaire Sample composed of 338 subjects, both male and female, who filled out the Supplementary Questionnaire. This questionnaire was identical to the one which contained the Separate Identity Scale and the Crowne-Marlowe Social Desirability Scale in the Validation part of the study with the following additions: Race, Sex, Class Year, and Mental Health Rating. The Supplementary Questionnaire Sample:

(1) Provided a male sample in which to cluster analyze the Separate Identity Scale.

TABLE 2

FREQUENCY DISTRIBUTION OF MENTAL HEALTH SCALE RATINGS IN ORIGINAL AND FINAL VALIDATION SAMPLE

	Mental Health Scale Ratings										
	1	2	3	4	5	6	7	8	9	a*	b**
Original Validation Sample (after 5 rejections)	1	2	3	6	6	6	5	6	6	4	5
Additional Subjects	1	0	5	1	0	0	1	1	1	0	0
Final Validation Sample	2	2	8	7	6	6	6	7	7	4	5

* cannot rate: irrelevant to the way S thinks of himself

** cannot rate: other reason

(2) Yielded correlations of the Mental Health Scale with SI and CMSD for males, thus permitting comparison with the corresponding correlations in the Final Validation sample.

(3) Provided these correlations for women as well.

The third sample is the Recruitment Sample comprised of 1,650 subjects. Of these, 1,312 were subjects recruited using the Subject Recruitment Form. The remainder were subjects from the Supplementary Questionnaire Sample. For all of these subjects the Mental Health Scale, Sex, Race, and Class Year are available, thus allowing bivariate distributiom of the Mental Health Scale with these other variables. For 1,312 subjects additional demographic data were available as discussed previously. A summary of the major samples in the study is presented in Table 3.

Administration of Measures

Data collection was completed in two, two-to three-hour sessions. In general, subject participation was excellent with few broken appointments despite the low rate of pay which averaged about 60 cent per hour. Subjects seemed interested in taking part. Many felt that it provided a good opportunity to think about themselves.

When the subject arrived for the first session, the author briefly explained the study. The following explanation was given to each subject:

TABLE 3

MAJOR SAMPLES IN STUDY

Name of Sample	Composed of	Number
Final Validation Sample	Original Validation Sample (less 5 rejects)	50
(All white, male)	Additional Subjects	10
TOTAL		60
Supplementary Questionnaire Sample	Males	140
	Females	198
TOTAL		338
Recruitment Sample	Subject Recruitment Forms	1312
(Male and Female)	Supplementary Questionnaire Sample	338
TOTAL		1650

> I'm interested in finding out what mental health means to you and each person in the study. It means different things to different people, even psychologists, and I think that the relatively untrained person can make a real contribution to our understanding of mental health. I'll be talking to you later about what mental health means to you in personal terms, but first I'd like you to fill out some things.

The author then explained what the subject would be doing during the first session and asked if the subject had any questions.

A recurrent difficulty with this explanation was a fear on the part of some subjects that the purpose of the study was to see if they were really as mentally healthy as they claimed to be. This fear was difficult for the author to handle since, in a sense, this was what the author was doing, although he would express it in different terms (i.e., determining the degree of correspondence between self-rated and expert-rated mental health). Since subjects who generally expressed this fear were afraid of the power of expert diagnosis, the author attempted to reassure them by explaining that even among psychologists there are disagreements about the nature of mental health. Therefore, there is no one who can say absolutely whether a person is or is not mentally healthy.

After the author explained the study, the subject began the first session. During this session the subject completed Questionnaire I (ER-O and ER-S), Questionnaire II (CMSD and SI) and Pictures (1-10) by himself in that order. At this time the examiner either busied himself with work or left the room so that the subject would have as much privacy as possible. Next, the examiner administered EFT and finally the Ego Identity Interview. At the end of

the session, he explained that he would phone the subject in about six weeks to make an appointment for the second session. After the subject left, the examiner wrote up impressions of each subject.

When the subject arrived for the second session, the examiner outlined the procedure for the second session and asked the subject to hold any questions about the study until the end of the session. Then the examiner left the subject by himself to fill out Situations (1-8). The Interpersonal Relations and Mental Health Interviews were administered next in that order. At the end of the session, the subject was asked to fill out the Supplementary Mental Health Rating. After this he was invited to ask the author any questions he had about the study, thanked for his participation and paid. Table 4 summarizes the data administration procedure in the actual order given and the variables derived from the various instruments.

TABLE 4

ADMINISTRATION OF MEASURES AND DERIVED VARIABLES FOR FINAL VALIDATION SAMPLE IN ORDER OF COLLECTION

Order of Collection	Instrument Name	Derived Variables
I. Recruitment and Selection of Final Validation Sample	Subject Recruitment Form	MHS Sex Race Clas Major Psychology courses completed Psychology courses currently taking Class where form completed
II. Session I	Questionnaire I	ER-O, ER-S
	Questionnaire II	CMSD, SI
	Pictures (1-10)	Cop
	EFT (1-12)	EFT
	Ego Identity Interview	EI
	Notes by examiner: impression and reaction	No variables scored
III. Session II	Situations (1-8)	SA
	Interpersonal Relations Interview	VPIR
	Mental Health Interview	VSV
	Supplementary Mental Health Scale Form	SMHS

CHAPTER VI

RESULTS

Results will be presented in the following order: results of the cluster analysis of the Separate Identity Scale, findings pertinent to the four major predictions elaborated in Chapters III and IV (Major findings) and finally minor results.

Only results directly relevant to major and minor findings are presented in tabular form. Full correlation matrices containing all variables in the study and full rotated factor matrices are given in Appendices H and I, respectively.

Cluster Analysis of Separate Identity Scale

As discussed in Chapter V, the original fifty-six item Separate Identity Scale was clustered on 140 males in the Supplementary Questionnaire Sample using a cluster program which searched for the cluster which maximized coefficient Alpha. At that point the program stopped. Mean values were inserted for missing data.

The program omitted twenty items, creating a thirty-six item scale. Fifteen items were keyed true, twenty-one items keyed false. All items kept their predicted scoring direction except for item thirteen which the author originally keyed false, but the program keyed true. Coefficient Alpha was .84. The reader is referred to Appendix B for a listing of included items. Items included by the program are indicated by an asterisk. Both original and final scoring directions are given.

Since the final validation sample was entirely male, only results of the cluster analysis on males were used in scale construction. Correlations of Separate Identity with other variables in the female Supplementary Questionnaire Sample also employed this same "male" form of the Separate Identity Scale.

However, the original Separate Identity Scale was also clustered on 198 females in the Supplementary Questionnaire Sample. Cluster results for females are presented in Appendix B.

Presentation of Major Findings

Major findings are those which are relevant to the four predictions discussed in Chapters III and IV. However, since some major findings involve partial correlations or the results of oblique factor analysis, a word is in order about two statistical matters which may confuse the reader.

A Statistical Digression

The first has to do with partial correlations found in the study. Occasionally the reader may notice that a partial correlation is higher than or equal to its corresponding zero order value when, by all mathematical rights, it should be less, since the variable partialled out correlated positively with the other two. This is because the programs used for computing zero order and partial correlations handle missing data differently.

All zero order correlations in the study, unless otherwise specified, were calculated using pairwise deletion of missing

data because it makes maximum use of all available data. However, the partial correlations were calculated using casewise[1] deletion of missing data to compute the same zero order correlations from which partials subsequently were calculated. Since the zero order "pairwise" and "casewise" correlations are not identical (although they are close), occasionally it may happen that after partialling out a variable which is positively correlated with the other two from a zero order "casewise" correlation (with appropriate decrease in correlation), the partial still is greater than or equal to the corresponding zero order "pairwise" value--thus, leading to the apparent mathematical contradiction mentioned previously.

Nevertheless, the difference between partials calculated using "casewise" and "pairwise" zero order correlations is small and does not affect the interpretation of results. Sometimes, both types of zero order correlations will be presented in tables to give the reader an opportunity to compute the "pairwise" partials for comparison purposes.

The second statistical matter concerns the interpretation of results of factor analyses which use oblique rotation to achieve simple structure. This is an issue unfamiliar to many psychologists because most psychological studies employ factor analyses using orthogonal rotation which permit simpler interpretation. Nevertheless,

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[1] Casewise deletion refers to the exclusion of a subject's data from all correlational computations if any of the subject's data are missing; pairwise deletion refers to the exclusion of a subject's data only from those correlations for which the subject lacks the necessary data.

it was decided to use oblique rotation, since the hypothesis being tested predicted intercorrelated as opposed to orthogonal factors.

A typical factor analysis using orthogonal rotation yields one factor matrix with a given number of factors correlating zero with each other. Moreover the variable loadings on each factor describe the extent to which the variables saturate the factors and are also the product-moment correlation of the variables with the factors.

A factor analysis using oblique rotation, however, yields two types of factor matrices for two types of axes, primary and reference axes.

Just as orthogonal factors in a two factor orthogonal rotation can be geometrically represented by the horizontal and vertical axes, primary factors in an oblique solution are geometrically represented by the primary axes. They can be portrayed as vectors from the origin which are so placed that they go through single clusters of variables, represented as clusters of points in factor space. To the extent there are several well-defined clusters of points, a separate primary axis will go through each cluster to define a separate factor.

Reference axes are vectors perpendicular to their respective primary axes. They are used to obtain a slightly better simple structure than with primary axes.

For the primary axes an oblique solution yields two types of loadings, pattern loadings from the pattern factor matrix and

structure loadings from the structure factor matrix. Pattern loadings or coefficients describe the saturation of variables with factors; they are the best measure of simple structure and most useful for identifying or naming factors. Structure loadings are the product-moment correlations of variables with factors; they are useful in identifying those variables which mutually correlate with two factors and are largely responsible for interfactor correlations. Both primary pattern and structure matrices as well as the correlations between primary factors will be presented in this chapter.

For the references axes, pattern loadings, which are most useful for identifying factors and are the best measure of simple structure, are obtained from the structure matrix. Structure loadings, the correlation of variables with factors, are obtained from from the pattern matrix. According to Rummel (1970), the complexity of the resulting representation may not warrant the slight improvement in simple structure. Hence, reference factor matrices will will not be reported in this Chapter.

Major Findings

Prediction I (chapters III and IV) is that an expression of the global affective component of mental health or the degree of well-being, trust or confidence, a subject feels in life will positively correspond to structural measures of mental health. In statistical terms it predicts that SMHS will correlate positively and significantly with all structural measures of mental health.

Results relevant to Prediction I can be found in Column 1 of Table 5. The prediction is confirmed except for a failure of SMHS to correlate at a significant level with SA or EFT. (Since the scoring direction of SMHS is reversed with respect to the structural measures, a positive correspondence between a sense of well-being or confidence in life and structural measures will manifest itself in a negative correlation). Thus, SMHS correlates negatively and at a $p < .01$ level with ER-O, ER-S, SI, Cop, Dat, Comp I, Comp II, Comp III and Comp IV and at a $p < .025$ level with EI and VPIR, as expected. However, it fails to correlate in a significant negative fashion with SA or EFT.

Prediction II is that the expression of how mentally healthy a subject feels he is, is closely equivalent to the global affective component of mental health or the extent to which a subject feels an enduring sense of trust, confidence or well-being, etc., in life. This equivalence is predicted because the global affective component is proposed to be the referent which subjects use to rate their mental health.

The statistical aspect of Prediction II has two parts. Prediction IIa asserts that an oblique factor analysis of the critical study variables will yield an Affective Mental Health Factor which contains only SMHS and MHS. This factor is predicted to be positively correlated with a second Structural Mental Health Factor which contains all self-rated and expert-rated structural measures of mental health. If the predicted factor structure results, this

TABLE 5

ZERO ORDER, PAIRWISE CORRELATIONS OF SMHS AND MHS WITH CRITERION VARIABLES IN THE FULL SAMPLE

Criterion Variable	SMHS	MHS
ER-O	-.72*	.64*
ER-S	-.49*	.31**
SI	-.59*	.51*
EI	-.29**	.39*
VPIR	-.30**	.35*
Cop	-.42*	.47*
Dat	-.34*	.43*
SA	-.09	.16
EFT	-.01	.00
Comp I: EI, VPIR	-.36*	.39*
Comp II: EI, VPIR, Cop	-.43*	.44*
Comp III: EI, VPIR, Cop, SA	-.43*	.45*
Comp IV: EI, VPIR, Cop, SA, SI	-.56*	.53*
CMSD	-.23	.37*
Rand I	-.17	.08
Rand II	.21	-.21

* $p < .01$

** $p < .025$

will provide evidence that a valid empirical distinction exists between affective and structural mental health measures. Prediction IIb is that MHS will correlate highly and positively with SMHS. If both Prediction IIa and IIb are confirmed, this will suggest that MHS is equivalent to an empirically valid affective measure of mental health, thus suggesting that subjects used an affective definition of mental health as their referent to rate their mental health on the MHS.

Prediction IIa: The factor analysis used the principal axis method of solution with squared multiple correlations as initial estimates of the communalities, Kaiser's criterion to determine the final number of factors and the biquartimin method of oblique rotation. More complete descriptions of these and related issues are presented in Appendix I along with complete listings of the primary pattern and structure matrices, reference structure matrix and a varimax orthogonal matrix. Input correlations are listed in Table 6.

Tables 7 and 8 present the primary pattern and primary structure matrices. Only variables loading greater than .35 are included.

From Table 7 it can be seen that Prediction IIa is not confirmed. Although both SMHS and MHS load on Factor I, ER-O, ER-S and SI do also. In fact, both SI and ER-S load more highly than MHS. Since all variables on Factor I are measures of mental health and are rated by the subject, Factor I will be called a Self-Rated Mental Health Factor.

TABLE 6

INPUT CORRELATION MATRIX FOR FACTOR ANALYSIS OF MAJOR STUDY VARIABLES EXCLUDING DATING AND COMPOSITE VARIABLES (Zero Order, Pairwise, Full Sample)

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	SA	EFT	CMSD	Rand I	Rand II
MHS	---												
SMHS	-.65	---											
ER-O	.64	-.72	---										
ER-S	.31	-.49	.70	---									
SI	.51	-.59	.75	.61	---								
EI	.39	-.29	.38	.35	.37	---							
VPIR	.35	-.30	.26	.08	.31	.46	---						
Cop	.47	-.42	.45	.31	. 8	.38	.49	---					
SA	.16	-.09	.23	.13	.11	.29	.26	.34	---				
EFT	.00	-.01	-.03	-.02	-.10	.15	-.05	.02	-.15	---			
CMSD	.37	-.23	.43	.34	.34	.13	.21	.38	.14	.09	---		
Rand I	.08	-.17	-.10	-.16	-.05	-.32	.08	.10	-.19	.08	-.04	---	
Rand II	-.21	.21	-.22	-.15	-.20	-.33	-.23	-.22	-.20	-.03	-.29	.21	---

TABLE 7

PRIMARY PATTERN FACTOR MATRIX AND FACTOR INTERCORRELATIONS
MAJOR VARIABLES - FULL SAMPLE
OBLIQUE ROTATION[1]

Factor I		Factor II		Factor III		Factor IV	
ER-O	.95	Rand I	.72	VPIR	.67	EI	.70
ER-S	.77	EI	-.55	Cop	.62		
SI	.77			SA	.48		
SMHS	-.76			EI	.39		
MHS	.56						

Correlation Between Primary Factors

	Factor I	Factor II	Factor III	Factor IV
Factor I	1.00			
Factor II	-.09	1.00		
Factor III	.41	-.13	1.00	
Factor IV	.05	.18	.07	1.00

[1]The pattern loadings in the primary pattern factor matrix are measures of the extent to which a given variable saturates a particular factor. They are the best estimate of simple structure in oblique rotations. Only variables loading greater than or equal to .35 are included. A complete listing of this matrix can be found in Appendix I.

TABLE 8

PRIMARY STRUCTURE FACTOR MATRIX
MAJOR VARIABLES - FULL SAMPLE
OBLIQUE ROTATION[1]

Factor I		Factor II		Factor III		Factor IV	
ER-O	.95	Rand I	.73	Cop	.69	EI	.64
SI	.79	EI	-.49	VPIR	.67		
SMHS	-.77			EI	.58		
ER-S	.73			MHS	.50		
MHS	.66			SA	.48		
Cop	.49			ER-O	.40		
CMSD	.44			CMSD	.39		
EI	.42			Rand II	.39		
				SI	.36		
				SMHS	-.35		

[1]The structure loadings in the primary structure factor matrix are the Pearson product moment correlations of a given variable with its respective factor. Although they are not good estimates of simple structure, they are best used to determine which variables are responsible for interfactor correlations in oblique rotations. Only variables loading greater than or equal to .35 are listed. A complete listing of this matrix can be found in Appendix I.

Factor III is the other large factor obtained in the factor analysis. It contains only structural mental health measures which cover a wide diversity of concepts including Variety of Positive Interpersonal Relations, Coping, Self-Assertion and Ego Identity. Since all variables on this factor are measures of mental health and required the author to evaluate the subject's status on the particular dimension of concern, this factor will be called an Expert-Rated Mental Health Factor.

Factor IV defines an Ego Identity factor and is saturated by only one variable: EI. Therefore, it will be ignored in interpreting the factor structure.

In view of its large correlation with Random Variable II, Factor II is mainly a noise factor. Thus, it also will be ignored in interpreting the factor structure.

Turning to correlations between the four primary factors, one can see that all correlations are low except for a moderate correlation of .41 between the two large factors, Factor I and Factor III. This suggests that while there are important differences between self-ratings and expert-ratings of mental health since different factors are obtained, there are also important similarities since the two factors are significantly correlated.

Table 8 lists the primary structure matrix. Since the structure loadings listed in the matrix are the product-moment correlations of variables with factors, it is particularly useful in identifying those variables primarily responsible for interfactor

correlation. The structure loadings indicate that two variables are primarily responsible for the correlation of Factor I and Factor III: MHS and Cop. MHS correlates .66 with Factor I and .50 with Factor III. Cop correlates .49 with Factor I and .69 with Factor III. No other variables are mutually correlated with both factors to this same extent.

Prediction IIb: The correlation of MHS with SMHS can be found in Table 6. The two variables correlate -.65. This fairly high correlation tends to confirm that MHS is equivalent to SMHS. The correlation is negative because the scoring direction for SHMS is reversed with respect to the scoring direction of MHS.

Since Prediction IIb is confirmed, but Prediction IIa is not, the statistical aspect of Prediction II as a whole is not confirmed.

The non-statistical aspect of Prediction II asserts that subjects will talk in terms of the global affective component: i.e., an enduring sense of well-being, confidence or trust is living life, in discussing why they rated their mental health as they did. Data for this prediction were derived from the Mental Health Interview.

In evaluating these findings it must be remembered that the interview took place four to five months after subjects rated themselves during a five to ten-minute period before the beginning of one of their classes. Several subjects indicated difficulty in reconstructing their decision making processes and no doubt others must have had this same difficulty. Moreover, it is possible that

elements of the decision-making process are so difficult to verbalize that subjects mention them only infrequently.

Nevertheless, the hypothesis that all subjects will say they used an affective criterion as the referent for their self-ratings of mental health is not confirmed. Although data from the Mental Health Interview were not quantified, it was clear from reading through the interviews, that some subjects indicated they primarily used the global affective component in rating their mental health; others, a mixture of affective and structural criteria; and still others, structural criteria alone.

Prediction III is that the expression of how mentally healthy a subject feels he is will also correspond positively with structural measures of mental health in the same fashion as did an expression of how trusting, confident, etc., a subject feels about life. In statistical terms the prediction proposes that MHS will correlate significantly, positively and at the same level of magnitude with structural measures of mental health as did SMHS. Table 5 presents the relevant correlations and confirms the prediction.

MHS correlates positively and significantly with ER-O, SI, EI, VPIR, Cop, Dat, Comp I, Comp II, Comp III, Comp IV and CMSD at a $p < .01$ level and with ER-S at the $p < .025$ level. However, it fails to correlate significantly with SA or EFT, as did SMHS.

Comparing the magnitude of the correlations of MHS and SMHS with criterion variables, one can see that SMHS tends to correlate slighly higher with the self-rated structural mental health

measures, ER-O, ER-S and SI than MHS, while MHS tends to correlate slightly higher with the expert-rated structural measures, EI, VPIR Cop, and SA than SMHS. However, both correlate almost identically with the composite variables. Thus, except for minor differences, the magnitude of correlation of MHS with criterion variables is very similar to the magnitude for SMHS.

Prediction IV concerns the error hypotheses discussed in Chapters III and IV. Prediction IVa (Error Hypothesis 1) asserts that the degree of correspondence between the two self-appraisals of mental health (how mentally healthy a subject considers himself and how trusting, confident, etc., a subject feels about life) and the structural measures of mental health will be spuriously high due to the influence of social desirability. The hypothesis regards as desirable the elimination of its influence to determine the genuine degree of correspondence between self-appraisals and structural measures of mental health. Prediction IVb (Error Hypothesis 2) asserts that the degree of correspondence between self-appraisals and structural measures of mental health will be lower than expected due to the existence of false positives, false negatives and deliberate decievers. By eliminating them from a total group of subjects, the degree of correspondence should increase for the subjects remaining.

Prediction IVa: In statistical terms, the elimination of the influence of social desirability can be accomplished by partialling out CMSD from the correlations of SMHS and MHS with structural measures of mental health.

Relevant partial correlations can be found in Column 3 of Tables 9 and 10. The results indicate that the decrease in correlation generally is small after removing that portion of the variance due to social desirability. This suggests that a genuine correlation does exist between the two self-appraisals and structural measures of mental health which cannot be explained by subjects' responding in a socially desirable fashion. For MHS, all of the partial correlations maintain the same $p < .01$ level of significance except the correlation with ER-S which becomes non-significant, Cop which drops from $p < .01$ to $p < .025$ and Dat which drops from $p < .01$ to $p < .05$. For SMHS, all of the partial correlations maintain the same statistical level of significance.

Prediction IVb: Prediction IVb was operationalized through the use of the Mental Health Interview. During this interview the author discussed with each subject why he rated himself as he did and what mental health meant to him. On the basis of criteria discussed previously which were designed to detect false positives, false negatives and deliberate deceivers, the subjects were divided into a Valid and Non-Valid group. The Valid group contained subjects whose self-ratings of mental health were expected to correspond to structural mental health measures. The Non-Valid group contained subjects whose self-ratings of mental health were not expected to correspond to structural measures.

Table 11 presents the distribution of Mental Health Scale ratings for the Valid and Non-Valid groups. The Non-Valid group

TABLE 9

ZERO ORDER AND PARTIAL CORRELATIONS CONTROLLING FOR SOCIAL DESIRABILITY OF SMHS WITH CRITERION VARIABLES
(all samples)

	Full Sample			Valid Sample			Non-Valid Sample		
	Zero Order Pairwise	Zero Order Casewise (N=44)	Partial (N=44)	Zero Order Pairwise	Zero Order Casewise (N=22)	Partial (N=22)	Zero Order Pairwise	Zero Order Casewise (N=22)	Partial (N=22)
MHS	-.65*	(-.68)*	-.65*	-.75*	(-.77)*	-.70*	-.44**	(-.50)*	-.55*
ER-O	-.72*	(-.75)*	-.72*	-.77*	(-.77)*	-.69*	-.55*	(-.64)*	-.84*
ER-S	-.49*	(-.52)*	-.46*	-.52*	(-.52)*	-.28	-.37**	(-.46)**	-.50*
SI	-.59*	(-.68)*	-.64*	-.70*	(-.73)*	-.69*	-.26	(-.42)**	-.51*
EI	-.29**	(-.36)*	-.33**	-.74*	(-.76)*	-.75*	.33***	(.25)	.25
VPIR	-.30**	(-.35)*	-.33**	-.68*	(-.68)*	-.63*	.07	(.02)	.04
Cop	-.42*	(-.48)*	-.43*	-.48*	(-.54)*	-.38***	-.36***	(-.45)**	-.47**
Dat	-.34*	(-.44)*	-.37*	-.36***	(-.53)*	-.33	-.39**	(-.53)*	-.59*
SA	-.09	(-.16)	-.10	-.17	(-.31)	-.13	-.16	(-.18)	-.19
EFT	-.01	(.00)	.04	-.16	(-.18)	-.12	.16	(.33)	.33
Comp I: EI, VPIR	-.36*	(-.40)*	-.38*	-.80*	(-.80)*	-.77*	.23	(.16)	.17
Comp II: EI, VPIR, Cop	-.43*	(-.47)*	-.44*	-.79*	(-.79)*	-.74*	.09	(.01)	.02
Comp III: EI, VPIR, Cop SA	-.43*	(-.44)*	-.40*	-.75*	(-.75)*	-.68*	.00	(-.04)	-.03
Comp IV: EI, VPIR, Cop, SA, SI	-.56*	(-.59)*	-.55*	-.78*	(-.78)*	-.71*	-.12	(-.19)	-.21
CMSD	-.23	(-.29)***	-----	-.46**	(-.53)*	.10	.10	(.12)	----
Rand I	-.17	(-.21)	-.23	-.18	(-.18)	-.22*	-.28	(-.35)	-.34
Rand II	.21	(.20)	.17	.35***	(.36)***	.30	.01	(-.01)	.00

* $p < .01$

** $p < .025$

*** $p < .05$

TABLE 10

ZERO ORDER AND PARTIAL CORRELATIONS CONTROLLING FOR SOCIAL DESIRABILITY OF MHS WITH CRITERION VARIABLES
(all samples)

	Full Sample			Valid Sample			Non-Valid Sample		
	Zero Order Pairwise	Zero Order Casewise (N=44)	Partial (N=44)	Zero Order Pairwise	Zero Order Casewise (N=22)	Partial (N=22)	Zero Order Pairwise	Zero Order Casewise (N=22)	Partial (N=22)
SMHS	-.65*	(-.68)*	-.65*	-.75*	(-.77)*	-.70*	-.44**	(-.50)*	-.55*
ER-O	.64*	(.63)*	.57*	.67*	(.66)*	.56*	.59*	(.56)*	.53*
ER-S	.31**	(.29)**	.17	.38***	(.37)***	.12	.16	(.11)	.07
SI	.51*	(.50)*	.44*	.55*	(.56)*	.48**	.40**	(.30)	.23
EI	.39*	(.38)*	.35*	.73*	(.71)*	.67*	.05	(.03)	.03
VPIR	.35*	(.38)*	.36*	.79*	(.79)*	.75*	.00	(.02)	.07
Cop	.47*	(.40)*	.33**	.52*	(.51)*	.37***	.40**	(.30)	.29
Dat	.43*	(.36)*	.25***	.35***	(.40)***	.19	.51*	(.42)**	.38***
SA	.16	(.21)	.14	.16	(.26)	.10	.33***	(.30)	.30
EFT	.00	(-.08)	-.13	.01	(-.01)	-.09	.07	(-.11)	-.12
Comp I: EI, VPIR	.39*	(.43)*	.41*	.83*	(.83)*	.80*	-.02	(.03)	.06
Comp II: EI, VPIR, Cop	.44*	(.48)*	.44*	.81*	(.81)*	.76*	.07	(.11)	.13
Comp III: EI, VPIR, Cop, SA	.45*	(.45)*	.41*	.75*	(.75)*	.69*	.17	(.17)	.19
Comp IV: EI, VPIR, Cop, SA, SI	.53*	(.53)*	.47*	.70*	(.70)*	.62*	.29	(.29)	.28
CMSD	.37*	(.33)*	----	.46*	(.45)**	----	.27	(.22)	----
Rand I	.08	(.05)	.07	-.02	(-.01)	-.01	.26	(.15)	.17
Rand II	-.21	(-.15)	-.10	-.50*	(-.46)**	.42**	.17	(.18)	.21

* $p < .01$
** $p < .025$
*** $p < .05$

TABLE 11

FREQUENCY DISTRIBUTION OF MENTAL HEALTH SCALE RATINGS
IN THE VALID AND NON-VALID GROUPS

	Mental Health Scale Rating *									
	1	2	3	4	5	6	7	8	9	
Valid Group	2	1	4	5	3	1	4	3	1	24
Non-Valid Group	0	1	4	2	2	5	2	3	6	25
	2	2	8	7	5	6	6	6	7	49

*The Cannot Rate Responses, a and b, are omitted. Only subjects with Mental Health Scale Ratings are included.

tends to have a much larger number of high scoring subjects, expecially 9's and 6's, compared to the Valid group, suggesting the Non-Valid group contains a large number of false positives. This is not surprising since one generally would expect subjects in the Non-Valid group to see themselves as healthier than they professionally would be judged, rather than the reverse.

It is also interesting that practically all the 9's, or those who placed themselves in the most mentally healthy category, are found in the Non-Valid group. This same finding occurs rather unexpectedly for 6's also.

In statistical terms Prediction IVb asserts that the correlation of both SMHS and MHS with all criterion variables will be greater in the Valid group than the Full Sample and that these same correlations will be less in the Non-Valid group than the Full Sample.

Data relevant to this prediction can be found in Columns 1, 4 and 7 of Tables 9 and 10. For both MHS and SMHS the same pattern is observed. In the Valid group compared to the Full Sample there generally is a very slight increase in correlation of the two self-appraisals of mental health with structural measures except with the two clinical interview variables, EI and VPIR, which show very large increases. (Although the composite variables also show large increases, this is due to the fact that EI and VPIR are components of them all.) Generally, in the Non-Valid group compared to the Full Sample, there is a slight decrease in the correlation of

the two self-appraisals of mental health with structural measures except for EI and VPIR which show very large decreases . (The composite variables also show fairly large decreases, but again this is due to the fact that EI and VPIR are components of them all.)

Therefore, Prediction IVb is not confirmed: the expected large increases and decreases in correlation were seen only for correlations of MHS and SMHS with clinical interview measures (EI and VPIR). Correlations of MHS and SMHS with other structural measures (excepting Composites) do not change much in the Valid and Non-Valid samples compared to the Full Sample.

A very similar pattern can be seen from Columns 3, 6 and 9 of Tables 9 and 10 in the behavior of the partial correlations of MHS and SMHS in the Valid and Non-Valid samples compared to the Full Sample. Once again one observes the large increase and decrease in correlation for the partial correlations of MHS and SMHS with the two clinical interview measures of mental health, EI and VPIR. However, the partial correlations of MHS and SMHS with the other structural measures tend to behave just the opposite of the zero order correlations. Generally instead of showing a slight increase in the Valid sample and a slight decrease in the Non-Valid sample compared to the Full Sample, they tend to show the reverse. There is a slight decrease in the partial correlations for the Valid sample compared to the Full Sample and slight increase in the Non-Valid, although this is more true for SMHS than MHS. This suggests that when one statistically removes the confounding

effect of social desirability from the correlation between the two self-appraisals of mental health and structural measures, the three types of errors: false positives, false negatives, and deliberate deceivers, tend only to affect the degree of correlation between the self-appraisals and the clinical interview measures of mental health, EI and VPIR. This was not predicted originally, since it was expected that removing false positives, false negatives and deliberate deceivers would affect the partial correlation of the self-appraisals with all structural measures of mental health.

Minor Findings

1. Correlations from the Supplementary Questionnaire Sample. Correlations are available for MHS-SI, MHS-$CMSD^{D}$, and SI-CMSD in the Supplementary Questionnaire Sample. In this sample, composed of 140 males and 198 females from two large undergraduate abnormal psychology courses, no subject selection was made on MHS. Therefore, it is possible to compare the above correlations from the Supplementary Questionnaire Sample with corresponding correlations from the Final Validation Sample to observe the effects of artificially increasing the variance of MHS in the latter. In the Final Validation Sample, subjects were selected from a larger group of subjects to form a rectangular distribution of MHS scores.

   These data are presented in Table 12. The correlations tend to be slightly higher for the Final Validation Sample but not a great

TABLE 12

MHS, SI AND CMSD INTERCORRELATIONS: SUPPLEMENTARY QUESTIONNAIRE SAMPLE COMPARED TO FINAL VALIDATION SAMPLE

Variables: X, Y	Zero Order Correlations: $r_{x,y}$				Partial Correlation $r_{x,y,CMSD}$	
	Supplementary Questionnaire Sample		Final Validation Sample		Supplementary Questionnaire Sample	Final Validation Sample
	Pairwise	Casewise	Pairwise	Casewise		
	Males Only (N=140)		Males Only (N=50)		Males Only (N=140)	Males Only (N=44)
MHS-SI	.46	.46	.51	.50	.43	.43
MHS-CMSD	.22	.22	.37	.33	--	--
SI-CMSD	.26	.29	.34	.32	--	--
	Females Only (N=198)					
MHS-SI	.60	.60	--	--	.54	--
MHS-CMSD	.35	.35	--	--	--	--
SI-CMSD	.39	.39	--	--	--	--
	Total Sample (N=338)					
MHS-SI	.55	.55	--	--	.50	--
MHS-CMSD	.30	.30	--	--	--	--
SI-CMSD	.33	.34	--	--	--	--

deal. Interestingly enough, the partial correlations of MHS-SI controlled for social desirability are identical in the two samples.

2. Failure of EFT to Correlate with any Mental Health Variables. Although not directly relevant to the main topic of this dissertation, a most consistent finding is the failure of EFT to correlate with either the two self-appraisals or structural measures of mental health. In general, correlations are between .00 and .10 with a rare .15. This is true for both zero order and partial correlations in the Full, Valid and Non-Valid Samples with one minor exception. Thus, Witkin's findings are confirmed that field approach is unrelated to mental health. In other words, degree of differentiation and quality of integration are uncorrelated dimensions.

3. Correlation of Identity Measures. It was hypothesized that the three identity measures, SI, EI and EFT would be positively correlated. (Witkin has observed that EFT and other measures of Separate Identity are moderately correlated.) EI and SI correlate significantly .37 at the $p < .01$ level. However, EFT fails to correlate significantly with the other two.

4. VPIR and N. Before the Interpersonal Relations Interview subjects were asked to list the first names and last initials of people with whom they had significant, positive or important relationships. Not only did the number of people listed (N) fail to correlate with any measure of mental health, but it also failed to

correlate significantly with VPIR (.06 in the Full Sample). This suggests that the variety of positive interpersonal relationships is not related to the total number of current relationships a subject says he has.

CHAPTER VII

DISCUSSION

Discussion of major findings and their implications follows. Finally suggestions for further research will be made.

Discussion of Major Findings

Prediction I was confirmed. Its confirmation suggests that an expression of the degree to which a subject feels an enduring sense of well-being, confidence or trust in life correlates significantly and positively with structural measures of mental health. These measures include variables not only from the MMPI but also measures which operationalize diverse conceptions of mental health and which employ different assessment techniques. Moreover, the results are strengthened further by the finding that the above correlations cannot be explained by a tendency for subjects to say socially desirable things to make themselves appear more confident or trusting, etc., of life than they in fact feel.

In short the results of Prediction I suggest within the sampling limitations of the study[1] that male college sophomores as a group have a valid affective sense of their mental health.

However, Prediction II, concerning the mechanism by which subjects were proposed to rate their mental health validly, was not

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[1]Fifty per cent of the subjects originally recruited with the Subject Recruitment Form refused to take part. Moreover from the remaining 50 per cent, subjects were chosen to obtain a rectangular distribution of scores on MHS rather than on a random basis.

confirmed. Results from both the statistical and non-statistical aspects of Prediction II failed to provide evidence to support it.

The statistical aspects of Prediction II had two parts. Prediction IIa asserted that an oblique factor analysis of the critical variables of the study would yield:

1. An Affective Mental Health Factor containing only the Mental Health Scale and the Supplementary Mental Health Scale.
2. A Structural Mental Health Factor containing all self-rated and expert-rated structural variables.
3. A positive correlation of the two factors.

Prediction IIb was that MHS would correlate highly and positively with SMHS.

Prediction IIa was not confirmed. Instead, the following factor structure was obtained: a Self-Rated Mental Health Factor on which all the self-rated mental health variables in the study (ER-O, ER-S, SI, SMHS, MHS) loaded and an Expert-Rated Mental Health Factor on which all the expert-rated mental health variables in the study (EI, VPIR, SA, Cop) loaded. Moreover, the two factors were correlated .41.

These results suggest that the conceptual distinction between affective and structural mental health variables, discussed in detail in Chapter III and depicted in Diagrams 1 and 2 does not find empirical support since the predicted Affective and Structural Mental Health Factors were not obtained. Instead a factor structure results which suggests an interpretation in terms of method variance; i.e., in terms of the self-rated versus the expert-rated methods of assessing mental health.

The difference between the affective-structural and the method variance interpretation of the factor structure involves the placement of the self-rated structural mental health measures: ER-O, ER-S and SI. Comparing the factor structure originally predicted to that actually obtained, one can see that originally the three self-rated structural measures were placed on Factor III, instead of Factor I. Such placement would prevent the method variance interpretation of Factor III as an Expert-Rated Mental Health Factor since Factor III then would contain both expert-rated and self-rated variables. However, the fact that the three self-rated structural measures and the self-rated affective measure loaded together on the same factor suggests that affective and some structural mental health variables behave in a similar correlational fashion empirically and thus are alike, despite an a priori conceptual distinction.

Prediction IIb was confirmed, suggesting that MHS is equivalent to SMHS. However, since the results of the factor analysis did not confirm an empirical distinction between affective and structural mental health variables, the equivalence of MHS to SMHS does not suggest that MHS is equivalent to an empirically valid affective definition of mental health. Therefore, the statistical aspect of Prediction II as a whole is not confirmed.

The non-statistical aspect of Prediction II also failed to provide support for the proposed mechanism. Brief reading of verbatim protocols of each interview suggested that some subjects did use primarily an affective definition in rating their mental

health, others used a mixture of affective and structural criteria, while still others used structural criteria alone.

Together the results of the statistical and non-statistical aspects of Prediction II strongly suggest that subjects do not use an affective definition as the sole or major referent to rate their mental health.

Prediction III was based on the results of Predictions I and II. The chain of reasoning was as follows:

1. A measure of the global affective component of mental heath, SMHS, will correlate significantly and positively with structural measures of mental health.

2. The expression of how mentally healthy a subject considers himself to be as measured by MHS will be closely equivalent to the global affective component of mental health as measured by SMHS because subjects will use the latter as the referent to rate their mental health on MHS.

3. Therefore, expressions of how mentally healthy a subject considers himself to be as measured by MHS will also correlate positively with structural measures of mental health at the same level of magnitude as SMHS.

The statistical aspect of Prediction III was confirmed. Its confirmation suggested that the simple expression of how mentally healthy a subject considers himself to be correlates significantly and positively with structural mental health measures and that the magnitude of the correlations closely parallels the magnitude of

corresponding correlations for SMHS. Moreover, the results were further strengthened by the finding that the correlations cannot be explained by a tendency for subjects to say socially desirable things about their mental health to make themselves appear more mentally healthy than they considered themselves genuinely to be.

In short, the statistical results of Prediction III suggest within the sampling limitations of the study that male college sophomores can make valid, global diagnostic statements about their mental health without being presented any definition of mental health to aid them in their ratings.

However, the chain of reasoning which originally lead to the prediction of a statistically significant, positive relationship between MHS and structural measures of mental health was faulty. Although Step 1 in the chain was confirmed, Step 2 was not. An alternative explanation for the positive relationship between MHS and structural mental health variables will be offered later in this chapter.

Prediction IVa was not confirmed. It predicted that the correlation of SMHS and MHS with structural variables would be spuriously high due to the effects of social desirability. After removing that portion of the variance due to social desirability from the correlation of SMHS and MHS with structural measures of mental health, observed decreases in correlation were slight. Significant, positive relationships remained. Thus, disconfirmation of Prediction IVa further supported the findings of Predictions I and III by suggesting that the significant relationships

observed in the latter predictions cannot be explained by a social desirability response set.

Prediction IVb was disconfirmed also. It predicted an increase in correspondence between the two simple self-appraisals of mental health, SMHS and MHS, and all structural measures in the Valid compared to the Full Sample and a decrease in the Non-Valid compared to the Full Sample. The predicted changes were observed only for correlations of MHS and SMHS with the two clinical interview measures, EI and VPIR; the predicted changes were not obtained for correlations of MHS or SMHS with projective or questionnaire measures of mental health. Two interpretations of the results present themselves.

The first assumes that a well-conducted clinical interview is a more sensitive assessment technique than projective tests or questionnaires. Compared to the latter techniques, the interview provides access to non-verbal communication from facial expressions, voice tone, words chosen for self-expression and gives the interviewer the option to explore issues he does not understand with the interviewee. In terms of this assumption, failure to observe the large expected increase in correlation of MHS and SMHS with projective and questionnaire measures of mental health is due to their relative insensitivity. Thus, the large observed changes in correlation of MHS and SMHS with clinical interview variables suggests that while college sophomore males as a group are able to rate their mental health validly, some sophomore males can do this more validly than others.

However, an alternative interpretation regards the large changes observed as an artifact of the author's failure to score the Validity Selection Variable blind with respect to the two other clinical interviews.

The author scored the Ego Identity and Interpersonal Relations Interviews first. During this time he formed opinions about the mental health status of some subjects and unavoidably committed some scores to memory. When the author rated the Mental Health Interview next, he was to divide subjects into a Valid and Non-Valid group soley on the basis of information from this interview. However, it was impossible to totally erase the information from the two earlier clinical interviews. Since the author knew subjects' mental health ratings (MHS) and in some cases could remember subjects' scores on EI and VPIR when scoring each Mental Health Interview, it may be no surprise that correlations between MHS (and SMHS) with only two structural mental health measures in the study, EI and VPIR, show large changes in correlation from the Valid and Non-Valid groups to the Full Sample. It may be argued that the author could have arranged this without awareness by placing all subjects who showed little discrepancy between scores on these three variables in the Valid group and subjects who showed large discrepancies in the Non-Valid group.

Fortunately, this alternative interpretation can be eliminated by examining interrater agreement for the Validity Selection Variable which the rater scored blind with respect to the other two interviews. Table 1 (p. 96) shows an acceptable exact agreement percentage

of 85 per cent between the author's and rater's scores in a group of twenty subjects and a correlation of .70 between the author's and rater's scores. This suggests that an interpretation of results from Prediction IVb in terms of the author's failure to score the interview blind can be rejected. Thus if one believes that a well-conducted clinical interview is a more sensitive assessment technique than projective tests or questionnaires, the results of Prediction IVb suggest that while male, college sophomores as a group are valid judges of their mental health, some subjects judge their mental health more validly than others.

Summary of Predicted Results

The findings of the study in terms of the four original predictions can be summarized as follows:

1. Predictions I and III were confirmed. Together they suggest within the sampling limitations of the study not only that male, college sophomores have a valid affective sense of their mental health but also that they are able to make valid global diagnostic statements about their mental health without being presented a definition of mental health as an aid.
2. Prediction II, which concerned the mechanism by which subjects were proposed to make such valid diagnostic statements, was not confirmed. The mechanism suggested that subjects would use a global affective definition as the referent in making such statements. Neither statistical analyses nor qualitative data from the Mental Health Interview confirmed this prediction.

3. Prediction IV concerned the two error hypotheses. Neither Prediction IVa nor IVb were confirmed:

   (1) Prediction IVa proposed spuriously high correlations between the two simple self-appraisal measures of mental health, MHS and SMHS, and structural measures of mental health. Its disconfirmation further strengthened confirmation of Predictions I and III.

   (2) Prediction IVb proposed that correlations of SMHS and MHS with all structural measures of mental health would increase from the Full Sample to the Valid Sample and decrease from the Full Sample to the Non-Valid Sample. It was not confirmed since such results were obtained only for the correlations of SMHS and MHS with the two structural mental health measures assessed by clinical interviews: EI and VPIR. After eliminating an interpretation of the obtained results in terms of the author's failure to score the Validity Selection Variable blind with respect to EI and VPIR, a post hoc interpretation was possible. If one assumed that clinical interviews were more sensitive assessment techniques than projective tests or questionnaires, the results suggested that while male, college sophomores as a group were able to validly judge their mental health, some subjects were better judges of their mental health than others.

Results Beyond Original Predictions: A Further Discussion of the Factor Analysis of Critical Study Variables

The results presented so far indicate that simple self-ratings of mental halth (MHS) in fact do correlate significantly and positively with criterion measures of mental health--and that this result cannot be explained by a social desirability response set. However, they do not correlate for the reasons originally predicted since there is no evidence that subjects use a global affective definition of mental health as the sole or major referent to make their self-ratings.

These findings raise a critical issue: if the observed correlation of the simple self-report measure of mental health with criterion variables does not occur for the reason originally proposed, how then does this correlation come about? The answer to this question can be found by examining the meaning of results from the oblique factor analysis in greater detail.

The fact that a single Self-Rated Mental Health Factor was obtained suggests that whatever differences exist between the variables on this factor, the variables, nevertheless, are basically the same. If this were not the case and differences truly were important, one would expect the Self-Rated Mental Health Factor to have split into more than one factor.

Consider the differences between variables on Factor I: some of the mental health measures differ in terms of content: ER-O and ER-S measure Ego Resilience, SI measures Separate Identity, while

SMHS measures a global positive orientation toward life; some of the measures differ along the affective-structural dimension: ER-O, ER-S, and SI are structural mental health measures while SMHS is an affective one; some of the measures differ in the type of self-assessment technique employed: ER-O, ER-S and SI employ questionnaire assessment while MHS and SMHS uses a simple nine point scale. Lastly, the simple self-ratings differ in that SMHS presents a definition to guide the subject in his self-rating, while MHS does not. Thus, the fact that the aforementioned five variables load highly on the same factor suggests that regardless of the content differences which exist between the variables, regardless of whether some of the measures are affective as opposed to structural, regardless of whether the self-rating instrument is a questionnaire or a simple nine point scale and regardless of whether a definition of mental health is provided with this nine point scale or not, ALL self-rated mental health variables in the study measure the same thing: Mental Health as rated by Self.

The same reasoning can be applied to the Expert-Rated Mental Health Factor. The mental health variables which load on this factor differ along several dimensions. All measures differ in terms of content: EI measures Ego Identity, VPIR measures Variety of Positive Interpersonal Relations, Cop measures coping potential and SA measures a tendency for self-assertion in certain situations. Some of the measures differ in terms of assessment technique: EI and VPIR were assessed by clinical interview while Cop and SA were

assessed by projective techniques. However, the fact that all of the above expert-rated variables load on a single factors suggests that regardless of the content differences between the variables and regardless of whether they are assessed by clinical interviews or projective (or projective-like) techniques, all expert-rated mental health variables measure the same thing: Mental Health as rated by Expert. However, the empirical existence of Mental Health as rated by Expert must be regarded as more tentative than the existence of Mental Health as rated by Self since SA and EI have relatively low loadings on Factor III and EI loaded by itself on Factor IV.

The third aspect of the obtained factor structure, that Factor I and Factor III show a moderate positive correlation of .41 with each other, also has an important meaning. It suggests that in a normal population Mental Health as rated by Self and by Expert are significantly different since two separate factors were obtained, yet significantly alike since the two factors were correlated.

Thus, further examination of factor analytic results suggests the empirical existence of two types of mental health: Mental Health as rated by Self and Mental Health as rated by Expert. The data suggest the existence of Mental Health as rated by Self strongly; they suggest the existence of Mental Health as rated by Expert more tentatively.

Now, it is possible to replace the faulty chain of reasoning found in Prediction III with at least a valid "empirical explanation" to account for the significant, positive correlation of MHS with criterion measures of mental health. MHS does not correlate with criterion variables because subjects use an affective definition of mental health

in making their self-ratings. Rather, it is because MHS is a measure of Mental Health as rated by Self. Therefore, MHS would be expected to correlate highly, as observed, with the self-rated structural variables, since they too are measures of Mental Health as rated by Self and to correlate at a moderate level of magnitude, as observed, with expert-rated mental health measures, since Mental Health as rated by Self correlates in a moderate positive fashion with Mental Health as rated by Expert.[1]

A Restatement of the Second Error Hypothesis

The fact that Mental Health as rated by Self and Expert are significantly both alike and different poses questions as to the ways they are similar and the ways they are different. The second error hypothesis attempted to investigate this question.

The second error hypothesis specified criteria by which subjects could be segregated into a Valid and Non-Valid group. All subjects in the Valid group demonstrated the presence of certain factors such as self-honesty, cooperativeness with the examiner, etc., which were proposed to contribute to a high positive correspondence between Mental Health as rated by Self as defined by MHS and Mental Health as rated by Expert. All subjects in the Non-Valid group lacked at least one of these factors. However, the hypothesis was not confirmed since the large,

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[1]This "empirical explanation," however, fails to explain in terms which do not repeat the findings of the study why MHS and criterion variables correlate at a moderately positive level. This finding can be explained by the assumption that subjects as a group have only moderately good judgment about and knowledge of their mental health. However, it can alternatively be explained by the fact that subjects may use different data on which to base their self-judgments than the expert would have at his disposal or that subjects may use different criteria in

expected increase and decrease occurred only for the correlations of MHS and SMHS with the two clinical interview variables, EI and VPIR.

Nevertheless, in view of our present knowledge about Mental Health as rated by Self and Expert, the second error hypothesis may have been overly strict in requiring an increase and decrease in correlation of SMHS and MHS with the three self-rated structural variables, ER-O, ER-S and SI, since these three variables basically measure the same thing as MHS or SMHS. Because the second error hypothesis attempts to isolate subjects into two groups only on the basis of those factors which detract from the correspondence between mental health as rated by self and expert, these factors should not be expected to affect the magnitude of the correlation between different measures of Mental Health as rated by Self from the Valid and Non-Valid to the Full Sample. Thus, the second error hypothesis could be restated that a large increase in correlation should be predicted for the correlations of self-rated mental health variables with all expert-rated variables.

However, even in its weaker form the second error hypothesis still is not confirmed since the observed increase occurs only for correlations of SMHS and MHS with measures of one type of expert-rated mental health--that assessed by the clinical interview--and fails to obtain for those measures assessed by projective techniques. This further underscores the tentative existence of Mental Health as rated by Expert as an empirical type of mental health.

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making their self-judgment than did the expert. It is impossible to determine which of these explanations is correct.

Final Summary of Results: Significance of the Study

Originally the study was conceived in an attempt to dispel skepticism about the validity of simple self-ratings of mental health in a normal population. In the opinion of the author the study has succeeded since the results demonstrate a statistically significant, positive relationship between self-ratings of mental health on a nine-point scale and various criterion measures of mental health. This suggests[1] that college sophomore males as a group can make valid diagnostic statements about themselves--a significant finding since often it is assumed that unconscious defenses, a social desirability response set and lack of knowledge of mental health preclude valid diagnostic self-appraisals. Further the results tend to suggest that some subjects may be better at judging their own mental health than others.

However, the original reason for believing that subjects would be able to rate their own mental health validly was proven wrong. Although it was found that college sophomore males do have a valid global affective sense of their mental health, nevertheless, the results did not confirm that subjects used this valid affective sense as the major referent to rate their mental health.

Instead, an explanation for the validation of MHS was offered in terms of the empirical existence of Mental Health as rated by Self and Mental Health as rated by Expert.

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[1] Within the sampling limitations of the study.

The empirical existence of Mental Health as rated by Self and Expert was a major finding of the study. It was discovered unexpectedly upon factor analyzing the critical variables of the study, that all self-rated mental health measures loaded highly on one factor, the Self-Rated Mental Health Factor, and all expert-rated variables loaded on another, the Expert-Rated Mental Health Factor. Therefore, the results suggested the existence of two empirical types of mental health: Mental Health as rated by Self and by Expert which were different, since two different factors were obtained, yet similar, since the two factors were correlated positively .41.

Last, the study suggested that the conceptual distinction between affective and structural definitions of mental health does not find empirical support. Although it is possible to divide definitions of mental health into those expressed in terms of certain affective states, such as feeling good, happy, zestful or depressed, anxious or tense about life and those expressed in terms of a structured relationship between aspects of the self or between the self and aspects of the environment, empirically affective and some structural mental health variables appear to measure the same thing: Mental Health as rated by Self.

Suggestions for Further Research

1. The finding that correlations of self-rated mental health (as measured by MHS and SMHS) with expert-rated clinical interview measures increase from the Full to the Valid Sample while this

increase does not occur for correlations of the same self-rated measures with expert-rated projective measures of mental health, raises an issue regarding the factorial unity of Mental Health as rated by Expert. Further research is needed to clarify this issue. Besides including additional clinical interview and TAT measures of mental health in such research, it would also be desirable to include other types of projective and clinical tests such as the Rorschach, Draw-A-Picture and Sentence Completion Test.

2. Although Mental Health Interviews have been used to score the Validity Selection Variable (i.e., divide subjects into a Valid and Non-Valid group) and have been examined briefly to disconfirm Prediction II, the Mental Health Interviews have not been studied carefully to determine the variety of meanings which subjects attribute to the term, mental health. This could make an interesting study in its own right. Results perhaps could be related to the current project.
3. It also would be interesting to repeat this study on a clinical population to determine the extent to which skepticism concerning the validity of self-appraisals of mental health is warranted among patients. If results were obtained similar to those in the present study, this would suggest that even patients as a group are more expert about their mental health than some psychologists generally believe. Such findings would provide experimental evidence tending to dethrone the Freudian image of the clinician as the benevolent expert whose major role is to understand more

about patients than they understand about themselves and to impart this knowledge at the appropriate time. Instead, they would tend to favor a Rogerian approach in which the patient himself is seen as more of an expert on his own mental health and the role of the therapist is viewed more in terms of accepting the patient as he is and perhaps providing a source of confidence that emotional problems can be resolved through honest and thorough self-confrontation even when the going gets rough.

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APPENDIX A

EGO RESILIENCE-OBVIOUS AND EGO RESILIENCE-SUBTLE
(MMPI Measures)

EGO RESILIENCE-OBVIOUS (ER-O)

The Ego Resilience-Obvious Scale contains 108 items: 54 scored in the true direction; 54 scored in the false. The item numbers below correspond to the item numbers on Questionnaire I.

Items scored "True"

1. I very seldom have spells of the blues.

5. I have never had any black, tarry-looking bowel movements.

7. I have no dread of going into a room by myself where other people have already gathered and are talking.

8. I do not often notice my ears ringing or buzzing.

18. My daily life is full of things that keep me interested.

23. I have never seen a vision.

24. I am happy most of the time.

31. The members of my family and my close relatives get along quite well.

32. I am not bothered by a great deal of belching of gas from my stomach.

34. I liked school.

35. I like to attend lectures on serious subjects.

41. My daily life is fully of things that keep me interested.

46. My hands and feet are usually warm enough.

48. I have very few headaches.

50. I do not tire quickly.

51 During the past few years I have been well most of the time.

54. My eyesight is as good as it has been for years.

56. I seem to be about as capable and smart as most others around me.

58. I am almost never bothered by pains over the heart or in my chest.

61. I have never vomited blood or coughed up blood.

64. I do not have a great fear of snakes.

67. I do not mind meeting strangers.

74. I am entirely self-confident.

75. My feelings are not easily hurt.

77. I am very seldom troubled by constipation.

79. I am a good mixer.

86. I am not afraid to handle money.

89. I have had no difficulty in starting or holding my bowel movement.

90. I have had no difficulty starting or holding my urine.

94. I have never been in trouble because of my sex behavior.

95. I hardly ever notice my heart pounding and I am seldom short of breath.

96. I do not dread seeing a doctor about a sickness or injury.

97. My hands have not become clumsy or awkward.

99. I have little or no trouble with my muscles twitching or jumping.

102. I have never felt better in my life than I do now.

103. I am about as able to work as I ever was.

105. I seem to make friends about as quickly as others do.

106. It does not bother me that I am not better looking.

107. I believe that my home life is as pleasant as that of most people I know.

108. I like poetry.

110. I am not easily angered.

111. I am usually calm and not easily upset.

114. I like parties and socials.

115. Most nights I go to sleep without thoughts or ideas bothering me.

116. I am not afraid of fire.

118. I have never had any breaking out on my skin that has worried me.

123. I enjoy many different kinds of play and recreation.

125. In a group I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.

126. I am not unusually self-conscious.

130. I wake up fresh and rested most mornings.

131. I have few or no pains.

135. I usually expect to succeed in things I do.

137. I have no fear of water.

148. I am neither gaining nor losing weight.

Items scored "False"

2. My sleep is fitful and disturbed.

3. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."

4. Most of the time I feel blue.

9. I certainly feel useless at times.

11. If I could get into a movie without paying and be sure I was not seen, I would probably do it.

12. I feel weak all over much of the time.

13. I feel that I have often been punished without cause.

14. Once a week or oftener I feel suddenly hot all over, without apparent cause.

15. Sometimes I feel as if I must injure either myself or someone else.

16. I frequently notice my hand shakes when I try to do something.

17. I brood a great deal.

19. I have a great deal of stomach trouble.

20. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.

25. There is very little love and companionship in my family as compared to other homes.

27. Much of the time my head seems to hurt all over.

30. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.

33. I frequently find myself worrying about something.

37. I have used alcohol excessively.

38. I get mad easily and then get over it soon.

40. I am afraid when I look down from a high place.

42. Some of my family have habits that bother and annoy me very much.

43. I resent having anyone take me in so cleverly that I have had to admit that it was one on me.

44. The top of my head sometimes feels tender.

47. At times I have a strong urge to do something harmful or shocking.

49. I cry easily.

52. Often I can't understand why I have been so cross and grouchy.

59. I am afraid of losing my mind.

60. I work under a great deal of tension.

62. I feel that it is certainly best to keep my mouth shut when I'm in trouble.

63. I have often lost out on things because I couldn't make up my mind soon enough.

69. My parents have often objected to the kind of people I went around with.

70. I think most people would lie to get ahead.

71. At times I have very much wanted to leave home.

72. These days I find it hard not to give up hope of amounting to something.

78. Often I feel as if there were a tight band about my head.

80. At times I feel like smashing things.

82. Most any time I would rather sit and daydream than to do anything else.

85. I find it hard to keep my mind on a task or job.

91. Criticism or scolding hurts me terribly.

98. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.

100. I have nightmares every few nights.

109. There seems to be a fullness in my head or nose most of the time.

117. I do many things which I regret afterwards (I regret things more or more often than others seem to).

119. Most people are honest chiefly through fear of being caught.

120. I have a cough most of the time.

121. Parts of my body often have feelings like burning, tingling, crawling or like "going to sleep."

122. I am troubled by discomfort in the pit of my stomach every few days or oftener.

129. I am certainly lacking in self-confidence.

133. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.

134. I have not lived the right kind of life.

138. I am bothered by acid stomach several times a week.

140. I have had periods in which I carried on activities without knowing later what I had been doing.

143. Evil spirits possess me at times.

145. Once in a while I think of things too bad to talk about.

EGO RESILIENCE-SUBTLE (ER-S)

The Ego Resilience-Subtle Scale contains 40 items: 20 scored in the true direction; 20 scored in the false. The item numbers below correspond to the item numbers on Questionnaire I.

Items scored "True"

10. I am an important person.

29. Religion gives me no worry.

39. I have often wished I were a girl. (Or if you are a girl) I have never been sorry that I am a girl.

45. I seldom worry about my health.

65. I have never been made especially nervous over trouble that any members of my family have gotten into.

68. I can stand as much pain as others can.

76. I get all the sympathy I should.

83. I do not worry about catching diseases.

84. I almost never dream.

87. I believe I am no more nervous than most others.

88. When I leave home I do not worry about whether the door is locked and the windows closed.

93. I daydream very little.

101. It is not hard for me to ask help from my friends even though I cannot return the favor.

104. It wouldn't make me nervous if any members of my family got into trouble with the law.

112. I practically never blush.

127. I have been quite independent and free from family rule.

132. My speech is the same as always (not faster or slower, or slurring; no hoarseness).

139. I hardly ever feel pain in the back of the neck.

144. I do not mind being made fun of.

147. I blush no more often than others.

Items scored "False"

6. I am often sorry because I am so cross and grouchy.

21. I have several times had a change of heart about my life work.

22. I drink an unusually large amount of water every day.

26. I feel sympathetic toward people who tend to hang on to their griefs and troubles.

28. I have had periods when I felt so full of pep that sleep did not seem necessary for days at a time.

36. I am easily awakened by noise.

53. I dream frequently.

55. I have often felt badly over being misunderstood when trying to keep someone from making a mistake.

57. At times my thoughts have raced ahead faster than I could speak them.

66. I often must sleep over a matter before I decide what to do.

73. My hardest battles are with myself.

81. I frequently find it necessary to stand up for what I think is right.

92. I wish I were not so shy.

113. I wish I could get over worrying about things I have said that may have injured other people's feelings.

124. My mother or father often made me obey even when I thought that it was unreasonable.

128. The man who had most to do with me when I was a child (such as my father, stepfather, etc) was very strict with me.

136. I have had very peculiar and strange experiences.

141. I frequently ask people for advice.

142. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others.

146. It takes a lot of argument to convince most people of the truth.

APPENDIX B

SEPARATE IDENTITY SCALE BEFORE AND AFTER CLUSTERING[1]

On the following pages are listed the original fifty-six items of the Separate Identity Scale by content categories. Item numbers refer to the item number of Questionnaire II (or Supplementary Questionnaire). An asterisk indicates that the item was chosen by the cluster program for inclusion in the final version of the scale. Both the original scoring direction and the scoring direction assigned by the program are given. "Reject" in the Final Scoring Direction column indicates that the item was rejected for the final version of the scale. The final version of the scale contained thirty-six items, fifteen items keyed true, twenty-one items keyed false.

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[1] The original Separate Identity Scale was also clustered on 198 females in the Supplementary Questionnaire sample. The program extracted a final cluster of 34 rather than 36 items, 17 keyed in the true direction, 17 keyed in the false direction, by chance, an acquiesence free measure. The following items were keyed "true:" 3, 6, 12, 13, 20, 24, 25, 29, 36, 40, 46, 47, 49, 76, 82, 85, 88; the following were keyed "false": 4, 9, 10, 16, 22, 39, 41, 45, 48, 53, 59, 66, 67, 69, 70, 74, 77. Coefficient Alpha was .85.

Comparing scales for males and females, 29 of a possible 34, or 85 per cent of the items were identical; i.e., agreed with respect to item number and scoring direction. The remaining seven items on the male form and five items on the female form were found only on their respective scales. For males this included items 68, 15, 33, 35, 43, 64 and 83; for females, 24, 59, 88, 47 and 48.

Content Category and Included Items		Original Scoring Direction	Final Scoring Direction
I.	Sense of Being Confident of and Responsible for One's Life Direction.		
* 6.	It does not make me particularly anxious to think about where I am going in life.	True	True
*20.	I feel I am or will be a success in what I do.	True	True
24.	I am not afraid to set long-range goals and plans for myself.	True	Reject
*33.	Where I have been and where I am going in life seem mostly to be determined by chance and fate.	False	False
*49.	I feel pretty confident about where my life will take me.	True	True
*68.	I feel responsible for the direction my life takes.	True	True
*85	I know where I am going in life.	True	True
II.	Can Stand on Own Two Feet Without Undue Need for Support from Others.		
*16.	I tend to feel lost without other people.	False	False
*29.	When something bothers me I can usually handle it myself.	True	True
*41	I often need to talk to other people to make up my mind about something.	False	False
*45.	I need the support of other people to get me through the crises in my life.	False	False
*66.	Other people's approval is extremely important to me.	False	False
*83.	Being close to people is the most important thing in my life.	False	False

Content Category and Included Items		Original Scoring Direction	Final Scoring Direction
III.	Takes Responsibility for Realization of Own Capacities. Does not Blame Others for Shortcomings.		
* 4.	If other people would just recognize and appreciate my talents, I could go a lot further in life than I have.	False	False
*39.	I often feel that it is others that prevent me from becoming what I could.	False	False
*46.	I do not think there is much that would hold me back from becoming what I want to be within the limits of my capacities.	True	True
65.	Most of the shortcomings in my life are due to other people.	False	Reject
88.	I am not hesitant to utilize my talents.	True	Reject
IV.	Gets Sufficient Attention and Appreciation from Others; is not Bothered by "Normal" Impersonality of Every Day Life and Normal Lack of Positive Response from Others.		
* 3.	I generally feel I get enough attention from others.	True	True
*10.	I feel alienated from people much of the time.	False	False
*15.	I think I am more aware than most people of how others react to me when we meet for the first time.	False	False
*25.	People appreciate me about as much as they should.	True	True
*35.	The impersonality of everyday life bothers me a good deal.	False	False
37.	Most people don't realize how important love and positive feelings are in dealing with the world.	False	Reject
47.	I am open and friendly with practically all the people I meet.	False	Reject

Content Category and Included Items		Original Scoring Direction	Final Scoring Direction
	*67. It bothers me when strangers do not treat me in a friendly way.	False	False
	*70. I wish people would be more affectionate toward me.	False	False
	*74. I often feel lonely even when I am with other people.	False	False
	*77. I try hard to be accepted by others.	False	False
V.	Can Cope with Difference or Unexpected Situations that Arise.		
	*12. I trust myself to deal with surprising or or unexpected things when they occur.	True	True
	*76 I feel I can adapt to many different situations and still be me.	True	True
VI.	Acceptance of Unpredictability of Life.		
	18. I like situations where I can't predict how things will turn out.	True	Reject
	*43. It bothers me that the world is not a more predictable place.	False	False
	61. Life is a pretty predictable thing.	False	Reject
VII.	Sense of Knowing Who One is--Lack of Disorganization or Chaos in Life.		
	* 9. My life seems full of confusion and disorder.	False	False
	*40 I have few doubts in my mind about who I am.	True	True
	*53. I wish I could put together the pieces of my life.	False	False
	*69. I have gone through so many changes in my life that I can hardly recognize myself.	False	False

Content Category and Included Items		Original Scoring Direction	Final Scoring Direction
VIII.	Has Firm Enough Sense of Self that Subject is not Threatened by Positive Qualities in Others Which he Lacks.		
	*36. It does not bother me that some men (or if you are a woman, some women) are better looking than I am.	True	True
	*82. It usually does not bother me when others have desirable characteristics which I lack.	True	True
IX.	Sense of Uniqueness of Self.		
	55. I try hard to be different from other people.	False	Reject
	75. I am an extremely unique person.	False	Reject
	80. There is something unique about my life even though it is not too different from the lives of others I know.	True	Reject
X.	Positive Attitude Toward States of Separateness.		
	57. To feel separate is to be isolated from others.	False	Reject
	*64. Most people who go their own way are egotistical and do not show much concern for others.	False	False
	72. There is an element of aloneness in every person's life.	True	Reject
XI.	Aware and Tolerant of Differences Between People.		
	1. I could respect someone who, from the strength of his own conviction, did something I strongly advised against.	True	Reject
	8. I feel that in most ways people are alike.	False	Reject
	*22. I tend to be easily put off by people who are different from myself.	False	False
	51. When it comes right down to it, most people are very much like me.	False	Reject

Content Category and Included Items	Original Scoring Direction	Final Scoring Direction
XII. Sense of Continuity of Self with Past.		
27. The more I change, the more I sense a certain unchanging core that is me.	True	Reject
48. I often feel as though my present life has no relation at all to my past.	False	Reject
62. I am a totally different person now from what I was as a child.	False	Reject
XIII. Miscellaneous.		
*13. I am very adept at fitting into various situations as the situations demand.	False	True
31. I am rarely aware of deadlines or time pressures.	False	Reject
59. I am often somewhat reserved in meeting new people.	True	Reject

APPENDIX C

ORIGINAL EGO IDENTITY INTERVIEW (MARCIA) AND MODIFICATION USED IN STUDY

ORIGINAL EGO IDENTITY STATUS INTERVIEW (MARCIA)

Introduction:

What year are you in?
Where are you from? Living at home?
How did you happen to come to [name of school]?

Did your father go to college? Where? What does he do now?
Did your mother go to college? Where? What does she do now?

Occupation:

You said you were majoring in _____; what do you plan to do with it?
When did you come to decide on ___? Did you ever consider anything else?
What seems attractive about _____?
Most parents have plans for their children, things they'd like them to go into or do--did yours have any plans like that for you?
How do your folks feel about your plans now?

How willing do you think you'd be to change this if something better came along? [If S responds: "What do you mean by better?"] Well, what might be better in your terms?

Religion:

Do you have any particular religious affiliation or preference?
How about your folks?
Ever very active in church? How about now? Get into many religious discussions?
How do your parents feel about your beliefs now?
Are yours any different from theirs?

Was there any time when you came to doubt any of your religious beliefs?
When? How did it happen? How did you resolve your questions?
How are things for you now?

Politics:

Do you have any particular political preference?
How about your parents?
Ever take any kind of political action--join groups, write letters, participate in demonstrations--anything at all like that?
Any issues you feel pretty strongly about?
Any particular time when you decided on your political beliefs?
What did you think of the past election?

MODIFIED EGO IDENTITY INTERVIEW SCHEDULE

Introduction:

What year are you in?
Where are you from?
How did you happen to come to the U of M?
Did your father go to college? Where? What does he do now?
Did your mother go to college? Where? What does she do now?

General Question:

Do you have any idea what you'll be going into?

Next Question:

Ask what seems most natural in light of the subject's answer. In general save COMMITMENT questions to the end of the interview if the subject's status is not clear by that time. Otherwise questions should be natural, spontaneous.

A list of possible questions to be used as an aid in conducting the interview is listed on the sheet titled "Probes" [which follows].

PROBES

Commitment:

How willing do you thinkyou'd be to change your mind to something else?
How sure are you that you'll be going into ____?
From the possibilities you've mentioned, does one seem more likely than the rest?
Do you thinkyou'll choose from the choices you've mentioned, or could another possibility come along which could appear even more attractive?
Do you feel you're having trouble making up your mind about what you want to go into or is it just not particularly relevant to you at this time?

Crisis:

How did you come to decide on _____?
Was there ever a period when you seriously questionned or doubted what you wanted to go into?
What was it like for you?

Social Comprehensiveness:

Why ___?
What interests you about _____?
Are there people in ___ that you'd like to be like?
Are there people in ___ you admire?
What sort of thing does the typical _____ do?
What are the typical activities of a _____ like?
What is the life of a _____ like?
What do you think your life as a _____ will be like?
What do you see as the value of _____?

Personal Comprehensiveness:

What appeals to you about _____?
What do you like about _____?
What don't you like about _____?
What interests you about _____?
Have you always been interested in _____?
Is there anything about _____ which makes it particularly suited to you?

Affective Comprehensiveness:

To be inferred from subjects responses and non verbal-behavior.

APPENDIX D

SCENES PORTRAYED IN PICTURES
(Used to Assess Coping)

Picture 1 - Arrival on campus.

Student standing on a crossway of paths on campus with arrows pointing opposite directions.

Picture 2 - Social gathering.

Boy is being handed punch by woman. Girl standing by herself watching him. Obvious attraction as indicated by special shading effects. Other students in background.

Picture 3 - Roommate conflict.

Student at his desk in a dorm studying, with crumpled papers around him. Three background figures gesticulating and laughing. Clock on the wall and moon through the window indicate the lateness of hour. Student's expression indicates tension.

Picture 4 - Freshman hazing/Fraternity Rush.

Slightly built boy "scholar" wearing glasses approached by two husky boys, onewith a school letter and the other with a fraternity letter on his sweater.

Picture 5 - Terrace Scene.

Several dressed up couples standing about, those in the foreground looking at each other.

Picture 6 - Examination, classroom scene.

Blackboard has "final exam" written on it with "five minutes" crossed out beneath it. Clock on wall indicates 5 minutes to 4:00. Girl in middle ground is putting blue book on pile. Door to the left toward

which she is turned is quite conspicuous. Back view of students still working.

Picture 7 - Student union.

Student alone at table casting a sidelong glance at a nearby table full of young men obviously having a good time together.

Picture 8 - Double date.

Two couples in an automobile. Front seat dates sitting physically closer than back seat couple.

Picture 9 - Calling home.

Student on the phone in a booth in one corner of picture. Older adults (parents) at the other corner. Diagonal slash separates scene of boy calling from second scene of parents on other end with enigmatic expression on faces.

Picture 10 - Day dreaming alone.

Boy is shown reclining in a comfortable chair hands behind his head, legs stretched out.

APPENDIX E

CONTENTS OF SITUATIONS
(Used to Assess Self-Assertion)

Situation 1 - You have just received change from the cashier at a supermarket and have been short changed between twenty-five and fifty cents. There is a long line of people waiting to be checked out and the cashier seems concerned to wait on the next customer.

Situation 2 - You have been waiting for service in a restaurant for over thirty minutes after being seated with your date. You are eager to place your order because you are both hungry and want to get to a party, but you see the restaurant is short of help. You have thought of going elsewhere but like the food and do not want to hassle going somewhere else.

Sitaution 3 - You have just had something fixed at a local repair shop like a TV, radio, watch, car, etc. When you get it back, you discover that they did not fix it as well as you think they should, although it is much more useable than before. The shop has "hit" you with the typical high charges for labor and parts.

Situation 4 - You have moved into an apartment building where the accoustics are rather poor and the guy next door plays his hi-fi blaringly loud. You generally let it pass, but today you would like to study at home and need extra quiet and the music is as loud as

usual. You are not on particularly friendly terms with your neighbor.

Situation 5 - You have gone to a movie with a date and are sitting next to a couple with a small baby. The baby cries a great deal and is making it difficult to hear and is becoming a general irritation. The parents seem to alternate between being oblivious to their child's crying and attempting to quiet it and the theater is so full that changing seats is impossible.

Situation 6 - You have bought some rather expensive merchandise from a store which claims to stand behind what it sells. Although you have used the merchandise, it begins to fall apart after a short while. When you attempt to return it, the salesperson refuses to take it back because he claims that it has been used and that store policy allows returns only on unused merchandise. The more you argue with him, the more obstinate and irritated he becomes.

Situation 7 - A teacher has given you what seems to you an unfair grade. The course, although not critical to you is nevertheless in your major. However, the teacher is known to be extremely unreceptive to student "complaints" about grades, if not downright unreasonable.

Situation 8 - You arrive at a party with the hope of meeting a girl there. You spot a girl who by far attracts you the

most, but before you can ask her to dance, another fellow makes the first move.

APPENDIX F

CROWNE-MARLOWE SOCIAL DESIRABILITY SCALE

The Crowne-Marlowe Social Desirability Scale contains 33 items: 18 scored in the true direction; 15 scored in the false. The item numbers listed below correspond to the item numbers on Questionnaire II or the Supplementary Questionnaire.

Items scored "True"

5. No matter who I'm talking to, I'm always a good listener.

11. I am always careful about my manner of dress.

17. When I don't know something I don't at all mind admitting it.

19. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.

26. I would never think of letting someone else be punished for my wrongdoings.

28. I never make a long trip without checking the safety of my car.

32. I never resent being asked to return a favor.

38. I'm always willing to admit it when I make a mistake.

42. I always try to practice what I preach.

52. I have never felt that I was punished without cause.

54. I am always courteous, even to people who are disagreeable.

58. I have never deliberately said something that hurt someone's feelings.

63. I have never been irked when people expressed ideas very different from my own.

71. Before voting, I thoroughly investigate the qualifications of all the candidates.

73. I never hesitate to go out of my way to help someone in trouble.

79. I have never intensely disliked anyone.

86. My table manners at home are as good as when I eat out in a restaurant.

89. I have almost never felt the urge to tell someone off.

Items scored "False"

2. If I could get into a movie without paying and be sure I was not seen, I would probably do it.

7. I can remember "playing sick" to get out of something.

14. I sometimes try to get even, rather than forgive and forget.

21. At times, I have really insisted on having things my own way.

23. There have been occasions when I felt like smashing things.

30. There have been occasions when I took advantage of someone.

34. There have been times when I was quite jealous of the good fortune of others.

44. On a few occasions, I have given up doing something because I thought too little of my ability.

50. I am sometimes irritated by people who ask favors of me.

56. I sometimes think when people have a misfortune, they only got what they deserved.

60. On occasion I have had doubts about my ability to succeed in life.

78. It is sometimes hard for me to go on with my work if I am not encouraged.

81. There have been times when I felt like rebelling against people in authority even though I knew they were right.

84. I sometimes feel resentful when I don't get my way.

87. I like to gossip at times.

APPENDIX G

SAMPLING FORMS: FACESHEETS I AND II, SUBJECT RECRUITMENT FORM AND SAMPLE LETTERS

(FACESHEET I)

DESCRIPTION OF STUDY

The attached Subject Recruitment Form will be used to select subjects for a research project on people's appraisals of their own mental health. The study has two main goals: first, to create a simple measure of mental health based on self-report and, second, to discover the personal meaning of mental health to each subject.

The collection of data, which will begin in two weeks, will require two, two-hour sessions. Unfortunately because of lack of funds, I can pay subjects only $3.00 for participation. Each subject will take some brief psychological tests, be interviewed on several topics and fill out some questionnaires.

Since you may be concerned about confidentiality, let me assure you that all data will be held in the strictest confidence.

Please fill out the attached form even if you are not interested in taking part in the study. If you have any additional questions, I will be glad to answer them.

Jeremy M. Katz
Graduate Student
Department of Psychology
764-3180

(You may remove this sheet for reference, if you wish)

(FACESHEET II)

DESCRIPTION OF STUDY

The attached form will be used to select subjects for a research project on people's appraisals of their own mental health. I became interested in this topic as I grew increasingly aware of the discrepancy between book definitions of mental health and the way people actually experience it and became convinced that the way people experience their mental health should be an important part of its definition. The project itself has two main goals: first and most important, to explore the personal meaning of mental health to each subject and, second, to create a simple measure of mental health based on self-report.

Ideally, I would like to do away with this written description, tell you about the study in a more personal way and answer any questions you have, but am unable to because I would cut too much into class time. However, if you have any questions, I encourage you to call me at my office, K-400 West Quad, 764-4128, or stop by.

Sometimes people are wary of taking part in a study like this. I am not exactly sure why this is, but I think some of it may stem from their thinking that I will tell them bad things about their mental health or that I will ferret out secrets about themselves that they do not want to reveal. None of this is true. What I simply want to do is learn and understand how each subject feels about his mental health.

The collection of data, which has already begun, will require two, two-hour sessions. Unfortunately because of lack of funds, I can pay each subject only $3.00 for participation. Both indirect and direct ways of assessing feelings about mental health will be used. The indirect procedure will employ some brief psychological tests, questionnaires and interviews while the direct method will involve a single interview. Both sessions will be completed this semester. If you have any questions about the interviews or testing, please contact me.

Since you may be concerned about confidentiality, let me assure you that all data will be held in the strictest confidence.

I would appreciate your filling out the attached form even if you are not interested in taking part in the study since the data from people who decided not to participate will also be helpful in analyzing the results. Please do not fill out this form if you have already filled one out in another class.

Thank you for your help.

Jeremy M. Katz
Graduate Student
Department of Psychology
764-4128

(You may remove this sheet for reference, if you wish.)

SUBJECT RECRUITMENT FORM

The purpose of this form is to recruit a large sample of subjects from which a smaller subsample can be randomly chosen for a dissertation research project on people's appraisals of their own mental health. Subjects chosen for the subsample will be paid $3.00 for participation in the project. Even if you do not want to take part, please answer the brief questions below and on the second page.

1. Today's date: _____

2. Class where form completed (i.e., English 201, etc.): _____

3. Sex (Circle one): Male Female

4. Race (Circle one): White Black Other (Specify): _____

5. Class year (Circle one): Freshman Sophomore Junior Senior Grad

   Other (Specify): _____

6. Major: _____ or __ (Check) Major not selected

7. Psychology courses:

   a. Completed: _____

   _____

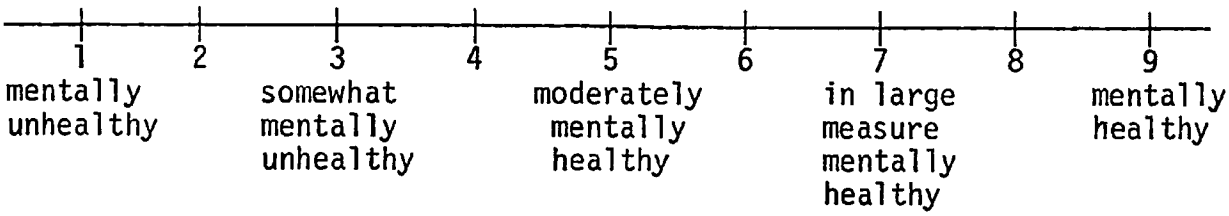
   b. Currently being taken: _____

   _____

8. Rating of own mental health:

Mental health is a personal thing and means different things to different people. The purpose of this item is to find out how you feel about your own mental health. Rate yourself on the scale below by circling the whole number from 1-9 which corresponds to how you feel about your mental health. If you are unable to rate yourself, you may check instead one of the two categories listed under the scale. Please consider your rating carefully since it is central to the study.

I consider myself:



I cannot rate myself on the above scale (Check one):

__ a. Because I do not feel the dimension of mental health is relevant to the way I think of myself.

__ b. For some other reason (Please specify): _____

_____

_____

9. Would you participate in the project if selected from the large sample?

(Circle one): Yes No

a. If NO, please specify reason: _____

_____

_____

b. If YES, please fill in name, telephone number and identification code on attached 5 x 8 card.

THE UNIVERSITY OF MICHIGAN
DEPARTMENT OF PSYCHOLOGY
ANN ARBOR, MICHIGAN 48104

December 16, 1971

Dear

Several months ago I went to one of your classes in the History, Economics or Political Science Department to recruit subjects for my dissertation, a study concerning the personal meaning of mental health to each subject and an attempt to create a simple self-report measure of mental health. At that time you expressed a willingness to participate if you were selected from the total group of people who were interested in taking part. From this group I randomly selected fifty-five subjects and your name was one of those chosen.

I hope that you are still interested in taking part. The study will involve two data collection sessions, the first of which will start at the beginning of the Winter semester and the last of which will be completed by the end of this same semester. I will phone you after vacation to make a appointment for the first session and to answer any questions you have.

Sincerely,

Jeremy M. Katz
Graduate Student
Department of Psychology

THE UNIVERSITY OF MICHIGAN
DEPARTMENT OF PSYCHOLOGY
ANN ARBOR, MICHIGAN 48104

March 24, 1972

Dear

Last semester I went to one of your classes in the History, Economics of Political Science Department to recruit subjects for my doctoral dissertation, a study concerning the personal meaning of mental health to each subject and an attempt to create a simple self-report measure of mental health. At that time you expressed a willingness to participate if you were selected from the total group of people who were interested in taking part. Although I randomly selected 55 subjects from this total group of 292 earlier this semester and have already collected much of the data on these subjects, I have recently discovered that I need several additional subjects to make my statistical analyses more meaningful.

I hope that you are still interested in taking part. The study will involve two data collection sessions, both of which will be completed before the end of this semester. I will phone you soon to make an appointment for the first session and to answer any questions you have. I am offering $3.00 for participation.

Sincerely,

Jeremy M. Katz
Graduate Student
Department of Psychology

APPENDIX H

ZERO ORDER "PAIRWISE," ZERO ORDER "CASEWISE" AND PARTIAL CORRELATION MATRICES OF MAJOR STUDY VARIABLES FOR THE FULL, VALID AND NON-VALID SAMPLES

TABLE H.1.

MAJOR STUDY VARIABLES: FULL SAMPLE--ZERO ORDER, PAIRWISE CORRELATIONS

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MHS	----																	
SMHS	-.65	----																
ER-O	.64	-.72	----															
ER-S	.31	-.49	.70	----														
SI	.51	-.59	.75	.61	----													
EI	.39	-.29	.38	.35	.37	----												
VPIR	.35	-.30	.26	.08	.31	.46	----											
Cop	.47	-.42	.45	.31	.38	.28	.49	----										
Dat	.43	-.34	.43	.26	.26	.16	.31	.79	----									
SA	.16	-.09	.23	.13	.11	.29	.26	.34	.31	----								
EFT	.00	-.01	-.03	-.02	-.10	.15	-.05	.02	.07	-.15	----							
Comp I: EI, VPIR	.39	-.36	.38	.24	.41	.85	.85	.40	.22	.37	.04	----						
Comp II: EI, VPIR, Cop	.44	-.43	.45	.28	.46	.79	.87	.61	.39	.43	.01	.97	----					
Comp III: EI, VPIR, Cop, SA	.45	-.43	.48	.30	.44	.78	.81	.63	.42	.63	-.05	.93	.97	----				
Comp IV: EI, VPIR, Cop, SA, SI	.53	-.56	.66	.45	.92	.74	.75	.64	.43	.53	-.10	.87	.92	.93	----			
CMSD	.37	-.23	.43	.34	.34	.13	.21	.38	.47	.14	.09	.17	.23	.22	.33	----		
Rand 1	.08	-.17	-.10	-.16	-.06	-.32	.08	-.10	.08	-.19	.03	-.16	-.13	-.16	-.13	-.04	----	----
Rand 2	-.21	.21	-.22	-.15	-.20	-.33	-.23	-.22	-.18	-.20	-.03	-.31	-.32	-.33	-.35	-.29	.21	

TABLE H.2

MAJOR STUDY VARIABLES: FULL SAMPLE--ZERO ORDER, CASEWISE CORRELATIONS (N=44)

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MHS	----																	
SMHS	-.68	----																
ER-O	.63	-.75	----															
ER-S	.29	-.52	.72	----														
SI	.50	-.68	.81	.65	----													
EI	.38	-.36	.46	.34	.50	----												
VPIR	.38	-.35	.30	.11	.27	.55	----											
Cop	.40	-.48	.46	.29	.40	.25	.53	----										
Dat	.36	-.44	.45	.25	.22	.10	.31	.77	----									
SA	.21	-.16	.30	.19	.16	.44	.41	.50	.43	----								
EFT	-.08	.00	.01	-.05	-.08	.06	-.01	.09	.01	-.11	----							
Comp I: EI, VPIR	.43	-.40	.42	.25	.43	.88	.89	.45	.23	.48	.03	----						
Comp II: EI, VPIR, Cop	.48	-.47	.48	.29	.48	.81	.01	.65	.40	.54	.00	.97	----					
Comp III: EI, VPIR, Cop, SA	.45	-.44	.48	.29	.44	.80	.85	.67	.44	.70	-.02	.94	.98	----				
Comp IV: EI, VPIR, Cop, SA, SI	.53	-.59	.67	.47	.71	.80	.75	.68	.43	.62	-.05	.88	.93	.94	----			
CMSD	.33	-.29	.48	.43	.32	.17	.12	.32	.42	.22	.12	.16	.22	.24	.33	----		
Rand 1	.05	-.21	.21	-.13	-.18	-.08	-.34	.09	.05	.01	-.25	-.14	-.11	-.15	-.13	-.04	----	
Rand 2	-.15	.20	-.23	-.19	-.26	-.37	-.27	-.21	-.20	-.30	-.06	-.36	-.36	-.38	-.40	-.16	.04	----

TABLE H.3

MAJOR STUDY VARIABLES: FULL SAMPLE--PARTIAL CORRELATIONS CONTROLLING FOR SOCIAL DESIRABILITY (N=44)

	NHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
NHS	----																	
SMHS	-.65	----																
ER-O	.57	-.72	----															
ER-S	.17	-.46	.65	----														
SI	.44	-.64	.79	.60	----													
EI	.35	-.33	.43	.30	.48	----												
VPIR	.36	-.33	.27	.05	.24	.54	----											
Cop	.33	-.43	.36	.18	.33	.22	.52	----										
Dat	.25	-.37	.31	.09	.11	.03	.29	.73	----									
SA	.14	-.10	.22	.11	.10	.42	.39	.47	.38	----								
EFT	-.13	.04	-.06	-.11	-.13	.04	-.02	-.14	-.04	-.14	----							
Comp I: EI, VPIR	.41	-.38	.40	.21	.41	.87	.88	.42	.18	.46	.01	----						
Comp II: EI, VPIR, Cop	.44	-.44	.44	.22	.44	.81	.90	.62	.35	.52	-.03	.97	----					
Comp III: EI, VPIR, Cop, SA	.41	-.40	.43	.22	.40	.79	.86	.64	.39	.69	-.06	.94	.98	----				
Comp IV: EI, VPIR, Cop, SA, SI	.47	-.55	.62	.38	.68	.81	.76	.64	.34	.60	-.10	.89	.93	.94	----			
CMSD	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
Rand 1	.07	-.23	-.13	-.18	-.07	-.34	.09	.06	.03	-.25	.05	-.13	-.10	-.15	-.13	----	----	
Rand 2	-.10	.17	-.18	-.13	-.22	-.35	-.25	-.17	-.15	-.27	-.04	-.34	-.34	-.35	-.37	----	.03	----

TABLE II.4

MAJOR STUDY VARIABLES: VALID SAMPLE--ZERO ORDER, PAIRWISE CORRELATIONS

	MIS	SMIS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MIS	----																	
SMIS	-.75	----																
ER-O	.67	-.77	----															
ER-S	.38	-.52	.77	----														
SI	.55	-.70	.84	.68	----													
EI	.73	-.74	.78	.50	.78	----												
VPIR	.79	-.68	.57	.30	.60	.63	----											
Cop	.52	-.48	.59	.53	.63	.60	.57	----										
Dat	.35	-.36	.43	.44	.40	.36	.37	.81	----									
SA	.16	-.17	.34	.35	.45	.40	.38	.50	.59	----								
EFT	.01	-.16	.08	.04	.00	-.09	-.13	-.04	.14	-.36	----							
Comp I: EI, VPIR	.83	-.80	.74	.44	.77	.89	.91	.64	.42	.50	-.13	----						
Comp II: EI, VPIR, Cop	.81	-.79	.76	.50	.79	.88	.89	.77	.55	.55	-.13	.98	----					
Comp III: EI, VPIR, Cop, SA	.75	-.75	.76	.52	.79	.87	.84	.79	.60	.69	-.20	.96	.98	----				
Comp IV: EI, VPIR, Cop, SA, SI	.70	-.78	.82	.61	.90	.89	.79	.79	.57	.68	-.16	.92	.96	.97	----			
CMSD	.46	-.46	.47	.59	.33	.32	.35	.53	.61	.37	.18	.36	.41	.44	.45	----		
Rand 1	-.02	-.18	-.23	-.30	-.11	-.24	.09	-.26	-.21	-.34	.09	-.07	-.12	-.19	-.15	-.03	----	
Rand 2	-.50	.35	-.44	-.27	-.48	-.54	-.40	-.29	-.12	-.29	-.12	-.49	-.47	-.49	-.53	-.26	.09	----

TABLE H.5

MAJOR STUDY VARIABLES: VALID SAMPLE--ZERO ORDER, CASEWISE CORRELATIONS (N=22)

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MHS	----																	
SMHS	-.77	----																
ER-O	.66	-.77	----															
ER-S	.37	-.52	.77	----														
SI	.56	-.73	.85	.69	----													
EI	.71	-.76	.78	.50	.80	----												
VPIR	.79	-.68	.57	.30	.60	.63	----											
Cop	.51	-.54	.61	.55	.64	.59	.57	----										
Dat	.40	-.53	.52	.51	.43	.39	.37	.83	----									
SA	.26	-.31	.47	.43	.49	.53	.38	.56	.57	----								
EFT	-.01	-.18	.08	.04	-.01	-.11	-.13	-.07	.11	-.40	----							
Comp I: EI, VPIR	.83	-.80	.74	.44	.77	.89	.91	.64	.42	.50	-.13	----						
Comp II: EI, VPIR, Cop	.81	-.79	.76	.50	.79	.88	.89	.77	.55	.55	-.13	.98	----					
Comp III: EI, VPIR, Cop, SA	.75	-.75	.76	.52	.79	.87	.85	.79	.60	.69	-.20	.96	.98	----				
Comp IV: EI, VPIR, Cop, SA, SI	.71	-.78	.82	.61	.90	.89	.79	.79	.57	.68	-.16	.92	.96	.97	----			
CMSD	.45	-.53	.48	.62	.33	.29	.35	.49	.57	.39	.16	.36	.41	.44	.45	----		
Rand 1	-.01	-.18	-.22	-.30	-.11	-.23	.09	-.25	-.21	-.37	.09	-.07	-.12	-.19	-.15	-.01	----	
Rand 2	-.46	.36	-.41	-.25	-.49	-.50	-.40	-.24	-.09	-.40	-.10	-.49	-.47	-.49	-.53	-.21	-.07	----

TABLE H.6

MAJOR STUDY VARIABLES: VALID SAMPLE--PARTIAL CORRELATIONS CONTROLLING FOR SOCIAL DESIRABILITY (N=22)

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MHS	----																	
SMHS	-.70	----																
ER-O	.56	-.69	----															
ER-S	.12	-.28	.68	----														
SI	.48	-.69	.84	.65	----													
EI	.67	-.75	.76	.42	.78	----												
VPIR	.75	-.63	.49	.12	.54	.59	----											
Cop	.37	-.38	.48	.36	.59	.53	.49	----										
Dat	.19	-.33	.34	.24	.31	.29	.22	.77	----									
SA	.10	-.13	.34	.26	.41	.47	.28	.46	.46	----								
EFT	-.09	-.12	.00	-.07	-.07	-.17	-.20	-.17	.03	-.51	----							
Comp I: EI, VPIR	.80	-.77	.69	.30	.74	.88	.90	.57	.28	.42	-.21	-----						
Comp II: EI, VPIR, Cop	.76	-.74	.70	.34	.76	.87	.88	.72	.42	.46	-.22	.98	----					
Comp III: EI, VPIR, Cop, SA	.69	-.68	.69	.35	.76	.87	.83	.73	.47	.63	-.30	.95	.98	----				
Comp IV: EI, VPIR, Cop, SA, SI	.62	-.71	.77	.48	.89	.88	.75	.73	.42	.61	-.26	.92	.95	.97	----			
CMSD	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
Rand 1	-.01	-.22	-.25	-.38	-.12	-.24	.10	-.29	-.25	-.40	.10	-.07	-.13	-.20	-.19	----	----	
Rand 2	-.42	.30	-.36	-.16	-.46	-.47	-.36	-.17	.04	-.35	-.07	-.46	-.43	-.45	-.50	----	.07	----

TABLE H-7

MAJOR STUDY VARIABLES: NON-VALID SAMPLE--ZERO ORDER, PAIRWISE CORRELATIONS

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MHS	----																	
SMHS	-.44	----																
ER-O	.53	-.55	----															
ER-S	.16	-.37	.61															
SI	.40	-.26	.60	.47	----													
EI	.05	.33	-.02	.18	.00	----												
VPIR	.00	.07	-.06	-.10	.11	.37	----											
Cop	.40	-.36	.33	.10	.19	-.03	.42	----										
Dat	.51	-.39	.54	.14	.27	-.04	.25	.77	----									
SA	.33	-.16	.24	.01	.14	.32	.16	.32	.22	----								
EFT	.07	.16	-.10	-.05	-.17	.36	.01	.07	.00	.00	----							
Comp I: EI, VPIR	-.02	.23	-.07	.03	.03	.84	.81	.18	.07	.31	.23	----						
Comp II: EI, VPIR, Cop	.07	.09	.01	.04	.05	.74	.86	.43	.26	.36	.20	.96	----					
Comp III: EI, VPIR, Cop, SA	.17	.00	.09	.06	.03	.73	.78	.47	.28	.61	.13	.91	.96	----				
Comp IV: EI, VPIR, Cop, SA, SI	.29	-.12	.32	.21	.45	.63	.75	.47	.34	.47	.01	.84	.89	.90	----			
CMSD	.27	.10	.39	.07	.38	-.05	.09	.23	.36	.01	.01	-.01	.03	-.02	.17	----		
Rand 1	.26	-.28	.12	.01	.03	-.38	.06	.35	.26	-.12	.00	-.24	-.14	-.13	-.10	-.05	----	
Rand 2	.17	.01	.08	-.02	.09	-.18	-.11	-.13	-.20	-.20	.02	-.18	-.20	-.21	-.15	-.31	.22	----

TABLE H.8

MAJOR STUDY VARIABLES: NON-VALID SAMPLE--ZERO ORDER CASEWISE CORRELATIONS (N=22)

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MHS	----																	
SMHS	-.50	----																
ER-O	.56	-.64	----															
ER-S	.11	-.46	.64	----														
SI	.30	-.42	.67	.56	----													
EI	.03	.25	-.03	.16	.09	----												
VPIR	.02	.02	-.06	-.06	-.08	.51	----											
Cop	.30	-.45	.25	.01	.07	-.07	.50	----										
Dat	.42	-.53	.49	.07	.13	-.14	.23	.74	----									
SA	.30	-.18	.23	.06	-.04	.43	.40	.49	.28	----								
EFT	-.11	.33	-.06	-.12	-.08	.41	.16	-.13	-.19	.25	----							
Comp I: EI, VPIR	.03	.16	-.05	.06	.01	.87	.86	.24	.05	.48	.33	----						
Comp II: EI, VPIR, Cop	.11	.01	.03	.06	.02	.76	.91	.50	.25	.57	.26	.96	----					
Comp III: EI, VPIR, Cop, SA	.17	-.04	.03	.06	.01	.74	.86	.54	.28	.73	.28	.42	.98	----				
Comp IV: EI, VPIR, Cop, SA, SI	.29	-.19	.32	.24	.36	.73	.76	.54	.31	.67	.26	.85	.91	.93	----			
CMSD	.22	.12	.54	.20	.39	.02	-.20	.12	.26	.02	.03	-.10	-.06	-.04	.11	----		
Rand 1	.15	-.35	.04	-.03	-.01	-.43	.07	.36	.20	-.16	-.06	-.22	-.09	-.12	-.09	-.07	----	
Rand 2	.18	-.01	.04	-.12	.06	-.24	-.12	-.18	-.31	-.22	.02	-.21	-.24	-.25	-.21	-.11	.00	----

TABLE H.9

MAJOR STUDY VARIABLES: NON-VALID SAMPLE--PARTIAL CORRELATIONS CONTROLLING FOR SOCIAL DESIRABILITY (N=22)

	MHS	SMHS	ER-O	ER-S	SI	EI	VPIR	Cop	Dat	SA	EFT	Comp I	Comp II	Comp III	Comp IV	CMSD	Rand 1	Rand 2
MHS	----																	
SMHS	-.55	----																
ER-O	.53	-.84	----															
ER-S	.07	-.50	.65	----														
SI	.23	-.51	.60	.53	----													
EI	.03	.25	-.04	.16	.09	----												
VPIR	.07	.04	.06	-.02	.00	.52	----											
Cop	.29	-.47	.23	-.02	.02	-.07	.54	----										
Dat	.38	-.59	.43	.02	.03	-.15	.30	.74	----									
SA	.30	-.19	.25	.06	-.05	.42	.41	.49	.28	----								
EFT	-.12	.33	-.09	-.13	-.09	.41	.17	-.13	-.21	.25	----							
Comp I: EI, VPIR	.06	.17	.01	.08	.05	.88	.86	.26	.08	.48	.34	----						
Comp II: EI, VPIR, Cop	.13	.02	.07	.07	.05	.76	.92	.51	.28	.57	.26	.96	----					
Comp III: EI, VPIR, Cop, SA	.19	-.03	.12	.07	.03	.74	.87	.55	.31	.73	.28	.92	.98	----				
Comp IV: EI, VPIR, Cop, SA, SI	.28	-.21	.31	.22	.39	.73	.80	.53	.29	.67	.26	.87	.93	.94	----			
CMSD	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
Rand 1	.17	-.34	.09	-.01	.02	.44	.06	.37	.22	-.16	-.06	-.23	-.10	-.12	-.09	----	----	
Rand 2	.21	.00	.11	-.10	.11	-.24	-.15	-.16	-.29	-.22	.03	-.22	-.25	-.26	-.20	----	-.01	----

APPENDIX I

DESCRIPTION OF FACTOR ANALYSIS PROGRAM PROCEDURE AND RESULTS

The program first performed a principal components analysis (principal axis solution with 1.00's in the diagonals) to determine the number of factors to be rotated in the final factor matrix. Kaiser's criterion, which selects all factors with eigenvalue or characteristic roots greater than 1.00, was used for this purpose. This is a reasonable way to choose the final number of factors for it means that a factor to be chosen for the final factor matrix must contribute at least as much variance to the principal components factor matrix as one real variable contributed to the original correlation matrix.

Next the program performed a factor analysis (principal axis solution with diagonal values less than 1.00) on the original correlations by inserting squared multiple correlations as initial estimates of the communalities. The communalities converged after fifteen iterations. These values can be found below. It can be seen that that four factors explain all of the variance in EI and very little of the variance in SA, Rand 2 or especially EFT.

Final Input Communality Estimates

MHS	.59
SMHS	.69
ER-O	.92
ER-S	.59
SI	.62
EI	1.00
VPIR	.49
Cop	.58
SA	.30
EFT	.16
CMSD	.35
Rand 1	.52
Rand 2	.22
Σh^2	= 7.04

Since the total variance of a factor matrix is the sum of the diagonal elements, total common factor variance for the final factor matrix is 7.04 or 54.2 per cent of the total variance. The total variance accounted for by the first four factors chosen from this matrix for rotation by Kaiser's criterion is 6.84 or 97 per cent of the common factor variance.

Two rotations were performed on the final factor matrix: a varimax rotation yielding orthogonal factors and an oblique rotation using the biquartimin method proposed by Carroll. A discussion of the difference between orthogonal and oblique rotation is given in the text (See Chapter VI).

Tables of the complete varimax factor structure and the primary pattern, primary structure and reference structure factor matrices for the oblique rotation follow. Primary factor intercorrelations are given in the text; reference factor intercorrelations will be presented with the Reference Structure Matrix.

TABLE I.1

FACTOR ANALYSIS OF CRITICAL STUDY VARIABLES: FULL PRIMARY PATTERN FACTOR MATRIX

	Factor I	Factor II	Factor III	Factor IV
MHS	.56	.20	.29	.11
SMHS	-.76	-.27	-.06	-.13
ER-O	.95	-.04	.01	-.07
ER-S	.77	-.21	-.15	-.04
SI	.77	-.02	.04	.01
EI	.18	-.55	.39	.70
VPIR	.02	.12	.67	.15
Cop	.26	.21	.62	-.12
SA	-.03	-.19	.48	-.14
EFT	-.01	.03	-.04	.25
CMSD	.34	.03	.27	-.20
Rand I	.01	.72	.02	.03
Rand II	-.10	.20	-.32	-.02

TABLE I.2

FACTOR ANALYSIS OF CRITICAL STUDY VARIABLES: FULL PRIMARY STRUCTURE FACTOR MATRIX

	Factor I	Factor II	Factor III	Factor IV
MHS	.66	.13	.50	.19
SMHS	-.77	-.22	-.35	-.22
ER-O	.95	-.14	.40	-.03
ER-S	.73	-.26	.19	-.05
SI	.79	-.10	.36	.04
EI	.42	-.49	.58	.64
VPIR	.29	.05	.67	.22
Cop	.49	.09	.69	-.03
SA	.18	-.27	.48	-.14
EFT	-.02	.08	-.03	.25
CMSD	.44	-.07	.39	-.16
Rand I	-.05	.73	-.07	.16
Rand II	-.25	.25	-.39	-.01

TABLE I.3

FACTOR ANALYSIS OF CRITICAL STUDY VARIABLES: FULL REFERENCE STRUCTURE FACTOR MATRIX AND INTERFACTOR CORRELATIONS

	Factor I	Factor II	Factor III	Factor IV
MHS	.51	.19	.26	.11
SMHS	-.69	-.27	-.06	-.13
ER-O	.86	-.04	.01	-.06
ER-S	.70	-.20	-.14	-.04
SI	.70	-.02	.04	.01
EI	.17	-.53	.35	.68
VPIR	.02	.11	.60	.14
Cop	.24	.21	.56	-.12
SA	-.03	-.18	.43	-.14
EFT	-.01	.03	-.04	.24
CMSD	.31	.03	.24	-.20
Rand I	.01	.71	.02	.03
Rand II	-.10	.20	-.29	-.02

CORRELATIONS BETWEEN REFERENCE FACTORS

	I	II	III	IV
Factor I	1.00			
Factor II	.05	1.00		
Factor III	- .40	- .11	1.00	
Factor IV	- .03	- .19	- .08	1.00

TABLE I.4

FACTOR ANALYSIS OF CRITICAL STUDY VARIABLES: FULL ORTHOGONAL (VARIMAX) FACTOR MATRIX

	Factor I	Factor II	Factor III	Factor IV
MHS	-.60	-.13	.41	-.14
SMHS	.75	.22	-.23	.17
ER-O	-.92	.11	.22	.05
ER-S	-.72	.25	.03	.05
SI	-.75	.08	.21	-.01
EI	-.28	.53	.47	-.66
VPIR	-.15	-.06	.66	-.17
Cop	-.36	-.12	.65	.08
SA	-.06	.24	.46	.14
EFT	.01	-.05	-.03	-.25
CMSD	-.38	.04	.33	.19
Rand I	-.00	-.72	-.00	-.09
Rand II	.16	-.24	-.34	.01