A Validity Study: Relationship Between the Self Inventory Scale, the California Psychological Inventory, and the Adjective Check List

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by

David Newbold

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

in

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Approved:

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David Newbold
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ABSTRACT

A Validity Study: Relationship Between the Self Inventory Scale, the California Psychological Inventory, and the Adjective Check List

by

David Newbold

Utah State University, 1978

Major Professor: Dr. William R. Dobson
Department: Psychology

The specific objective of this research was to begin assessment of construct validity of the Self Inventory Scale.

Subjects were 100 Utah State University students, living in university dormitories, chosen at random.

Subjects were administered the Self Inventory Scale and the California Psychological Inventory. Subjects submitted names of peers, one of whom was asked to complete an Adjective Check List describing the subject.

CPI subscale scores were correlated with Self Inventory Scale subscale scores, to determine the relationship between underlying constructs. Sixty-four of the 126 correlations computed were significant at the .01 significance level. Similarity of construct and configurational analysis of significant correlations suggest construct validity exists for Self Inventory Scale subscales.
Adjective Check List "likability" ratios were correlated with Self Inventory Scale subscale scores. One of the seven correlations computed was significant at the .01 significance level.

The difference between male and female subscale scores on the Self Inventory Scale was significant for two of the seven subscales. A need for separate male and female norms for the Self Inventory Scale was indicated.
CHAPTER I

INTRODUCTION

The concept of self is possibly one of the most discussed of personality attributes, both in professional and lay circles. There has been a great deal of emphasis, placed by clinicians, on the vital role of a positive self-concept in mental health. Rogers and Dymond (1954) observe that persons who seek psychological help frequently acknowledge that they suffer from feelings of inadequacy and unworthiness. They conceive themselves to be helpless and inferior, incapable of improving their situation and lacking in inner resources. Fromm (1939) notes that those who doubt their own worthiness can neither give or receive love, fearing that the exposure accompanying intimacy will reveal their inadequacies and cause them to be rejected.

In contrast, people with positive self-concepts are described as feeling that they have favorable personalities, desirable traits and tend to relate with their environment in a positive manner. These persons are generally described as being "well-adjusted," "actualized" or psychologically "healthy."

The concept of self, ego, or self-esteem has been accorded a central role in a wide variety of personality theories. The list is long; Adler (Ansbacher and Ansbacher, 1956); Allport (1961); Angyal (1941); Cattell (1966);
Erickson (1950, 1959); Fromm (1939); Horney (1937); Jung (Progoiff, 1953); Lecky (1945); Lynd (1958); Maslow (1954); McClelland (1951); Mead (1934); Rogers (1951, 1959); Snygg and Combs (1949); and Sullivan (1953). Each of these theorists, as well as others, has contributed to the definition of self-concept and to the vast amount of theory surrounding the role of self-concept.

In attempting to research self-concept theory, a multitude of instruments has been developed to measure the concept as a whole or some single aspect of it. In evaluating the various forms of self-concept instruments, Wells and Marwell (1976) have noted a variety of criticism in the literature. They observe that a large portion of the weakness observed in research of self-concept is tied to inconsistencies and inadequacies in its measurement. Wylie (1961, 1974) has also reviewed the majority of self-concept measures presently in use and has found them to have serious limitations.

No one instrument intended to measure self-concept variables has been developed by the process of beginning with close attention to stating rigorous definitions; followed by item building or item selection relevant to the conceptual definitions; and followed, finally, by the application of all appropriate modern procedures for refining a purported index on a construct and establishing its construct validity. (Wylie, 1974, p. 325.)

Statement of the Problem

A concept, no matter how salient or how logical, is only as useful as its measurement. The extent the concept
can actually contribute to psychological research and theory is limited by the degree to which it can be translated into testable terms.

Merrill J. May, (1977) in reviewing the available self-concept measure, found them to contain two major test content deficiencies and designed a new measure attempting to eliminate these deficiencies. First, most self-concept measures are designed to test only one segment of self-concept or are based on a single or narrow theoretical base. To deal with this problem, May first surveyed available self-concept literature and designed scales to deal with different facets or theories of self-concept as discussed in the literature. Secondly, May found that many tests items were so worded that they became opinion questions rather than questions that reflect information which could be corroborated by observable data.

Before any instrument can be serviceable, either in research or clinical settings, its' reliability and validity must be established. This study will begin to consider the question of whether May's instrument, The Self Inventory Scale (SIS), is a valid indicator of self-concept.

Purpose

Specifically, this study will attempt to begin validation assessment of the Self Inventory Scale by correlating results of this scale with results of the California Psychological Inventory. Results of the Self Inventory Scale will
also be correlated with results of the Adjective Checklist, completed as a description of the subject by a student peer.

**Objectives**

1. To determine to what extent scores of university students on each subscale of the Self Inventory Scale correlate with selected subscales scores of the CPI as stated in the section concerning rationale for comparison of CPI and Self Inventory Scale subscales.

2. To determine to what extent scores of university students on each subscale of the Self Inventory Scale correlate with descriptions of these students by a peer. This description will be obtained by the use of the Adjective Check List, completed by the peer.

3. To determine if any difference exists between responses given by males and females on the Self Inventory Scale.

**Hypothesis**

1. There is no correlation between raw scores from each selected subscale of the Self Inventory Scale and raw scores from each selected subscale of the CPI.

2. There is no correlation between raw scores from each subscale of the Self Inventory Scale and a ratio of positive vs. negative adjectives checked on the Adjective Check List by a student peer.
3. There is no significant difference for subscale scores on the Self Inventory Scale between male and female students.

Definitions

**Construct validity.** The degree to which certain explanatory concepts or constructs account for performance on the test (APA, 1966, p 13).

**Self-concept.** A person's knowledge and understanding of himself; that which a person conceives himself to be.

**Student peer.** A fellow university dorm resident nominated by the subject to fill out an Adjective Check List as a description of him.

**Subject.** A Utah State University dorm resident.
CHAPTER II

REVIEW OF LITERATURE

Literature reviewed will consider the theoretical basis for the Self Inventory Scale and also the state of self-concept measurement at present.

Self-Concept Theories

Every measure of self-concept is based upon a theoretical definition of the self, including beliefs concerning how the self-concept develops and how it is manifested. Many theorists have, over the years, dealt with the self-concept as a central construct in their theories of personality. Gordon and Gergen (1968) noted that there are over 2,000 publications concerning the self. That number has very likely doubled since 1968.

It has been argued that a strong theoretical basis is a necessary prerequisite for a measure of self-concept. Wylie (1961, 1964) reviewed 463 articles on self-concept and stated, "An examination of empirical studies makes it apparent that ambiguities in the measuring instruments can be traced to inadequacies in the theorists' definitions of their terms." (1961, pp. 3-4). Shreve (1973) in his dissertation on self concept measures further observed,

One of the most widespread obstacles of the measurement of self-concept is the lack of adequate theoretical foundations. Without an adequate set of theoretical postulates, it is difficult to select or design items to measure the soundness of the construct.
theoretical postulates, it is difficult to select or design items to measure the soundness of the construct being investigated. A theory of self-concept is ultimately tied to the definition of self-concept proposed by the theory (Shreve, 1973, p. 36).

Because of the importance of a sound theoretical base as a foundation for measurement, theories underlying the development of May's test will be discussed.

James (1890) was one of the earliest theorists to place a great deal of emphasis on the self. His theoretical position divided the self into three constituent parts; the material Me, the social Me, and the spiritual Me. The material Me referred to the person's body, possessions and family. The social Me referred to the recognition a person received from others. The spiritual Me referred to feelings and emotions perceived by the person. James asserted that the self was a conscious phenomenon, and felt that high esteem depended upon the degree to which aspiration and achievements converge.

The relationship of body image and self-concept, presented by James, has been recently investigated by two studies. Berscheid, Walster and Bohnstedt (1973) surveyed 2,000 American men and women and found overall body-image to be strongly related to the self-esteem. Those who expressed satisfaction with their faces were more self-confident than those who did not. Also, those with "above average" body images considered themselves to be more likable, assertive, conscientious and intelligent than "average."
Gunderson (1965) found that height and weight appeared to have a pervasive effect of self-evaluations. Short-underweight and short-overweight males expressed the most unfavorable self-images.

Cooley (1902) expanded the idea of the social self. His "looking-glass self" postulated that the individual's self-concept is determined by perceptions of others' reactions to him. Cooley also asserted that a child's self-perception begins with an awareness of the concept of "mine," or a belief that possessions are included in the self.

Mead (1934, 1956) also described the self as being a product of interactions, in which the person experiences the self as reflected in the behavior of others.

Turner (1968) discussed specific self-situational images which are added, internally, to produce the self-concept.

Maslow (1954) built his work with self-concept around the idea of self-actualization. He suggested a hierarchy of needs in which basic needs required fulfillment before higher-order needs could be met. A self-actualized person, according to Maslow, is one who is emotionally open and spontaneous. This openness and spontaneity opens the way for peak experiences to occur.

Rogers (1951) proposed the self as the central concept of his theory. The basic units of the self were termed to be "self regarding attitudes," which consist of one's perceptions of one's abilities, actions and relationships.
Rogers stressed the need for self-acceptance and felt this would be heightened by openness to feedback from others and emotional spontaneity. He also felt that it is not necessary to uncover unconscious motivation in order to understand behavior, rather, that a self-report is more useful. Rogers felt that an individual can best be understood by listening to that person's own self-explanation.

Jourard (1957) related self-feeling to the process of identification with an ego ideal. He postulated that self-concept develops, in part, from performing in some areas in a better fashion than others.

Gergen (1971) added support to the idea that competence influences self-concept with a creative study. Job applicants were placed in a room to fill out job application forms with one of two research "plants." One group of applicants was joined by a "Mr. Clean," who wore a suit, carried an attache case and opened a statistics book and a philosophy text. Members of the other group were joined by a "Mr. Dirty," who wore a sweatshirt, no socks and opened a copy of The Carpetbaggers upon entering the room. Applicants presented with "Mr. Dirty" evaluated themselves in a more favorable light than those placed with "Mr. Clean." Gergen asserted that achievement compared with others is the crucial factor in competence assessment.

A study by Luck and Heiss (1972) found, in like manner, that self-esteem was not related to socioeconomic status,
but to achievement compared with others of similar education, occupational mobility and occupational competence.

Gergen (1971), in proposing a theory of self-concept, believed that we have a multitude of selves. He theorized that one's self-concept is learned from others' responses, but that the messages received are seldom consistent and connected. He believed that a healthy person is able to deal with these inconsistencies, but an unhealthy person becomes fixed in his self-image and therefore "rigid."

White (1972) proposed that some people change their self-image a great deal and some very little; that, at times, people have a global idea of themselves, and at other times, they have a loosely-tied together group of ideas.

Coopersmith (1967) theorized that self-esteem is affected by four factors: success, goals, the relative importance of these goals, and the ways one defends oneself against feelings of incompetence. He also proposed that success can be achieved in four areas: power (the ability to influence and control others); significance (acceptance, attention and affection received from others); virtue (adherence to moral standards) and competence (successful performance in meeting demands for achievement). Coopersmith states that definitions of success are made from a personal frame of reference and a person's evaluation of success achieved is the factor influencing self-concept.

Self-concept research has also been involved in analyzing the dynamics of moral behavior. Kolberg (1964)
postulated that moral development progresses through six distinct stages. Higher order morality, according to Kolberg, consists of, making moral decisions based upon a social contract in which citizens agree on how laws will be established and how to resolve differences. In the highest stage, a person establishes universal, ethical principles by which to govern his life. These universal principles are principles of justice, of the reciprocity and equality of the human rights, and of respect for the dignity of human beings as individual persons (Kolberg, 1971, pp. 86-88).

Piaget (1965) also discusses the moral development of the child. He presents a stage of healthy moral development as being one of the autonomy, where rules are seen to be the outcome of a free decision and are worthy of respect in that they have enlisted mutual consent. Rules about property, lying and stealing are no longer obeyed because they were disseminated by a superior, but are seen as requirements for group relationships.

Dienstbier, et al. (1975) discusses moral behavior as an interaction between affective arousal and cognition. Behavior is determined by the outcome of that interaction. Higher level moral behavior is characterized by a person's ability to deal with his affect within the context of his predetermined values.
More recently, interest in the self has dealt with such questions as: Is there more than one self? How stable is the self? and, Can it be used to predict behavior? Controversy has developed between the Stanford school (Bandura and Walters, 1963; Mischel, 1971) and the school of thought represented by the work of Bowers (1973) and others. The Stanford school insists that self-concept is transitory and dependent upon easily manipulated external variables. In contrast, Bowers and others have asserted that the self is one of the most stable concepts measured over a period of time. Reviewers have explained that at least some of the discrepancy may be explained by problems with the instruments, themselves (Wells, & Marwell, 1976, p. 12).

**Status of the Measurement of Self-Concept**

Difficulties related to the measurement of self-concept have been extensively described (Wylie, 1974; Wells, 1976; Lowe, 1961). Also, a great deal of material has been produced which is critical of present measurement instruments available in the area of self-concept. To requote Wylie:

No one instrument intended to measure self-concept variables has been developed by the process of beginning with close attention to stating rigorous conceptual definitions; followed by item building or item selection relevant to the conceptual definitions; and followed, finally, by the application of all appropriate modern procedures for refining a purported index on a construct and establishing its construct validity (1974, p. 325).
Wylie further notes a need for systematic validation of self-concept measures by observing that many studies create their own measurement instrument to investigate their own hypotheses, and these are used with little regard to validity or reliability relative to their chosen sample.

Shreve (1973) found, in a critical analysis of four widely used self-concept measures, that none of these measures met all standards established by the APA in Standards for Educational and Psychological Tests and Manuals (pub. 1966). Shreve used a panel of investigators to evaluate the measures based on seven validity and six reliability criteria established by the APA. Shreve concluded that deficiencies in existing measures should be corrected to whatever extent possible and the effort should be made to develop future measures based on alternative theoretical constructs of self-concept. Future measures should also be operationalized and validated with respect to constructs. The subscales on May's test were developed on a broad base of theoretical constructs prominent in self-concept literature.

In a study of construct validity of self-concept measures, Drude (1973) suggests that the self-report, self-concept measures, studied by him be used with caution. Drude's study utilized seven scales from four standardized tests and a one sentence self-rating, which was also developed for the study. The scales were administered to two
groups to determine measurable significant differences. One group consisted of 83 college students, and the other group, of 39 psychiatric patients from a V. A. hospital. A significant difference occurred between the two groups on four of the eight scales. Drude recommends that validation be carried out between measures and some standardized behavioral ratings.

Simpson and Boyle (1975) concluded that global self-esteem measurements are less useful than are specific measures. Seventy-eight male and eighty-one female college students were given several global measures and several specific measures, developed for the study. Scores on midterm exams were correlated with results of the self-esteem measures. Global measures correlated lower than specific measures with high and low midterm grades. Simpson and Boyle suggest that more care should be put into defining self-concept, and better construct validity must be determined.

As has been mentioned before, one of the most widespread obstacles to the measurement of self-concept is the lack of adequate theoretical foundations. LaBeene and Greene (1969) contended that there has been so little agreement on the definition of self-concept that the use of the term is about all that many studies have in common.

Coopersmith (1959) suggested that self-concept actually consists of four concepts: what a person purports to have,
what he really has, what he displays and what others believe he has. This makes measurement of self-concept a very difficult task.

Gordon (1968) analyzed the responses made by persons who were asked to make a list of 15 responses to the question "Who am I?" He found responses tend to fall into two major categories: 1) formal or informal group membership and 2) personal descriptions, consisting of body image, competence, psychological characteristics, sense of moral worth, sense of self determination, personal taste and one's perception of other's feelings.

A study by Norem-Hebeison (1976) proposed a multidimensional conceptualization of self-concept. Subject's self-reports, describing esteem-related feelings and behaviors, were factor-analyzed. Seven item clusters were found to exist, including Well-Being, Being Known, Showing Feeling, Social Sources (of self-acceptance), Performance Sources (of self-acceptance), Real-Ideal Congruence, and Self-Evaluation. These categories resemble, very strongly, subscales of the Self Inventory Scale.

Phenomenological theories of the self, especially, define the self-concept as individuals' conscious attitudes and feelings toward themselves; therefore, in testing, it would be logical to ask the question how he feels about himself.

Combs and Soper (1957) listed five factors which may influence an individual's self-report: (1) the clarity
of the subject's awareness, (2) the availability of adequate symbols of expression, (3) social expectancy, (4) willingness of the subject to cooperate, and (5) the individual's feeling of personal adequacy and freedom from threat (pp. 138-139).

Because of these factors, many have preferred to infer self-concept from samples of behavior. Murphy, Murphy and Newcomb (1937) have stated that actions may be no more valid than words. Actions are often subject to social pressures from others present. They found that, when safeguards for anonymity were provided, verbal behavior may be more valid than other behavior.

Katz (1973) found that subjects did, in fact, have a valid, global, affective sense of their own mental health, when compared with results of tests, questionnaires and clinical interviews. He concluded that male college students could make valid, diagnostic statements about their own mental health.

Social desirability of items has often been discussed as an obstacle to valid, self-report testing. Wylie (1974) maintains that even though a response may be predicted based on social desirability, it may still be valid as an indicator of conscious self-concept.

Another obstacle often discussed to valid testing is the tendency to respond according to "response sets." Cronbach (1950) observes:
"We should keep response sets from affecting the test score by one of the following methods: designing test items which prevent response sets, altering directions to reduce response sets, or correcting for response sets (p. 21).

One of the most significant tasks in test construction is that of collecting evidence regarding the validity of the instrument. Test validity consists of the usefulness of the instrument in measuring the variables that it purports to measure.

French and Michael (APA, 1966) differentiate between three types of validity coefficients: content validity, criterion-related validity (which is a combination of predictive validity and concurrent validity) and construct validity. Construct validity is generally defined as the degree to which certain explanatory concepts or constructs account for performance on the test (APA, 1966, p. 13). Wylie (1974) states:

Problems of measuring the phenomenal field and self-referent attitudes may be seen as, essentially, those of establishing construct validity. Construct validity is necessary because, by definition, S's cognitions and attitudes about himself are private and beyond direct observation by the investigator (p. 38-39).

One established method of collecting evidence regarding the validity of tests is the practice of correlating the measure with other measures. Wells and Marwell (1976, pp. 183-84) and Wylie (1974, p. 50) discuss the concepts of convergent and discriminant validity relative to the usefulness of these correlations.
The concept of convergent validity proposes that the instrument may be "correlated with other measures of self-esteem which are ostensibly different in format or exact content" (Wells and Marwell, 1976, p. 183). The instrument may also be correlated with measures of other constructs or with other empirical events not considered to be direct indicators of the construct under consideration. Both kinds of correlations are evaluated by convergence, or, in other words, that different measurements, if supposedly related, should correlate to some degree with each other. The stronger the supposed relationship, the higher the correlation should be.

Discriminant validity should also be explored in that an instrument should correlate negligibly with measures measuring allegedly different constructs (Wylie, 1974, p. 90).

The convergent-discriminant validation strategy is that "a measure should correlate well with other measures that theory predicts should be related, but that the measure should correlate negligibly with measures that theory suggests should be unrelated" (Wells and Marwell, 1976, p. 184).

Wylie (1974, p. 96) reviewed cross-instrument correlations between instruments of global self-concept constructs and found that most correlations listed for examination were about .40. Wylie lists many studies
correlating self-concept measures and a variety of other instruments.

One additional point that should be made regarding validation evidence is noted by Wells and Marwell (1976, p. 196). "Construct validation is a continual and cumulative process, always incomplete and open to new evidence and analysis."

Conclusions

There has been a great deal of effort invested in the development of father complex, sophisticated self-concept theory. The state of self-concept measurement seems to have lagged behind considerably. Still, for any theory to be testable, the state of its measurement must keep pace with theory use and development.

In short, the construction of good, objective measures is no easy task, but it remains important if the status of personality research is to be enhanced. As observed by Kerlinger (1966, p. 492), "A poorly constructed instrument may do more harm than good, because it may lead the investigator to erroneous conclusions."
CHAPTER III

METHODOLOGY

This study investigated the construct validity of the Self Inventory Scale, by correlating results of the scale with results of selected subscales of the California Psychological Inventory. Results of the SIS were also correlated with results of the Adjective Check List. Response differences between males and females on the SIS were investigated. This chapter will present the sample, instruments, procedures and data treatment used. A rationale for comparison of specific subscales of the CPI and subscales of the SIS will also be discussed.

Sample

The population considered for this study was Utah State University students, residing in student dormitories. A random sample was selected from the East High Rise, a men's dorm, and the West High Rise, a women's dorm. Names of each student from both dorms were placed in a container and 200 names were drawn at random. Subjects were contacted by mail and asked to help with the study. A copy of the letter sent to the students is located in Appendix A. This letter asked them to participate in the study and briefly explained the confidentiality of data, availability of discussing test results, if desired by the student,
and to contact the tester for more information. Upon agreeing to help with the study, the subjects were instructed as to time and location of the testing sessions. The first 100 students who responded were considered as subjects.

**Instruments**

**Self Inventory Scale (Appendix B).** The 150 item Self Inventory Scale was developed by Merrill J. May, to measure seven aspects of self-concept. Each of the seven subscales consists of 30 items.

The first scale, General Self Evaluation (GEV), is a broad summary of one's positive or negative evaluation of oneself. This is based on the belief that there is a general opinion of self that tends to influence other areas and factors. This scale was originally based on items from each of the other subscales. Then May wrote items that he considered to be very broad and to summarize the other self scales. May has observed that there seems to be a G-factor in self-concept, which may itself, account for a great deal of the variance obtained on self-concept tests. An example of items used in this factor are "I am really a superior person."

The second scale, Self as Seen by Others (SEO), is based on Turner's (1968) position that the self comes through interaction of one's own perception and others' reactions to us. It is also based on the work of Cooley (1902) and Mead (1934). This scale places emphasis on
feedback that persons perceive themselves to be receiving from others in the areas of moral behavior, social skills and other skills, emotional control, material possessions and personal appearance. Persons scoring high on this variable are concerned with, and are receiving positive feedback from others. May believes that others' reactions to us are initially crucial, but that this factor dwindles in significance as the self becomes more solidified. This factor also lends itself to Roger's belief that the "sick" self believes others' perceptions, and the healthy self uses personal feelings as an evaluation of self-worth. An example of items included in this scale is "I frequently sense that others are insulted by my lack of social know-how."

The third scale, Moral Self (MO), was developed with the work of Kolberg (1964), Piaget (1965) and Dienstbier (1975) in mind. This scale deals with two definitions of a "moral" person; (1) a moral person has a set of defined ethics and (2) a moral person has a defined relationship to others. This scale was included under the assumption that in order to have a healthy self-concept, one must have a defined relationship with others. This concept of self says that a person adheres to whatever is personally considered to be "good" behavior. May wrote questions, originally, which were considered to be examples of Kolberg's theory and then excluded questions that did not correlate
with a self-concept. An example of statements included in this scale is "I often do or say things that hurt others."

The fourth scale, Emotional Control (EC), is based on work by Rogers (1951) and Maslow (1954). A low scorer on this scale is someone lacking in spontaneity, or afraid of emotion. A high scorer can express and deal with both positive and negative emotions in a constructive manner. This person can admit negative feelings without fear of them. Low scores may not be in contact with their emotions, or they may be exhibiting very tight control because they are afraid of them. An example of items scored on this scale is "I try to hide many of my emotions from others."

The fifth scale, Social Skills (SS), deals with the person's own perception of his ability to relate to others. A person scoring high on this variable feels confident in social situations, is participative, open, gregarious, and enjoys people and meeting new people. An example of items included in Social Skills is "In groups I try to keep my thoughts and feelings to myself."

The sixth scale, All Skills (SK), was based on the theory, expounded by James (1890) and Jourard (1964), that self-esteem is developed by taking the amount of success divided by pretensions, or that the self-concept comes from being able to do a few things better than others. The skills involved in questions are physical, intellectual, artistic, social and general skills. Questions
artistic, social and general skills. Questions include "I am very good at any athletic activity."

The seventh scale, Material Self (MS), involves theories by Diggins (1976) and James (1890) stating that children begin with only a physical self and this expands to an awareness of their possessions. Questions included in this scale deal with a person's perception of their own physical appearance and with the socially desirable possessions that the person has acquired. An example of items included in this subscale is "I am very careful to be sure that what I wear is 'in'."

Self Inventory Scale responses are recorded on a five point, Likert-type scale. An algebraic sum of item scores on each scale provide the score for each scale. Each person receives seven scores, one for each scale.

An original item pool was developed, based on the theories used as a base for each subscale. Inter-item correlations were computed for items within each subscale. Items with inter-item correlation coefficients of less than .30 were then discarded.

Inter-scale correlation coefficients were computed using scores of 154 subjects. A table of results follows in Table 1.

Split-half reliability coefficients computed for this test at Weber State College have been in the area of .78. Test-retest coefficients are presently being computed.
Table 1

Inter-Scale Correlation Coefficients for the Self Inventory Scale

<table>
<thead>
<tr>
<th>Scale</th>
<th>GEV</th>
<th>SBO</th>
<th>MO</th>
<th>EC</th>
<th>SS</th>
<th>SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBO</td>
<td>.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>MO</td>
<td>.34</td>
<td>.57</td>
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<td></td>
<td></td>
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<tr>
<td>EC</td>
<td>.53</td>
<td>.45</td>
<td>.31</td>
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<tr>
<td>SS</td>
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<tr>
<td>SK</td>
<td>.47</td>
<td>.43</td>
<td>.32</td>
<td>.27</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>-.26</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

California Psychological Inventory CPI. The 480 item CPI was developed as a measure of personal and social adjustment. The CPI consists of items which are marked true or false and yields scores on 18 subscales.

Scores are recorded as raw scores and converted to standard scores with a mean of 50 and a standard deviation of 10. A normative sample of 6000 males and 7000 females distributed among varying age, socioeconomic groups and geographic areas was used.

A short discussion of each subscale, reliability and validity data follows. The reliability coefficients reported include a combination of split-half, test-retest, and Kuder-Richardson data, as reported in Megargee (1972, p. 30-31).
The Dominance scale (Do) was originally developed to identify strong, dominant, influential, and ascendant persons who are able to take initiative and exercise leadership (Gough, McClosky and Meehl, 1951). Persons scoring high in dominance are verbally fluent and persuasive and have an element of persistence and sense of duty. There is a tendency for them to face reality even if it is distasteful (Megargee, 1973, p. 40).

The reliability reported for this subscale ranges from .53 to .89. Several studies have tested concurrent validity for the Do subscale and predictive validity has also been established (Megargee, 1972). Carson and Parker (1966) classified 356 entering college freshmen as leaders, average leaders and nonleaders based on their election to office in high school activities. Analysis of variance performed on scores for the three groups was statistically significant. Johnson and Frandsen (1962) compared scores of fifty officers of a college organization with a group of fifty nonleaders and found the leaders to have a mean Do score of 62, while nonleaders had a mean of only 44. Butt and Fiske (1968) compared dominance scales from a variety of personality inventories and concluded that the CPI Do scale was the most appropriate for assessing leadership and peer ratings.

The Capacity for Status (Cs) scale "attempts to appraise those qualities of ambition and self-assurance that
underlie, and lead to status" (Gough, 1968, p. 61). Items reflect social poise and self-confidence; security and an absence of fears or anxieties; literary and aesthetic interests, and an interest in belonging to groups (Megargee, 1972, p. 46).

Reliability coefficients reported for the Cs scale range from .59 to .80. Gough (1957) has correlated Cs scale scores with scores on the Gough Home Index, which measures socioeconomic status based on objects such as books, phonographs and similar things present in the individual's home. Gough reported correlations ranged from .38 to .48.

The Sociability (Sy) scale was devised to discriminate people with an outgoing, sociable, participative temperament from those who shun involvement (Gough, 1968). Items deal with feelings of poise and self-assurance, enjoyment of social interactions and intellectual and cultural interests.

Reliability reported for the Sy scale range from .63 to .90. Hase and Goldberg (1967) studied a sample of 190 freshmen women and found significant correlations between their Sy scores and their peer ratings of sociability (r = .44). Vingoe (1968) reported a correlation of .68 with self-ratings on sociability. Bouchard (1969) studied the relationship of the CPI to effectiveness in various types of group problem-solving situations. Sy was the only CPI scale that correlated, consistently, with this criterion.
The Social Presence (Sp) scale was constructed to assess poise, self-confidence, verve, and spontaneity in social interaction. There is more verve, verbal aggression, sarcasm, more irritability in Sp than in Sy. The high Sp person is more manipulative than the high Sy person (Megargee, 1972, p. 50). Sp deals with poise and enjoyment of social interaction and there is a strong element of self-assurance. Sp includes items indicating broadminded attitudes about social rules and prohibitions.

Reliability coefficients for the Social Presence scale range from .60 to .80. In the CPI Manual, Gough (1969) reports that students, nominated by their principals as being highest in social presence, obtained Sp scores significantly higher than those students nominated as being lowest. Hase and Goldberg (1967) found a significant correlation between Sp scores and peer ratings of sociability ($r = .35$).

The Self-Acceptance (Sa) scale was developed to "identify individuals who would manifest a comfortable and imperturbable sense of personal worth, and who would be seen as secure and sure of themselves, whether active or inactive in social behavior" (Gough, 1968, p. 63). This scale also includes items indicating emphasis on the value of hard work, attention to duty and consideration of others, and candid acceptance of human frailties.

Reliability reported for the Sa scale ranges from .51 to .71. Gough (1969) obtained a positive correlation (.35)
with staff ratings of self-acceptance and a negative correlation (-.57) with staff judgement of seniors' readiness to feel guilty. Vingoe (1968) found that the Sa scale correlated significantly with peer ratings (.44) and self-ratings (.49) of self-acceptance.

The Sense of Well-Being (Wb) scale was originally developed to discriminate individuals pretending neurosis from normals, and patients responding truthfully. High scores indicate health and vitality, and low scores suggest diminished vitality and inability to meet the demands of everyday life.

Reliability reported for the Wb scale range from .71 to .86. Corotto (1963) reported that among alcoholics committed to a state hospital, those who wanted to be released immediately after they had been "dried out" had higher Wb scores (mean = 41) than those who volunteered to remain for further treatment (mean = 35). "The general finding from a number of investigations is that Wb reliably reflects differences in adjustments as defined by a number of criteria." (Megargee, 1972, p. 55).

The Responsibility (Re) scale was developed to identify people who are conscientious, responsible, dependable, articulate about rules and order, and who believe that life should be governed by reason (Gough, 1968, 1969). Items also indicate a concern for social, civic and moral obligations, duty and self-discipline, and disapproval of
special privilege or favoritism. They also include trust and confidence in others.

Reliability reported ranges from .67 to .85. Reckless, Dinitz and Kay (1957) asked sixth grade teachers to nominate boys they felt to be immune to the influence of environmental pressures toward delinquency and boys felt to be potential delinquents. The "insulted" boys were found to have a mean Re score of 46 and the "potential" delinquents a mean of 36, which was a highly significant difference. Richardson and Roebuck (1965) compared delinquents with their nondelinquent brothers and found significantly higher Re scores among the nondelinquents.

The Socialization (So) scale attempts to order individuals along a continuum from asocial to social behavior and forecast the likelihood that they will break the rules established by their particular culture (Gough, 1956b). So measures the extent to which values are internalized and made useful in the life of the individual (Gough, 1965a). So also deals with familial adjustment and feelings of optimism and self-confidence as contrasted with feelings of despondency, alienation or inferiority.

Reliability reported for the Socialization scale ranges from .65 to .88. Many studies have compared So scores of delinquents and non-delinquents. The general design in these studies has been to compare adjudicated juvenile delinquents with a control group, matched for
environmental factors. These studies have found both male and female delinquents to have significantly lower So scores (Megargee, 1972, p. 61). A series of studies by Reckless (1957) has demonstrated predictive validity. Teachers nominated 101 6th grade boys that they felt were potential delinquents and 125 others, unlikely to get into trouble. Significantly higher So scores were found for the "good" than for the "bad" boys.

The Self-control (Sc) scale was designed to assess self-regulation, self-control, freedom from impulsivity and self-centeredness (Gough, 1968). It also deals with restraint of irrational behavior and aggression, a reliance on thought and reason in problem situations, and shunning impulsive behavior.

Reliability reported ranges for .68 to .87. Gough (1969) found significant differences between the Sc scores of extreme groups of boys and girls rated as most impulsive and least impulsive by their high school principals. He has also reported low but significant correlations (.21 to .34) between Sc scores and staff rating of impulsivity.

The Tolerance (To) scale was developed to identify permissive, accepting and nonjudgmental social beliefs and attitudes (Gough, 1969). It also reflects trust and confidence as opposed to cynicism and suspicion. Reliability reported ranges from .61 to .88. There have been several studies reporting significant correlations between the To
scale and other measures of nonjudgmental attitudes (Megargee, 1972, p. 68). Other than these correlations, there is little evidence to support the validity of the To scale.

The Good Impression (Gi) scale was developed to identify dissimulated records for which the normative data did not apply (Gough, 1952), and also to identify people who are able to create favorable impressions and who are concerned about how others react to them (Gough, 1962). It may also be said that high scorers place emphasis on the positive in their lives.

Reliability reported for the Gi scale ranges from .65 to .81. Most of the validational research done on the Gi scale has been with its ability to discriminate dissimulated records. For example, Gough (1969) found that 179 high school students, told to answer in a manner that presented the best possible impression, scored significantly higher than high school norms.

Communality (Cm) is another validity scale and was designed to pick out protocols on which the respondent had answered in a random fashion. Reliability reported for this scale range from .65 to .81. Gough (1969) devised 30 answer sheets using a table of random numbers, with the even numbers classed as true and odd numbers as false. The mean Cm scale value obtained was 13.83, which was lower than any individual score observed under ordinary testing conditions.
The goal of the Achievement via Conformance (Ac) scale is to assess motivation and personality factors associated with academic achievement in high school. The focus is on a need for achievement with an appreciation of structure and organization (Gough, 1968). High scorers also regard themselves as workers who plan ahead, accept rules and regulations, like conforming behavior, is even-tempered and confident of his abilities (Megargee, 1972, p. 73).

Ac and Ai are among the most thoroughly researched CPI scales. Reliability reported ranges from .60 to .94. Gough (1963) and Pierce (1961) compared high and low achievers, all with high ability; Gough and Fink (1964) compared high and low achievers of average intelligence. Each study found significant differences on Ac subscores. Other studies have found a significant correlation between the relationship of Ai and grades in various types of courses (MacKinnon, 1964).

The Achievement via Independence (Ai) scale was devised to predict achievement in college undergraduate courses where independent thought, creativity and self-actualization were valued (Gough, 1953). Reliability reported ranged from .54 to .81. Items reflect high tolerance for ambiguity and rejection of authoritarian attitudes, someone willing to think for himself, enjoyment of intellectual activities, and well-developed moral values.
Most of the validation work on the Ai scale has taken place in college settings. Several have found significant associations between Ai and GPA (Barnette, 1961; Bendig, 1958; Bendig and Klugh, 1956; Gough, 1969). Helson (1967) conducted a study of a group of creative college seniors five years after graduation. She found that creative, single women, most of whom worked with single-minded determination at their careers, had significantly higher Ai scores than the other two groups.

The Intellectual Efficiency (Ie) scale was developed to provide personality items that would correlate significantly with accepted measures of intelligence. The items reflect enjoyment in intellectual pursuits, self-confidence and assurance, freedom from physical complaints, and ability to get along well with others without being overly suspicious, hostile or sensitive (Megargee, 1972, p. 81).

Reliability reported for the Ie scale ranges from .68 to .85. Validity for the Ie scale has been thoroughly studied. Gough (1969) reports results of several studies in which Ie was correlated with various measures of intelligence. Significant correlations were found in all of these studies. Other studies have related Ie scores with academic achievement and creativity.

The Psychological Mindedness (Py) scale was created to "identify individuals who are psychologically oriented and insightful concerning others." (Gough, 1968). Gough
(1969) also states that Py measures the extent to which the person is interested in, and responsive to, the inner needs, motives and experiences of others. The high-Py person is able to concentrate on a problem, tolerate ambiguity and disorder, is not likely to change his mind easily, enjoys work in general, is able to sacrifice immediate need gratification to achieve long range goals, and is concerned with practicality (Megargee, 1972).

Reliability coefficients reported for the Py scale range from .22 to .74. Helson (1967) found that college seniors, nominated by the faculty as being unusually creative, were significantly higher on Py than their less creative classmates. Gough (1969) has found significant correlations (.40 to .44) between Py and the Psychologist scale of the Strong Vocational Interest Blank. He has also found that graduate students in psychology and allied professions score higher than people in other occupations.

The Flexibility (Fx) scale was created to identify those who are flexible, adaptable and changeable in their thinking, behavior and temperament (Gough, 1969). High scorers on Fx also tend to be impulsive, untidy and disorganized, and have a relaxed view regarding moral standards and ethical proscriptions (Megargee, 1972, p. 89).

Reliability reported for the Flexibility scale ranges from .49 to .71. Studies completed on validity provide
some evidence that low Fx scores reflect rigidity, but little evidence that high scorers are flexible (Magargee, 1972, p. 90). Gough (1951) reported significant correlations between the Fx scale scores and ratings of rigidity, and also significant correlations with the California F and E scales. Megargee (1972, p. 90) states that data presently available indicates Fx to be one of the least valid of the CPI scales.

The Femininity (Fe) scale was devised to differentiate men from women, and sexual deviates from normals (Gough, 1975). High scores indicate femininity and low scores indicate masculinity. Items deal with emotionality and interpersonal sensitivity. High scoring individuals may be described as restrained, modest, and as not being boisterous or impulsive.

Reliability reported for the Fe scale ranges from .29 to .85. Validity studies have focused primarily on comparing Fe scores of men and women. Gough (1969) compared differences between 4,056 high school girls and 3,520 boys, between 803 college women and 787 men and also between 46 female psychology graduate students and 113 male psychology graduate students. Mean differences were all highly significant and point-biserial correlations ranged from .64 to .78.
Magargee (1972, p. 110-115) lists 20 factor analysis of the CPI performed from 1960 to 1964. Studies have generally found five factors to be operating in the CPI subscale scores. Factor I has high positive loadings for the CPI scales and Sense of Well-Being, Self-Control, Tolerance, Good Impression and Achievement via Conformance. It has been variously described as "adjustment by social conformity" (Mitchell and Pierce-Jones, 1960), "disciplined effectiveness" (Parloff et al., 1968) or "mental health and personal efficiency" (Leton and Walter, 1962).

Factor II has high loadings for the scales of Dominance, Capacity for Status, Sociability, Social Presence, and Self-Acceptance. Mitchell and Pierce-Jones (1960) interpreted this factor to be "social poise or extraversion," and Leton and Walter (1962) referred to it as "social poise or extraversion."

Factor III is defined by high loadings on Achievement via Independence, Tolerance, Intellectual Efficiency, Responsibility and Psychological-mindedness. This factor has been termed "intellectual resourcefulness" (Mitchell, 1963) or "capacity for independent thought and action" (Mitchell and Pierce-Jones, 1960).

Factor IV has a high positive loading for the Femininity scale. It has been called "emotional sensitivity vs. masculine tough-mindedness" (Mitchell, 1963).
Factor V displays a high positive loading for the Socialization CPI subscale, the Communality subscale and a negative loading for the CPI Flexibility scale. Mitchell (1963) discusses this factor as being "superego strength." Pierce-Jones, Mitchell, and King (1962) call it "inflexible conformity to conventional standards."

The Adjective Check List (ACL). The ACL consists of 300 adjectives, arranged alphabetically. The subject checks all adjectives considered to be self-descriptive or descriptive of another person. The ACL can be scored for 24 basic scales. Three of these are response set scales: total number of words marked, number of favorable adjectives checked, and number of unfavorable adjectives checked. Other scales measure separate personality traits such as self-confidence, self-control, etc. The manual provides personality sketches of subjects scoring high and low on each of the scales.

The ACL has also been used extensively to obtain observer's evaluations of another person in the Institute for Personality Assessment and Research (IPAR) research program, the inter-observer reliability was .61 to .75. When using similar adjective clusters as the scoring system, the reliability was higher. Mean test-retest reliability for each word on the ACL was reported to be .54.
Research Design and Procedures

This was a study of construct validity, utilizing random groups, from a parent sample of college dormitory students, to determine if any relationships existed between results of the Self Inventory Scale and the California Psychological Inventory and the Adjective Check List.

Subjects responding to the letter asking for participation in this study were administered two instruments, the California Psychological Inventory and the Self Inventory Scale. At this time, they were asked to sign a release of information form (Appendix C), giving their permission for their results to be used in the study. The subjects were also asked to submit the names of two people in their dormitory, who they felt would know them quite well. The second name was requested in the event the other was unavailable or unwilling to help in the study. One of those peers was asked to complete an Adjective Check List describing the subject. This peer was asked to sign a release of information form (Appendix D).

Rationale for Comparison of CPI and Self Inventory Scale Subscales

It was proposed in this study that selected subscales from the CPI should show significant correlation with subscales of the Self Inventory Scale based on similarity of underlying construct. The following is a description of rationale for comparison of subscales to be correlated.
The Self Inventory Scale, General Self Evaluation (GEV) subscale was correlated with the CPI Sense of Well-being (Wb) scale and Self-acceptance (Sa) scale. These subscales are concerned with a person's general feelings of self worth, feelings of vitality and acceptance of their own human traits.

The Self Inventory Scale, Self as Seen by Others (SBO) subscale was compared with the CPI Social Presence (Sp) and Good Impression (Gi) subscales. These subscales deal with the person's perceptions of how others feel towards them and react to them. They also deal with spontaneity in social settings and the ability to create favorable impressions.

The Self Inventory Scale, Moral Self (MO) subscale was expected to be correlated with the Socialization (So), Self-control (Sc), and Responsibility (Re) subscales from the CPI. This group of subscales deal with the person's ability and desire to adhere to rules and regulations established by society, concern for social and personal self-discipline, and the ability of the person to control aggression and live within a social setting.

The Emotional Control (EC) subscale from the Self Inventory Scale was expected to be correlated with the CPI Flexibility (Fx) and Femininity (Fe) subscales. The Femininity subscale measures characteristics usually stereotyped as being female personality traits such as emotionality.
and interpersonal sensitivity. Emotional Control also deals with these characteristics as emotional spontaneity and a desire to relate emotionally to others. High scorers on the Fe subscale may be described more as being restrained and modest than as boisterous and impulsive. This deals with the control factor in that a person scoring high on Emotional Control will deal with emotions in a constructive manner. Low scorers on the Flexibility subscale have been found to be rigid, which may be correlated with May's description of the Low-EC person as being one who exhibits very tight control of emotions because of fear of them.

The Self Inventory Scale, Social Skills (SS) scale was expected to be correlated with the CPI Sociability (Sy) scale, the CPI Tolerance (To) scale and the CPI Psychological-mindedness scale measures the extent to which a person is interested in the needs of others and is responsive to others. These skills would seem to be a prerequisite for comfort with and enjoyment of others. The Tolerance scale indicates trust and confidence in others as opposed to cynicism and suspicion. This attitude would create a relaxed and more open approach to relating with others in a social situation.

The Self Inventory Scale's All Skills (SK) subscale was expected to be correlated with the CPI Achievement via conformance (Ac) subscale, the Achievement via Independence (Ai) subscale and the Intellectual Efficiency (Ie)
subscale. These CPI subscales measure personality attributes which underlie achievement in other areas as well. A person scoring high on these subscales is able to plan ahead, accept rules and regulations when necessary, is confident of his abilities and is creative. Scores on the All Skills subscale were also correlated with scores on the Intellectual efficiency subscale because Ie correlates significantly with measures of intelligence.

The SIS's Material Self (MS) subscale was expected to be correlated with the CPI Capacity for Status (Cs) subscale. The Material Self subscale deals with the emphasis placed on socially desirable possessions by the person. Capacity for Status deals with "external criteria of status, which are defined as relative level of income, education, prestige and power attained" (Megargee, 1972, p. 45).

Rationale for Comparison of the ACL and the Self Inventory Scale

The Adjective Check List was chosen for this study because an uncomplicated and rapidly administered instrument was needed for describing a subject by a peer.

For use in this study the "likability" ratio is used. This was compared with each subscale of the Self Inventory Scale.

When the Adjective Check List has been used to score observer evaluations, a "likability" ratio has been calcu-
lated from the adjectives checked. This should correlate with the social subscales, particularly, of the Self Inventory Scale. The "likability" ratio is described as being the number of favorable adjectives checked divided by the number of unfavorable adjectives checked added to the number of favorable adjectives checked (F/F+U). In a sample of 40 medical school seniors, the likability ratio correlated +.66 with direct staff ratings of likability (Gough, 1965).

Treatment of the Data

A Pearson Product Moment correlation matrix was computed for correlations of the subscale scores of the Self Inventory Scale and the CPI subscale raw scores. Correlations were analyzed for significance at the .01 level.

Pearson Product Moment correlation coefficients were also computed in like manner for the ratio of favorable to unfavorable plus favorable adjectives checked, as described in the last section. Correlations were, also, analyzed for significance at the .01 level.

Two tailed T tests were computed between the scores of males and scores of females on each of the Self Inventory Scale subscales. T-tests were tested for significance at the .05 level.
CHAPTER IV

RESULTS

The results of this study will be reported in terms of each of the hypotheses stated in Chapter I.

Hypothesis I

There is no correlation between raw scores from each subscale of the Self Inventory Scale and raw scores from each subscale of the California Psychological Inventory.

A Pearson product-moment correlation matrix for the subscale scores of the CPI and the Self Inventory Scale is found in Table 2. The correlation matrix was computed using scores of 100 students, described in the sample. The complete correlation matrix computed, including inter-scale correlations within the two separate instruments is found in Appendix E. The within-test correlations obtained for the CPI are quite comparable to those published in the CPI test manual.

It can be seen by examining Table 2 and Table 3 (a list of significant correlations obtained between the SIS and the CPI) that 64 of the 126 correlations computed were significant at the .01 significance level. Therefore, for these correlations, the null hypothesis that there would be no significant correlation between the subscales of the
CPI and subscales of the SIS was not supported. With the large sample size of 100 used, a correlation of only .254 was necessary to produce a significant correlation. The correlation coefficients determined to be significant will be further analyzed and discussed.

Table 4 lists means and standard deviations obtained on the CPI and the Self Inventory Scales. The CPI means, as reported for this sample, closely parallel means reported in the CPI manual for large samples of college students (CPI Manual, pp. 32-33). Means reported for the sample on the Self Inventory scale are also similar to those obtained by May, in testing several groups of college students at Weber State College.

In the discussion of the tests to be used, contained in Chapter 3, selected subscales of the CPI were proposed to correlate highly with selected subscales of the Self Inventory Scales because of the similarity of theory underlying the two scales. The inter-correlations obtained for these selected subscales are found in Table 5. Eight of the projected sixteen correlations were found to be significant at the .01 level of significance.

The first subscale of the Self Inventory Scale, General Self Evaluation was suggested to correlate with the CPI Well-being and Self-acceptance subscales. The correlation between General Self Evaluation and Well-being was .45, significant at the .01 level and above the .40
## Table 2

Correlation Matrix for Subscale Scores of the Self Inventory Scale and Subscale Scores of the California Psychological Inventory

<table>
<thead>
<tr>
<th>GSS</th>
<th>Co</th>
<th>Sy</th>
<th>Sc</th>
<th>Sn</th>
<th>Vh</th>
<th>Re</th>
<th>So</th>
<th>Go</th>
<th>To</th>
<th>Qi</th>
<th>Cm</th>
<th>As</th>
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<td>20</td>
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<td>--</td>
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</table>

**Note:** For ease of reading, decimal points have been omitted from the correlation coefficients.

* Correlation Coefficients Above the .40 Level
Table 3
Table of Significant Correlations at the .01 Level Between the Self Inventory Scale and the CPI

<table>
<thead>
<tr>
<th>SIS Subscale</th>
<th>CPI Subscale</th>
<th>Correlation Coefficient</th>
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<tr>
<td></td>
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<td>.51*</td>
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<td></td>
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<td></td>
<td>conformance</td>
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Table 3 Continued

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<th>Correlation Coefficient</th>
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</tr>
<tr>
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Table 3 Continued

<table>
<thead>
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*Correlations above .40*
Table 4
Means and Standard Deviations of Sample Tested on the CPI and Self Inventory Scales

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<th>Total SD</th>
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<td>9.1</td>
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Table 5
Correlation Coefficients for Subscales of the Self Inventory Scale and Subscales Previously Selected for Correlation from the CPI

<table>
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<tr>
<th>SIS Subscale</th>
<th>CPI Subscale</th>
<th>Correlation Coefficient</th>
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</thead>
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<td>General self Evaluation</td>
<td>Well-being</td>
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<td>Self-acceptance</td>
<td>.22</td>
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<td>Self by Others</td>
<td>Social presence</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Good impression</td>
<td>.31*</td>
</tr>
<tr>
<td>Moral Self</td>
<td>Socialization</td>
<td>.58*</td>
</tr>
<tr>
<td></td>
<td>Self-control</td>
<td>.51*</td>
</tr>
<tr>
<td></td>
<td>Responsibility</td>
<td>.59*</td>
</tr>
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<td>Emotional Control</td>
<td>Flexibility</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Femininity</td>
<td>.18</td>
</tr>
<tr>
<td>Social Skills</td>
<td>Sociability</td>
<td>.63*</td>
</tr>
<tr>
<td></td>
<td>Tolerance</td>
<td>.22</td>
</tr>
<tr>
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<td>Psychological-mindedness</td>
<td>.22</td>
</tr>
<tr>
<td>All Skills</td>
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</tr>
<tr>
<td></td>
<td>Achievement via independence</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Intellectual efficiency</td>
<td>.37*</td>
</tr>
<tr>
<td>Material Self</td>
<td>Capacity for status</td>
<td>-.21</td>
</tr>
</tbody>
</table>

*Significant at the .01 Level
level indicated by Wylie to be the correlation level usually selected for interpretation (Wylie, 1974, p. 96). The correlation listed between General Self Evaluation and Self-acceptance was .22, not a significant correlation. Self-acceptance scores correlate more highly with subscales on the CPI and the SIS, which are more highly loaded with the social area.

The Self Inventory Scale, Self by Others subscale was projected to correlate with the CPI Social presence and Good impression subscales. The correlation of .21 found with Social presence was not significant, but the correlation of .31 with the Good impression subscale was significant at the .01 significance level.

The Self Inventory Scale, Moral Self subscale was proposed to correlate with the CPI Socialization, Self-control and Responsibility subscales. These correlations were found to be .58, .51 and .59, respectively. All of these correlations were significant and relatively high.

It was suggested that the Self Inventory Scale, Emotional Control subscale would correlate with the Flexibility and Femininity subscales. Neither of these correlations were found to be significant.

It was proposed that the Self Inventory Scale, Social Skills subscale would correlate with the CPI subscales of Sociability, Tolerance and Psychological-mindedness. Only one of these correlations proved to be significant, that of Social Skills and Sociability (.63).
Of the proposed correlations between the Self Inventory Scale, All Skills subscale, the two achievement subscales and the Intellectual Efficiency subscale, two were found to be significant. These were between the All Skills subscale and the CPI Achievement via conformance and Intellectual efficiency subscales (both .37).

The correlation projected between the Self Inventory Scale, Material Self subscale and the CPI Capacity for status subscale was not found to be significant.

It would seem that many of these correlations presented predictable relationships that offer some evidence for constructs present in both sets of scales. A more detailed analysis of the data revealed previously unpredicted relationships that furnish interesting food for thought. Many of these relationships involve the configuration of significant correlations between the CPI subscales and the Self Inventory Scale subscales. These configurations will be analyzed in the discussion section.

Hypothesis 2

There is no correlation between raw scores from each subscale of the Self Inventory Scale and a ratio of positive vs. negative adjectives checked on the Adjective Check List (ACL) by a student peer.

The "likability" score computed from the results of the ACL was a ratio of favorable adjectives checked
to favorable plus unfavorable adjectives checked \((f/f+u)\) as described in the Adjective Check List Manual.

Pearson product-moment correlations were computed between "likability" scores on the Adjective Check List and each of the subscales of the Self Inventory Scale. Correlation coefficients computed are located in Table 6.

Correlation coefficients were computed using Adjective Check List scores of 80 students. The fact that 80 instead of 100 students were used was attributed to some subject's unwillingness or inability to nominate peers who knew them well, or to the unwillingness of some peers nominated to complete the form.

As indicated in Table 6, only one correlation coefficient was found to be significant at the .01 level of significance, the correlation between Material Self and "likability" (.28). Although the correlation was statistically significant, it is of little practical significance in terms of the small amount of variance explained. The hypothesis of no significant correlation between Adjective Check List "likability" scores and Self Inventory Scale subscores was supported by data for six of seven Self Inventory Scale subscales. Data failed to support the hypothesis for the Material Self subscale.

The mean "likability" score for the sample was .845 and the standard deviation was .15. This data indicates
Table 6
Correlation Coefficients for Subscales of the Self Inventory Scale and the "likability" Ratio from the Adjective Check List

<table>
<thead>
<tr>
<th>SIS Subscale</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
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<td>General Self Evaluation</td>
<td>.00</td>
</tr>
<tr>
<td>Self by Others</td>
<td>.09</td>
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<tr>
<td>Moral Self</td>
<td>.02</td>
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<tr>
<td>Emotional Control</td>
<td>.16</td>
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<tr>
<td>Social Skills</td>
<td>-.11</td>
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<tr>
<td>All Skills</td>
<td>-.05</td>
</tr>
<tr>
<td>Material Self</td>
<td>.28*</td>
</tr>
</tbody>
</table>

*Significant at the .01 Level

the presence of a skewed distribution. 1.00 is the maximum "likability" score obtainable and scores below .50 indicate a larger number of unfavorable than favorable adjectives checked. A score of .50 is more than two standard deviations below the mean for this sample, indicating a tendency to report persons described in a very favorable manner.

Hypothesis 3
There is no significant difference for subscale scores on the Self Inventory Scale between male and female students.
Two-tailed T-tests were computed between Self Inventory Scale subscale scores of male and female subjects. Table 7 contains data used to analyze this hypothesis. Differences compared were found to be significant for two of the subscales, those of the Moral Self and the All Skills subscales. Female subjects scored significantly higher than males on the Moral Self variable, while male subjects scored significantly higher than females on the All Skills variable.

Table 7

Summary of T-test Results between Men and Women for Subscales of the Self Inventory Scale

<table>
<thead>
<tr>
<th>SOS Subscale</th>
<th>DF</th>
<th>T</th>
</tr>
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<tbody>
<tr>
<td>General Evaluation</td>
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<td>.45</td>
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<tr>
<td>Self by Others</td>
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<td>-1.65</td>
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<td>Moral Self</td>
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<td>All Skills</td>
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<tr>
<td>Material Self</td>
<td>98</td>
<td>-1.01</td>
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</table>

* Significant at the .05 Level
Means and standard deviations for male and female subjects are located in Table 4.

The hypothesis of no significant difference between male and female subjects was supported for five of the seven Self Inventory Scale subscales. The data failed to support the null hypothesis for the Moral Self and the All Skills subscales.
CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of this study was to begin validation of the Self Inventory Scale by correlating results of the SIS with results of the CPI, and with results of the Adjective Check List, completed by a peer, as a description of the subject. Differences between male and female subscale scores on the Self Inventory Scale were also reported.

This section is devoted to discussing and drawing implications and conclusions about the data reported in the preceding chapter. To facilitate reading, the conclusions will be divided into the categories represented by the hypothesis.

Discussion of Results Related to Hypotheses

Hypothesis 1. This subsection will discuss correlations between the subscales of the CPI and the Self Inventory Scales.

Subscale intercorrelations discussed will generally be those above the .40 level, selected for previously presented reasons.

The first subscale of the Self Inventory Scale, General Self Evaluation (GEV), has been designed to be very
general in nature and taps feelings concerning a rather broad spectrum of self-concept variables. May designed this subscale by taking items from each of the other subscales and making them so broad in wording that they could no longer be identified as belonging to the other subscales. An examination of the correlation coefficients between this subscale and the CPI subscales, also reveals that those rather highly intercorrelated would seem to tap a broad range of variables. It was predicted in Chapter 3 that General Self Evaluation would correlate with the CPI Well-being and Self-acceptance subscales. GEV did, indeed, show correlation with the Well-being subscale. This indicates that both subscales may manifest a general feeling of physical and psychological health. The proposed correlation between General Self Evaluation and the Self-acceptance subscale was not born out. The Self-acceptance subscale seemed to correlate, both on the Self Inventory Scale and within the CPI, itself, with subscales dealing with social variables.

The second subscale of the Self Inventory Scale, Self by Others (SBO), was also designed to tap a rather broad spectrum of variables, with the addition of a feedback dimension. May designed this subscale as an indication of the feedback persons perceived that they were receiving from others in areas delineated by each of the other Self Inventory Scale subscales. Examination of the results,
listed in Table 2, also demonstrates that correlation coefficients obtained, especially those above 140, are a sampling of several areas of the CPI, as they should be if the subscale definition is accurate. It was projected in Chapter 3 that Self by Others should correlate with the CPI Social presence and Good impression subscales. The correlation with Good impression, although not high, was indeed significant. The correlation obtained with Social presence was not significant.

Subscales of the CPI showing higher correlation with the Self by Others subscale were Sociability, indicating a tendency to be outgoing, Sense of Well-being, indicating physical and psychological health and vitality, Socialization, assessing the person's acceptance of social mores, and Achievement via conformance, assessing the person's need for achievement and ability to achieve in a setting requiring conformity. It would follow logically that persons displaying these traits would be more prone to receive positive feedback from others.

The third subscale of the Self Inventory Scale, Moral Self (MO), was designed to measure the extent to which a person has a defined set of values and adheres to these values. From an examination of Table 2, it is interesting to note that the Moral Self subscale correlates highly, and almost exclusively, with subscales grouped together by Gough because they dealt with responsibility, sociali-
socialization, maturity and intrapersonal structuring of values. The other two subscales showing correlations above the .40 level are Achievement via conformance, indicating ability to achieve in a structured situation, and Femininity, dealing with personal restraint and freedom from impulsivity. These characteristics would seem to accompany a "moral" person as defined for the Moral Self subscale. It is also significant to note that this subscale seems to correlate with subscales listed by Michell (1963) and Mitchell and Pierce-Jones (1960) to be highly loaded with Factor V of their factor analysis of the CPI. Factor V has been described as being humanitarian conscience (Parloff et al., 1968), self-control and ability to be conscience-directed. Factor analysis has found this factor to have a high positive loading on the So and Cm subscales and a negative loading on the Flexibility subscale. The Moral Self subscale was found to correlate .52, .58 and -.34, respectively, with the subscales found to be high on Factor V. The CPI subscales predicted in Chapter 3 to correlate highly with the Moral Self subscale were Socialization, Self-control and Responsibility, all of which showed high and significant correlations.

The fourth subscale of the Self Inventory Scale, Emotional Control (EC), was developed to measure the extent to which a person can express and deal with both positive and negative emotions in a constructive manner. CPI
subscales found to correlate highly with the Emotional Control subscale are exclusively, with the exception of Intellectual Efficiency (.40), CPI subscales found in many other studies to be highly loaded with Factor I. Factor I has been found to have high loadings on CPI subscales of Sense of Well-being (r = .52), Self-control (r = .42), Tolerance (r = .42), Good impression (r = .44) and Achievement via conformance (r = .48). This factor has been described as adjustment by social conformity (Mitchell, 1963), self-control (Springob and Struening, 1964) and disciplined effectiveness (Parloff, 1968). These descriptions of this factor would seem to corroborate May's description of the Emotional Control subscale.

The CPI subscales suggested to correlate with the Emotional Control subscale in Chapter three, were Flexibility and Femininity. Neither of these correlation coefficients were significant. There is a possibility that if the sample had included more persons scoring low on Emotional Control, the correlation with Flexibility may have been higher, since the Flexibility subscale has been found to be more valid for the lower end of the distribution.

The fifth Self Inventory Scale subscale, Social Skills (SS), was devised to measure a person's own perception of his ability to relate to others. A person scoring high on this subscale is participative, confident in social situations, and gregarious. CPI subscales
correlating highly with the Social Skills subscale are completely those, found by many studies, to have high factor loadings on Factor II of results of factor analysis of the CPI. These subscales include Dominance ($r = .45$), Capacity for Status ($r = .47$), Sociability ($r = .63$), Social presence ($r = .55$) and Self-acceptance ($r = .59$). This factor has been named and described as being social poise (Mitchell, 1963), assertive self-assurance (Parloff, 1968), and has also been termed interpersonal effectiveness (Megargee, 1972, p. 112). These terms would seem to apply, very aptly, to the intent of the Social Skills subscale.

It was predicted, previously, that the Social Skills subscale would correlate with the CPI Sociability, Tolerance and Psychological-mindedness subscales. The intercorrelation between Sociability and Social Skills was significant and high. The other two correlations were not significant.

The sixth Self Inventory Scale subscale, All Skills (SK), was founded on the theory that the self-concept comes from being able to do a few things better than other people. Skills involved in questions are physical, intellectual, artistic, social and general skills. Upon examination of the correlation coefficients listed for the All Skills subscale and the CPI subscales in Table 2, it would seem that the All Skills subscale deals with a social variable,
as well as, an intellectual and organizational variable. The All Skills subscale shows strong correlations with the Dominance ($r = .51$) subscale, which is an indicator of leadership characteristics, the Capacity for Status ($r = .42$) subscale, which involves the influence of literary and aesthetic interests (Megargee, 1972, p. 46), and the Sociability ($r = .47$) subscale, which identifies outgoing individuals and also tends to reflect intellectual and cultural interests (Megargee, 1972, p. 46), and the Sociability ($r = .47$) subscale, which identifies outgoing individuals and also tends to reflect intellectual and cultural interests (Megargee, 1972, p. 48). These subscales would seem to be congruent with the stated purposes of the All Skills subscale.

It was formerly predicted that the All Skills subscale would correlate with the CPI Achievement via conformance subscale, the Achievement via independence subscale and the Intellectual efficiency subscale. The Achievement via conformance and the Intellectual efficiency subscale correlations were found to be significant, although not above .40. The Achievement via independence correlation with the All Skills subscale was not significant. It would seem that this subscale should, logically, correlate more highly with the All Skills subscale, but it may be that skills involved in the All Skills subscale require more social interaction than independent action.
There is also some question concerning why the All Skills subscale did not correlate more highly with CPI subscales found to be highly loaded with Factor III, termed to be intellectual resourcefulness (Mitchell, 1963).

The last Self Inventory Scale subscale, Material Self (MS), was devised to test the theory that a person's physical image and possessions effect his self-concept. This scale seems to be independent of most of the CPI subscales and factors. The only significant correlation obtained between the Material Self subscale and CPI subscales was a low, negative correlation between Material Self and Psychological-mindedness \((r = -.28)\). It would seem to be logical that Material Self would correlate negatively with Psychological-mindedness, since a concern for understanding the inner feelings of oneself and others would be antithetical to a high level of concern with more peripheral matters. The Material Self subscale was proposed to correlate with the Capacity for Status subscale, a proposal which was not substantiated by the data.

**Hypothesis 2.** Correlations between the ACL "likability" score and subscale of the Self Inventory Scale will be discussed.

The only significant correlation coefficient between the Self Inventory Scale and Adjective Check List data was between the Material Self subscale and the ACL "likability" score. This correlation, although significant, was low
(r = .28). There may be some small relationship between a person's social image and the emphasis he places on appearance and possessions for this sample.

It was observed that, when asked to nominate a person who knew them well, subjects nominated their best friends. The extremely high ratio of favorable to unfavorable adjectives calls into question the objectivity of their friend's observations. It would seem that the subject's friend tended to view the subject in an extremely favorable light, which would seem logical from the method of enlisting peers used. A much better method would have been to select a more impartial observer to complete the Adjective Check List.

Another factor which may have influenced results in some way, was the fact that only 80 of 100 peers completed Adjective Check List forms. Some subjects were newly arrived at the school and, reportedly, felt that no one knew them well enough to fill out descriptive forms. For the rest of the uncompleted forms, peers were unwilling to participate.

**Hypothesis 3.** A comparison between scores of males and females on the Self Inventory Scale subscales will be discussed.

The difference between male and female responses on the Self Inventory Scale subscales was found to be significant for two of the seven subscales. Women scored
significantly higher on Moral Self, and men scored significantly higher on All Skills.

Men, according to these findings, tend to report that they are more skillful, and women to report that they adhere to stronger moral codes. These findings are supported by social stereotypes, which grant to males more freedom to excel, and to females, less moral freedom.

Conclusions

An examination of CPI subscales, which showed significant correlations with Self Inventory Scale subscales (especially those of .40 and above a break-off point chosen based on Wylie, 1974), reveals predictable and logical relationships. This is especially true when configurations of correlations .40 and above are considered. Correlation coefficients offer evidence of construct validity for scales of the Self Inventory Scale. They also shed light on possible interpretations for some of these scales. A careful analysis, however, will reveal that some relationships that were hypothesized, and some relationships that might have been, were not confirmed by the data.

The correlation between Self Inventory Scale subscales and the Adjective Check List "likability" ratio added little to the understanding of factors influencing variability of scores on the Self Inventory Scale subscales. The analysis of differences in scores on the Self Inventory Scale subscales between males and females
delineated significant differences on two of the subscale scores. This indicates that developing norms for both males and females may be useful for the interpretation of this test.

This study is a starting point for the accumulation of evidence necessary to establish construct validity for the Self Inventory Scale. In the words of Wells and Marwell (1976, p. 196), "construct validation is a continual and cumulative process, always incomplete and open to new evidence and analysis."

Limitations
1. Only residents of university dormitories were included in the sample.
2. Only students at Utah State University were included in the sample.
3. Subjects were asked to nominate a peer to complete an ACL form, themselves. Objectivity of the description may have been increased if more impartial observers had been used to describe the subjects.
4. Only 80 of 100 peers completed Adjective Check List forms.

Recommendations
For further study of the construct validity of the Self Inventory Scale, it is recommended that:
Norms be established for male and female populations on the Self Inventory Scale.

A factor analysis of the Self Inventory Scale be completed.

Studies of "known" group discrimination should be undertaken for profiles of the Self Inventory Scale and for subscale scores. An example of these discrimination investigations would be to compare score differences between clinical and non-clinical populations.
BIBLIOGRAPHY


APPENDICES
Appendix A

Letter asking for participants in the study
Dear Student:

I am presently involved in researching the area of self-concept, in relation to completing a Master's degree in the Department of Psychology here at USU.

Your name was drawn at random from a list of residents living in this dorm. If you would be willing to help with this research it would require approximately two hours of your time, long enough to complete two psychological inventories. It would also require you to submit the names of two people that know you well, one of whom will be asked to complete a checklist about you.

All of this information is used for research only and will be held in strict confidence. If you would be interested in discussing your results, this could be arranged at a later date.

The following are dates, times, and place where the testing will take place. Please choose one time most convenient for you, or if you cannot come at one of these times, arrangements can be made for another time, by checking with me.

Place: West High Rise -- study room in basement. (Room number 7004)

Dates & Times: Jan. 16 (Monday) 6:30 P.M.
Jan. 17 (Tuesday) 2:00 P.M.
Jan. 19 (Thursday) 2:00 P.M.
Jan. 21 (Saturday) 2:00 P.M.

You do not need to bring anything with you, all materials will be provided.

Your cooperation is greatly appreciated. If you have any questions you can reach me by asking for me at the main desk in the West High Rise.

Thank you!

David Newbold
West High Rise
Logan, UT 84321
752-4860

Department of Psychology
Graduate Committee:
William R. Dobson, Ph.D.
Keith T. Checketts, Ph.D.
Michael R. Bertoch, Ph.D.
Appendix B

Self Inventory Scale

This is an experimental instrument designed to examine how people evaluate themselves in relationship to a number of items which seek to measure what some psychologists feel are important areas of self perception. Unlike some psychological instruments, there is no attempt to hide the real meaning of any of these questions. The meaning should be obvious to anyone taking this inventory. Validity will require the honest answers of the respondent.

Enclosed you will find a response sheet. Please fill in your name and other information. This information will be used for research purposes only.

Please read each question and ask yourself such questions as "to what degree does this apply to me," "how strongly do I feel about this," "how true is this statement in my case." If the statement is very true in your case, or you feel strongly about it, or it really describes you, you should circle 5 in the response area. If it is seldom or never true about you, or if you do not have strong feelings about it, you should circle 1. An answer of 3 would indicate that your reactions to it were about average,
not very strong one way or the other. Responses of 2 and 4 indicate feelings between average and not at all, and between average and a great deal.

<table>
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<th>Seldom or never true</th>
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<td>12</td>
<td>1 2 3 4 5</td>
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</table>

Please respond to all items. It is usually best to use your first impression or thought in responding to the items.
The Self Inventory Scale

1. There are quite a few people I can think of I have intentionally mistreated.
2. Feelings of deep gloom and despair are not unknown to me.
3. I don't tend to notice how others look because it is not important to me.
4. I need a great deal of self improvement.
5. Very often I am told that I think clearly and have a lot of good ideas.
6. Other people always seem to come up with better ideas than I do.
7. In group conversations I usually keep my thoughts and feelings to myself.
8. I am very good at any athletic activity.
9. My emotional life is rich and full of satisfaction for me.
10. I am a good person who you can honestly respect and trust.
11. Others think of me as too vain about how I look.
12. I wish I could go to a good plastic surgeon and have a job done on my face.
13. I am very good at meeting people for the first time.
14. I usually stick to doing what I know is right.
15. I am not easily depressed.
16. Others can and do influence me to do things I know I would not do otherwise.
17. I am not bothered by my misdeeds unless I am caught.
18. I often wonder what people really mean when they say things.
19. I think that I have terrible personality.
20. I can carry out conversations very adeptly.
21. I often do things which I know will hurt others.
22. I am afraid to show my emotions to others.
23. It really gives me a lift when I purchase a new item of clothing, jewelry or other personal item.
24. I have a good talent for making other people feel at ease.
25. Before I do something involving another person I always ask myself how my actions might affect him.
26. I am affectionate and I show it.
27. I can criticize others, and do when it is called for, rather than dodge the issue.
28. Physically I am quite ugly.
29. I am basically pleased about most aspects of myself.
30. Physically I like what I see when I look into a mirror.
31. People see me as very warm and generous.
32. If I notice that someone close to me has more things than I do I become quite upset.
33. Those who know me well know I am very disobedient.
34. I have not been very successful in most of the things I have tried.

35. Patience is one of my virtues.

36. My personal rules of action are to do what seems natural at the time.

37. I have been told that I am a morally weak person.

38. I seem to have to work extra hard to just be average.

39. I don't feel that I am very popular.

40. I don't like others to see me become emotional.

41. If persons knew my real intentions, they would think much less of me.

42. Since I can't do much about the way I look, I don't worry about it.

43. Not many persons would want my "looks."

44. I become depressed if I take a good look at myself.

45. I often notice how many people there are who are more intelligent than I.

46. I am very careful about my appearance in public and I spend a good deal of time grooming, etc.

47. I am frequently snappy and ill tempered with people.

48. I am often spiteful to those who wrong me.

49. I classify myself as very socially adept.

50. I almost never lose my temper.

51. I think that I am pretty (handsome).

52. I have often been told that I am witty and intelligent.

53. I am really a very superior person.
54. Even if it were not in my best interest, I would try to do what I believe is right.

55. I can cheer people up easily.
Appendix C

Release of Information Form

I, ____________________________, hereby give my permission to David Newbold to use test results and scores of The Self Inventory Scale, the California Psychological Inventory and the Adjective Check List in his research. I understand that my results will be held in strict confidence.

__________________________
(please sign)

__________________________
(date)

__________________________
(witness)

Please include the names of two persons that know you well, that can be asked to complete a short checklist about you. Please list someone that lives in either East or West High Rise or Richards Hall.

__________________________  ____________________________
(name--please print)        (dorm & room no.)

__________________________  ____________________________
(name--please print)        (dorm & room no.)
Appendix D

Release of Information Form

I, ____________________________, hereby give my permission
(name--please print)
to David Newbold to use test results and scores of the
Adjective Check List in his research. I understand that
my results will be used for research only and held in
strict confidence.

______________________________
(please sign)

______________________________
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### Appendix E

#### Correlation Matrix

**California Psychological Inventory and Self Inventory Scale**

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Note: For ease of reading, decimal points have been omitted from correlation coefficients.
VITA

David Newbold
Candidate for the Degree of
Master of Science


Major Field: Professional-Scientific Psychology

Biographical Information:

Personal Data: Born at Logan, Utah, March 3, 1951, son of Floyd L. Newbold and Thella Gilbert Newbold; married Lorene Allen, August 13, 1974; one child--Kimberly.

Education: Attended elementary school in Providence, Utah; graduated from Sky View High School in 1969; received Bachelor of Science degree from Weber State College, with a major in psychology and a minor in family relations in 1976.

Professional Experience: 1974-1976, administrative assistant, Department of Psychology, Weber State College; Summer 1975, remedial reading assistant, Ogden Job Corp; Fall 1975, taught basic psychology and parenting skills, Program for Unwed Mothers, Weber School District; Winter and Spring 1976, staff assistant, Infant Education Project, Department of Family Life, Weber State College, 1976-1978, Head Resident and counselor, women's dormitory, Housing Department, Utah State University; 1978, Training Specialist (grade 17-01), State of Utah, Department of Social Services, Division of Alcoholism and Drugs, group treatment facilitator; 1976-1978, practicum experience: Spring and Summer 1977, Exceptional Child Center, Utah State University, testing, evaluation, behavioral treatment of child problems, family therapy; Department of Psychology, individual and family therapy.

Professional Organizations: Association of Mormon Counselors and Psychotherapists (AMCAP).