THE MODIFIED HUMAN NEED SURVEY OF HUMAN NEEDS

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This study was designed to test the hypothesis that desire is inversely proportional to satisfaction in the motivational category of a given S. Ninety-six Ss took part in the study, and some evidence of convergent and discriminant validation was found using the Campbell-Fiske method. Three traits were hypothesized—existence, relatedness, and growth. Relatedness was the only one of the three which was an independent trait as shown by the results. Two methods were hypothesized—a satisfaction method and a desire method. The results indicated that the desire method was an independent method and that the satisfaction method was not an independent method. Finally it was suggested that an item analysis be used to determine which test items were bad items, in an effort to construct more independent methods and traits. It was also suggested that subjects be tested who are or have been gainfully employed. It was suggested that these Ss, as opposed to college students, would give a more realistic picture for their existence needs, and not slant the test toward relatedness and growth needs.
THE MODIFIED HUMAN NEED SURVEY OF HUMAN NEEDS

THESIS

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By

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The Modified Human Need Survey of Human Needs

The E R G hypothesis as proposed by C. Adlerfer (1969) consists of three need categories: existence, relatedness, and growth. Existence needs have physical or material goals. These goals include food, clothing, shelter, and safety in the external environment. Relatedness needs involve associations with others within the immediate environment of a given individual. Growth needs refer to a less well-defined category of goals. They include the use and exploration of a person's abilities, and the desire to make decisions and integrate one's perceived talents into a life work. These descriptions of the three need categories are the basis of a test devised to determine in which category or level a person is functioning at the time of the test's administration.

One of the best known theories of human motivation was published in 1943 by A. Maslow. The theory designated a five-category need hierarchy beginning with physiological needs and progressing to self-actualization needs—the highest category of needs, according to Maslow. However, before undertaking a test of his theories, Maslow (1943) pointed out many problems and inconsistencies which seemed to contradict his theory. Some of the exceptions which he noted were,
Growth Needs

The need to grow seems to exist in what Maslow called "intelligent people" (Maslow 1943, p. 385). There is no evidence that unintelligent people have the capacity to attain self-actualization, according to Maslow.

Creative People

Maslow (1943) noted that there are a group of highly creative people, especially in the arts, whose need to grow and create is not a function of a basic need satisfaction. Rather, the need to create is more a lack of the lower need satisfaction, such as safety and love.

Low Motivated People

Similar to people who do not seem to grow at all, there are people who seem to have their lower needs satisfied, but show no inclination to achieve higher need satisfaction. Some perpetually unemployed are content with only the clothes they wear, according to Maslow. Contentment or satisfaction in this case gives evidence of neurosis or pathology of some form.

Qualified Need Satisfaction

Maslow raised a serious question for his hierarchial theory when he retreated from a strict hierarchical hypothesis to a more relativistic need satisfaction viewpoint. He stated that a need does not have to be satisfied one hundred percent before an individual seeks other need satisfactions. As an example, Maslow explained, "it is as if the average citizen has
satisfied perhaps 85 percent of his physiological needs, 70 percent of his safety needs, 50 percent of his love needs, 40 percent of his self-esteem needs, and 10 percent of his self-actualization needs" (Maslow 1943, p. 389). This exception would make it extremely difficult to test a category of needs because it would be an impractical task to develop a test to predict a single level of motivation, if Maslow's partial hierarchical view is accepted.

Healthy Individual

Maslow further commented that "the perfectly healthy, sound man has no sex needs, needs for safety, needs for love, or for prestige, or self esteem, except in strong moments of quickly passing threat. I should say a healthy man is primarily motivated by his need to develop and seek his fullest potentialities. If a man has any other basic need in any active, chronic sense, then he simply is not a healthy man" (Maslow 1943, p. 393). This concept of a "healthy man" suggests a noble interpretation of normality; however, this description of the norm is unlike what most contemporary theories suggest.

In defense of his theories Maslow presented a paper to the Nebraska symposium on motivation (1955) in which he discusses his hierarchical theory. At that time he pointed out that his theories were based almost entirely upon clinical and personal observation rather than upon epistemological research. He
did state that he intended to test his theories and noted that research had already begun on the problem.

Also at the Nebraska symposium, D.C. McLelland (1955) presented his remarks and objections to the Maslow theory. The major problem that McClelland specified was that Maslow had not presented any clear operational definitions of his precepts. McClelland also called for the invention of adequate feasible measuring devices.

McClelland recognized that Maslow should be taken seriously: "Maslow readily admits his lack of progress to date at the operational level, but then should we admit that we should take his conclusions neither more or less seriously than those of other distinguished writers in this field in the past, such as Aristotle, Spinoza, McCosh, James or McDougall? A quick look at the history of personality studies shows all too readily that when the theorists are faced with the ambiguous situation of describing a person's motives, without operationally defined facts, they tend to project their value system into the ambiguous stimuli" (McClelland 1955, p. 34). This sort of reasoning was true of Freud, according to Riesman (1954), who has made a beginning study of Freud's unconscious value assumptions.

With the development of Maslow's theories, psychologists, concerned with the issues of human motivation in such fields as advertising, marketing, and industrial psychology, have called for research on the needs and goals of humans. In the
blue-collar worker, industrial psychologist R.B. Blauner (1966) sees alienation and confusion of human goals at their highest point in history. Alienation has traveled a course that could be charted on a graph by means of an inverted U curve. According to Blauner, alienation was at its lowest level and worker's freedom was at a maximum in the early period of the craft industries in Europe (circa 1000 A.D.). Freedom declined gradually and the curve of alienation and confusion rose sharply in the period of the Industrial Revolution. The state of job confusion is at its highest in the assembly-line industries of the present.

C. Walker (1950) states that the problem lies in the management's failing to recognize the needs of the worker— not just existence needs (higher pay and better cafeterias) but relatedness needs and growth needs. Blauner (1966) indicated that there are some solutions to this problem. Namely, programs should be introduced to enlarge a factory worker's job and give him a chance to make decisions about his work. Also, the worker should have an opportunity to take personal responsibility for his own work and see more of the scheme of the company. In conclusion Blauner declares: "A crash program of research in industrial design and job analysis is needed. Research oriented to the needs and goals of worker freedom and dignity as well as the traditional criteria of profit and efficiency" (Blauner 1966, p. 185).
In the organizational and theoretical sciences Maslow's theory generated voluminous speculation and some research. His study of self-actualization seemed to present a psychological definition of happiness for many psychologists. In Argyris' (1964) work on conflict between the individual and the organization, the concept of self-actualization played a central role. McGregor's (1960) formulation of the now famous managerial styles (theory x and theory y) stated that human motives are arranged into a hierarchy of needs which are prepotent. That is, not only were Maslow's five need levels a hierarchy; but, beginning with physiological needs, the lower needs were more preeminent. It is essential that a person satisfy physiological and safety needs, but as one progresses up the hierarchy, needs become less well defined. Porter (1963) based his rational survey of managerial job attitudes on Maslow's conceptualizations. Beer (1966) utilized Maslow's theory for his work on the relationships among employee needs, leadership, and motivation. In a less well-defined sense, Blauner (1966) made use of Maslow's hypothesis to explain alienation of various types of workers in industrial societies.

Many writers have also made revisions in Maslow's theories. Barns (1960) attempted to condense the theory into a two-step hierarchy consisting of physiological needs as the basic needs and the second stage made up of self-esteem, esteem for others, and belongingness needs. Harrison (1966) also attempted a two-stage hierarchy in which physiological-economic needs were the
first stage, and social or ego needs were the second stage of the hierarchy.

It was not until 1968 that empirical tests were constructed to test Maslow's theory. Although the need for operational definitions of the hierarchy theory were recognized earlier by Clark (1960), it was Hall and Noughaim (1968) who designed a longitudinal study to test the major propositions of Maslow.

The Hall and Noughaim study employed a five year longitudinal observation, which used Maslow's five need levels which include

1. physiological needs—need for hunger and thirst.
2. safety needs—need for security and avoidance of danger.
3. love needs—need for personal relationships.
4. achievement and esteem needs—desire for achievement and self esteem.
5. self-actualization—the need for achievement of one's abilities and personal growth in one's everyday existence.

As indicated by Maslow's hypothesis, the Hall and Noughaim test was based on two assumptions made by Maslow. First, the five levels have the property of successive prepotency. That is, for a given individual at a given point in time, one class of needs will be more important than any other class of needs. As that class of needs becomes satisfied, needs at the next higher level will become stronger and more important.

The second assumption of the hierarchy is its prediction of a decrease in the strength of a given need following its
satisfaction. For example, when physiological needs are largely satisfied, not only do safety needs increase, but also the physiological needs decrease. In short "a satisfied need is not a motivator" (Maslow 1943, p. 105).

The Hall and Noughaim longitudinal study involved management trainees in the American Telephone and Telegraph Company. The authors stated that the lower need satisfactions would (1) reduce the strength of the lower needs, and (2) increase the strength of the higher needs. The data were obtained through interviews conducted by psychologists with the subjects. From these interviews the motives of each subject were assessed, both the degree of need satisfaction and the strength of each need was measured.

Contrary to the original hypothesis, Hall and Noughaim found that satisfaction of lower needs decreased the motivating force of higher needs. As a result the two authors suggested that the Maslow need model of motivation could be tested in two ways: First, a static correlational study could be conducted with people of all ages, and second, in order to study changes in need strength and satisfaction a long term longitudinal study was called for. Since they had just completed such a longitudinal study, perhaps they were calling for a duplication of their study with some repairs made on their original design.

C. Adlerfer (1967), a student under Hall, attempted to develop a paper and pencil test to measure human needs.
Adlerfer also developed the ERG hypothesis (existence needs, relatedness needs, and growth needs) and a test to determine the validity of his hypothesis. He employed the Campbell-Fiske (1959) multitrait-multimethod technique for determining the discriminant and convergent validity of his test.

A basic problem in Maslow's theory as seen by Adlerfer is the question: How does need satisfaction affect the strength of desires? Maslow's answer is that need satisfaction reduces a desire for those events which satisfy that particular need. Adlerfer answered that question differently in his ERG theory. His objectives were to present his hypothesis, show its similarities and differences with Maslow's hierarchy theory, and then to construct a test of the two theoretical formulations.

The three major differences between the ERG theory and Maslow's theory as seen by Adlerfer (1969) are that (1) the ERG theory attempts to streamline the self-actualization theory by condensing Maslow's five categories into three; (2) the existence needs category in the ERG theory represents the physiological needs and safety needs of Maslow's theory; and (3) relatedness needs in the ERG theory represent the love needs and self-esteem categories of Maslow's theory. Growth needs in the ERG theory accounted for the self-actualization category of Maslow's formulation.

Adlerfer's logic in shortening Maslow's five need categories was that the self-actualization theory overlapped in all the need categories, creating sufficient confusion to warrant
a more condensed form. The condensation of need divisions also facilitated the production of operational definitions and provided for more precise interpretations of test results.

Although Adlerfer presents his three categories as distinct from one another, he does not presuppose any hierarchy. He does not state, for example, that existence needs are the most concrete, followed by relatedness, and then growth. In contrast to this, the self-actualization theory designates a stairstep effect, even though Maslow expressed doubts about the strictness of higher goal satisfaction being dependent upon satisfaction of lower needs.

Adlerfer was able to make predictions about need satisfactions and need frustrations. Which directly contradicted Maslow's predictions. Adlerfer stated that any desire can have several types of satisfaction (including some outside its particular category) affecting its strength. This is termed the multidimensional property of the ERG theory. For example, if a person satisfies existence needs, he may either desire more existence type of need satisfactions or he may desire relatedness or growth need satisfactions. Maslow would say that if a need is satisfied, a different and higher need satisfaction will be sought. Adlerfer used his test and compared it with Hall and Noughaim's operational definitions and the test for Maslow's theories.
Adlerfer concluded that there was more evidence to support his test, and thus his theory. Yet, Adlerfer expressed serious doubt as to the validity of the operational definitions produced by Hall and Noughaim. Adlerfer contended that, "The findings might also be reviewed with questions about the adequacy of operational definitions when Hall and Noughaim recognized many difficulties with that part of their study" (Adlerfer 1969, p. 143).

Adlerfer also admitted that, as in the study of Hall and Noughaim, his data were taken from a single organization and there was no way at all of allowing for the possibility that special conditions intrinsic to that company may have confounded the results.

As a result of Adlerfer's study and those before, investigators of human motivation are faced with two questions:

1. Can human motivation be placed in separate distinct categories?

2. Can a method be invented to decide in which category or level of motivation a person is functioning at the time of the test?

The present study represents an attempt to devise an objectively scored test which will objectively and empirically determine the level of motivation of a given subject.

There are two separate tests involved (see Appendix A), a satisfaction test and a desire test. It is hypothesized that satisfaction is inversely proportional to desire; that is, if
a subject shows high satisfaction in the existence category, then the same subject will show low desire in the existence category. The purpose of the two tests is to predict a subject's level of motivation at the time the test was taken. A subject's level of motivation is defined as the category (E, R or G) at which the subject shows the highest score in desire, and the lowest satisfaction score. If for a given $S$ the lowest satisfaction score does not predict the highest desire score, then the tests have failed to determine level of motivation for that $S$.

For the present study Adlerfer's three need categories were chosen over Maslow's categories because, as Adlerfer pointed out, there appears to be unnecessary overlapping between Maslow's categories.

**Method**

**Subjects**

Ninety-six North Texas State University students who were enrolled in undergraduate psychology courses served as subjects. They were given course credit for that participation.

**Instrument**

The modified E R G test was employed. This unpublished test consists of two distinct parts: the satisfaction test and the desire test. The satisfaction test consists of sixty questions. Ten questions are designed to test satisfaction of
existence needs, ten questions sample satisfaction of relatedness needs, and ten questions measure satisfaction of growth needs. The remaining thirty questions are items that compose the K scale on the *Minnesota Multiphasic Personality Inventory* (1951). This scale is a measure of test-taking attitude. A high K score signifies defensiveness against psychological weakness or "faking good," tendencies toward mental disorders, and problems in self control. A low K score signifies over candidness and openness to self criticism. "faking bad," a kind of exhibitionism which signifies low ego strength, and the wish to display one's own weaknesses.

For this particular study the K scale items were considered simply as filler items. In subsequent studies the K scale may be used to determine to what degree, and in which direction, a given subject has slanted his answers.

The desire test contains thirty items. Ten items are related to desire for existence needs. Ten items are related to desire for relatedness needs, and ten items are related to desire for growth needs.

**Procedure**

The satisfaction test and the desire test were given on two successive days. In the first testing session 48 Ss were given the satisfaction test, and 48 Ss were given the desire test. In the second testing session they were given either the desire test or the satisfaction test, depending upon which test they took first.
Convergent and discriminant validation by a multitrait multi-method matrix was determined using the Campbell-Fiske method (1959) and is presented in Table I.

TABLE I
Multitrait-Multimethod Matrix For Satisfaction and Desire Tests

<table>
<thead>
<tr>
<th>Traits</th>
<th>Method I Satisfaction</th>
<th>Method II Desire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Es</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rs</td>
<td>HM</td>
<td>HH</td>
</tr>
<tr>
<td>Gs</td>
<td>HM</td>
<td>HH</td>
</tr>
<tr>
<td>Ed</td>
<td>V</td>
<td>HH</td>
</tr>
<tr>
<td>Rd</td>
<td>HH</td>
<td>V</td>
</tr>
<tr>
<td>Gd</td>
<td>HH</td>
<td>V</td>
</tr>
</tbody>
</table>

Note: HH—Heterotrait-Heteromethod
HM—Heterotrait-Monomethod
V—Validity (Monotrait-Heteromethod)

Convergent validity was found by asking the question: Are different methods purporting to measure the same trait correlated highly with each other? In terms of this test there were two different methods, satisfaction and desire. There were three different traits, existence, relatedness, and growth. Existence on the satisfaction test (Es) was correlated with existence on the desire test (Ed). Relatedness on the satisfaction test (Rs) was correlated with relatedness on the desire test (Rd). Growth on the satisfaction test (Gs) was correlated
with growth on the desire test (Gd). This yields three separate correlations which represent the validity diagonal (V).

The discriminant validity question asks whether measures of traits which are purportedly different from each other are uncorrelated. For discriminant validity three criteria exist; first an entry in the validity diagonal must be higher than correlations in its column and row involving both different methods and different traits, heterotrait-heteromethod correlations (HH). There are six HH values. (1) Existence on the desire test correlated with relatedness in the satisfaction test. (2) Existence on the desire test correlated with growth on the satisfaction test. (3) Relatedness on the desire test correlated with existence on the satisfaction test. (4) Relatedness on the desire test correlated with growth on the satisfaction test. (5) Growth on the desire test correlated with existence on the satisfaction test. (6) Growth on the desire test correlated with relatedness test. In each of these six correlations a different trait (heterotrait) is correlated with a different method (heteromethod).

The second criterion for discriminant validity states that the validity coefficient must be higher than the coefficient of correlations for different traits measured by the same method, heterotrait-monomethod (HM). There were six HM correlations: (1) Existence on the satisfaction test correlated with relatedness on the satisfaction test; (2) Growth on the satisfaction test correlated with existence on the satisfaction test.
test; (3) Growth on the satisfaction test correlated with relatedness on the satisfaction test; (4) Relatedness on the desire test correlated with existence on the desire test; (5) Growth on the desire test correlated with existence on the desire test; (6) Growth on the desire test correlated with relatedness on the desire test. In each of the six correlations different traits measured by the same method are correlated. The third criterion for discriminant validity states that the same pattern of trait inter-relationships must be shown in all the heterotrait triangles involving either the same method (monomethod) or different methods (heteromethod). There were two heterotrait-monomethod triangles (HM) in this study. One heterotrait-monomethod triangle for the satisfaction test, and one heterotrait-monomethod triangle for the desire test. There were two heterotrait-heteromethod triangles (HH) in this study. Each of the heterotrait-monomethod triangles should have higher values than either of the heterotrait-heteromethod triangles. Therefore, for this study there were two conditions to consider. The satisfaction HM values must be higher than the values in both of the HH triangles. The desire HM values must be higher than values in both of the HH triangles.

Results and Discussion

In Table II the multitrait-multimethod matrix is presented. The three criteria for measuring the discriminant validity of the constructs proposed in the ERG test are considered below.
TABLE II
Multitrait-Multimethod Matrix For
Satisfaction and Desire Tests

<table>
<thead>
<tr>
<th>Traits</th>
<th>Method I Satisfaction</th>
<th>Method II Desire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Es</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rs</td>
<td>.23*</td>
<td></td>
</tr>
<tr>
<td>Gs</td>
<td>.45**</td>
<td>.04</td>
</tr>
<tr>
<td>Ed</td>
<td>-.28*</td>
<td>.48**</td>
</tr>
<tr>
<td>Rd</td>
<td>-.04</td>
<td>-.79**</td>
</tr>
<tr>
<td>Gd</td>
<td>.59**</td>
<td>-.38**</td>
</tr>
</tbody>
</table>

*—significant at .05 level
**—significant at .01 level

First, the value on the validity diagonal must be higher than the values lying in its column and row on the HH triangles. The existence validity (-.28) value is higher than two of the HH correlations (+.07) and (-.04) in its column and row, but it is also lower than two of the HH values (+.48 and +.59). Therefore this condition is not satisfied. The relatedness validity value (-.79) is higher than all the HH values (+.48, -.39, -.38 and -.04) in its column and row, thus satisfying this condition. The growth validity value (-.53) is higher than three of the HH values (+.07, -.39 and -.38), but lower than one of the HH values (+.59). Therefore this condition is not satisfied.

Second, for a given HM value the validity coefficient in its column or row must be larger than the corresponding HM value.
The existence validity value (-.28) is greater than one of its HM values (+.23) but not greater than the other HM value (+.45). Therefore this condition is not satisfied. The relatedness validity coefficient (-.79) is larger than both of its HM values (+.04 and -.76) thus satisfying this condition. The growth validity value (-.53) is higher than both of its HM values (+.23 and +.47), thus satisfying this condition.

Third, the heterotrait-monomethod values (HM) should be greater than the heterotrait-heteromethod (HH) values. The satisfaction HM values (+.23, +.04, and +.45) were not higher than the values in either of the two HH triangles (+.48, -.39, +.07 and +.59, -.38, -.04). The desire HM values (-.76, +.47, and +.23) are higher than the values in both of the HH triangles (+.48, -.39, +.07 and +.59, -.38, -.04). Thus, the desire tests seem to represent an independent and unitary method, while the satisfaction tests do not.

The final criterion of discriminant validity is that the same pattern of trait inter-relationships must be shown in all the heterotrait triangles of both monomethod and heteromethod blocks. The monomethod satisfaction values (EsRs +.23, EsGs +.45, GsRs +.04) do not reflect the same pattern of relationships as the heteromethod values (EsRd -.04, EsGd +.59, GsRd -.39 and EdRs +.48, EdGs +.07, GdRs -.38). Also, the monomethod desire values (EdRd -.76, EdGd +.23, GdRd +.47) do not reflect the same pattern as the heteromethod values presented above. Thus, this final criterion of discriminant validity is not met.
Convergent validity was determined using the criterion that the entries on the validity diagonal must be significantly different from zero and sufficiently large to encourage further examination of validity. This criteria is satisfied in all three monotrait-heteromethod (V) values at the .01 level of significance.

**TABLE III**

**Means and Standard Deviations for Satisfaction and Desire Tests**

<table>
<thead>
<tr>
<th></th>
<th>Existence Desire</th>
<th>Relatedness Desire</th>
<th>Growth Desire</th>
<th>Existence Satisfaction</th>
<th>Relatedness Satisfaction</th>
<th>Growth Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>18.25</td>
<td>21.92</td>
<td>20.30</td>
<td>42.53</td>
<td>42.29</td>
<td>39.76</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>4.71</td>
<td>3.18</td>
<td>2.33</td>
<td>2.01</td>
<td>2.22</td>
<td>2.50</td>
</tr>
</tbody>
</table>

In terms of predictability of the test, level of motivation was determined for fifty-one of the 96 Ss who took part in the test. For the other forty-five Ss the highest desire score did not predict the lowest satisfaction score. Of the fifty-one Ss whose test showed a specific level of motivation, twenty-one Ss tested in the relatedness category, sixteen Ss tested in the growth category and thirteen Ss tested in the existence category. The level of motivation was determined by matching the highest score made on the desire test with the lowest score made on the satisfaction test. If, for a given S, the highest desire score and the lowest satisfaction score were in the same category, then the S's level of motivation was said to be in that category.

As the results indicated, validity for the test was only slightly satisfied. The strongest validity values were shown
for the relatedness trait which satisfied all of its conditions necessary for both discriminant and convergent validation. The weakest validation was for the existence trait which satisfied only the criterion for convergent validity. The growth trait satisfied the criterion for convergent validity and the second discriminant validity criterion, but it did not satisfy the first criterion.

Therefore, relatedness is independent of existence and growth, but growth and existence are not, as measured in the present test, independent traits. It is, of course, possible that all three proposed traits are independent traits but that the methods used to measure the traits are faulty. Since the satisfaction method had lower HM values than either of the HH triangles, it is concluded that this method is not an adequate method for measuring the three hypothesized traits. However, the HM values for the desire method were higher than the values for both of the HH triangles. Thus the desire method is a valid method. Also, it is possible that there are three distinct traits and two distinct methods but the population tested confounded the test results. This study used college students. Most of these Ss were not gainfully employed. The majority had all their existence needs taken care of by their parents and the custodial force of the university. Therefore, it would be difficult for these Ss to realistically satisfy their existence needs until they are in a position to satisfy these needs by their own resources.
Contrary to the data presented, then, existence, relatedness and growth may be three independent traits. To resolve these questions further research needs to be performed with improved tests and other subjects. That is, a test reliability study must be performed. From the validity results the satisfaction method is not an independent testing procedure, and a reliability study will indicate the strengths and weaknesses of the satisfaction method. The desire method is an independent method as shown by the results. Perhaps the satisfaction test could be discarded and a given S's motivational level could be determined using two or more desire methods.

The relationship between satisfaction and desire must also be examined. The hypothesized relationship was that desire is inversely proportional to satisfaction in a S's level of motivation. The convergent validity values verified this negative relationship. However because of significant HH values this inverse relationship between desire and satisfaction is questionable. Data which oppose this negative correlation hypothesis were obtained by Hall and Noughaim (1969). They obtained some evidence that a positive correlation exists between satisfaction and desire on the same category. Maslow's five stage hierarchial theory was tested, and in some cases need satisfaction correlated positively at a significant level with desire. There were no cases where satisfaction correlated negatively with desire at a significant level. This positive relationship can be interpreted as meaning high satisfaction
predicts high desire and low satisfaction predicts low desire. The main hypothesis in the Hall and Noughaim study was that the satisfaction of a given need level would correlate strongly with the strength of the next higher level. There was little support for this hypothesis because the correlations at the next highest level were not significantly different from the correlations at the previous level, pointing to very little support for the hierarchical theory.

Adlerfer (1969) suggests a number of possible directions for a satisfied need to take. However, out of the twenty-one predictions which he made, the two predictions which hypothesized an inverse relationship between desire and satisfaction in the same category (E, R or G) yielded the highest significance of any of the other nineteen predictions. Adlerfer was therefore aware of this inverse relationship, yet he did not consider it important enough to use this relationship to predict motivational level. The problem of motivational level is still largely unsolved, but at this point some conclusions can be made.

First it must be decided if existence, relatedness and growth are independent traits. This study gives evidence that only relatedness is an independent trait. Adlerfer's study (1969) indicates that there is more evidence that existence, relatedness, and growth are traits than the hierarchical categories of Maslow.
Next it must be decided if desire and satisfaction are independent methods. Based on the results of the present study, it appears that the desire tests exist as an independent method, but the satisfaction tests do not. Further research, perhaps with different Ss and improved tests, needs to be performed.

Finally it must be decided what the limitations of the test are. In terms of populations, people who are employed or who have been employed for an appreciable period of time (one year) should be used as subjects. Other than the possible restriction to Ss who are providing themselves with their main source of income, there are no obvious restrictions on the applicability of the tests to various populations.

In summary, the present study was designed to test the hypothesis that desire is inversely proportional to satisfaction in the motivational category of a given S. Ninety-six Ss took part in the study, and some evidence of convergent and discriminant validation was found using the Campbell-Fiske method. Three traits were hypothesized—existence, relatedness, and growth. Relatedness was the only one of the three which was an independent trait as shown by the results. Two methods were hypothesized—a satisfaction method and a desire method. The results indicated that the desire method was an independent method, and that the satisfaction method was not an independent method. Finally it was suggested that more research be performed with the purpose of improving the tests utilized in order that the hypothesis of the present study may be given a more adequate test. It was also suggested that Ss
be tested who are or have been gainfully employed. It was suggested that these £s, as opposed to college students, might give a more realistic picture of their existence needs.
Appendix A
Desire Test

Directions for the desire test are: This test is designed to test your opinions about certain things. There are ten groups with three items in each group.

In each group: Place the number one (1) next to the item which you consider least important. Place the number three (3) next to the item which you consider the most important, and place the number (2) next to the item which you consider the next most important.

3 most important item
2 next most important item
1 least important item

This test takes about 10-20 minutes. The S is not required to answer all questions, but is encouraged to do so. There is no time limit for the test. The higher the score the higher the desire, the lower the score the lower the desire. A hypothetical S's score on the desire test is 15E 21R and 24G. The highest desire would be in the Growth category and the lowest desire would be in the Existence category.
<table>
<thead>
<tr>
<th>E</th>
<th>1.</th>
<th>To be in good health</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>2.</td>
<td>To feel that my friends respect me for what I am</td>
</tr>
<tr>
<td>G</td>
<td>3.</td>
<td>To have an opportunity to use many of my skills in my everyday activities</td>
</tr>
<tr>
<td>E</td>
<td>2.</td>
<td>To have enough money to do what I want</td>
</tr>
<tr>
<td>G</td>
<td>3.</td>
<td>To make decisions often which are important to my work</td>
</tr>
<tr>
<td>R</td>
<td>2.</td>
<td>To know that I can always count on my friends to help me</td>
</tr>
<tr>
<td>E</td>
<td>3.</td>
<td>To feel safe from physical harm</td>
</tr>
<tr>
<td>G</td>
<td>3.</td>
<td>To feel that my work gives me a sense of value</td>
</tr>
<tr>
<td>R</td>
<td>2.</td>
<td>To feel that my superiors desire to cooperate with me</td>
</tr>
<tr>
<td>E</td>
<td>4.</td>
<td>To live in a comfortable dwelling</td>
</tr>
<tr>
<td>G</td>
<td>3.</td>
<td>To have an opportunity for individual development in my everyday activities</td>
</tr>
<tr>
<td>R</td>
<td>2.</td>
<td>To have attitudes of my own, even if my friends don't agree with them</td>
</tr>
<tr>
<td>E</td>
<td>5.</td>
<td>To feel free to leave my living quarters at any time of the day or night</td>
</tr>
<tr>
<td>R</td>
<td>2.</td>
<td>To openly express my views to my superiors</td>
</tr>
<tr>
<td>G</td>
<td>3.</td>
<td>To be able to plan my work carefully</td>
</tr>
<tr>
<td>R</td>
<td>3.</td>
<td>To receive cooperation and assistance from my associates</td>
</tr>
<tr>
<td>E</td>
<td>3.</td>
<td>To be content with the clothes I wear</td>
</tr>
<tr>
<td>G</td>
<td>3.</td>
<td>To have the feeling of learning new things in my work</td>
</tr>
<tr>
<td>E</td>
<td>7.</td>
<td>To have a job with a good salary</td>
</tr>
<tr>
<td>R</td>
<td>2.</td>
<td>To be able to talk frankly and honestly with the people I see everyday</td>
</tr>
<tr>
<td>G</td>
<td>3.</td>
<td>To seek new ways to perform my work</td>
</tr>
<tr>
<td>E</td>
<td>8.</td>
<td>To be content with my living quarters</td>
</tr>
<tr>
<td>G</td>
<td>2.</td>
<td>To feel that my work is helping others</td>
</tr>
<tr>
<td>R</td>
<td>2.</td>
<td>To feel free to say what I want to my friends</td>
</tr>
<tr>
<td>G</td>
<td>9.</td>
<td>To feel that my imagination can improve my work</td>
</tr>
<tr>
<td>R</td>
<td>2.</td>
<td>To know that the people I work with value my opinions</td>
</tr>
<tr>
<td>E</td>
<td>10.</td>
<td>To be able to enjoy my health</td>
</tr>
<tr>
<td>E</td>
<td>11.</td>
<td>To have good food to eat everyday</td>
</tr>
<tr>
<td>E</td>
<td>12.</td>
<td>To feel that my superiors respect my work</td>
</tr>
<tr>
<td>G</td>
<td>2.</td>
<td>To be able to try out new ideas in my work</td>
</tr>
</tbody>
</table>
Appendix B
Satisfaction Test

Directions for the satisfaction test are: This is a questionnaire to find out your attitudes toward certain things. There are 60 questions and you are to place a number in front of each question corresponding to this code:

1. strongly disagree with statement
2. disagree with statement
3. mildly disagree with statement
4. mildly agree with statement
5. agree with statement
6. strongly agree with statement

If there are questions as to how a particular question should be interpreted the S should be encouraged to answer the question the way he interprets the question. The Ss are not required to answer a question they feel is invalid, but they are encouraged to answer all questions.

There are no time limits for this test. The approximate test time is 30-60 minutes.

Note: The questions with an asterick are scored in the opposite direction. If a S places a 3 before such a question it is scored 4. A 1 is scored 6 and a 2 is scored 5.

The test is scored such that for a given S a high designates high satisfaction, and a low score designates low
satisfaction. For example, if a hypothetical $S_s$ score is 34E 42R 48G the lowest satisfaction would be in the Existence category and the highest satisfaction would be in the Growth category.
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>At periods my mind seems to work more slowly than usual.</td>
</tr>
<tr>
<td>2.</td>
<td>I have sometimes felt that difficulties were piling up so high that I could not overcome them.</td>
</tr>
<tr>
<td>3.</td>
<td>First I need to make more money, then I can do what I want.</td>
</tr>
<tr>
<td>4.</td>
<td>It's easy to talk to my superiors about my work.</td>
</tr>
<tr>
<td>5.</td>
<td>It's hard to go about in the streets for fear of being injured.</td>
</tr>
<tr>
<td>6.</td>
<td>I have often met people who were supposed to be experts, who were no better than I.</td>
</tr>
<tr>
<td>7.</td>
<td>I make the final decision on how to perform my work.</td>
</tr>
<tr>
<td>8.</td>
<td>I can count on my friends to give me a hand when I need it.</td>
</tr>
<tr>
<td>9.</td>
<td>I find it hard to set aside a task that I have undertaken, even for a short time.</td>
</tr>
<tr>
<td>10.</td>
<td>My friends are too critical of me when I make a mistake.</td>
</tr>
<tr>
<td>11.</td>
<td>I try to find new ways to perform my work.</td>
</tr>
<tr>
<td>12.</td>
<td>I like to let people know where I stand on things.</td>
</tr>
<tr>
<td>13.</td>
<td>My physical condition holds me back from the things I would like to do.</td>
</tr>
<tr>
<td>14.</td>
<td>Sometimes the clothes I wear embarrass me.</td>
</tr>
<tr>
<td>15.</td>
<td>I feel my work is constantly changing.</td>
</tr>
<tr>
<td>16.</td>
<td>At times I feel like swearing.</td>
</tr>
<tr>
<td>17.</td>
<td>At times I am full of energy.</td>
</tr>
<tr>
<td>18.</td>
<td>My superiors will cooperate with me even though they may not agree with me.</td>
</tr>
<tr>
<td>19.</td>
<td>My best abilities are seldom needed in my work.</td>
</tr>
<tr>
<td>20.</td>
<td>Few things in my work give me a sense of accomplishment.</td>
</tr>
</tbody>
</table>
21. At times I feel like smashing things.

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

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

24. I feel free to leave my living quarters any time of the day or night.

25. I seldom get the feeling of learning new things in my work.

26. It's important to accept my friends regardless of their faults.

27. I have periods in which I feel unusually cheerful without any special reason.

28. In my work I usually repeat some things over and over again.

29. My superiors will play one person against another.

30. I certainly feel useless at times.

31. Criticism or scolding hurts me terribly.

32. My friends welcome different opinions from their own.

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

34. The place where I live suits my needs.

35. My friends will talk behind my back about my faults more than they will talk to me.

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

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

38. What others think of me does not bother me.

39. I have very few quarrels with members of my family.

40. Careful planning is necessary in my work.

41. My friends will usually help me even when it's to their disadvantage.

42. I am against giving money to beggars.

43. At times my thoughts have raced ahead faster than I could speak them.
44. I frequently find myself worrying about something.

45. I have an opportunity to use many of my skills at work.

46. I am looking forward to the day when I can live in a better place.

47. I worry over money and business.

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

49. I do not have the opportunity to do things that challenge me at work.

50. People often disappoint me.

51. I feel comfortable in the clothes I wear.

52. Sometimes my work brings out talents I never knew I had.

53. I find it hard to make talk when I meet new people.

54. Compared with the people my age I am in good health.

55. When in a group of people I have trouble thinking of the right things to talk about.

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

57. It makes me uncomfortable to put on a stunt at a party even when others are doing the same thing.

58. I think nearly everyone would tell a lie to keep out of trouble.

59. It's hard to do things I enjoy most on the pay I receive.

60. My superiors do not let me know when I could improve my performance.
References


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University of Nebraska Press. 1955.