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NOTICE

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THE DEVELOPMENT OF AN INTROVERSION-EXTRAVERSION SCALE

FOR THE PICTURE-PREFERENCE TEST

by

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ABSTRACT

A 30-item scale with two pictures per item was designed to assess Jung's concepts of introversion and extraversion without the use of verbal stimuli. On the Picture-Preference Introversion-Extraversion Scales, subjects chose either a picture with an introversive or an extraversive attitude. Concurrent validation of the Scale was conducted by administering two questionnaire measures of the Jungian concepts of introversion and extraversion--the Myers-Briggs Type Indicator and a 90-item, true-false questionnaire developed by Dr. M. Morf at the University of Windsor, Canada.

The 123 subjects were drawn from volunteer agencies throughout New York City.

The full scale was not very homogeneous and did not correlate with the criterion measures. However, five clusters, having greater homogeneity, were derived from the 30 items of the Picture-Preference Introversion-Extraversion Scale. Two of these clusters were able to significantly predict some of the criterion measures.

Three explanations were offered for the negative findings, namely: (a) the nature of the Scale, (b) the nature of the test media, and (c) the nature of the personality characteristics.

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CHAPTER I

INTRODUCTION

The terms extraversion and introversion are in common usage in North American parlance. People associate the gregariousness of a salesman with an extraverted personality and the solitude of the librarian with an introverted personality. The glamorous movie star epitomizes the behaviour pattern which is commonly labeled as extreme extraversion while the hermit's reclusive behaviour epitomizes the concept of extreme introversion. As ubiquitious as the common connotations of extraversion and introversion seem to be, they are different from the definitions C. G. Jung (1971) gave for these terms when he first introduced them as part of his personality typology.

Extraversion and introversion were Jung's initial dimensions in a personality classification system which he hoped would bring order to what he perceived as the chaotic field of personality psychology. In Jung's major book on the subject, Psychological Types (1971), he discussed the development of his system. First, he outlined and compared the classification systems of many

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theorists before him. Next, he told of being perplexed by the basic personality difference of the schizophrenics and hysterics with whom he worked. He finally drew a contrast between the prevalent personality theories of his day which were developed by Freud and Adler. These three ingredients--historical, experiential, and theoretical--led him to postulate his own typology based on the inward and outward movement of psychic energy.

Jung's Typology

In introducing his typology, Jung implored the reader to consider the terminology to be a framework for the understanding of personality and not a codification system for the simplification of personality. Jung's forward written for the Argentine edition of Psychological Types (1971) contains the statement, "My typology is . . . a critical apparatus serving to sort out and organize the welter of empirical material but not in any sense to stick labels on people at first sight" (p. xiv). Jung believed that man had two sides, a conforming side and a unique side. Jung's typology then evolves from man's conforming side but acknowledges the existence of his unique side which maintains the richness of man's individuality.

After his caution about using the typology, Jung proceeded to divide personality into two attitudes and four functions.

Attitudes

A person's attitude is one of either extraversion or
introversion depending on the orientation of his libido.
For Jung, libido is pure psychic energy as contrasted
with Freud's definition of libido as either sexual or
aggressive energy. In the extraverted attitude, the move-
ment of the psychic energy is centrifugal--the libido is
oriented outward to the objective, external world. The
movement of psychic energy in the introverted attitude is
centripetal--the libido is oriented inward to the subject-
ive, internal world.

Extraversion denotes a concern for objects, people,
and matters outside of the person's self. The individual
values the objective world and identifies himself by his
assimilation into external reality. Introversion denotes
the opposite of extraversion. There is a lack of concern
for objects, people, and matters outside the person's self.
Internal reality and subjective matters are the stuff
which is valued and with which the introvert identifies.

Jung's use of the terms extraversion and introversion,
therefore, is not defined by a limited sociability factor
as would seem the case in everyday jargon. His terms have
a broader application which include man's total application
of life energy. In fact, it became clear to Jung that
a two-part extraversion-introversion typology was insufficient
to do justice to man's individual differences so he elaborated.

four functions which extend each attitude.

Functions

Jung's four functions are thinking, feeling, sensation,
and intuition. Explained briefly, thinking is the approach
used to understand the meaning of things and to determine
right or wrong, good, or bad; feeling determines whether
a thing is pleasant or unpleasant; sensation determines the
existence of things; and intuition determines a thing's
utility. The four functions complement each other as Jung
shows (1971): "Sensation establishes what is actually
present, thinking enables us to recognize its meaning,
feeling tells us its value and intuition points to possibil-
ities as to whence it came and whither it is going in a
given situation" (p. 540).

Jung refers to thinking and feeling as the rational
functions because each one concerns a judgment of right-
wrong or pleasant-unpleasant respectively. Sensation and
intuition are referred to as irrational because they are
not concerned with reason or judgment but are concerned with
perception. (Perhaps "arational" would be a better term
than irrational because of the connotation of irrational
to mean illogical rather than Jung's meaning of outside the
realm of logic.) The rational functions, thinking and
feeling, came to be called the judgmental functions; and
the irrational functions, sensation and intuition, came
to be called the perceptual functions.

Using the two attitudes and four functions, a person may be described as resembling any one of eight types-- extraverted thinking, extraverted feeling, extraverted sensation, extraverted intuition, introverted thinking, introverted feeling, introverted sensation, or introverted intuition.

Interaction

The attitudes and functions interact in both oppositional and compensatory manners. Opposition of attitudes and functions is an integral part of Jung's typology. Within each individual, each attitude and function is discrete and has an antonym. As was described earlier, the attitudes of extraversion and introversion are antithetical and each has its own energy. The rational functions of thinking and feeling are in opposition, as are the irrational functions of sensation and intuition. Yet the judgmental and perceptual "factors" (for clarity in the following discussion I will refer to judgment and perception as factors) compensate each other in the psyche in order to ward off a one-sided personality. This opposition and compensation produces a two-layered psyche.

Jung contends that one of the eight basic types is innately more dominant in each person and he calls this dominant type the principal type. Each person also has an innate auxiliary type. The auxiliary is composed of the

attitude opposite that of the principal type and a function drawn from the opposite factor. For example, if the principal type is extraverted thinking, then the auxiliary type could be introverted sensation or introverted intuition. The principal type and auxiliary type interact in a compensatory fashion to maintain psychic equilibrium. The principal type is based in the conscious mind while the auxiliary type is based in the unconscious and becomes manifest only if it moves into the conscious. While in consciousness a type can differentiate, that is, become clearer, more well-defined, and more focused. In the unconscious the type is undifferentiated, that is generalized, of an uncertain nature, and merged with other types.

Since there are eight possible principal functions, each requiring one of two possible auxiliary functions there are then sixteen possible personality types using Jung's typology. Jung said that his typology could be further elaborated by dividing each function into three parts, but then the system would become too cumbersome and would lose its utility. He also stated that other classification schemes are possible and that there is no one-and-only true system, but he believed his typology to be the most adequate for understanding personality.

Jung proceeded to describe psychopathology by using his typology, but for the purpose of this study, only the

normal, non-pathological application of introversion-extraversion will be considered.

Measurement of Introversion-Extraversion

Jung's full typology soon became the basis for many psychological tests (Hall & Nordby, 1973), and aspects of it continue to be very popular today (Semeonoff, 1970). While Jung's full typology has been lost to general usage over time, his attitudes of introversion and extraversion became standard dimensions in personality tests. Hall and Nordby (1973) attribute the neglect of Jung's full theory to his discursive writing, while Storr (1973) attributes it to his contradictions and his use of blanket concepts which explain little. As was stated above, even Jung's surviving concepts of introversion and extraversion have undergone changes in common usage which make them more descriptive of one limited behavioural concept, sociability.

However, the fact remains that the terms extraversion and introversion have provided the basis for a universally recognized dimension of personality (Semeonoff, 1970, p. 75). Extraversion-introversion has become a major independent factor in numerous factor analytic studies over the last twenty years (Carrigan, 1960, Lanyon & Goodstein, 1971). H. J. Eysenck (1970) reports many significant correlations of behaviour and personality characteristics with the dimensions of extraverion-introversion in his personality

questionnaire. But once again the definitions of the term
extraversion and introversion used in many factor analytic
studies differ from the definition originally used by
Jung (Carrigan, 1960). For example, although Eysenck (1970)
decried the "American" attribution of sociability as the
main characteristic of extraversion, his initial defining
sentence for extraversion is, "The typical extravert is
sociable, likes parties, has many friends, needs to have
people to talk to, and does not like reading or studying
by himself" (Eysenck & Rachman, 1970, p. 353).

Cattell (1964) and Guilford and Guilford (1934) have
personality theories and tests which use the concepts of
introversion and extraversion. But their theoretical
orientations differ somewhat from that of Eysenck. According
to Lynn (1971), Eysenck uses an introversion-extraversion
test scale in the sense of a broad trait which can then be
broken down into two specific traits, sociability and
impulsiveness. Lynn says that Cattell breaks the intro-
version-extraversion concept into five specific factors,
naming his test scales after these factors. Guilford and
Guilford (1934), like Cattell, also see introversion and
extraversion as a broad factor, preferring to name their
test scales by the multidimensional specific, homogeneous
measures.

Four points can now be made about the literature on

introversion and extraversion.

1. There is unanimous agreement that introversion and extraversion are important and pervasive concepts of personality.

2. There are several different possible approaches to assess the introversion and extraversion concepts.

3. There does not seem to be agreement about the exact definition of introversion or extraversion.

4. There does not seem to be agreement about whether introversion and extraversion are discrete or represent ends of a continuum.

Therefore, drawing on the strength of points one and two--that introversion and extraversion are established personality concepts which can be tapped by different methods--this study will attempt to clarify points three and four--to more clearly define introversion and extraversion and determine if they are discrete or continuous.

In order to clarify points three and four, a measure of the introversion-extraversion concept will be developed which will not be contaminated by a strong sociability factor and will be free of response bias. This measure will then be validated by correlation with an accepted version of the Jungian theory of introversion-extraversion.

Hypothesis

The following hypothesis is formulated for the present

study: A Picture-Preference Test (P-PT) (Cowan, 1967)

scale of introversion-extraversion [built on seven items

which emerged on the third factor in a factor analysis of

the P-PT (Berek, 1975) and on an additional twenty-three

items constructed to conform to Jung's theory of introversion-

extraversion] will correlate significantly with the Myers-

Briggs Type Indicator (Myers, 1962).

CHAPTER II

DESIGN OF THE STUDY

Criteria

Two tests of introversion-extraversion were used as criteria for concurrent validation of the Picture-Preference I-E Scale. One of these two tests, the Myers-Briggs Type Indicator, Form F (1962), is a 166-question, forced-choice device. It includes four scales deriving from the Jungian theory of personality, namely Introversion-Extraversion, Intuition-Sensing, Feeling-Thinking, and Perception-Judgment. These scales were set up on the assumption that the attitudes and functions of Jung's personality theory can be placed on continua. This use of the concepts is opposed to Jung's theory as originally set forth but is in keeping with recent assessment findings (Carrigan, 1960). Although the Picture-Preference I-E Scale was designed to focus on the I-E assessment, the author has made use of the other three scores on the Myers-Briggs Type Indicator as well in checking the validity of the Picture-Preference scale.

The second criterion is an experimental test of Introversion-Extraversion designed along the lines of

Jungian concepts by Professor Martin E. Morf at the University of Windsor. This test provides three scales to measure the dimensions of Intraception-Extraception, Anxiety-Sociability and Restraint-Impulsivity. Each dimension has 30 true-false questions. In the present study, the 90 questions of Morf's test were randomized and were presented under the name "Personal-Preference Questions". A separate answer sheet was used for these questions, requiring the subject to check whether the question was true or false from his own viewpoint. Morf conceives of the Jungian attitudes of Introversion and Extraversion as a single three-dimensional construct, with all bipolar dimensions orthogonal. He formulated this model partly on the basis of work by Murray (1938), Gray (1973), and Pribram (1969). The three scores on this test were used in the concurrent validation of the Picture-Preference I-E Scale.

Design of the Picture-Preference I-E Scale

The items for the Picture-Preference I-E Scale were designed so that the subject had to choose between a picture emphasizing an introversive attitude and one emphasizing an extraversive attitude. Specific examples and a complete list of pictures are presented in the Procedure section. Seven items were drawn from a factor analysis by Berek (1975); these items formed the core of the Picture-Preference I-E Scale. The additional 46

pictures which make up the 23 new items for the Picture-
Preference I-E Scale were conceived by the author after
a careful reading of the Jungian personality material
cited in the Introduction. This 30-item scale was
presented to each subject scattered among 40 other
Picture-Preference items selected from former studies
(Cowan, 1967; Morrison, 1973; Amin, 1974).

Study of Social Desirability

Forced-choice items in testing can be affected by a
response bias favoring the choice which is more generally
acceptable from a societal viewpoint. That is, rather
than deciding between alternatives on the basis of personal
preference, the subject may view one of the choices as
preferable because he believes that most other people
would probably pick that one; or analagously, the subject
may think he will be viewed as deviant if he doesn't pick
that one. Social Desirability is the term Edwards (1970)
uses for this response bias.

Edwards (1970) has also devised a way to eliminate
this bias in test construction. By having a group of
subjects rate each alternative of every item along a
scale of desirability from 1 to 9, the choices can be
matched when items are formed, thereby mollifying a
possible social desirability difference. Following the
procedure in Edwards (1970), as modified for the Picture-

Preference scales by Amin (1974), social desirability was controlled within the items of the Picture-Preference Introversion-Extraversion Scale.

Randomization of Items

Some subjects have a penchant for making only right-hand or left-hand choices, so to control for such a response bias the items in the Picture-Preference Introversion-Extraversion Scale were randomized. The introversion-keyed picture was randomly placed on either the right side or the left side of the item with the restriction that ultimately half of the items were keyed for introversion on the left side. This restriction was to allow a left-right balance between the introversion and the extraversion pictures.

Demographic Information

Age and socioeconomic status computed according to the method of Myers and Bean (1968) were gathered on all subjects. While past Picture-Preference studies (Morrison, 1973; Amin, 1974) have found no significant correlations between the scales and these demographic variables, the possibility for significant correlation exists with this new scale. Sex of the subjects was asked but not considered in the data analysis since the great majority of subjects (100 out of 123) were female.

Volunteerism Information

The subjects in this study were all active volunteers in various settings, so details of their volunteer experience were also gathered at the end of the testing session including type of volunteer work the subjects were doing and the satisfaction they gained from their experience.

CHAPTER III

PROCEDURE

Development of the Pictures

Seventy Picture-Preference items were shown to the subjects. These seventy items are described in Table 1 in which items of the Introversion-Extraversion Scale are designated by asterisks. One asterisk denotes a newly-developed item and two asterisks designate a core item from Berek's study. The column directly to the left of the item descriptions shows the number of the items when used in the study. The far left column shows the number of the I-E items in the experimental scale. This latter number, the I-E Scale item number, is used in all further item references.

Each of the seven items drawn from Berek's study had a general theme of fantasy versus reality. For example, I-E Scale item number 8 in Table 1 shows a reality-based news magazine and a fantasy-producing movie magazine. This fantasy-reality theme is interpreted in terms of the introversion-extraversion concept as contrasting the allowing of free reign to one's inner-most thoughts with restricting oneself to the mundane. The literature on introversion-extraversion presents a multifaceted concept;

Table 1

Picture-Preference Test

Including Introversion-Extraversion Scale

I-E Scale No.	Study No.	Picture A	Picture B
1	*1	Heavylined mandala	Lightlined mandala
2	*2	Mathematician writing formula	Physician writing presoription
3	3	Silhouette of a woman in a shower	Woman watering a plant
4	*4	Woman with arrows above her head pointing outward	Woman with arrows above her head pointing inward
5	*5	Man looking at birds	Man looking at birds through binoculars
6	*6	Man with ideas	Man thinking of possessions
7	*7	A top with a small base	A top with a large base
8	**8	A news magazine	A movie magazine
9	*9	Woman gazing at stars	Woman looking at star through a telescope
9	**10	A hamster in cage running in wheel	Same cage with hamster climbing slope to ledge

Table 1 (cont'd.)

I-E Scale No.	Study No.	Picture A	Picture B
10	*11	Man building automobile mock-up	Chemist working with laboratory glassware
	12	A man and woman kissing	Scene inside a movie theatre
11	*13	A handshake	A loving-oup trophy
	14	A family picnic	Several couples on a haystack.
	15	A wheelchair	A pair of crutches
	16	A skinny man	A fat man
12	*17	A reclining lioness	A growling lioness
13	**18	Sleeping Beauty being kissed awake by prince	Girl coming to family breakfast table
14	*19	Poker table with cards and chips	A scrabble board with some pieces displayed
	20	Christmas tree with presents	Santa Claus with bag of presents
15	*21	Flower and stem	Flower and stem in vase
	22	An upright baby bottle	Same bottle tilted down and out at 45 degrees

Table 1 (cont'd.)

I-E Scale No.	Study No.	Picture A	Picture B
	23	Medicine cabinet filled with tooth-brushes, Band-aids, etc.	Same filled with pill bottles
	24	A stack of cans on table in a heap	Man's hand adding a can to a tall tower of shaking cans
16	*25	Priest walking and reading	Priest preaching from pulpit
	26	A girl thinking about a grave	Same girl thinking about husband and child
	27	Figure going down in whirlpool, man diving in to save him	Same, but man throwing life saver
	28	Couple looking through a picture album	A couple dancing
	29	Modern art representation of a figure close up	Same, at a distance
	30	Figure giving shot to a man's arm	Man receiving shot from an arm
	31	Bedroom, two figures in bed	Same, one figure in bed
	32	Man finding a filled treasure chest	Same man as chairman of the board

Table 1 (cont'd.)

I-E Scale No.	Study No.	Picture A	Picture B
17	**33	A group of people standing and talking	Same, with one person away from group
	34	Man and woman on a motorcycle with a sidecar	Woman hanging onto a man on a motorcycle
18	*35	Cluster of dots	Same dots dispersed
	36	A man hanging from cliff holding branch with one hand	Same man crumpled on ground at foot of cliff
	37	A man with mask and gun	A policeman
19	*38	Man with tuxedo and top hat	Knight in armor
	39	A rose with thorns	A dead tree
	40	An escalator	An express elevator with door closed
	41	A road going into distance with town in background	Same scene with no town in sight
	42	A double bed	Twin beds
20	*43	Superman	A muscular stevedore
	44	A car parked by side of road with hood up	A car driving on a mountain road with cliff on one side

Table 1 (cont'd)

I-E Scale No.	Study No.	Picture A	Picture B
21	45	A woman holding a baby	Same woman playing with baby (no physical contact)
	*46	Abstract of open hand with pointed fingers	Armadillo
	47	People boarding a plane	Man and woman standing close looking at papers
22	**48	Sleeping Beauty and Prince Charming	Snow White and the Seven Dwarfs
	49	Man driving big, expensive car	Male graduate in cap and gown
	50	A car going over a bumpy road	Road showing a detour sign pointing to another road at right angles
23	*51	Male travel agent at desk	Male lying on beach
	52	"The Kiss" by Rodin	Statue of a nude woman carrying a jug
	53	A woman in a bathing suit	Same woman cooking at stove
24	*54	Ant eater	Angular and pointed abstract line drawing

Table 1 (cont'd.)

I-E Scale No.	Study No.	Picture A	Picture B
	55	A skinny woman	A fat woman
25	*56	Astronaut in life-sustaining gear	A box with ribbon and bow
	57	Child asleep in crib	A man and woman sleeping together
	58	A oar being towed	A oar being pushed by tow truck
26	*59	Man working at drafting table	Open hand with palm faced outward
27	*60	Tall, modern buildings flanking short, old buildings	Box with ribbon across top
28	*61	Man climbing mountain	Man seated at reference desk in library
29	**62	A picture of a mouth	A picture of two eyes
	63	A buxom woman	A normal-sized woman
	64	Couple at a zoo	Man with his arm around a woman walking in a park
30	*65	Man talking on telephone	Man writing in diary

Table 1 (cont'd.)

I-E Scale Study No.	Picture A	Picture B
66	Rear view of tenement and alley	A fun-house mirror
67	A garage, empty, with door open	A hand gun (automatic)
68	Long line of people waiting to go into restaurant	An automat
69	A child sucking thumb (about 3)	Same child playing with pots and pans by cupboard
70	A hospital (outside view)	A line of traffic stopped by train

* New Introversion-Extraversion items

** Core Introversion-Extraversion items

therefore, the items of the/test not only deal with
fantasy vs. reality, but also base themselves on several
other themes culled from the literature, as delineated in
Table 2.

The theoretical-pragmatic theme is exemplified by
I-E Item 2, which shows a mathematician working out a
formula and a physician writing a prescription. Both
mathematics and medicine require extensive training and
intelligence, but mathematics deals more with theories and
medicine is an applied science.

When we take account of the intensive-extensive theme,
we view the introvert as more consolidated within the self
and the extravert as more dispersed. This dichotomy is
represented by the distribution of dots in I-E Item 18.
The theme of contrast between the extrinsic and the intrinsic,
as shown in Item 5, distinguishes between the introvert's
interest in the possible utility of possessions and the
extravert's interest in possessions _per se_.

The natural-elaborated theme holds the introvert as
not particularly concerned about things and therefore,
less likely than an extravert to use elaborate means to
get something, as in I-E Item 8.

Finally, the inward movement-outward movement theme
is drawn from Jung's concept of psychic energy movement
(as described in the Introduction).

Table 2

Themes Used as Guidelines in Item Construction

Dimension		I-E Scale No.
I	E	
1. Theoretical	Programatic	2, 10, 16, 23, 28
2. Intensive	Extensive	18, 6
3. Intrinsic	Extrinsic	5, 11, 14
4. Natural	Elaborated	8, 15, 1, 4
5. Inward Movement	Outward Movement	3, 12, 26, 30
6. Fantasy	Reality	19, 21, 24, 25, 27

The items as listed in Table 2 are not exclusive to that theme and could be conceived as expressing one or more of the other themes. The themes are not considered to be orthogonal or as all-inclusive; and they were used only as guidelines for item construction.

The Sample

The sample was drawn from volunteers working in over a dozen agencies in New York City. Several agencies were cultural institutions such as museums and theatres, others were large volunteer-based community organizations, and still others were rehabilitative agencies using volunteers for services to clients. The 123 volunteers ranged in age from 14 to 70, with a median of 35 years. The volunteers' socioeconomic status ran from poverty-level to very wealthy, with a median of middle-class. The majority, 100, of the volunteers were female. All of the subjects voluntarily participated in the study; they took those tests at times other than their usual volunteer activity. The study was conducted at sites of each of the volunteer agencies. The number of volunteer subjects from each agency ranged from 1 to 17; there were about nine or more from most agencies.

All subjects completed the Picture-Preference Introversion-Extraversion Scale, the Myers-Briggs Type Indicator and the questionnaire soliciting information

about age, sex, and occupation. Because of time
restrictions, the Personal Preference questions (the
Morf test) were answered by only 97 subjects. The
questions pertaining to volunteerism also were not
answered by all subjects.

A group of 26 undergraduate students from a junior
college were the subjects for the preliminary study of
the social desirability of the pictures. These subjects
were socioeconomically more-homogeneous than subjects in
the sample for the main study; the junior college students
came mainly from a working-class background. They were
all in the 18-21 age range; half were male, and half
female.

Administration of Scales

Social Desirability Measure

The 46 new pictures and 14 pictures from the seven
core items composed the 60-picture, 60-page Social
Desirability Rating booklet. After randomly determining
an order of presentation for the 30 items, the author used
all of the "A" (left-hand) pictures as the first 30 items
in the rating booklet; following those, he presented all
of the "B" pictures, in the same, random order. The
resulting booklet had every item pair of pictures
separated by 29 other pictures to provide a uniform
separation between the two pictures whose social desirability

ratings were to be compared. After distributing the
booklets and answer sheets, the researcher read the
following instructions:

> Your task is to look at and rate the social
> desirability of each of the pictures that will be
> presented, using the rating scale below. Remember
> that you are to judge the pictures in terms of
> whether you consider a preference for them to be
> socially desirable or undesirable. We are not
> interested in whether <u>you</u> like or dislike the
> picture. Be sure to make a judgment about each
> picture.

These instructions, along with the rating scale
(see Table 3), were on the cover of the booklet and on
each answer sheet. The researcher then gave the students
practice in social desirability rating by drawing four
figures on the chalkboard, namely, a dagger, a flower, a
smiling face, and a frowning face. Students volunteered
their ratings of these figures and the ratings were
discussed. The students then rated the pictures in the
booklet.

The objective of the above procedure was to make
feasible the construction of item-pairs which would be
as close as possible in social-desirability rating.
The average social-desirability scores of five pairs of

Table 3

Social Desirability Scale

Rating	Meaning of Rating
1	Extremely Undesirable
2	Strongly Undesirable
3	Moderately Undesirable
4	Mildly Undesirable
5	Neutral
6	Mildly Desirable
7	Moderately Desirable
8	Strongly Desirable
9	Extremely Desirable

the new pictures revealed the pictures within these pairs to be very divergent (more than 1.5 units apart) on this scale. Therefore, the author made new items from these pictures, using the a priori indication of introversion or extraversion, and the average social-desirability rating of each picture, to guide his construction of the new pairs. The five items reconstructed from the original 10 pictures are I-E Scale items 21, 24, 25, 26, and 27 in Table 1. The complete results of the Social Desirability Rating procedure are presented in the next chapter.

Distribution of Materials

The volunteers were given a package of materials which included the following:

1. Answer sheet for the Picture-Preference Scale

2. Answer sheet for the Myers-Briggs Type Indicator

3. The Myers-Briggs Type Indicator question booklet

4. Answer sheet for the Personal Preference questions

5. The Personal Preference questions booklet (Morf's test)

6. The questionnaire soliciting demographic and volunteer information

7. The self-rating sheet.

The volunteers were asked to go through their packages while the author explained each part of the

administration.   The entire session lasted about 90
minutes.

Picture-Preference I-E Scale

The pictures for the Introversion-Extraversion Scale,
as well as the 40 items used to couch the experimental
scales, were presented by 35 mm slides shown to the group
on a screen, each item being exposed for 10 seconds.   The
answer sheet for the Picture-Preference Scale had 70 A-B
items.   Subjects were asked to circle their preference:
A for the left-hand picture, and B for the right-hand
picture.   The following instructions were given:

> The study relates to an individual's preferences.
> Your task is simply to choose which of the two
> pictures you like better.   Mark A on the answer
> sheet if you like the left-hand picture better
> and B on the answer sheet if you like the right-
> hand picture better.   Each set of pictures will be
> shown for 10 seconds.   You will mark your choice
> within this time period.   Sometimes you will find
> it hard to choose one or the other picture.   Please
> make a choice for every pair of pictures, even if
> it is difficult to do so.   If you don't like either
> picture, mark the one you dislike less.   Are there
> any questions?

Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator had an answer sheet which could be machine scored. Full instructions for this measure were presented on the booklet cover. Subjects were asked to read this page carefully.

Personal-Preference Questions

The answer sheet for the Personal-Preference questions had 90 true-false items. Subjects were asked to circle their preference; T if the statement was true for themselves and F if the statement was false for themselves. The instructions were as follows:

Please answer these questions as they relate to you. Answer true if the question is true about you and false if the question is false about you. Try to answer every question. If you find a question difficult to answer, consider how it applies to you most of the time. Are there any questions about the procedure?

Questionnaire

The final questionnaire (see Appendix A) is self-explanatory. Volunteers were asked to call the author if they had any questions while filling it out.

Socioeconomic Rating

The socioeconomic status of the subject was computed using occupational and educational levels according to the

method described by Myers and Bean (1968). This method
is reproduced in Appendix B.

CHAPTER IV

RESULTS

Social Desirability of Pictures

The picture-pairs of the Introversion-Extraversion

Scale were designed to have approximately equal social

desirability. The social desirability rating of each

picture and the difference between the paired pictures of

each item are shown in Table 4. Over half of the items

(53%) have a picture rating difference of .5 or less and

over nine-tenths (94%) of the items have a picture rating

difference of 1.0 or less. An intraclass correlation

(Haggard, 1958) between the pairs of pictures yields an

intraclass r of .88, $F(29,30) = 16.15$, $p < .001$.

The pictures ranged from strongly desirable (mean

rating of 8.23) to moderately undesirable (mean rating

of 2.50). The majority of items (66%) were on the socially

desirable end of the scale (above 5.00). The mean social

desirability rating of the introversion pictures is 5.73

and the extraversion pictures is 5.59. The difference

between these means is not significant, $t(29) = 1.17$.

Introversion-Extraversion Scale

The internal consistency of the Introversion-Extraversion

Scale was calculated by the ITAN computer program (University

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Table 4

Social Desirability Values for

Introversion-Extraversion Scale

I-E Scale No.	Introversion	Extraversion	Difference
1	5.19	4.19	1.00
2	6.43	6.73	-0.30
3	4.69	4.61	0.08
4	5.42	6.38	-0.96
5	5.84	5.76	0.08
6	4.15	4.07	0.08
*7	6.53	5.96	0.57
8	6.30	7.30	-1.00
*9	3.65	3.57	0.08
10	7.30	6.73	0.97
11	8.23	7.30	0.93
12	5.23	4.65	0.58
*13	7.61	7.03	0.58
14	4.84	5.19	-0.35
15	7.26	6.88	0.38
16	5.96	5.15	0.81
*17	6.50	5.53	0.97
18	3.73	3.30	0.43
19	4.57	5.15	-0.58
*20	6.50	6.76	-0.26
21	2.50	2.50	0.00
*22	6.03	7.34	-1.31
23	7.57	7.46	0.11
24	3.92	3.92	0.00
25	7.15	6.65	0.50
26	5.26	5.38	-0.12
27	5.92	5.53	0.39
28	6.15	5.92	0.23
29	5.69	4.23	1.46
30	5.76	6.57	-0.81
Total	171.88	167.74	4.54
Mean	5.73	5.59	
Standard deviation	1.33	1.36	

* core items

of Windsor). The program gives the overall reliability of
the scale, the point-biserial and biserial coefficients
(item-remainder correlations) for each item, the correlation
of each item with criterion measures and the percent of
responses in each alternative. Table 5 shows the point-
biserial and biserial coefficients of each item and the
percent of responses in the first response choice. Since
there are only two response choices, the percent of
responses in the second choice can be derived by subtracting
the percent in the first choice from 100%. The overall
alpha reliability of the scale is 0.24, which is significant,
F (122, 3538) = 1.32, $p < .05$. The scale has a mean of
15.00 and a standard deviation of 2.94.

In Table 6 and Table 7 the correlation of each item
with the seven criterion scores is shown. There are six
significant positive correlations at the .05 level with
the Myers-Briggs Type Indicator scales (see Table 6).
There are four significant positive correlations at the
.05 level with the Morf test (see Table 7).

The correlations, done with the computer program
from the Statistical Package for the Social Sciences
(Nie, Hull, Jenkins, Steinbrenner, and Brent, 1975),
between the full Picture-Preference Introversion-
Extraversion Scale scores and the criteria are shown
in Table 8. None of these correlations is significant.

Table 5

Item Analysis of Picture-Preference

Introversion-Extraversion Scale

I-E Scale No.	Key	Item-Remainder Correlations		Endorsement proportion (in alternative 1)
		Point-Biserial	Biserial	
1	1	-0.11	-0.14	71
2	1	0.05	0.07	52
3	2	-0.01	-0.01	66
4	2	0.25**	0.35**	77
5	1	0.03	0.03	57
6	2	-0.07	-0.10	20
7	2	0.13	0.17	76
8	1	0.02	0.02	36
9	1	0.05	0.06	46
10	2	0.14	0.18*	37
11	1	0.06	0.09	85
12	1	0.07	0.10	72
13	1	0.09	0.11	42
14	2	-0.03	-0.05	28
15	1	0.01	0.02	37
16	1	0.12	0.16	59
17	1	0.11	0.14	40
18	1	0.07	0.08	55
19	2	-0.05	-0.06	61
20	1	0.22*	0.29**	31
21	1	0.04	0.06	44
22	1	-0.00	-0.00	43
23	2	0.12	0.15	49
24	2	-0.07	-0.09	41
25	2	0.10	0.13	36
26	2	0.07	0.09	32
27	2	0.02	0.03	64
28	2	0.11	0.13	41
29	1	0.07	0.11	13
30	2	-0.04	-0.05	55

* $p < .05$

** $p < .01$

Table 6

Criterion Correlation of Items

In Introversion-Extraversion Scale

With the Myers-Briggs Type Indicator

I-E Scale No.	Myers-Briggs $\underline{n}$ = 123			
	Introversion	Intuition	Feeling	Perception
1	-0.01	0.03	0.03	0.05
2	0.20*	0.01	0.02	0.07
3	-0.02	-0.04	0.04	-0.13
4	0.17	-0.19*	-0.07	-0.02
5	0.08	0.04	-0.17	0.17
6	-0.05	-0.16	-0.17	-0.11
7	0.05	0.05	-0.01	0.05
8	0.00	0.11	0.03	0.11
9	-0.17	-0.19*	-0.19*	-0.03
10	-0.01	0.11	-0.07	-0.07
11	-0.08	0.07	0.13	-0.09
12	-0.03	0.03	-0.03	0.06
13	-0.14	0.00	0.08	0.09
14	-0.09	-0.01	0.00	-0.20*
15	-0.19*	0.25**	0.10	0.16
16	0.05	0.20*	0.02	0.13
17	0.10	0.15	0.16	0.07
18	0.02	0.05	-0.01	-0.11
19	-0.03	-0.02	0.07	-0.01
20	-0.16	0.16	0.01	0.22*
21	0.04	-0.22*	-0.07	-0.12
22	0.05	-0.09	0.09	-0.09
23	0.01	-0.06	0.10	-0.02
24	0.17	-0.02	-0.08	0.01
25	0.06	0.06	0.05	0.02
26	-0.16	0.18*	0.20*	0.01
27	0.08	-0.10	-0.08	-0.14
28	0.12	-0.20*	-0.20	-0.32**
29	0.01	-0.20*	-0.04	-0.07
30	-0.01	-0.15	-0.01	-0.13

* $\underline{p} < .05$

** $\underline{p} < .01$

Table 7

Criterion Correlation of Items in

Introversion-Extraversion Scale

With the Morf Test

I-E Scale No.	Morf $\underline{n} = 97$		
	Intraception	Restraint	Anxiety
1	0.20*	-0.17	-0.05
2	-0.20*	-0.05	0.11
3	0.08	0.06	0.11
4	0.06	0.06	0.14
5	0.06	-0.08	0.04
6	-0.12	0.04	-0.02
7	-0.06	0.12	0.13
8	0.06	-0.04	0.06
9	-0.05	-0.12	-0.11
10	0.09	0.02	0.15
11	-0.09	0.06	0.01
12	-0.06	-0.01	-0.03
13	0.04	-0.01	-0.18
14	-0.08	0.09	0.03
15	0.10	-0.04	-0.09
16	0.24*	0.07	0.14
17	-0.03	-0.12	0.00
18	-0.08	0.14	0.11
19	-0.04	-0.01	-0.00
20	0.10	-0.10	-0.08
21	0.07	-0.00	-0.06
22	-0.06	0.04	-0.05
23	-0.06	-0.02	-0.02
24	0.02	0.12	0.20*
25	0.11	0.14	0.13
26	0.01	0.03	-0.02
27	-0.04	0.04	0.10
28	-0.15	0.23*	0.15
29	-0.14	-0.10	-0.08
30	-0.11	0.12	0.06

* $\underline{p} < .05$

Table 8

Criterion Correlations with the Full Picture-Preference

Introversion-Extraversion Scale*

n	Criteria	Picture-Preference Introversion-Extraversion Scale
,123	<u>Myers-Briggs</u>	
	Introversion	0.014
	Intuition	-0.016
	Feeling	-0.009
	Perception	-0.062
97	<u>Morf</u>	
	Intraception	-0.007
	Restraint	0.084
	Anxiety	0.145
123	<u>Demographics</u>	
	Age	-0.004
	S. E. S.	-0.168
	<u>Volunteer</u>	
116	Type of Volunteer	-0.133
109	Volunteer Satisfaction	-0.028
77	Self-Description	-0.037

* no correlation is significant

Therefore, an analysis of the data was performed in an attempt to determine if selected item clusters within the full-scale could be identified which would have better internal consistency and higher correlations with the criteria than did the full scale.

A computer program designated Test 07, "Cluster Analysis" (Burnett, 1972), was used to find more homogeneous item clusters. It is based on a method of homogeneous grouping suggested by Loevinger, Gleser, and Dubois (1953). This program selects three prime cluster items which are highly correlated on a covariance matrix. The program then adds items to this prime cluster which increases the reliability. When none of the remaining items increases the reliability of the cluster, the program sets it aside as a complete cluster and begins another cluster with three new prime cluster items from the remaining items. The results are shown in Table 9. There are six clusters defined which incorporate all but two items (18 and 24). The reliability of five of these six clusters is higher than that of the full scale. The reliability of Cluster 1 is significant at the .01 level and the reliabilities of Clusters 2-5 are significant at the .05 level. The reliability of Cluster 6 is not signigicant so Cluster 6 is not included in further analysis.

Table 9.

Summary of Cluster Analysis

Cluster.	Items Included and I-E Scale No.	Kuder-Richardson Reliability of Scale
1	8, 9, 11, 15, 19, 21, 26, 28, 30	0.55**
2	2, 17, 20	0.42*
3	7, 13, 14, 29	0.41*
4	1, 5, 23, 27	0.38*
5	10, 12, 22	0.30*
6	3, 4, 6, 16, 25	0.18

* $p < .05$

** $p < .01$

The Cluster Analysis program was designed to produce independent scales and indeed the cluster correlation matrix in Table 10 shows these clusters to be independent.

The point-biserial and biserial correlations of items in the clusters are given in Table 11. The item key in these cases is empirically derived from the cluster analysis and does not necessarily reflect the original introversion-extraversion key.

Clusters 1 and 2 have significant correlations with some of the Myers-Briggs scales as can be seen in Table 12. Cluster 1 has significant negative correlations with Intuition, Feeling, and Perception while Cluster 2 has a significant positive correlation with Perception.

Table 13 shows the results of a stepwise multiple regression of the clusters on the criteria. In this computer program, Statistical Package for the Social Sciences, Release 7.0 (Nie, et.al., 1975), the parameters for the multiple regression are set at a maximum of five variables with a minimum F for inclusion of 4.0 and a tolerance level of .01. None of the clusters can predict the Myers-Briggs scale of Introversion or any of the Morf scales. However, Cluster 1 alone can predict Intuition and Feeling and Clusters 1 and 2 can combine to predict Perception.

Table 10

Intercorrelations of Clusters

Cluster	1	2	3	4	5	6
1	–	0.04	0.13	0.09	-0.00	0.05
2		–	0.19	0.11	0.13	-0.14
3			–	-0.17	-0.07	0.12
4				–	0.13	-0.01
5					–	0.03
6						–

Table 11

Empirical Key, Point-Biserial and Biserial Correlations

of Items in the Clusters

Cluster No.	I-E Scale No.	Empirical Key	Correlations	
			Point-Biserial	Biserial
1	8	2	0.25**	0.32**
	9	1	0.28**	0.35**
	11	2	0.11	0.17
	15	2	0.34**	0.43**
	19	1	0.22*	0.28**
	21	1	0.33**	0.42**
	26	1	0.32**	0.42**
	28	2	0.23**	0.29**
	30	2	0.18*	0.23**
2	2	1	0.21*	0.26**
	17	1	0.31**	0.39**
	20	1	0.23**	0.30**
3	7	2	0.25**	0.34**
	13	1	0.26**	0.33**
	14	1	0.25**	0.33**
	29	1	0.16	0.25**
4	1	1	0.15	0.20*
	5	2	0.31**	0.39**
	23	1	0.16	0.20*
	27	1	0.21*	0.27**
5	10	2	0.17	0.22*
	12	1	0.20*	0.27**
	22	2	0.14	0.17

* $p < .05$

** $p < .01$

Table 12

Correlation of Clusters with Criteria

| Cluster | Myers-Briggs | | | | Morf | | |
	Introversion	Intuition	Feeling	Perception	Intraception	Restraint	Anxiety
1	0.10	-0.32***	-0.23**	-0.20*	-0.07	0.06	0.02
2	0.07	0.15	0.10	0.18*	-0.08	-0.13	0.02
3	-0.00	-0.04	0.02	0.13	-0.02	-0.03	-0.07
4	-0.08	0.06	0.07	0.17	0.10	-0.04	-0.07
5	-0.04	0.12	-0.10	0.04	0.05	-0.01	0.09

* $p < .05$

** $p < .01$

*** $p < .001$

Table 13

Stepwise Multiple Regression of Clusters on Criteria

Criteria	Correlated Variables	Multiple R	b	Beta	F	df
Intuition	Cluster 1	0.32	-4.22	-0.32	14.28	1/121
Feeling	Cluster 1	0.23	-2.31	-0.23	6.98	1/121
Perception	Clusters 1 & 2	0.27	-2.83/ 5.15	-0.21/ 0.18	4.82	2/120

Other Results

Besides the analysis of the validity of the Picture-Preference Introversion-Extraversion Scale compared to the concurrent Introversion-Extraversion criteria, several additional analyses were performed on the data.

Having correlated the clusters with the demographic, volunteerism, and self-rating data, the author found that Clusters 1 and 3 have a slight but significant correlation with the socioeconomic factor, as seen in Table 14.

Table 15 shows a correlation matrix of the seven criterion scores used in the concurrent validation attempt with the Picture-Preference Introversion-Extraversion Scale. There are seven significant correlations between the four Myers-Briggs scales and the three Morf scales. There are also several significant correlations among the scales within each measure.

The last analysis of the data done by the author was the correlation of the Myers-Briggs Type Indicator with the demographic and volunteer data. Table 16 shows several significant correlations: (a) age with both the Intuition and Perception Scales; (b) volunteer satisfaction with both the Introversion and Intuition Scales; (c) and self-perception with the Feeling Scale.

Table 14

Correlation of Clusters with Demographic,

Volunteer and Self-Rating Data

	Demographic		Volunteer		
Cluster	Age	S. E. S.	Type	Sat.	Self
1	-0.05	0.20*	0.14	0.03	0.01
2	-0.03	-0.07	-0.11	-0.07	-0.13
3	-0.18	0.19*	0.09	-0.04	0.08
4	-0.15	0.02	0.02	-0.10	-0.13
5	-0.07	-0.04	0.02	0.12	0.11

* $p < .05$

Table 15

Correlation Matrix of the Criterion Scores

Criteria	Intro-version	Intu-ition	Feeling	Percept-ion	Intra-ception	Restraint	Anxiety
Introversion	-	-0.19*	-0.06	-0.15	-0.23*	0.23*	0.61***
Intuition		-	0.27***	0.56***	0.44***	-0.33**	-0.13
Feeling			-	0.26**	0.17	-0.14	-0.10
Perception				-	0.27**	-0.37***	-0.17
Intraception					-	-0.32***	-0.19
Restraint						-	0.60***
Anxiety							-

* $p < .05$

** $p < .01$

*** $p < .001$

Table 16

Correlation of Myers-Briggs Scales with Demographic,

Volunteer, and Self-Rating Data

Myers-Briggs Scales	Demographic		Volunteer		Self
	Age	S. E. S.	Type	Sat.	
Introversion	0.08	0.07	0.07	-0.28***	-0.07
Intuition	-0.21*	-0.17	-0.12	-0.19*	0.06
Feeling	-0.14	0.07	-0.18	-0.04	-0.23*
Perception	-0.27***	0.09	-0.09	-0.14	-0.07

* p < .05

*** p < .001

CHAPTER V

DISCUSSION

Validity of the Picture-Preference I-E Scale

It is evident that the full, 30-item Picture-Preference Introversion-Extraversion Scale is not homogeneous and that it does not correlate significantly with any of the criterion measures. The internal consistency of .24, though significant ($p < .05$), is too low to encourage future use of the full scale. However, five of the clusters that were derived from the 30 items are more homogeneous than the full scale; the Kuder-Richardson Formula 20 reliabilities are: Cluster 1, .55 ($p < .01$), Cluster 2, .42 ($p < .05$), Cluster 3, .41 ($p < .05$), Cluster 4, .38 ($p < .05$), Cluster 5, .30 ($p < .05$). Moreover, Clusters 1 and 2 have significant correlations with some of the Myers-Briggs Type Indicator scales.

Interpretation of the Clusters

Cluster 1, the largest of the five clusters, with nine items, correlates significantly and negatively with the Myers-Briggs scales of Intuition, Feeling, and Perception. Therefore, it correlates positively with the converse of these three scales, namely, Sensing, Thinking,

and Judgment. Because the correlations of this cluster
with these three scales are not large (only .32, .23,
and .20 respectively), it would be inappropriate to
describe this cluster as a "measure" of Sensing, Thinking,
or Perception.

Examination of the items in Cluster 1 enables us to
form an impression about what this cluster measures.
One item shows (a) a woman simply gazing at the stars and
(b) a woman looking at the stars through a telescope;
a second item shows (a) a man climbing a mountain and
(b) a librarian at his desk; a third item shows (a) a man
talking on the telephone and (b) a man writing in a diary.
Perhaps Cluster 1 can be said to represent a generalized
sense of preference for real, outwardly-oriented relating
[using the above examples, this would be (b) in the first
item, (a) in the second item, and (a) in the third item]
versus imaginative, inwardly-oriented relating [again
using the above examples, this would be (a) in the first
item, (b) in the second item, and (b) in the third item].

Cluster 2 correlates positively and significantly
($r = .18$, $p < .05$) with the Myers-Briggs scale of Perception,
though a rather slight relationship. Speculation about
its meaning would be fruitless, because there are only
three items in the cluster.

Cluster 3 does not correlate significantly with any of the criterion measures. But this cluster draws our interest because it contains three items from the original seven items of the third factor in Berek's factor analysis. Because it embraces these items, Cluster 3 may provide the basis for further development of another Picture-Preference scale.

Explanation of the Negative Findings

There are at least three approaches one may follow in explaining why the Picture-Preference Introversion-Extraversion Scale did not have the substantial correlations with the Myers-Briggs Type Indicator that would have demonstrated its validity. These three approaches are: (a) To focus on the nature of the new scale, (b) To consider the nature of the test media, (c) To speculate about the nature of introversion-extraversion.

Nature of the Scale

A most obvious approach to explain the poor validity coefficients is to question the original design of the Picture-Preference I-E Scale. Perhaps the elements of introversion-extraversion which were isolated from the literature were not adequately presented in the pictures, i.e., in some way attention was not focused on the salient feature of the picture which reflected the underlying introversive or extraversive element.

Another aspect of the full scale--the low internal consistency, and therefore, probable low reliability-- may have reduced the chances for achieving substantial validity coefficients.

Nature of the Test Media

It is conceivable that the new Picture-Preference I-E Scale and the Myers-Briggs Type Indicator do not correlate because they use stimuli from different modalities. The Picture-Preference I-E Scale uses visual pictorial stimuli, whereas the Myers-Briggs test uses verbal stimuli; this difference in modality may have predestined the lack of correlation. If the lack of high validity coefficients stems from such a source, i.e., from inadequacy of the Myers-Briggs measure, one would need to find a more appropriate criterion against which to test the validity of the Picture-Preference Scale. Could clinicians identify extraverts and introverts, to allow us to assemble appropriate criterion groups? Could some visually-based measure, such as an introversion measure based on a T. A. T.- like approach be used as a criterion?

Nature of the Personality Characteristics

The crux of the validation problem may lie in the measurement of introversion-extraversion. Introversion-Extraversion is accepted to be a multidimensional

personality concept and the three measures used in the study--the new scale, the Myers-Briggs Type Indicator, and the Morf test--base their items on different aspects of this congeries of ideas. The new scale was based on the terms shown in Table 2; the Myers-Briggs scales are called Introversion-Extraversion, Intuition-Sensing, Feeling-Thinking, and Perception-Judgment; and the Morf test uses the ideas of Intraception-Extraception, Restraint-Impulsivity, and Anxiety-Sociability. It is possible that there are enough determinants subsumed under the global Introversion-Extraversion concept that the new scale simply tapped those determinants that are relatively unrelated to those tapped by the criteria.

It is worth some further research with the items developed for this study to determine which, if any, of the above problems may have caused the poor validity coefficients.

Characteristics of Satisfied Volunteers

One incidental finding of this study which bears reporting is the significant negative correlation between satisfaction gained from volunteering and scores on both the Introversion and the Intuition Scales of the Myers-Briggs test. This finding suggests that volunteers whose scores are classified as Extraverted and as Sensing are more satisfied with their experience as volunteers than

are volunteers who are classified as Introverted and as Intuitive. It may be that most volunteer tasks require the volunteer to have commerce in an outwardly-oriented way, not allowing him an inwardly-oriented experience of the kind that Introverted, Intuitive people prefer. Considering the need of the director of volunteer services constantly to recruit and to retain volunteers, it might therefore be most useful for the director to take these personality characteristics into consideration, in order to utilize individuals optimally and in a way that will bring them satisfaction.

For example, in original assignment of volunteers, the usual tasks should be evaluated as to whether they might allow for the experiences that Introverted, Intuitive people need. Also, new tasks for volunteers might be developed for the agency, tasks such as planning and program development, which would afford more satisfaction for the Introverted, Intuitive volunteer.

APPENDIX A

Please answer the following questions on this sheet:

BACKGROUND:

1. Age _____

2. Sex _____Male _____Female

3. Marital Status_____Married____Single_____Divorced
   _____Separated_____Widowed

4. Usual Occupation:_____

5. Occupational Status: ____Employed _____Unemployed

   ____Student _____Retired

   ____Homemaker

6. Highest Educational Level attained

   ____Elementary ____High School ____Some college

   ____College Grad. ____Some Grad work _____ Grad Degree

7. Hobbies:_____

VOLUNTEERISM:

8. Title of present volunteer position:_____ _____

   _____

9. Duties of present volunteer position:_____

   _____

10. Hours volunteered per week:_____

    _____

11. Length of time volunteered at present agency:_____

    _____

12. Boro and home zip code:_____

    Boro and volunteer agency zip code:_____

13. Age when you first had a volunteer assignment:_____

14. Total number of years volunteered altogether:_____

15. Please indicate any and all transfer of experience from volunteer assignments (for example: got academic credit, found a paying job, changed occupation, decided on a vocation, got a promotion etc.)

_____

_____

16. Rate of satisfaction gained through volunteerism: /

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

LITTLE   MODERATE   GREAT

17. Additional Comments:_____

_____

THANK YOU VERY MUCH

Please read the following two questions and choose the answer which best reflects yourself.

I. I know myself to be more concerned about:

    A) people, objects, appearance

    B) thoughts, ideas, opinions

Circle one:

    1) A only
    2) A more than B
    3) A and B equally
    4) B more than A
    5) B only

II. People who know me would say I am more concerned about:

    A) people, objects, appearance
    B) thoughts, ideas, opinions

Circle one:

    1) A only
    2) A more than B
    3) A and B equally
    4) B more than A
    5) B only

APPENDIX B

TWO FACTOR INDEX OF SOCIAL POSITION

(Myers and Bean, 1968)

Myers and Bean used two factors in determining the
index of social position: socioeconomic status, and
level of education. There are seven positions on the
occupational scale:

1. Executives and proprietors of large concerns
and major professionals

2. Managers and proprietors of medium concerns
and minor professionals

3. Administrative personnel of large concerns,
owners of small independent businesses and semi-
professionals

4. Owners of little businesses, clerical and sales
workers, and technicians.

5. Skilled workers

6. Semiskilled workers

7. Unskilled workers.

There are also seven positions on the educational scale:

1. Graduate professional training

2. Standard college or university graduation

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3. Partial college training (including individuals who have completed at least one year but not full college requirements ,

4. High school graduation (including all secondary school graduates, whether from a private school, public school, or trade school

5. Partial high school (including individuals who have completed the tenth or eleventh grades but not the full high school requirements)

6. Junior high school (including individuals who have completed the seventh, eighth, or ninth grades)

7. Less than seven years of school

To obtain the index of social position score, the scale value for occupation is multiplied by the factor weight for occupation, which is 7; and the scale value for education is multiplied by the factor weight for education, which is 4. These two values are then added to obtain the index of social position score. By way of example, a physician would receive the following score:

Factor	Scale Score	Factor Weight	Score X Weight
Occupation	1	7	7
Education	1	4	4
Index of Social Position Score			11

The range of scores on the two factor index of social position is 11 to 77. Myers and Bean group the scores into the following social classes:

Index of Social Position	Social Class
11 to 17	I. Upper Class
18 to 27	II. Upper Middle Class
28 to 43	III. Lower Middle Class
44 to 60	IV. Upper Lower Class
61 to 77	V. Lower Lower Class

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