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**TECHNICAL REPORT  
ASD-TR-61-97**

May 1961

**Recurrent Personality Factors Based  
on Trait Ratings**

**267778**

By

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RECURRENT PERSONALITY FACTORS BASED  
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Project 7717, Task 17110

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AERONAUTICAL SYSTEMS DIVISION  
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#### ABSTRACT

Intercorrelations among ratings on 35 personality traits, selected as representative of the personality domain, were obtained for eight samples. These samples differed in length of acquaintanceship from three days to more than a year; in kind of acquaintanceship from assessment programs in a military training course to a fraternity house situation; in type of subject from airmen with only a high school education to male and female undergraduate students to first-year graduate students; and in type of rater from very naive persons to clinical psychologists and psychiatrists with years of experience in the evaluation of personality. Centroid or multiple-group factors were extracted and rotated orthogonally to simple structure. For one study, an independent solution was obtained in which analytic rotations were accomplished on an IBM 650 computer using Kaiser's normal varimax criterion. Five fairly strong and recurrent factors emerged from each analysis, labeled as (1) Surgency, (2) Agreeableness, (3) Dependability, (4) Emotional Stability, and (5) Culture.

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## RECURRENT PERSONALITY FACTORS BASED ON TRAIT RATINGS<sup>1</sup>

### INTRODUCTION

The measurement of personality by means of trait ratings has a history of at least fifty years, dating back to the investigations of Heymans & Wiersma (1909) in which 400 physicians rated over 2500 individuals. After a brief surge of interest in the area in the 1920's, few research studies were carried out on trait ratings until fairly recently. Several early investigators reported findings indicating that ratings of personality traits were quite unreliable, and thus not very useful measurements. At the same time, the increasing popularity of the Gestalt and Dynamic Psychology theories with their view that man must be studied as a whole person in action did little to stimulate interest in trait measurement. However, the concept of the "whole person," although it may ultimately lead to greatest accuracy of description and prediction, is unmanageable from a measurement point of view and will likely remain so for some time to come. Furthermore, as Cattell (1946) has pointed out, the trait concept does not preclude the concept of the whole person, since any person can be uniquely and adequately described by a combination of a number of independent traits or factors. Although early studies indicated personality trait ratings to be unreliable (low rater agreement), unstable (specific to the rating situation), and contaminated by a large general factor (halo), Symonds (1931) and Allport (1937) concluded that such deficiencies might be overcome by the use of fairly large groups of raters who have observed the subject's day-to-day behavior over a considerable period of time, and by requiring the rating of several subjects on one trait at a time, rather than the rating of each subject on several traits at a time.

Several recent studies have born out Symonds' and Allport's conclusions. Results from the Veterans Administration Research Program on the Selection of Clinical Psychologists as reported by Kelly & Fiske (1951) tentatively indicated that ratings on personality traits were predictive of future behavior. Tupes (1957, 1959) in studies using Air Force officer candidates and senior Air Force officers as subjects found peer ratings on personality traits to be predictive of later performance as second lieutenants in the case of the officer candidates, and to be related to concurrent but independent measures of officer performance in the latter group. Furthermore, the profiles of the correlations between personality traits and officer performance were quite similar in the two groups. All three of these studies, as well as one by Mays (1954), indicated that even though personality trait ratings by a single rater may be quite unreliable (about .2 to .3), ratings obtained from a group of raters (10 to 20 raters) when summed yielded scores whose reliabilities were quite satisfactory (.8 to .9). In general, it may be concluded that ratings on personality traits are useful predictors of future behavior and that such ratings yield sufficiently reliable individual differences to be useful in themselves, either for the study of individual differences in personality or as criteria against which other types of personality measures (for example, paper-and-pencil tests) may be validated.

As indicated by Eysenck (1953) and French (1955), many studies have been reported concerning the factor structure underlying personality trait rating variables. In spite of this fact the domain has not been at all clearly defined. Cattell (1945, 1947, 1948) has published two factor analyses of men and one of women, each based on ratings of 35 personality traits selected to represent the entire personality area. In each he found 11 or 12 factors which he has identified as similar in the three analyses. For many of these factors, however, the factor loadings are so small that some factor analysts would hesitate to try to interpret them at all. Fiske (1949) analyzed ratings of 22 of the

<sup>1</sup> Manuscript released by the author for publication as an ASD Technical Report in April 1961.

same or highly similar variables using beginning graduate students in clinical psychology for his sample. He obtained about the same factorial structure from ratings of the students by themselves (self-ratings), by their peers, and by clinical psychologists. However, a comparison of the factors isolated by Fiske with those defined by Cattell is quite difficult, in spite of the fact that the variables used by Fiske in the main corresponded quite closely with those used by Cattell. Some similarities can be noted between the Cattell and Fiske factors, but it is difficult to tell whether the differences observed are a function of divergent extraction and rotational philosophies, the nature of the samples rated, the nature of the rater groups, or the omission of 13 of the trait variables from the Fiske study. Attempts to compare the results of either the Fiske or Cattell analyses with those found by other investigators are generally futile, since it is rarely possible to determine from the studies whether all, some, or for that matter, any of the variables used are similar from one study to another. When what might be "current" factors are found (e.g., extroversion-introversion, emotionality-stability, and conformity-independence), differences in the nature of variables identifying these factors are such as to make impossible any but subjective judgments as to their possible similarities.

The present study was designed to help clarify the personality trait-rating domain. The goal was to isolate meaningful and relatively independent trait-rating factors which are universal enough to appear in a variety of samples, and which are not unduly sensitive to the rating conditions or situations.

#### METHOD

Eight intercorrelation matrices were factored and rotated orthogonally to approximate simple structure.<sup>2</sup> The matrices were selected in such a way that differences due to the traits rated would be minimized, while differences in the type of subjects, raters, and situations would be maximized. None of the analyses were carried out "blind" (without identification of the variables), nor were they made independently of one another. The goal was to rotate the separate factor matrices into similar structure while at the same time following accepted principles of rotation and arriving at simple structure.

For comparison purposes, one of the solutions was redetermined in a completely objective manner by subjecting the centroid factors to a varimax rotational program on an IBM 650 computer.

The trait variables entering into each analysis were among the 35 developed by Cattell (1947), who used as a basis the comprehensive list of adjectives originally identified by Allport & Odbert (1936) as describing human behavior. Each trait is bipolar, with each pole defined by a short group of adjectives or phrases. These traits are believed especially appropriate for an investigation of the trait-rating domain since the method by which they were developed led to some assurance that they are representative of the entire personality area. The bipolar names of these traits appear in Tables 1-6, below. For their defining adjectives or phrases the reader is referred to Cattell (1947), Fiske (1949), or Tupes (1957).

Three of the intercorrelation matrices are based on Air Force Officer Candidate School subjects who rated each other in various sized groups. One analysis is based on Air Force field grade officers (majors and a few lieutenant colonels) who rated each other while students at the Air Force Command and Staff School. Two analyses are rotations of analyses published by Cattell (1947, 1948) in which the subjects are male and female college students. The two final analyses are based on two of Fiske's (1949) intercorrelation matrices of ratings of first-year graduate students in clinical psychology. In the first of these, ratings were obtained from peers; in the second, ratings were obtained from experienced clinical psychologists and psychiatrists.

<sup>2</sup> Six of these analyses appear in an earlier report (Tupes & Christal, 1958).

All groups of subjects and raters are described below. Briefly, they differ in length of acquaintanceship from three days to a year or more; in kind of acquaintanceship from assessment programs to a military training course to a fraternity house situation; in type of subject from airmen with only a high school education to male and female undergraduate students to first-year graduate students; and in type of rater from very naive persons to clinical psychologists or psychiatrists with years of experience in the evaluation of personality. It would appear that any factors common to all of these groups would have a wide range of generality both in terms of type of subject and type of rating situation.

## DESCRIPTION OF THE EIGHT STUDIES

### STUDY A. OCS 790-CASE SAMPLE

The subjects were 790 male graduates of OCS Classes 49B, 50A, 50B, 50C, 51B, and 51D. The earliest class, 49B, was graduated in December 1949; the latest, 51D, was graduated in December 1951. All candidates in each class had been selected from a much larger number of applicants (selection ratio about ten applicants for each vacancy) on the basis of a board interview, a biographical inventory designed to measure leadership characteristics, and differential credit for completion of more than the required minimum of two years of college. For applicants on active duty in an enlisted status, an evaluation form completed by the applicant's commanding officer was also considered. The average age was 23.6 years, with a standard deviation of 1.5 and a range of from 20.5 to 26.5 years. The average education was 3.6 years of college, with a standard deviation of 0.6 and a range of from 2 to 6 years. Distributions on both variables were decidedly skewed toward the lower end. Slightly over half of each class came from an enlisted status, with the others selected for OCS directly from civilian life.

Each OCS class was divided at the start of training into flights of from 25 to 30 candidates each. Each flight lived together in one dormitory, ate as a flight, and attended classes and drill as a flight. In fact, nearly all of each candidate's time was spent with his flight, and he soon became intimately acquainted with each of his fellow flight members. It was the well-organized OCS flight which constituted the rating group in the present study. Each candidate rated all his fellow flight members and was in turn rated by all his fellow flight members on 30 of the 35 Cattell traits. Each rater was required to pick one-third of the group as best described by the definition at each end of each bipolar trait.

Lengths of acquaintanceship at time of rating varied from as little as three weeks for one class to one year in another (this class rated each other six months after graduation from OCS at the end of an on-the-job training period at Lackland Air Force Base).

Product-moment intercorrelation matrices of the 30 traits were computed for each class separately. A final matrix was then obtained by taking the median correlation between each pair of traits in the separate class matrices. Eight factors were extracted from this matrix using the complete centroid method, and rotated to orthogonal simple structure.

### STUDY B. OCS3-DAY ASSESSMENT SAMPLE

The subjects were 125 male officer candidates in OCS Class 55B, whose ages ranged from 20½ through 27. A little more than half had no college training; about a fifth had some college; and about a fifth were college graduates. All had some previous Air Force enlisted service ranging from one year to seven, with a median of 2½ years. The majority were planning on an Air Force career and all had been required to sign a contract for three years of commissioned service after graduation from OCS. All had been screened on a measure of general learning ability—the Officer Quality composite of the Air Force Officer Qualifying Test. Eighty-five per cent of the class had OQ scores as high as the upper 10% of the general population of young males and as the upper 40% of college freshmen.

K O D A K S I A F E T Y  
Ratings were obtained at the end of a three-day assessment program just prior to the start of OCS. Rating groups consisted of 12 candidates, six of whom had observed each other in an intensive series of group and individual performance tests, and six of whom had only shared a barrack floor and dining table with the other six. Each rater was required to pick the four subjects who were best described by each end of the bipolar trait.

Five multiple group factors (corresponding to the five found in Study A) were extracted, along with three centroids. All eight factors were rotated to simple structure.

#### STUDY C. OCS END-OF-TRAINING ASSESSMENT SAMPLE

These are the same subjects who were used in Study B. At the end of the assessment, the groups were re-formed into OCS flights of from 15 to 20 candidates each. No two flight members had been members of the same assessment group. Near the end of the six-months OCS course, members of each flight rated each other on the 30 traits. Raters were asked to pick the third who were best described by each end of each bipolar trait. These ratings, although based on the same subjects, were entirely independent of the ratings analyzed in Study B.

Five multiple-group and three centroid factors were extracted from these data and rotated to simple structure.

#### STUDY D. COMMAND AND STAFF SCHOOL SAMPLE

The subjects were 500 students in the Air Force Command and Staff School Class of 1958. These officers had been screened originally on about the same basis as the OCS samples. However, at the time the trait ratings were obtained the average Command and Staff School officer was about 15 years older and had approximately 15 more years of military experience than the average OCS subject. Nearly all of the officers rated held the rank of major, although the sample included a few holding the rank of lieutenant colonel.

Ratings on 30 of the bipolar traits were obtained on these subjects after they had been in attendance at the Command and Staff School about two months. Each rating group was composed of from 12 to 14 officers who attended all classes as a unit. Only a third of each group served as raters; these rated all members of the group by selecting the four subjects in their seminar group who were best described by each pole of each trait.

Only five multiple-group factors (and no centroids) were extracted and rotated to simple structure. However, at a later time factors were extracted from the intercorrelation matrix by the complete centroid method and rotated on an IBM 650 computer using the varimax program.

#### STUDY E. CATTELL'S MALE UNIVERSITY SAMPLE

Subjects were 133 male university students with an average age of 20 years. Some were returning veterans. Ratings on 35 bipolar traits were obtained in groups of 17 men, all of whom lived together in fraternity houses or dormitories. Each rater rated all members of his group on each trait as below average, average, or above average on each trait, with a suggested distribution of ¼, ½, and ¼ for the three categories. For a complete description of this sample see Cattell (1947).

The intercorrelation matrix<sup>3</sup> was factored and rotated twice. In one instance, eight centroid factors were extracted and rotated; in the second case, five multiple-group factors and three centroid factors extracted from the resulting residual matrix were rotated. Only the latter solution is reported, since the solution based upon the centroid extractions was discovered to contain errors introduced by the graphic rotational process.

<sup>3</sup> Made available through the courtesy of Professor Raymond B. Cattell and reproduced in the Appendix, Table E1, with his permission.

#### STUDY F. CATTELL'S FEMALE UNIVERSITY SAMPLE

The subjects were 140 female university students. Ratings on these students were collected from their peers (all women) at the same time and in the same manner as in Study E. This sample is more completely described by Cattell (1948).

Since this was the only female sample studied, it was considered desirable to include several more factors in the analysis than might reasonably be expected to exist. Therefore 12 factors were rotated to simple structure; five of these were orthogonalized multiple-group factors and the other seven were centroids extracted from the residual matrix.<sup>4</sup>

#### STUDY G. FISKE'S TEAMMATES' RATINGS OF GRADUATE STUDENTS

The subjects were 128 male graduate students in clinical psychology who participated in an intensive assessment program during the summer before they started their graduate training. Their median age was 26, nearly all were veterans, and nearly all had World War II experience as military psychologists. During the week-long assessment, they ate, roomed, and took their recreation together. Twenty-four trainees were assessed each week and were split arbitrarily into groups of four who participated in a series of situational tests. At the end of the week, each subject rated himself and the other three members of his group on a series of variables, including 22 bipolar personality traits. Ratings were made on an eight-point scale. The three ratings made on each subject by his three teammates were summed to obtain the rating scores used in this study. For a complete description of the sample, the variables, and the rating procedure, see Fiske (1949).

Five multiple-group factors and three centroid factors were extracted from the correlation matrix.

#### STUDY H. FISKE'S STAFF MEMBERS' RATINGS OF GRADUATE STUDENTS

These subjects were the same as those of Study G. The same rating variables and rating scales were used except that staff members were asked to normally distribute their ratings on each trait. The raters were three assessment staff members assigned to each group of four subjects, and the rating scores were the sum of the ratings made by these individuals. Each staff member was a clinical psychologist (a few were psychiatrists) with years of experience. The raters had not only intensively observed each subject during a period of one week but in addition had the results of ten objective tests, four projective tests, a biographical inventory, an autobiography, and the write-ups of three interviewers. The staff ratings were made without knowledge of the teammates' ratings.

Five multiple-group and three centroid factors were extracted and rotated to approximate orthogonal simple structure.

### RESULTS

In each analysis five fairly strong rotated factors emerged. In the four studies involving Air Force samples and the two Fiske samples, all but the five strong factors were residualized (e.g., none of the residualized factors had loadings on any trait variable above an arbitrary .30 level). In the analysis of Cattell's male sample, two factors were residualized, and a weak factor involving primarily an intelligence test was defined. In Cattell's female sample, what had been identified as the fifth factor in the other analyses split into two factors. Both of these factors are reported for comparison purposes.

<sup>4</sup>It is the authors' opinion that introduction of the additional factors into the rotational process reduced the clarity of the final solution and greatly increased the effort necessary to arrive at a reasonably good simple structure. It also led to excessively high communalities, undoubtedly as a result of the error variance reflected in the excess factors.

The five factors are reported in Tables 1 through 5. To save space and to make comparisons easier, each factor loading is presented to only one decimal space (e.g., .6).<sup>5</sup> In each table, the trait rating variables are listed in the first column, grouped together in accordance with the factor to which they make the highest contribution. Thus the first group are those variables defining Factor I, the second group are those defining Factor II, etc. Each of the other columns shows the loadings of each variable on the appropriate factor in each of the eight studies. These columns are labeled A through H to correspond with the letters assigned to each sample above. Traits not rated in any particular study are so indicated by an X in the appropriate column.

#### FACTOR I: SURGENCY

Factor I appears to be that labeled by Cattell (1947, 1948) and French (1953) as Surgency and by many other investigators as Extroversion. It is best defined by the traits Talkative, frankness, Adventurousness, Assertiveness, Sociability, Energetic, Composed, Interest in Opposite Sex, and Cheerfulness. It appears to be a true bipolar factor with negative loadings (.3 or greater) obtained for the traits of Emotional Maturity, Mildness, Kindliness, Conventionality, and Calmness.

TABLE 1. Loadings on Recurrent Factor I from Eight Analyses

Trait Variable		No. Name	Analysis	A	B	C	D	E	F	G	H
14	Silent vs Talkative			.6	.7	.7	.8	.8	.8	.9	.9
28	Secretive vs Frank			.8	.7	.8	.8	.7	.7	.8	.5
16	Cautious vs Adventurous			.8	.7	.8	.8	.7	.7	.7	.6
3	Submissive vs Assertive			.7	.7	.8	.9	.4	.6	.7	.8
29	Self-contained vs Sociable			.7	.7	.6	.5	.7	.7	X	X
7	Languid, Slow vs Energetic			.7	.7	.7	.7	.5	.5	.6	.7
33	Shy, Bashful vs Composed			X	X	X	X	.6	.7	X	X
35	Slight vs Marked Interest in Opposite Sex			X	X	X	X	.5	.4	.6	.4
32	Depressed vs Cheerful			X	X	X	.5	.6	.7	.6	
10	Spitful vs Goodnatured			-.1	-.0	-.1	-.1	-.1	-.1	.0	-.1
20	Jealous vs Not So			-.1	-.1	-.1	-.1	-.2	-.1	X	X
22	Demanding vs Emotionally Mature			-.1	-.5	-.1	-.4	-.3	-.1	X	X
13	Self-willed vs Mild			-.3	-.5	-.2	-.5	-.3	-.2	X	X
1	Obstructive vs Cooperative			-.2	-.1	-.1	-.2	-.4	-.4	-.2	-.1
9	Suspicious vs Trustful			-.1	-.1	-.2	-.1	-.0	-.1	-.1	-.0
21	Rigid vs Adaptable			-.2	-.2	-.4	-.1	-.3	-.2	-.3	-.3
17	Hard, Stern vs Kindly			-.3	-.5	-.6	-.3	-.1	-.1	X	X
5	Cool, Aloof vs Attentive to People			-.5	-.4	-.3	-.4	-.5	-.7	-.5	-.6
31	Attention Getting vs Self-sufficient			X	X	X	X	-.5	-.5	X	X
18	Relaxed, Indolent vs Instantly Orderly			-.2	-.1	-.2	-.2	-.1	-.1	X	X
4	Fritidious vs Responsible			-.0	-.0	-.0	-.1	-.1	-.0	-.4	-.3
25	Unscrupulous vs Conscientious			-.2	-.2	-.2	-.2	-.3	-.2	-.4	-.3
15	Quitting vs Persevering			-.1	-.2	-.3	-.1	-.2	-.1	X	X
23	Unconventional vs Conventional			-.4	-.5	-.6	-.4	-.3	-.3	X	X
26	Neurotic vs Not So			-.2	-.1	-.4	-.2	-.0	-.0	X	X
24	Worrying, Anxious vs Placid			-.1	-.0	-.5	-.1	-.1	-.0	-.2	-.1
6	Cosily Upset vs Peaceful, Tough			-.3	-.5	-.5	-.4	-.0	-.2	-.0	-.3
12	Hypocondriacal vs Not So			-.1	-.1	-.3	-.2	-.0	-.1	X	X
11	Emotional vs Calm			-.3	-.3	-.6	-.5	-.4	-.4	X	X
7	Changeable vs Loyal, Stable			-.0	-.1	-.1	-.2	-.1	-.0	-.1	-.2
37	Dependent vs Self-sufficient			X	X	X	X	X	X	-.1	-.1
8	Bourish vs Intellectual, Cultured			-.0	-.1	-.2	-.1	-.6	-.0	-.2	-.2
27	Locking Artistic Feeling vs Esthetically Festidious			-.0	-.1	-.1	X	-.2	-.0	X	X
34	Practical, Logical vs Imaginative			X	X	X	-.1	-.1	-.1	-.1	-.1
19	Clumsy, Awkward vs Polished			-.1	-.0	-.2	-.0	-.0	-.0	-.0	-.1
30	Immature vs Independent-minded			-.4	-.6	-.6	-.4	-.1	-.1	-.3	-.1

Note.—A null entry of .X denotes variable not used in study.

<sup>5</sup> The intercorrelation matrices, communality estimates, and both original and final rotated factor matrices are presented in Appendix A-H.

#### FACTOR II: AGREEABLENESS

This factor corresponds quite closely to that called Agreeableness by French (1953). It, too, is a bipolar factor, defined on the positive end by the variables Goodnatured, Not Jealous, Emotionally Mature, Mildness, Cooperativeness, Trustfulness, Adaptability, Kindliness, Attentiveness to People, and Self-sufficiency (as opposed to Attention-Getting). Traits loaded negatively on Factor II include Assertiveness and to a lesser extent Talkativeness and Orderliness.

TABLE 2. Loadings on Recurrent Factor II from Eight Analyses

<u>Trait Variable</u>	<u>Analysis</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>
14 Silent vs Talkative		.0	-.2	-.1	-.2	-.1	-.1	-.2	.1
28 Secretive vs Frank		-.1	.1	-.3	.0	-.2	-.2	.2	.5
16 Cautious vs Adventurous		-.1	-.0	-.1	-.2	-.1	-.0	-.1	-.2
3 Submissive vs Assertive		-.4	-.4	-.3	-.4	-.6	-.5	-.4	-.4
19 Self-contained vs Sociable		.2	-.1	-.2	-.1	-.0	-.1	X	X
7 Languid, Slow vs Energetic		.0	-.0	-.0	-.0	-.2	-.1	-.0	.1
33 Shy, Bashful vs Composed	X	X	X	X	-.1	-.0	X	X	
35 Slight vs Marked Interest in Opposite Sex	X	X	X	X	-.0	-.1	-.0	.2	
32 Depressed vs Cheerful	X	X	X	X	-.3	-.4	-.3	-.4	
10 Spiteful vs Goodnatured		-.8	-.7	-.8	-.7	-.7	-.8	-.7	-.8
20 Jealous vs Not So		-.8	-.7	-.8	-.6	-.6	-.8	X	X
22 Demanding vs Emotionally Mature		-.8	-.6	-.8	-.6	-.7	-.8	X	X
13 Self-willed vs Mild		-.7	-.6	-.7	-.6	-.6	-.8	X	X
1 Obstructive vs Cooperative		-.7	-.5	-.7	-.6	-.6	-.6	.6	.7
9 Suspicious vs Trustful		.6	-.5	-.7	-.6	-.6	-.7	.6	.7
21 Rigid vs Adaptable		.6	-.4	-.7	-.4	-.6	-.6	-.4	.7
17 Hard, Stern vs Kindly		.6	-.4	-.5	-.5	-.7	-.7	X	X
5 Cool, Aloof vs Attentive to People		-.7	-.5	-.6	-.5	-.3	-.7	-.4	-.5
31 Attention Getting vs Self-sufficient	X	X	X	X	-.4	-.6	X	X	
18 Relaxed, Indolent vs Insistently Orderly		-.3	-.2	-.2	-.1	-.1	-.1	X	X
4 Egotistical vs Responsible		-.3	-.5	-.4	-.2	-.3	-.4	-.0	.2
25 Unconscious vs Conscientious		-.5	-.5	-.6	-.4	-.4	-.6	-.3	.4
15 Quittish vs Persevering		-.3	-.2	-.4	-.0	-.1	-.0	X	X
23 Unconventional vs Conventional		-.1	-.3	-.4	-.3	-.2	-.3	X	X
26 Neurotic vs Not So		-.3	-.1	-.6	-.3	-.2	-.5	X	X
24 Worrying, Anxious vs Placid		-.3	-.3	-.5	-.1	-.0	-.2	-.5	.3
6 Fussy, Upset vs Poised, Tough		-.1	-.1	-.2	-.0	-.0	-.1	-.1	.1
12 Hypochondriacal vs Not So		-.4	-.1	-.4	-.2	-.1	-.4	X	X
11 Emotional vs Calm		-.4	-.1	-.6	-.1	-.2	-.4	X	X
2 Changeable vs Emotionally Stable		-.5	-.6	-.6	-.3	-.2	-.6	-.4	-.2
37 Dependence vs Self-sufficient	X	X	X	X	X	X	X	-.2	.0
8 Bookish vs Intellectual, Cultured		-.2	-.2	-.3	-.1	-.1	-.3	-.0	.1
27 Lacking Artistic Feeling vs Esthetically Festive		-.1	-.0	-.0	X	-.0	-.1	X	X
24 Practical, Logical vs Imaginative	X	X	X	X	-.0	-.1	-.1	-.1	-.0
19 Clumsy, Awkward vs Polished		-.1	-.2	-.3	-.3	-.1	-.3	-.3	-.2
30 Immature vs Independent-Minded		-.1	-.1	-.1	-.1	-.0	-.1	-.1	-.1

Note.—A cell entry of X denotes variable not used in study.

**FACTOR III: DEPENDABILITY.**

The primary definers of this factor are Orderliness, Responsibility, Conscientiousness, Perseverance, and Conventionality, with several other variables (Cooperativeness, Mildness, and Emotional Stability) having positive loadings above .3. Practically all definers of Factor I are loaded negatively on this factor, as are Trustfulness, and Imaginative. The factor in many respects is like that labeled by French (1953) as Dependability or by Fiske (1949) as Conformity. It appears to be quite similar to the old "w" or Will factor found by Webb (1915).

TABLE 3. Loadings on Recurrent Factor III from Eight Analyses

Trait Variable		Analysis	A	B	C	D	E	F	G	H
No.	Name									
14	Silent vs Talkative		-.2	-.3	-.2	-.2	-.3	-.3	-.0	-.1
28	Secretive vs Frank		-.2	-.3	-.0	-.1	-.1	-.2	-.0	-.2
16	Cautious vs Adventurous		-.4	-.1	-.7	-.2	-.4	-.5	-.4	.1
3	Submissive vs Assertive		-.1	-.3	-.2	-.1	-.1	-.0	-.0	-.1
29	Self-contained vs Sociable		-.4	-.4	-.2	-.4	-.4	-.3	X	X
7	Languid, Slow vs Energetic		.3	.0	-.1	-.1	-.2	.0	-.1	.0
33	Shy, Bashful vs Composed	X	X	X	X	-.3	-.2	X	X	
35	Slight vs Marked Interest in Opposite Sex	X	X	X	X	-.2	-.3	-.4	-.4	
32	Depressed vs Cheerful	X	X	X	X	-.4	-.3	-.1	.0	
10	Spiteful vs Goodnatured		.0	.0	.3	.0	-.1	-.2	-.0	.4
20	Jealous vs Not So		.0	.0	-.2	-.1	-.0	-.0	X	X
22	Demanding vs Emotionally Mature		-.2	-.1	-.3	-.2	-.2	-.2	X	X
13	Self-willed vs Mild		-.2	-.1	-.4	-.3	-.3	-.1	X	X
1	Obstructive vs Cooperative		-.4	-.5	-.5	-.2	-.3	-.3	-.2	-.3
9	Suspicious vs Trustful		-.1	-.2	-.1	-.2	-.0	-.0	-.1	-.3
21	Rigid vs Adaptable		-.3	-.2	-.2	-.2	-.3	-.3	-.1	-.1
17	Hard, Stern vs Kindly		.0	-.1	-.2	-.1	-.1	-.1	X	X
5	Cool, Aloof vs Attentive to People		-.1	-.1	-.5	-.1	-.0	-.0	-.2	-.1
31	Attention Getting vs Self-sufficient	X	X	X	X	-.4	-.1	X	X	
18	Relaxed, Indolent vs Insistently Orderly		.7	.4	.5	.5	-.6	-.7	X	X
4	Frivolous vs Responsible		.6	.4	.6	.6	-.6	-.6	.7	.7
25	Unscrupulous vs Conscientious		.5	.5	.6	.6	-.4	-.3	.6	.7
15	Quitting vs Persevering		.6	.3	-.4	-.5	-.4	-.7	X	X
23	Unconventional vs Conventional		.6	.4	.6	.4	-.5	-.5	X	X
26	Neurotic vs Not So		-.1	-.0	-.3	-.1	-.0	-.1	X	X
24	Worrying, Anxious vs Placid		-.1	-.0	-.1	-.1	-.2	-.1	-.0	-.1
6	Easily Upset vs Peaceful, Tough		-.0	-.1	-.1	-.0	-.1	-.1	-.1	-.1
12	Hypochondriacal vs Not So		-.1	-.1	-.0	-.0	-.1	-.0	X	X
11	Emotional vs Calm		-.2	-.2	-.1	-.2	-.2	-.2	X	X
2	Changeable vs Emotionally Stable		-.1	-.3	-.3	-.2	-.2	-.4	-.4	-.4
37	Dependent vs Self-sufficient	X	X	X	X	X	X	-.1	-.2	
8	Boorish vs Intellectual, Cultured		-.1	-.0	-.2	-.2	-.3	-.1	-.3	.0
27	Loathing Artistic Feeling vs Esthetically Fastidious		-.1	-.1	-.2	A	-.0	-.1	X	X
34	Practical, Logical vs Imaginative	X	X	X	-.4	-.1	-.5	-.1	-.0	
19	Clumsy, Awkward vs Polished		-.1	-.2	-.1	-.1	-.1	-.3	.2	.2
30	Incompetent vs Independent-Minded		-.0	-.0	-.2	-.1	-.0	-.1	-.2	-.2

Note.—A cell entry of X denotes variable not used in study.

ERRATUM

Tupes, E.C. & Christel, R.E. *Recurrent personality factors based on trait ratings.*  
Lackland Air Force Base, Texas: Personnel Laboratory, Aeronautical Systems  
Division, May 1961. (Technical Report ASD-TR-61-97)

Page 8, line 5

For . . . loaded negatively on this factor, as are Trustfulness, and  
Imaginative.

Read . . . loaded negatively on this factor, as are Adaptability and  
Imaginative.

#### FACTOR IV: EMOTIONAL STABILITY

The inverse of this factor seems to be that listed by French (1953) as Emotionality. It is loaded highest by Not Neurotic, Placid, Poised, Not Hypochondriacal, Calm, Emotionally Stable, and Self-sufficient (as opposed to Dependent). Secondary definers of the factor are Lack of Jealousy, Emotional Maturity, Cooperativeness, Trustfulness, Adaptability, Responsibility, Perseverance, and Independent-Mindedness. Kindliness has a significant negative loading on this factor.

TABLE 4. Loadings on Recurrent Factor IV from Eight Analyses

<u>Trait Variable</u>	<u>Analysis</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>
No. Name									
14 Silent vs Talkative		-.2	-.1	-.4	-.1	.0	-.2	-.2	-.0
28 Secretive vs Frank		.1	-.1	-.1	.0	-.1	-.0	-.0	-.0
16 Cautious vs Adventurous		.2	.4	.1	.1	-.1	-.2	-.2	-.2
3 Submissive vs Assertive		.2	.4	.1	.2	-.1	-.2	-.1	-.2
29 Self-contained vs Sociable		-.1	-.1	-.2	-.1	-.1	-.3	X	X
7 Languid, Slow vs Energetic		.3	.2	.1	.1	.4	.1	-.2	-.4
33 Shy, Bashful vs Composed	X	X	X	X	.2	-.2	X	X	
35 Slight vs Marked Interest in Opposite Sex	X	X	X	X	-.1	-.1	-.2	.3	
32 Depressed vs Cheerful	X	X	X	X	-.1	.0	-.3	.4	
10 Spiteful vs Goodnatured		.2	.2	.2	.1	.0	-.2	-.1	-.1
20 Jealous vs Not So		.5	.3	.4	.3	.4	.1	X	X
22 Demanding vs Emotionally Mature		.4	.3	.2	.2	.3	.1	X	X
13 Self-willed vs Mild		.3	.1	.2	.0	-.1	-.2	X	X
1 Obstructive vs Cooperative		.3	.4	.3	.1	.1	-.1	.1	.1
9 Suspicious vs Trustful		.6	.5	.4	.5	.4	.3	.1	.3
21 Rigid vs Adaptable		.4	.4	.3	.0	.2	.1	.3	.3
17 Hard, Stern vs Kindly		-.4	-.3	-.4	-.4	-.3	-.5	X	X
5 Cool, Aloof vs Attentive to People		.1	.0	-.1	-.1	-.1	-.1	.0	.1
31 Attention Getting vs Self-sufficient	X	X	X	X	.4	.1	X	X	
18 Relaxed, Indolent vs Insistently Orderly		.0	.0	.0	-.1	.3	.0	X	X
4 Frivolous vs Responsible		.5	.2	.4	.2	.3	.1	.0	.0
25 Unscrupulous vs Conscientious		.2	.2	.2	-.1	.0	-.2	.0	-.1
15 Quitting vs Persevering		.4	.5	.4	.2	.4	-.2	X	X
23 Unconventional vs Conventional		.1	-.2	.0	-.1	.0	-.4	X	X
26 Neurotic vs Not So		.7	.7	.5	.6	.7	.5	X	X
24 Worrying, Anxious vs Placid		.7	.7	.6	.7	.6	.8	.7	.8
6 Easily Upset vs Poised, Tough		.7	.5	.6	.5	.6	.7	.7	.8
12 Hypochondriacal vs Not So		.7	.6	.6	.5	.5	.5	X	X
11 Emotional vs Calm		.6	.5	.6	.4	.4	.5	X	X
2 Changeable vs Emotionally Stable		.6	.4	.6	.4	.4	.4	-.2	-.4
37 Dependent vs Self-sufficient	X	X	X	X	X	X	-.4	-.6	
8 Boorish vs Intellectual, Cultured		.2	.1	.2	.2	.3	.1	-.2	-.1
27 Lacking Artistic Feeling vs Esthetically Festidious		.1	.1	.0	X	-.1	.0	X	X
34 Practical, Logical vs Imaginative	X	X	X	.1	-.3	-.4	.0	.0	
19 Clumsy, Awkward vs Polished		.2	.1	.2	.2	.3	.0	-.3	.6
30 Immature vs Independent-Minded		.5	.4	.5	.4	.5	.4	-.3	.3

Note. -A null entry at Y denotes variable not used in study.

**FACTOR V: CULTURE**

Factor V is the least clear of the five factors identified by the eight analyses. It appears to be similar to the factor labeled by French (1953) as Culture and by Fiske (1949) as the Inquiring Intellect. It is defined by the variables, Cultured, Esthetically Fastidious, Imaginative, Socially Polished, and Independent-Minded, with secondary loadings by Energetic, Poise, Emotional Stability, and all the variables in Factor III. It will be noted that loadings for two factors are shown under Column F. This is the analysis of the female college students, and in this sample only, Factor V split into two quite distinct subfactors. The first of these has a pattern of loadings quite similar to the Factor V found recurring throughout the studies. The second of these is defined by the variables Esthetically Fastidious, Socially Polished, and Interest in the Opposite Sex.

TABLE 5. Loadings on Recurrent Factor V from Eight Analyses

Trait Variable No. Name	Analysis	<u>F</u>								
		A	B	C	D	E	V	VI	G	H
14 Silent vs Talkative		.0	-.2	-.2	-.2	.0	-.1	-.1	.2	-.1
28 Secretive vs Frank		.1	-.2	-.0	-.0	-.2	-.0	-.1	-.2	-.1
16 Cautious vs Adventurous		.1	-.2	-.1	-.1	-.1	-.0	-.1	-.4	-.1
3 Submissive vs Assertive		.3	-.1	-.0	-.3	-.2	-.3	-.1	-.2	-.2
29 Self-contained vs Sociable		-.1	-.1	-.0	-.0	-.1	-.2	-.2	X	X
7 Languid, Slow vs Energetic		-.5	-.2	-.4	-.4	-.3	-.1	-.1	-.1	-.1
33 Shy, Bashful vs Composed	X	X	X	X	X	.4	-.3	-.2	X	X
35 Slight vs Marked Interest in Opposite Sex	X	X	X	X	X	.0	-.2	-.4	-.2	-.0
32 Depressed vs Cheerful	X	X	X	X	X	.1	-.2	-.2	-.1	-.1
10 Spiteful vs Goodnatured		.0	.0	-.2	-.1	-.1	-.0	-.0	-.2	-.0
20 Jealous vs Not So		.0	.0	-.2	-.0	-.2	-.1	-.0	X	X
22 Demanding vs Emotionally Mature		-.1	-.0	-.2	-.0	-.1	-.1	-.1	X	X
13 Self-willed vs Mild		.0	-.1	-.2	-.1	-.1	-.0	-.1	X	X
1 Obstructive vs Cooperative		-.1	-.3	-.3	-.2	-.3	-.2	-.1	.2	.0
9 Suspicious vs Trustful		-.2	-.2	-.4	-.0	-.0	-.0	-.2	-.2	-.2
21 Rigid vs Adaptable		.0	-.1	-.1	-.1	-.2	-.2	-.2	.5	.4
17 Hard, Stern vs Kindly		-.2	-.0	-.1	-.2	-.1	-.0	-.0	X	X
5 Cool, Aloof vs Attentive to People		-.2	-.0	-.3	-.1	-.4	-.1	-.2	.3	.0
31 Attention Getting vs Self-sufficient	X	X	X	X	X	-.2	-.0	-.1	X	X
18 Relaxed, Indolent vs Insistently Orderly		.3	-.6	-.6	-.3	-.4	-.2	-.6	X	X
4 Frivolous vs Responsible		.3	-.4	-.3	-.4	-.2	-.5	-.1	-.0	-.2
25 Unscrupulous vs Conscientious		.3	-.4	-.4	-.3	-.3	-.3	-.2	.2	-.1
15 Quitting vs Persevering		.4	-.2	-.4	-.5	-.4	-.5	-.1	X	X
23 Unconventional vs Conventional		-.1	-.2	-.3	-.0	-.3	-.1	-.0	X	X
26 Neurotic vs Not So		-.1	-.1	-.2	-.1	-.2	-.2	-.0	X	X
24 Worrying, Anxious vs Placid		-.1	-.1	-.1	-.0	-.0	-.0	-.1	-.1	-.0
6 Easily Upset vs Poised, Tough		.4	-.2	-.3	-.4	-.0	-.4	-.1	-.1	-.1
12 Hypochondriacal vs Not So		-.1	-.0	-.1	-.2	-.1	-.1	-.0	X	X
11 Emotional vs Calm		-.1	-.2	-.3	-.1	-.1	-.1	-.1	X	X
2 Changeable vs Emotionally Stable		-.2	-.1	-.3	-.5	-.5	-.3	-.0	-.2	-.3
37 Dependent vs Self-sufficient	X	X	X	X	X	X	X	X	-.4	-.3
8 Boorish vs Intellectual, Cultured		.0	.0	.7	.0	.6	.0	-.1	.5	.0
27 Lacking Artistic Feeling vs Esthetically Fastidious		.0	.0	.9	X	.5	-.1	.6	X	X
34 Practical, Logical vs Imaginative	X	X	X	X	X	.5	-.2	-.2	.7	.7
19 Clumsy, Awkward vs Polished		.0	.0	-.8	-.6	-.6	-.5	-.5	-.6	-.6
30 Immature vs Independent-Minded		-.5	-.4	-.4	-.6	-.5	-.8	-.1	-.4	-.6

Note.—A cell entry of X denotes variable not used in study.

## DISCUSSION

The results of these analyses clearly indicate that differences in samples, situations, raters, and lengths and kinds of acquaintanceship have little effect on the factor structure underlying ratings of personality traits. Statistical tests are not needed to indicate the similarity of corresponding factors from one analysis to another. There can be no doubt that the five factors found throughout all eight analyses are recurrent.

In evaluating the results of a series of factor solutions, such as those presented in Tables 1 through 5, it is natural for the reader to wonder to what extent the results reflect biases by the part of the authors. There is little doubt but that the words "simple structure" have been used very loosely by many analysts, and it is also undeniably true that a preconceived solution can be fabricated through a little "forcing" during the rotational process.

The first factors rotated were those from the 720-case OCS sample described in Study A. While these rotations were not made blind, they were made with no preconceived notions as to how the final solution should appear. Even so, there were certain "choice points" during the rotational process at which somewhat arbitrary decisions were made. These are the same types of decisions which are familiar to all who have participated in orthogonal graphical rotations. In the main they are of two types: (a) those concerning final positioning of reference axes when there was a choice of favoring one or the other of two factors or of balancing the two; and (b) those concerning whether to attempt the buildup or residualization of weak factors introduced into the rotational system. The aims of simple structure do not provide clear guidance in either event, and the rotator is generally left with the job of imposing some subjectivity in deciding which alternatives best fit the criteria.

The choice on final positioning of the reference axes is probably not too critical, since it generally affects only the relative magnitude of the loadings on the two factors considered and does not greatly affect the pattern of factor definers. The decision concerning the buildup or residualization of weak factors is considerably more serious, and whether the choice goes one way or the other can affect both the number and nature of factors reported.

Individuals seem to arrive at their decisions in many different ways. Generally the final positioning of reference axes is subjective, although it many times is tempered with reason. In regard to the rotation of weak factors, some prefer to be guided by one or more of the twenty odd mathematical criteria which propose to estimate the true rank of the original intercorrelation matrix. Unfortunately, the various criteria often do not agree, even when the beginning communality estimates are identical. Other individuals prefer to over extract and fight the battle on the rotation board. If a weak factor can be built up into something they interpret as meaningful they accept it; otherwise they make a strong attempt at residualization.

In the current study the final positioning of reference axes in Study A was made arbitrarily within the general bounds of acceptable simple structure. Once these decisions had been made, the tendency was to make choices in the same direction in later analyses--still staying within the bounds of simple structure. A variety of criteria were considered in making decisions concerning the initial rotation and rotation of weak factors. These included several statistical criteria relating to the size of the results reported by past investigators analyzing the same data, the results of attempted builds and residualizations of such factors, and, admittedly, a little subjective judgment. The actual number of factors rotated varied from only five in the Command and Staff School analysis to 12 in the rotation of the Cattell women's sample. In every sample except one there appeared to be five relatively strong and recurrent personality factors and nothing more of any consequence. In the Cattell women's sample, the fifth factor appears to have split into two related factors.

Subsequent to completion of all eight analyses, a program became available for accomplishing analytic rotations by means of the IBM 650 computer using the normal varimax criterion (Kaiser, 1958). There are good indications that this completely objective analytical rotation procedure will

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ot only save many hours of labor, but will bring considerably more rigor to what has thus far been a rather loose area. Perhaps the most encouraging note is that the normal varimax solution appears to be invariant under changes in the composition of a test battery. Thus submitting one or more of the analyses in the current paper for analytic rotation using the normal varimax criterion would serve at least two purposes: (a) it would remove (or confirm) any doubts the reader (or authors) might have concerning the biases involved in the reported solutions, and (b) it would produce factors likely to be invariant under changes in the composition of the trait-rating battery.

The Command and Test School sample (Study D) was selected for analytic rotation because in the authors' judgment it was the one most subject to criticism. This is because all the factors were extracted by the multiple-group method and only five factors were introduced into the rotational process.

In order to maximize the independence of the new solution, only the intercorrelation matrix was sent to the statistical services section, with instructions to extract eight centroid factors and obtain a normal varimax solution. The variables in this matrix were not identified. It was the decision of the consultants in the statistical services section to rotate only six factors, the last of which was residualized by the analytic procedure.<sup>6</sup> The five identifiable factors are reported in Table 6 along with the corresponding solution obtained via graphic rotations. It can be seen that the two solutions are for all practical purposes identical. In every instance the loadings for the defining variables are exactly the same or differ by only .1. No loading differs by more than .2, even among the nondefining variables.

In many ways it seems remarkable that such stability should be found in an area which to date has granted anything but consistent results. Undoubtedly the consistency has always been there, but it has been hidden by inconsistency of factorial techniques and philosophies, the lack of replication using identical variables, and disagreement among analysts as to factor titles. None of the factors identified in this study are new. They have been identified many times in previous analyses, although they have not always been called by the same names.

Even so, it might surprise some to find the same factors emerging from such a wide variety of samples and conditions. One interpretation is that there are only five fundamental concepts running through the 35 trait names used in these studies. If the common variance in these 35 bipolar traits reflects only five fundamental meaning concepts, then it is reasonable to expect these concepts to correspond to the factors identified in any sample to which the 35 traits are applied.

It should be noted that there may exist little relationship between the magnitude of intercorrelations obtained among trait-rating variables and the level of inter-rater agreement concerning which traits apply to given individuals being rated. Thus it would be possible to identify very strong trait-rating factors having no practical utility. As indicated above, however, trait ratings based on the variables included in this study not only grant satisfactory inter-rater agreement coefficients, but are related to later meaningful criteria.

It is unlikely that the five factors identified are the only fundamental personality factors. There are quite likely other fundamental concepts involved among the Allport-Odbert adjectives on which the variables used in the present study were based. The 35 traits (or more accurately trait clusters) used in the present study represent the distillate drawn by Cattell from the interrelationships among some 175 traits which in turn were selected as representative of the Allport-Odbert adjectives. The communalities of the trait-rating variables in the various samples studied are on the whole quite sizable (averaging .80 to .85); however, for some traits they are as low as .4 or .5. Thus many of the traits have specific variances greatly in excess of their common variance. In many cases these specific variances would become common variances were other variables to be included in the analyses. Thus it is likely that other fundamental factors may be identified in future studies.

<sup>6</sup>One variable had a loading of .24 on the sixth factor; all other variables had loadings below .20.

**TABLE 6. Comparison of Normal Varimax Solution  
with that Obtained using Graphic Rotations**

<u>Trait Variable</u>	<u>I</u>		<u>II</u>		<u>III</u>		<u>IV</u>		<u>V</u>	
<u>No.</u> <u>Name</u>	<u>V</u>	<u>G</u>	<u>V</u>	<u>G</u>	<u>V</u>	<u>G</u>	<u>V</u>	<u>G</u>	<u>V</u>	<u>G</u>
14 Silent vs Talkative	.9	.8	-.1	-.2	.0	-.2	.0	-.1	.1	.2
28 Secretive vs Frank	.8	.8	.1	.0	.0	-.1	.1	.0	.0	.0
16 Cautious vs Adventurous	.9	.8	-.1	-.2	-.1	-.2	.2	.1	.0	.1
3 Submissive vs Assertive	.7	.7	-.4	-.4	.0	-.1	.1	.2	.2	.3
29 Self-contained vs Sociable	.6	.5	.2	.1	-.4	-.4	-.1	-.1	.1	.0
7 Languid, Slow vs Energetic	.7	.7	.0	.0	.1	.1	.2	.1	.3	.4
10 Sprightly vs Goodnatured	-.1	.1	<b>.8</b>	<b>.7</b>	.0	.0	.2	.1	.0	-.1
20 Jealous vs Not So	-.2	-.1	<b>.6</b>	<b>.6</b>	.1	.1	.4	.3	.1	.0
22 Demanding vs Emotionally Mature	-.5	-.4	<b>.5</b>	<b>.6</b>	.1	.2	.3	.2	.1	.0
13 Self-willed vs Mild	-.6	-.5	<b>.5</b>	<b>.6</b>	-.3	-.3	.0	.0	-.1	-.1
1 Obstructive vs Cooperative	-.3	-.2	<b>.7</b>	<b>.6</b>	.1	.2	.1	.1	.3	.2
9 Suspicious vs Trustful	.0	.1	<b>.5</b>	<b>.6</b>	.1	.2	.5	.5	.2	.0
21 Rigid vs Adaptable	.0	.1	<b>.5</b>	<b>.4</b>	-.4	-.2	.1	.0	.1	-.1
17 Hard, Stern vs Kindly	-.3	-.3	<b>.6</b>	<b>.5</b>	.0	.1	-.3	-.4	-.2	-.2
5 Cool, Aloof vs Attentive to People	.3	.4	<b>.6</b>	<b>.5</b>	.1	.1	.0	-.1	.0	.1
18 Relaxed, Indolent vs Insistently Orderly	-.1	-.2	-.1	-.1	<b>.5</b>	<b>.5</b>	-.3	-.1	.4	.3
4 Frivolous vs Responsible	-.2	-.1	.2	.2	<b>.7</b>	<b>.6</b>	.2	.2	.3	.4
25 Unscrupulous vs Conscientious	-.2	-.2	.3	.4	<b>.6</b>	<b>.6</b>	.1	.1	.2	.3
15 Quitting vs Persevering	.1	.1	.0	.0	<b>.6</b>	<b>.5</b>	.1	.2	.4	.5
23 Unconventional vs Conventional	-.5	-.4	.2	.3	<b>.4</b>	<b>.4</b>	-.1	-.1	.0	.0
26 Neurotic vs Not So	.1	.2	.2	.3	.1	.1	<b>.6</b>	<b>.6</b>	.1	.1
24 Worrying, Anxious vs Placid	.0	.1	.0	.1	-.1	-.1	<b>.7</b>	<b>.7</b>	.2	.0
6 Easily Upset vs Poised, Tough	.3	.4	-.1	.0	.1	.0	<b>.5</b>	<b>.5</b>	.4	.4
12 Hypochondriacal vs Not So	.1	.2	.2	.2	-.0	-.0	<b>.6</b>	<b>.5</b>	-.1	-.2
11 Emotional vs Calm	-.6	-.5	.2	.3	.2	.3	<b>.3</b>	<b>.4</b>	.2	.1
2 Changeable vs Emotionally Stable	-.2	-.2	.2	.3	.3	.3	<b>.4</b>	<b>.4</b>	.5	.5
8 Boorish vs Intellectual, Cultured	.2	.1	.0	.1	.3	.2	.1	.2	<b>.7</b>	<b>.8</b>
34 Practical, Logical vs Imaginative	.1	-.1	.0	.0	.1	.0	.0	.1	<b>.5</b>	<b>.5</b>
19 Clumsy, Awkward vs Polished	.0	.0	.2	.3	.2	.1	.2	.2	<b>.6</b>	<b>.6</b>
30 Immature vs Independent-Minded	.4	.4	-.2	-.1	.3	.1	.3	.4	<b>.5</b>	<b>.6</b>

Note.—V = Varimax Solution, G = Graphic Rotations.

#### SUMMARY

The present study was designed to help clarify the personality trait-rating domain. The goal was to isolate meaningful and relatively independent trait-rating factors which are universal enough to appear in a variety of samples, and which are not unduly sensitive to the rating conditions or situations.

A total of 35 personality traits were selected as representative of the personality domain. Inter-correlations among these traits were obtained for eight samples. These samples differed in length of acquaintance from three days to a year or more; in kind of acquaintance from assessment

programs in a military training course to a fraternity house situation; in type of subject from airmen with only a high school education to male and female undergraduate students to first-year graduate students; and in type of rater from very naive persons to clinical psychologists and psychiatrists with years of experience in the evaluation of personality. Centroid or multiple-group factors were extracted from the intercorrelations and rotated orthogonally to simple structure. For one of the studies an independent solution was obtained in which analytic rotations were accomplished by an IBM 650 computer using Kaiser's normal varimax criterion.

In all solutions except one there appeared to be five relatively strong and recurrent factors and nothing more of any consequence. In one solution, based upon data from undergraduate women, the fifth factor split into two highly related factors. The solution obtained by analytic rotations using the normal varimax criterion was for all practical purposes identical to the corresponding solution obtained via graphic rotations to the simple structure criterion.

The five recurrent factors were labeled as (1) Surgency, (2) Agreeableness, (3) Dependability, (4) Emotional Stability, and (5) Culture.

While no claim is made by the authors that the five factors identified are the only personality dimensions, reasons are given in support of their fundamental nature and probable invariance.

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**APPENDIX A: Study A Factor Analysis**

**TABLE A1. Intercorrelations Among Trait Ratings from Officer Candidates**

(OCS Classes 49B-51B-51D, N = 790)

Trait Vectors  
Mr. Name

- 14 Boldness vs Tolerant  
 15 Decisive vs Frank  
 16 Courteous vs Adventurous  
 17 Submissive vs Agreeable  
 18 Self-reliant vs Dependable  
 \* Long-winded, Slow vs Energetic
- 19 Spirited vs Goodnatured  
 20 Jealous vs Not So  
 21 Demand as vs Extravagant Nature  
 22 Selfish as vs Selfless  
 23 Obstinate Iow vs Cooperative  
 24 Sustained vs Thrilled  
 25 Rigid vs Adaptable  
 26 Hard, Stern vs Kindly  
 27 Cool, Aloof vs Attentive to People
- 28 Relaxed, Indolent vs Inertly Orderly  
 29 Pervasive vs Responsible  
 30 Unconventional vs Conventional  
 31 Outgoing vs Personating  
 32 Unconventional vs Conventional
- 33 Newcomer vs Not So  
 34 Warying, Anxious vs Placid  
 35 Easygoing vs Policed, Tough  
 36 Hypocritical vs Not So  
 37 Egomaniac vs Calm  
 38 Changeable vs Emotionally Stable
- 39 Decent vs Intellectual, Cultured  
 40 Lacking Artistic Feeling vs Esthetically Perceptive  
 41 Clumsy, Awkward vs Polished  
 42 Immature vs Independent-minded

	14	28	16	2	29	7	18	20	22	13	1	2	21	17	5	10	4	25	15	23	24	26	24	6	13	11	2	1	27	19	20
14 Boldness vs Tolerant	74	71	60	64	68	67	-12	-18	-32	-02	02	18	-11	64	-30	-23	-34	-12	-48	04	00	15	-02	-46	-14	03	-03	04	13		
15 Decisive vs Frank	72	60	64	54	19	02	-06	-24	13	16	30	-18	49	-23	04	-14	14	-46	30	20	38	13	-25	09	14	04	18	40			
16 Courteous vs Adventurous	50	75	61	25	14	-06	-16	16	29	64	-21	30	-46	02	-20	04	-51	37	34	46	27	-21	14	16	08	20	44				
17 Submissive vs Agreeable	62	67	-13	-28	-26	-42	-02	04	02	-02	25	04	10	-24	23	-40	22	18	50	05	-28	C2	22	22	23	36					
18 Self-reliant vs Dependable	04	32	06	00	-13	19	32	38	-02	32	-47	-13	-22	-10	-41	19	24	30	16	-30	04	08	08	22	22	22					
* Long-winded, Slow vs Energetic	22	17	18	-01	45	46	25	-36	37	16	46	22	34	15	46	34	56	42	04	46	52	47	50	64							
19 Spirited vs Goodnatured	74	73	66	72	66	64	38	63	-29	35	46	41	14	60	46	30	48	46	62	24	08	34	24								
20 Jealous vs Not So	76	72	65	74	65	31	48	-16	41	51	39	24	56	52	36	60	60	68	32	11	33	30									
21 Demand as vs Extravagant Nature	76	61	72	56	32	56	-07	55	64	48	39	55	50	33	56	68	70	38	18	46	29										
22 Selfish as vs Selfless	68	66	38	42	38	00	42	63	42	41	60	36	20	44	46	66	65	28	12	12	13										
23 Obstinate Iow vs Cooperative	73	64	24	76	10	68	68	64	33	54	60	43	38	34	78	41	25	48	38												
24 Sustained vs Thrilled	57	08	38	-04	57	53	60	24	88	68	60	71	60	80	43	23	54	49													
25 Rigid vs Adaptable	74	52	-08	15	18	16	-04	52	53	39	54	30	46	22	12	30	30														
26 Hard, Stern vs Kindly	18	-24	-12	18	-20	25	-07	-14	-38	-10	0	08	-01	-12	-10	-09	-38														
27 Cool, Aloof vs Attentive to People	-13	42	62	46	08	46	34	42	36	21	52	38	23	45	48																
28 Relaxed, Indolent vs Inertly Orderly	61	38	50	43	00	-14	-01	-05	09	16	22	31	21	-04																	
29 Pervasive vs Responsible	72	82	62	48	36	52	48	50	72	49	34	54	56																		
30 Unconventional vs Conventional	64	53	38	22	34	40	58	68	44	34	43	30																			
31 Outgoing vs Personating	32	50	38	58	53	43	68	58	43	39	53																				
32 Unconventional vs Conventional	16	08	-07	14	35	32	08	14	14	-02																					
33 Newcomer vs Not So	61	61	68	49	64	30	23	40	54																						
34 Warying, Anxious vs Placid	68	64	52	60	30	15	41	53																							
35 Easygoing vs Policed, Tough	56	46	63	51	32	33	71																								
36 Hypocritical vs Not So	54	67	35	20	42	49																									
37 Egomaniac vs Calm	70	30	12	37	28																										
38 Changeable vs Emotionally Stable	51	30	56	52																											
39 Decent vs Intellectual, Cultured	69	74	60																												
40 Lacking Artistic Feeling vs Esthetically Perceptive	70	41																													
41 Clumsy, Awkward vs Polished	61																														
42 Immature vs Independent-minded	51																														

Note. - Communalities estimated as the highest correlations in each row.

## APPENDIX A (Continued)

TABLE A2. Loadings on Nine Centroid Factors from 790 Male Officer Candidates

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u><math>b^2</math></u>
<u>No.</u>	<u>Name</u>										
11.	Silent vs Talkative	.133	-.667	.485	-.179	.217	-.048	.068	.072	-.055	.792
28	Secretive vs Frank	.313	-.599	.421	-.034	.165	-.157	.208	-.084	-.094	.766
15	Cautious vs Adventurous	.407	-.584	.518	.108	.131	.043	.106	-.042	.031	.852
3	Submissive vs Assertive	.312	-.786	-.070	.174	.229	-.158	.106	.073	.090	.851
29	Self-contained vs Sociable	.288	-.522	.606	-.124	.035	.061	-.129	.163	.157	.795
7	Languid, Slow vs Energetic	.716	-.464	-.064	-.147	.336	.310	.048	.036	.113	.979
10	Spiteful vs Goodnatured	.612	.371	.478	-.185	-.085	-.111	-.051	-.048	.077	.805
20	Jealous vs Not So	.625	.513	.332	.051	-.157	.025	.038	-.062	-.070	.803
22	Demanding vs Emotionally Mature	.663	.550	.188	-.111	-.113	.067	.088	.033	.117	.836
13	Self-willed vs Mild	.498	.670	.106	-.121	-.219	-.184	-.083	.102	-.051	.612
1	Obstructive vs Cooperative	.783	.330	.111	-.281	.135	-.183	-.096	-.017	.060	.866
9	Suspicious vs Trustful	.830	.281	.181	.398	.038	.071	-.068	.074	.016	.827
21	Rigid vs Adaptable	.532	.135	.563	.140	-.178	.169	.026	-.103	.018	.711
17	Hari, Stern vs Kindly	-.111	.490	.381	-.433	-.211	.075	-.139	-.106	-.047	.667
5	Cool, Aloof vs Attentive to People	.716	-.083	.365	-.388	.044	-.175	.045	-.070	.114	.657
18	Relaxed, Indolent vs Inconsistently Orderly	.058	.076	-.743	-.224	.215	.060	.055	.174	-.205	.755
4	Frivolous vs Responsible	.734	.223	-.392	-.099	.163	-.059	.093	-.205	.108	.652
25	Unscrupulous vs Conscientious	.600	.471	-.298	-.273	-.043	-.115	.052	-.056	-.040	.769
15	Quitting vs Persevering	.787	.115	-.410	-.111	.152	-.117	.113	-.113	-.112	.888
23	Unconventional vs Conventional	.185	.541	-.381	-.266	.132	.218	-.087	.066	.115	.639
26	Neurotic vs Not So	.732	.133	.145	.250	.138	.133	.126	.050	-.055	.701
24	Worrying, Anxious vs Placid	.617	.096	.172	.426	-.055	.082	.065	.130	.161	.698
6	Easily Upset vs Poised, Tough	.767	-.209	-.058	.380	-.055	-.177	.086	.106	.096	.826
12	Hypochondriacal vs Not So	.712	.218	.121	.298	.054	.113	.058	.074	-.088	.689
11	Emotional vs Calm	.520	.598	-.127	.255	-.169	-.104	.100	.111	.169	.806
2	Changeable vs Emotionally Stable	.850	.334	-.072	.089	.017	-.062	-.066	.020	.039	.859
8	Poorish vs Intellectual, Cultured	.655	-.178	-.306	-.133	-.413	.118	.066	-.120	-.056	.779
27	Lacking Artistic Feeling vs Esthetically Fastidious	.474	-.218	-.356	-.231	-.373	.228	.065	.131	-.119	.679
19	Clumsy, Awkward vs Polished	.725	-.139	-.217	-.175	-.363	.126	.039	.142	.065	.797
30	Immature vs Independent-Minded	.758	-.330	-.142	.214	-.085	-.035	.160	-.190	.120	.801

## APPENDIX A (Continued)

TABLE A3 Loadings on Nine Rotated Factors from 790 Male Officer Candidates

Trait Variable			I	II	III	IV	V	VI	VII	VIII	IX <sup>a</sup>	$\chi^2$
16	Relaxed vs. Tense	.822	.000	-.231	-.204	.000	.001	.060	.358	-.055	.781	
25	Surrettive vs. Frank	.822	.063	-.199	.055	.063	-.012	-.140	-.061	-.094	.761	
13	Candid vs. Adroit	.824	.100	-.351	.197	.066	.046	.075	-.015	.031	.861	
1	Sophomoric vs. Agreeable	.716	-.184	-.067	.167	.273	.073	-.227	.113	.090	.851	
29	De Jure-minded vs. Sociable	.692	.203	-.085	-.104	.075	.149	.196	.115	.157	.783	
7	Languid, Tired vs. Energetic	.662	-.020	.282	.275	.466	.191	.260	-.079	.113	.965	
10	Spectacular vs. Subtle	.121	.635	.019	.225	-.025	.185	.015	.068	.077	.806	
20	Jealous vs. Not So	-.076	.750	.010	.476	.013	.089	.092	-.039	-.070	.816	
22	Surrounding vs. Emotionally Muted	-.097	.770	.199	.404	.117	.049	.088	-.012	.117	.841	
15	Self-centered vs. Mild	-.113	.737	.188	.266	.050	.136	-.035	.167	-.051	.800	
1	Destructive vs. Cooperative	.171	.684	.399	.272	.136	.326	-.013	.055	.060	.862	
9	Oppositional vs. Gracious	.141	.570	.148	.585	.169	.245	.150	.115	.016	.833	
21	Rigid vs. Acceptable	.190	.589	-.311	.405	.028	.063	.207	-.165	.018	.705	
17	Warm, Stern vs. Kindly	-.280	.503	-.035	-.350	-.184	.016	.218	-.117	-.047	.671	
3	Curious, Alert vs. Attentive to People	.526	.065	.135	.071	.207	.181	-.073	-.025	.114	.838	
18	Pelagian, Indolent vs. Inconsistently Orderly	-.193	-.200	.693	-.006	.284	.001	-.009	.116	-.205	.738	
6	Festive vs. Responsible	.046	.268	.531	.456	.329	.227	-.151	-.179	.106	.858	
25	Impulsive vs. Considerate	-.205	.510	.580	.250	.290	.134	-.145	-.026	-.040	.752	
19	Quitting vs. Persevering	.126	.253	.579	.445	.415	.202	-.199	-.063	-.112	.832	
32	Irreverential vs. Conventional	-.405	.190	.586	.059	.091	.096	.253	.021	.118	.644	
1	Mischievous vs. Not So	.250	.347	.120	.674	.122	.077	.147	.043	-.055	.703	
24	Worrying, Anxious vs. Placid	.127	.298	-.122	.709	.139	.057	.079	.159	.151	.713	
6	Easily Tired vs. Relaxed, Bright	.319	.135	-.033	.671	.379	.125	-.196	.200	.390	.818	
12	Hypochondriacal vs. Not So	.114	.370	.072	.689	.121	.125	.131	.093	-.081	.632	
11	Emotional vs. Calm	-.360	.139	.195	.603	.094	-.093	-.217	.133	.162	.800	
2	Changeable vs. Emotionally Stable	.010	.502	.291	.603	.250	.269	-.035	.123	.039	.816	
8	Imperial vs. Intellectual, Cultured	.049	.227	.065	.236	.788	.071	-.093	-.122	-.055	.767	
17	Low-key Artistic Feeling vs. Esthetically Fanciful	.022	.103	.114	.070	.777	-.047	.070	.060	-.119	.659	
19	Clumsy, Awkward vs. Polished	.111	.325	.106	.239	.763	.046	.020	.122	.065	.790	
10	Impulsive vs. Independent-Minded	.362	.060	.007	.513	.512	.117	-.210	-.133	.120	.758	

<sup>a</sup> Not rotated.



## APPENDIX B (Continued)

TABL B2. Loadings on Five Orthogonalized Multiple-Group and Three Centroid Factors from 3-Day Officer Candidate Ratings  
(OCC Class 50B, N = 125)

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u><math>h^2</math></u>
No.	Name									
14	Silent vs Talkative	792	-169	-095	-218	-292	-100	076	-019	816
28	Secretive vs Frank	790	104	-082	-126	-194	-145	-125	-140	766
16	Cautious vs Adventurous	625	135	165	026	-129	-351	058	110	772
3	Submissive vs Assertive	785	-316	013	318	010	237	065	091	883
29	Self-contained vs Sociable	758	090	-225	-161	-112	175	159	-095	728
7	Languid, Slow vs Energetic	723	-517	197	-114	285	-379	272	199	774
20	Spiteful vs Goodnatured	063	740	-092	-065	118	-028	-061	041	588
	Jealous vs Not So	-018	763	-040	125	115	047	-101	-034	631
	Demanding vs Emotionally Mature	-383	597	-039	043	161	-011	043	157	505
	Self-willed vs Mild	-519	535	-084	-038	254	-131	029	019	765
	Obstructive vs Cooperative	069	574	160	016	136	038	077	-077	749
	Suspicious vs Trustful	164	642	252	112	326	075	072	040	625
	Rigid vs Adaptable	359	550	-120	121	-075	-086	196	-178	551
	Hard, Stern vs Kindly	-556	362	-299	-220	066	-199	-011	-187	654
	Cool, Aloof vs Attentive to People	429	470	-115	-232	077	130	-070	093	510
	Relaxed, Indolent vs Insistently Orderly	-190	-225	283	001	563	189	093	097	537
4	Frivolous vs Responsible	-091	500	320	-072	522	060	-066	-071	652
25	Unscrupulous vs Conscientious	-270	471	317	-032	564	086	-064	-106	742
15	Quitting vs Persevering	272	338	426	103	360	-269	082	095	598
23	Unconventional vs Conventional	-597	252	152	-170	299	209	080	065	618
21	Neurotic vs Not So	335	354	215	434	217	-238	311	027	673
	Worrying, Anxious vs Placid	199	529	098	519	044	-030	-048	043	638
	Easily Upset vs Poised, Tough	624	046	126	384	269	168	-089	057	672
	Hypochondriacal vs Not So	208	238	197	416	133	-139	077	-247	448
	Emotional vs Calm	-250	418	124	516	323	115	-118	113	671
	Changeable vs Emotionally Stable	117	626	289	075	451	149	-167	119	701
	Boorish vs Intellectual, Cultured	089	032	-112	-025	768	-033	-096	-090	663
27	Lacking Artistic Feeling vs Esthetically Fastidious	-011	-107	056	054	815	-029	027	043	689
19	Clumsy, Awkward vs Polished	-018	072	050	-030	825	050	066	056	711
30	Immature vs Independent-Minded	641	-068	178	162	394	100	020	133	663

## APPENDIX B (Continued)

TABLE B3 Loadings on Eight Rotated Factors from 3-Day Officer Candidate Ratings  
(CCS Class 55B, N = 125)

<u>Trait Variable</u>	<u>No.</u>	<u>Name</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u><math>h^2</math></u>
	14	Silent vs Talkative	.745	-158	-336	-055	-214	-020	.228	-055	.811
	28	Secretive vs Frank	.726	.109	-304	.117	-147	-128	.108	-244	.763
	10	Castious vs Adventurous	.735	.047	-111	.355	-182	-064	.153	.105	.760
	1	Suspicious vs Assertive	.651	-399	-286	.360	.087	.070	-121	.219	.874
	25	Self-contained vs Sociable	.656	.067	-428	.031	-117	.261	.128	.073	.736
	1	Languid, Slow vs Energetic	.704	.013	.018	.221	.248	-165	.324	.125	.757
	14	Spiteful vs Goodnatured	.321	.739	-026	.177	.000	.063	.059	-007	.587
	24	Jealous vs Not So	-.392	.691	.023	.324	.019	.111	-094	-047	.625
	22	Demanding vs Emotionally Mature	-.459	.621	.123	.296	.024	.025	.100	.117	.724
	13	Self-willed vs Mild	-.531	.648	.134	.076	.146	.040	.104	-037	.761
	1	Obstructive vs Cooperative	.097	.460	.485	.392	.265	.217	.111	-012	.734
	5	Suspicious vs Trustful	.117	.526	.245	.457	.169	.174	.061	.097	.626
	21	Rigid vs Adaptable	.177	.445	-250	.377	-136	.222	.194	-103	.558
	17	Hard, Stern vs Kindly	-.534	.417	-056	-272	-013	.041	.115	-259	.645
	5	Cool, Aloof vs Attentive to People	.424	.535	-139	.036	.021	.051	.022	.104	.524
	18	Relaxed, Indolent vs Insistently Orderly	-.095	.187	.375	-006	.551	.057	-029	.202	.534
	1	Prudulous vs Responsible	-.012	.488	.440	.196	.388	.143	.017	-052	.644
	25	Unscrupulous vs Conscientious	-.181	.465	.485	.171	.438	.160	-074	-080	.743
	15	Quitting vs Persevering	.227	.228	.334	.489	.214	-117	.261	-023	.593
	23	Unconventional vs Conventional	-.462	.309	.398	-170	.244	.160	-025	.200	.625
	26	Neurotic vs Not So	.998	.108	.033	.734	.075	.062	.298	.028	.666
	25	Worrying, Anxious vs Placid	.023	.115	-030	.712	-077	.030	-150	.000	.637
	6	Easily Upset vs Poised, Tough	.501	-.051	-085	.538	.234	.012	-200	.113	.660
	12	Hypochondriacal vs Not So	.061	.087	.063	.595	.028	.165	.018	-227	.451
	11	Emotional vs Calm	-.336	.312	.180	.531	.218	.007	-328	.087	.687
	2	Changeable vs Emotionally Stable	.141	.594	.332	.391	.303	.050	-135	.098	.752
	8	Boorish vs Intellectual, Cultured	.062	.157	-021	.079	.775	.000	.019	-131	.654
	27	Lacking Artistic Feeling vs Esthetically Fastidious	-.055	-.026	.141	.120	.734	-061	.066	.047	.681
	19	Clumsy, Awkward vs Polished	-.045	.153	.171	.110	.779	.054	.103	.102	.696
	30	Immature vs Independent-Minded	.504	-.105	-013	.400	.367	-025	-006	.159	.655



## APPENDIX C (Continued)

TABLE C2 Loadings on Five Orthogonalized Multiple-Group and Three Centroid Factors from Ratings Obtained Late in OCS  
(OCS Class 55B, N = 125)

<u>Trait Variable</u>	<u>No.</u>	<u>Name</u>	I	II	III	IV	V	VI	VII	VIII	<u><math>h^2</math></u>
	14	Silent vs Talkative	.738	-.157	-.076	-.295	-.202	.057	-.078	.058	.715
	28	Secretive vs Frank	.726	.304	.050	-.104	.199	-.062	-.059	.041	.684
	16	Cautious vs Adventurous	.822	.023	-.104	.160	.209	-.070	.049	-.001	.772
	3	Submissive vs Assertive	.816	-.290	.130	.238	.030	.112	.055	.113	.911
	24	Self-contained vs Sociable	.792	.087	-.106	-.140	.198	.102	.040	-.037	.714
	7	Languid, Slow vs Energetic	.606	.003	.164	.009	.455	-.189	-.108	.165	.675
	10	Spiteful vs Goodnatured	.003	.776	-.030	-.028	.416	-.048	.055	.048	.785
	20	Jealous vs Not So	-.031	.740	-.084	.185	.482	.050	.056	.056	.831
	22	Demanding vs Emotionally Mature	-.213	.778	-.101	-.009	.432	-.082	.043	.021	.857
	13	Self-willed vs Mild	-.306	.761	.068	.004	.438	-.078	-.031	-.070	.882
	1	Obstructive vs Cooperative	-.025	.712	.203	.002	.603	-.089	-.023	.043	.523
	9	Suspicious vs Trustful	.046	.598	.066	.294	.645	.096	.171	.121	.899
	21	Rigid vs Adaptable	.392	.611	-.248	.222	.286	.111	-.110	.020	.744
	17	Hard, Stern vs Kindly	-.580	.359	-.210	-.554	.120	.107	-.125	.075	.877
	5	Cool, Aloof vs Attentive to People	.180	.524	.190	-.376	.561	.186	-.116	.126	.863
	18	Relaxed, Indolent vs Insistently Orderly	-.396	-.189	.400	-.206	.540	-.168	.030	.072	.721
	4	Frivolous vs Responsible	-.156	.511	.443	.091	.578	.139	.055	.109	.858
	25	Unscrupulous vs Conscientious	-.552	.585	.232	-.084	.577	-.067	.078	.045	.873
	23	Quitting vs Persevering	-.141	.410	.366	.199	.675	.084	.075	.043	.832
		Unconventional vs Conventional	-.504	.436	.226	-.259	.418	-.051	.153	.071	.769
	26	Neurotic vs Not So	.296	.510	.255	.348	.511	-.022	-.049	.084	.803
	24	Worrying, Anxious vs Placid	.422	.507	-.058	.533	.382	.018	.020	.046	.871
	6	Easily Upset vs Poised, Tough	.413	.165	.072	.571	.504	.112	.064	-.035	.801
	12	Hypochondriacal vs Not So	.237	.526	.091	.529	.308	-.182	-.184	.051	.772
	11	Emotional vs Calm	-.125	.559	.026	.446	.559	.056	.060	-.068	.852
	2	Changeable vs Emotionally Stable	.011	.646	.162	.316	.581	.069	.109	-.022	.897
	8	Boorish vs Intellectual, Cultured	.053	.091	-.055	.063	.839	.151	-.147	-.099	.776
	27	Lacking Artistic Feeling vs Esthetically Fastidious	-.084	-.155	.112	-.122	.851	-.167	.121	-.027	.825
	19	Clumsy, Awkward vs Polished	.030	.064	-.058	.059	.900	.022	.050	.093	.834
	30	Immature vs Independent-Minded	.505	.156	.234	.380	.562	.180	-.122	.126	.846

## APPENDIX C (Continued)

TABLE C3. Loadings on Eight Rotated Factors from Ratings Late in OCS  
(OCS Class 55B, N = 125)

Trait Variable

No.	Name	I	II	III	IV	V	VI	VII	VIII	$h^2$
11.	Silent vs talkative	.651	-.116	-203	-.111	-230	-.005	-.070	-.032	.715
26.	Secretive vs Frank	.751	.313	.036	-.053	.000	-.068	-.067	-.028	.684
1.	Cautious vs Adventurous	.810	.095	-.276	.096	.095	-.082	.061	-.038	.771
1.	Submissive vs Assertive	.831	-.321	-.227	.138	-.034	.032	.035	-.101	.911
25.	Self-contained vs Sociable	.778	.162	-.162	-.158	.038	.123	.046	-.025	.714
7.	Languid, Slow vs Energetic	.694	.049	.056	.056	.352	-.185	-.130	-.038	.675
15.	Spiteful vs Goodnatured	.092	.794	.277	.169	.160	.010	.058	.066	.785
20.	Jealous vs Not So	.053	.770	.173	.362	.225	.029	.063	-.075	.831
22.	Demanding vs Emotionally Mature	.127	.822	.259	.192	.227	-.071	.053	.022	.857
13.	Self-willed vs Mild	-.186	.728	.434	.268	.227	-.015	-.042	.059	.882
1.	Obstructive vs Cooperative	.138	.692	.468	.289	.336	-.014	-.018	.085	.923
6.	Suspicious vs Trustful	.154	.670	.088	.149	.105	.063	.079	-.155	.899
21.	Rigid vs Adaptable	.398	.680	-.156	.273	.068	-.175	-.082	-.035	.774
17.	Hard, Stern, vs Kindly	-.578	.507	.219	-.144	.112	.125	-.095	.005	.873
7.	Cool, Aloof vs Attentive to People	.315	.582	.472	-.133	.310	.264	-.138	.004	.863
14.	Relaxed, Indolent vs Insistently Orderly	-.217	-.171	.516	-.028	.597	-.022	-.019	.152	.718
4.	Frivolous vs Responsible	.045	.604	.614	.397	.333	.219	.001	.016	.859
25.	Unscrupulous vs Conscientious	-.176	.560	.553	.196	.104	-.038	.046	-.004	.873
15.	Quitting vs Persevering	.331	.355	.433	.436	.432	.113	.028	-.085	.832
23.	Unconventional vs Conventional	-.356	.411	.583	-.003	.321	.038	.124	-.094	.769
26.	Neurotic vs Not So	.432	.431	.252	.526	.248	-.028	-.082	-.058	.803
2.	Worrying, Anxious vs Placid	.480	.501	-.108	.598	.125	.009	.023	-.019	.871
4.	Easily Upset vs Poised, Tough	.493	.170	-.098	.620	.305	.168	.053	-.034	.801
12.	Hypochondriacal vs Not So	.309	.140	.030	.648	.061	-.114	-.154	.142	.773
11.	Emotional vs Calm	-.008	.555	.144	.626	.340	.049	.056	-.088	.350
2.	Changeable vs Emotionally Stable	.139	.598	.315	.556	.322	-.018	.088	.046	.899
8.	Boorish vs Intellectual, Cultured	.181	.302	.043	.156	.715	.283	-.143	-.002	.776
27.	Lacking Artistic Feeling vs Esthetically Fastidious	.091	.020	.232	-.002	.856	-.002	.103	.112	.825
19.	Clumsy, Awkward vs Polished	.183	.277	.066	.162	.813	.385	.064	-.092	.834
30.	Immature vs Independent-Minded	.627	.143	.172	.472	.352	.111	-.152	-.183	.846



## APPENDIX D (Continued)

TABLE D2. Loadings on Five Orthogonalized Multiple-Group Factors from 499 Command and Staff School Officers

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u><math>h^2</math></u>
No.	Name						
14	Silent vs Talkative	.850	-.114	.138	-.044	.042	.810
26	Sacrative vs Frank	.784	.044	.074	.036	-.176	.654
16	Cautious vs Adventurous	.829	-.066	.013	.144	.007	.713
3	Submissive vs Assertive	.734	-.338	.225	.269	.103	.787
29	Self-contained vs Sociable	.619	.137	-.223	-.138	.127	.487
7	Lanuad, Slow vs Energetic	.762	.034	.318	.149	.168	.733
25							
10	Spiteful vs Goodnatured	.033	.752	-.069	-.096	-.111	.593
20	Jealous vs Not So	-.204	.682	.060	.168	-.012	.539
22	Demanding vs Emotionally Mature	-.438	.631	.064	.087	-.008	.602
13	Self-willed vs Mild	-.517	.525	.091	-.151	-.079	.694
1	Obstructive vs Cooperative	-.279	.705	.203	-.074	.116	.630
9	Suspicious vs Trustful	-.016	.606	.161	.394	-.073	.554
21	Rigid vs Adaptable	.151	.535	-.259	-.084	.014	.383
17	Stark, Stern vs Kindly	-.340	.389	-.113	-.526	-.112	.569
5	Cool, Aloof vs Attentive to People	.330	.520	.153	-.193	-.089	.435
26							
18	Relaxed, Indolent vs Insistently Orderly	-.252	-.130	.565	-.100	.033	.426
4	Frivolous vs Responsible	-.237	.246	.750	.118	.011	.693
25	Unscrupulous vs Conscientious	-.310	.382	.627	-.016	-.046	.643
15	Quitting vs Persevering	.042	.035	.723	.171	.099	.565
23	Unconventional vs Conventional	-.548	.194	.291	-.147	-.083	.453
27							
26	M�ristic vs Not So	.159	.418	.195	.547	-.011	.537
21	Worrying, Anxious vs Placid	.049	.265	-.077	.624	.048	.470
6	Easily Upset vs Poised, Tough	.365	.150	.306	.490	.169	.533
12	Hypochondriacal vs Not So	.151	.316	-.031	.402	-.205	.348
11	Emotional vs Calm	-.574	.342	.219	.335	.060	.610
2	Changeable vs Emotionally Stable	-.232	.416	.444	.349	.276	.622
28							
5	Boorish vs Intellectual, Cultured	.164	.163	.654	.163	.427	.745
34	Practical, Logical vs Imaginative	.065	.066	.029	.101	.654	.451
19	Clumsy, Awkward vs Polished	.040	.354	.422	.119	.452	.532
30	Immature vs Independent-Minded	.102	-.015	.544	.392	.264	.692

## APPENDIX D (Continued)

TABLE D5 Loadings on Five Rotated Factors from 499 Command and Staff School Officers

Trait Variable

No.	Name	I	II	III	IV	V	<u><math>h^2</math></u>
11	Silent vs Talkative	.827	-.161	-.164	-.115	.242	809
23	Secretive vs Frank	.807	-.022	-.062	.003	.018	656
16	Cautious vs Adventurous	.785	-.152	-.226	.083	.127	711
3	Submissive vs Assertive	.680	-.434	-.092	.161	.320	788
29	Self-contained vs Sociable	.527	.127	-.418	-.134	.043	488
7	Languid, Slow vs Energetic	.727	-.050	-.065	.114	.432	735
10	Spiteful vs Goodnatured	.110	.749	.001	.067	-.125	593
22	Jealous vs Not So	-.120	.639	.110	.322	.000	539
22	Demanding vs Emotionally Mature	-.350	.624	.177	.245	-.026	603
13	Self-willed vs Mild	-.513	.583	.289	-.003	-.088	695
1	Obstructive vs Cooperative	-.190	.721	.165	.389	.179	623
9	Suspicious vs Trustful	.091	.500	.170	.514	.342	553
21	Rigid vs Adaptable	.130	.532	-.250	.032	-.130	380
17	Hard, Stern vs Kindly	-.295	.517	.072	-.411	-.203	569
5	Cool, Aloof vs Attentive to People	.374	.524	.082	-.094	.070	435
18	Relaxed, Indolent vs Insistently Orderly	-.175	-.141	.486	-.132	.343	422
4	Frivolous vs Responsible	-.100	.222	.637	.176	-.004	693
25	Unscrupulous vs Conscientious	-.172	.390	.598	.078	.312	643
15	Quitting vs Persevering	.119	-.012	.488	.168	.533	565
23	Unconventional vs Conventional	-.446	.254	.428	-.076	.044	454
26	Neurotic vs Not So	.236	.273	.112	.614	.135	538
24	Worrying, Anxious vs Placid	.069	.118	-.100	.604	-.004	470
6	Easily Upset vs Poised, Tough	.365	.012	.031	.490	.374	523
12	Hypochondriacal vs Not So	.226	.233	.048	.471	-.153	345
11	Emotional vs Calm	-.489	.297	.295	.431	.104	611
2	Changeable vs Emotionally Stable	-.189	.344	.251	.443	.460	625
8	Boorish vs Intellectual, Cultured	.126	.115	.178	.188	.800	746
34	Practical, Logical vs Imaginative	-.085	.049	-.378	.118	.534	452
19	Clumsy, Awkward vs Polished	.003	.321	.062	.195	.624	534
30	Immature vs Independent-Minded	.389	-.128	.142	.358	.613	692



## APPENDIX E (Continued)

TABLE E.2 Factor Loadings for Five Orthogonalized Multiple Group and Three Centroid Factors from Cattell's Male College Students:  
(N = 133)

No.	Item Variable	Factor Loadings								$b^2$
		I	II	III	IV	V	VI	VII	VIII	
*15	Silent vs Talkative	.785	-.280	.054	-.158	.023	.154	-.142	-.159	.732
*26	Secretive vs Frank	.651	-.149	.062	-.011	.085	-.382	-.066	.135	.619
*16	Cautious vs Adventurous	.749	-.143	-.229	.092	-.005	.204	.144	.093	.713
*3	Submissive vs Assertive	.448	-.540	.161	.292	.276	-.304	-.180	-.090	.813
*29	Self-reliant vs Sociable	.736	-.157	-.249	-.244	.032	.104	.176	.150	.753
*7	Lazy, Slow vs Energetic	.579	.019	.202	.060	.486	.277	-.052	.216	.752
33	Shy, Meekful vs Composed	.685	-.190	-.194	-.048	.449	.075	-.156	.172	.806
35	Slight vs Marked Interest in Opposite Sex	.498	-.106	-.060	.005	.011	-.089	.433	.148	.437
32	Depressed vs Cheerful	.610	.104	-.080	-.138	.070	.312	-.063	-.214	.574
*10	Spirited vs Good-tempered	.190	.737	-.175	-.213	.151	-.090	.056	.136	.721
*30	Anxious vs Not So	-.012	.683	.032	.267	-.035	.400	-.100	.086	.718
*25	Demanding vs Emotionally Mature	-.105	.788	-.002	.247	.180	.155	-.169	.091	.751
*13	Half-witted vs Witty	-.323	.750	-.102	-.080	.206	-.158	-.038	.045	.755
*1	Obstervative vs Cooperative	.330	.559	.218	.308	.302	-.372	.273	-.295	.874
9	Suspicious vs Trustful	.096	.586	-.050	.250	.179	.359	.079	.086	.592
21	Rigid vs Adaptable	.485	.518	-.159	.071	.006	.279	.217	-.123	.674
17	Hard, Stern vs Kindly	.112	.527	.033	-.464	-.126	.200	.223	-.089	.659
5	Cool, Aloof vs Attentive to People	.556	.294	.005	-.309	.365	-.230	.045	-.053	.689
31	Attention Getting vs Self-sufficient	-.559	.597	.120	.278	.011	.185	-.085	.172	.633
*18	Relaxed, Indolent vs Instantly Orderly	-.314	.067	.131	.163	.473	-.258	-.124	-.153	.611
*6	Prudish vs Responsible	-.281	.433	.300	.090	.431	.184	-.151	-.034	.663
*23	Unscrupulous vs Conscientious	-.338	.561	.110	-.264	.360	-.162	-.081	.156	.716
15	Quitting vs Persevering	-.256	.214	.69	.207	.524	-.277	-.221	.152	.714
*22	Unconventional vs Conventional	-.414	.257	.409	.031	-.128	.196	.259	.070	.532
26	Neurotic vs Not So	.136	.329	.068	.698	-.049	.120	-.133	-.173	.688
*24	Worrying, Anxious vs Placid	.055	.146	-.307	.627	.082	-.116	-.029	-.099	.543
6	Easily Upset vs Policed, Tough	.104	.061	-.119	.611	.283	.234	-.275	-.045	.570
*17	Hypocondriacal vs Not So	.080	.179	.318	.577	.098	.054	.187	.196	.558
11	Emotional vs Calm	-.458	.473	-.335	.351	.184	-.198	-.087	-.167	.777
2	Changeable vs Emotionally Stable	-.221	.471	.072	.244	.536	-.238	-.144	.209	.744
37	Dependent vs Self-sufficient									
*8	Superior vs Intellectual, Cultured	-.051	.091	.130	.079	.719	.070	-.196	.061	.598
27	Looking Artistic Feeling vs Esthetically Practical	.125	-.104	-.109	-.131	.548	-.128	.238	-.068	.433
34	Practical, Logical vs Imaginative	.079	-.059	-.481	-.564	.325	-.074	-.249	-.169	.721
*19	Clumsy, Awkward vs Polished	-.074	.013	-.020	.052	.710	.078	-.070	-.228	.536
30	Immature vs Independent-Minded	.055	.069	.305	.405	.571	-.088	-.411	.271	.812

\*These variables were grouped as shown and summed over. Others did not enter into the original groupings.

## APPENDIX E (Continued)

TABLE E3 Loadings on Five Rotated Multi-Group Factors and Three Additional Centroid Factors from Cattell's Male College Students  
(N = 133)

## Trait Variables

Row	Name	I	II	III	IV	V	VI	VII	VIII	$h^2$
14	Silent vs Talkative	.732	-0.26	-1.39	-1.19	-0.45	0.85	-1.56	2.50	.639
15	Servile vs Frank	.733	-1.12	-0.74	0.87	-0.58	-1.02	-1.22	1.26	.692
16	Cautious vs Adventurous	.605	1.12	-5.85	0.54	0.29	1.11	1.28	-0.80	.773
3	Submissive vs Assertive	.564	-1.53	-1.94	2.30	2.0	-2.21	-2.09	1.27	.76
29	Self-restrained vs Sociable	.708	0.00	-3.64	-1.11	-0.46	0.94	2.57	0.45	.45
7	Languid, Slow vs Energetic	.521	-1.64	-2.03	1.10	4.63	2.30	-0.97	1.58	.659
33	Shy, Meekful vs Composed	.653	-0.72	-2.12	0.43	3.92	0.69	1.13	1.88	.706
31	Slight vs Marked Interest in Opposite Sex	.515	-0.55	-1.10	-0.79	-0.55	0.94	2.46	-1.58	.398
32	Depressed vs cheerful	.424	3.72	-3.42	-1.92	1.16	1.76	0.66	1.59	.524
10	Spirited vs Dampened	.172	7.04	2.69	0.11	-0.56	-1.16	1.66	1.13	.662
30	Jealous vs Not So	-2.24	0.87	0.24	2.67	0.30	3.01	-1.35	0.35	.715
22	Demanding vs Discreetly Mature	-2.95	6.73	3.25	2.26	0.72	3.72	1.00	2.12	.763
13	Half-witted vs Wise	-2.65	5.14	5.67	1.17	0.06	-0.87	1.83	1.35	.720
1	Obstructive vs Cooperative	1.50	4.74	5.51	1.25	-0.24	3.36	2.23	2.39	.795
9	Suspicious vs Trustful	-0.06	6.30	0.29	2.17	1.0	3.25	-0.62	-0.66	.613
21	Rigid vs Adaptable	3.37	6.49	-1.72	2.06	-1.05	2.55	1.32	-1.33	.719
17	Hard, Stern vs Kindly	0.55	5.89	1.39	-1.95	-2.47	1.89	0.53	0.36	.626
1	Cool, Aloof vs Attentive to People	5.74	3.16	1.96	-1.75	1.21	-1.17	1.55	2.75	.632
31	Attention Getting vs Self-sufficient	-5.67	2.45	4.16	2.67	0.12	2.59	-1.20	-0.46	.770
16	Relaxed, Indolent vs Instantly Orderly	-1.04	-1.4	6.06	1.31	3.93	1.27	-2.10	2.06	.707
6	Private vs Responsible	-1.27	2.6	6.09	1.55	2.67	2.32	-3.13	0.61	.735
25	Observant vs Concentrated	-2.17	1.03	5.30	-1.20	2.19	-2.09	-2.16	1.19	.685
33	Gutting vs Persevering	-1.26	0.00	4.92	3.00	4.54	-1.57	-2.82	1.54	.662
33	Unconventional vs Conventional	-3.43	3.97	3.88	-0.46	-1.94	3.54	-1.72	-2.00	.512
26	Bewitch vs Not So	-0.72	2.58	-0.65	6.47	0.15	2.68	-1.25	1.15	.595
26	Marrying, Affairs vs Placid	-0.62	0.96	-1.33	6.87	0.84	-0.58	1.36	0.72	.537
6	Shyly Upset vs Relaxed, Tough	-0.25	-0.67	-0.89	6.16	3.17	4.31	1.03	0.44	.693
12	Hypochondriacal vs Not So	-0.20	2.36	-0.08	4.06	1.34	1.38	-3.05	-1.37	.570
11	Fantastic vs Calm	-1.86	1.31	4.17	4.61	1.91	0.64	3.13	0.93	.607
2	Changeable vs Emotionally Stable	-1.60	2.74	3.98	3.63	4.90	-1.59	-0.45	1.53	.610
37	Dependent vs Self-sufficient									
8	Amurian vs Intellectual, Cultured	0.83	1.7	2.92	0.31	7.12	0.49	-2.60	1.45	.497
27	Locking Artistic Feeling vs Rethorically Profound	3.03	0.08	1.09	-1.78	4.40	-0.97	1.36	0.76	.343
36	Practical, Logical vs Imaginative	1.87	0.64	0.10	-3.81	2.23	-2.00	2.64	1.70	.34
19	Plummy, Awkward vs Polished	0.83	-0.56	2.91	0.60	6.97	1.45	2.28	2.22	.407
30	Immature vs Independent-Minded	-0.02	1.47	1.04	3.87	5.13	-1.55	-2.41	1.52	.661

## APPENDIX E (Continued)

TABLE E4. Loadings on Eight Final Rotated Factors from Castell's Male College Students  
(N = 133)

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u><math>h^2</math></u>
14	Silent vs Talkative	797	-094	-296	-003	034	113	-263	146	844
26	Secretive vs Frank	667	-242	-075	-052	157	-285	-008	263	590
16	Cautious vs Adventurous	703	118	-439	093	-134	-027	-168	-141	776
3	Submissive vs Assertive	448	-629	-111	114	225	-290	108	-024	778
29	Self-contained vs Sociable	712	017	-415	-121	053	057	111	-073	718
7	Languid, Slow vs Energetic	510	214	-166	394	320	156	-251	-126	694
33	Shy, Bashful vs Composed	606	-089	-309	186	431	071	-004	-064	700
35	Slight vs Marked Interest in Opposite Sex	480	-022	-211	-114	-007	-074	174	-244	391
32	Depressed vs Cheerful	460	336	-359	083	123	118	-192	-030	527
T2	Spiteful vs Goodnatured	118	720	059	-028	139	-270	031	180	662
20	Jealous vs Not So	-159	634	031	447	-194	-063	-232	-022	724
22	Demanding vs Emotionally Mature	-303	718	169	303	087	-097	024	149	767
13	Self-willed vs Mild	-327	605	327	054	148	-196	192	167	714
1	Obstinate vs Cooperative	370	555	311	073	252	-209	302	118	779
9	Suspicious vs Trustful	008	594	-019	433	043	-117	-193	-210	637
21	Rigid vs Adaptable	343	601	-265	225	-204	-210	-039	-158	712
17	Hard, Stern vs Kindly	136	679	114	-306	-125	085	-135	-051	630
5	Cool, Aloof vs Attentive to People	505	349	028	-060	401	-133	078	166	593
31	Attention Getting vs Self-sufficient	-538	398	412	351	-172	-037	-063	-094	765
T3	Relaxed, Indolent vs Insistently Orderly	-114	-110	636	311	397	074	-009	-024	698
4	Privolous vs Responsible	-139	310	634	343	173	-092	-199	-091	725
25	Unscrupulous vs Conscientious	-326	382	450	-031	341	-171	-238	175	686
15	Quitting vs Persevering	-235	-066	449	386	446	-215	-095	125	680
23	Unconventional vs Conventional	-272	192	460	007	-319	068	-060	-215	511
T4	Neurotic vs Not So	-029	183	-024	699	-215	-121	070	111	602
24	Worrying, Anxious vs Placid	-105	018	-234	576	-049	-236	245	165	513
6	Easily Upset vs Poised, Tough	002	-036	-090	761	019	119	198	-214	693
12	Hypocondriacal vs Not So	-027	086	058	481	-111	-238	-239	-089	377
11	Emotional vs Calm	-140	229	217	401	075	-087	455	040	676
2	Changeable vs Emotionally Stable	-294	219	229	438	474	-260	-004	104	682
T5	Boorish vs Intellectual, Cultured	-012	058	254	338	642	-012	-286	-121	591
27	Lacking Artistic Feeling vs Esthetically Fastidious	190	022	-037	-066	548	-012	-003	-106	354
34	Practical, Logical vs Imaginative	111	119	-119	-311	463	076	056	061	393
19	Clumsy, Awkward vs Polished	-007	064	130	253	626	174	160	-163	566
30	Immature vs Independent-Minded	-122	-013	049	540	485	-220	-227	087	652



APPENDIX F (Continued)

TABLE 12 Loadings on Five Orthogonalized Multiple-Group and Seven Centroid Factors from Cattell's Female College Students  
(N = 260)

	Item	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	$\chi^2$
16	Silent vs Talkative	.889	-.132	-.047	-.189	-.28	-.055	-.360	-.079	-.064	.042	-.016	-.032	891
29	Submissive vs Firm	.746	-.192	.092	-.033	-.170	-.125	-.021	-.165	.063	-.032	-.096	.056	684
10	Cautious vs Adventurous	.856	-.064	-.208	.157	.098	-.086	-.056	.025	.111	.032	-.093	.037	850
19	Submissive vs Assertive	.499	-.572	.387	.167	.171	-.157	.134	.039	-.057	.033	-.021	.068	834
27	Self-contained vs Sociable	.636	.023	-.168	-.226	.076	-.021	.094	-.070	.216	.158	.092	-.065	707
11	Long-winded, Slow vs Energistic	.792	.066	.262	.076	-.021	.094	-.070	.216	.158	.092	-.060	.028	816
33	Shy, Dumbfounded vs Composed	.729	-.068	.192	.205	.322	-.176	.202	.058	-.212	.070	-.060	.037	849
35	Flight vs Martinet Interest in Opposite Sex	.512	-.182	-.226	-.045	.095	.193	.314	.157	-.150	-.125	.069	-.16	562
32	Depressed vs Cheerful	.755	.348	-.143	.016	-.054	.216	-.120	.134	.038	.028	.049	.092	807
10	Spiteful vs Goodnatured	.225	.811	-.138	-.118	.040	-.005	-.054	-.084	-.051	-.131	.011	-.070	757
20	Jealous vs Not So	-.047	.818	-.045	.146	.085	-.001	-.068	-.060	.070	.061	-.111	.073	737
22	Demanding vs Emotionally Mature	-.113	.851	.124	.047	.018	-.016	-.026	-.049	-.026	-.036	.111	-.132	775
11	Self-willed vs Mild	-.213	.863	-.018	-.151	-.016	.066	-.075	-.099	.056	-.051	.045	.066	651
1	Obstinate vs Cooperative	.272	.582	.400	-.110	.008	-.041	.138	.069	.055	.112	.090	.020	717
9	Suspicious vs Trustful	.261	.707	-.070	.334	.112	.107	.069	.116	.126	.137	.166	.063	803
21	Rigid vs Adaptable	.391	.619	-.361	.085	.013	.107	.062	.025	.051	.072	.077	.018	708
17	Hard, Stern vs Kindly	-.002	.754	-.181	-.086	.111	.071	-.018	-.037	-.109	-.138	.223	-.067	751
5	Coar, Aloof vs Attentive to People	.453	.631	.109	-.210	-.301	-.181	-.137	.220	-.312	-.140	.079	.322	726
31	Attention Getting vs Self-sufficient	-.548	.595	.128	.157	-.064	.147	-.137	-.093	.062	.071	-.056	.087	757
14	Relaxed, Indolent vs Inconsistently Orderly	-.033	-.205	.682	.003	-.116	.193	.079	.077	.090	.033	-.081	.336	725
1	P. irascible vs Susceptible	-.183	.668	.709	.039	.063	-.089	-.032	-.039	.039	.065	-.113	.113	741
25	Unscrupulous vs Conscientious	-.113	.592	.432	-.181	.060	.014	-.208	-.246	.065	-.081	.085	.110	806
15	Quitting vs Persevering	-.135	.166	.811	.138	-.029	-.131	.130	.214	.148	.085	.078	-.115	624
23	Irreconventional vs Conventional	-.370	.299	.179	-.322	-.112	.346	.153	-.151	-.100	.193	.230	.190	654
24	Narcotic vs Not So	-.012	.450	.034	.583	-.169	.189	-.117	.077	-.084	.090	.108	-.068	606
26	Worrying, Anxious vs Placid	.065	.181	-.036	.834	-.064	-.165	.053	-.046	.094	-.115	-.073	.041	766
6	Restlessly Upset vs Relaxed, Tough	.140	-.131	.274	.658	.291	-.200	.218	-.049	-.112	.117	-.107	.047	765
12	Hypochondriacal vs Not So	.018	.118	.062	.566	-.187	.123	-.190	.098	.175	.074	.145	-.079	658
11	Emotional vs Calm	-.504	.362	.104	.576	.055	.017	.132	-.102	-.036	-.099	-.046	.069	763
2	Changeable vs Emotionally Stable	-.110	.563	.446	.447	.099	.036	.027	-.098	.065	.092	-.056	.093	774
8	Superior vs Intellectual, Cultured	-.024	.263	.570	.110	.584	-.227	-.206	.102	.051	.049	.100	.149	889
27	Lacking Artistic Feeling vs Aesthetically Fastidious	-.114	-.094	.195	.030	.344	.311	.226	.254	.096	-.312	-.134	.185	557
36	Practical, Logical vs Imaginative	.262	.166	-.337	-.368	.404	-.067	-.169	.208	.193	-.256	.073	-.074	698
19	Cleanly, Accurate vs Polished	.022	.215	.449	.100	.454	.309	.344	-.160	.259	-.163	.137	.151	839
30	Imitative vs Independent-minded	.210	.017	.568	.361	.494	-.286	-.123	.072	-.165	.107	.071	.113	904

## APPENDIX F (Continued)

TABLE F3 Loadings on 12 Rotated Factors from Cattell's Female College Students  
(N = 240)

Trait Variable		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	$h^2$
14	Silent vs Talkative	.810	-.089	-.291	-.178	-.119	-.067	-.155	-.040	-.030	.134	-.052	-.167	.882
28	Secretive vs Frank	.714	-.161	-.174	-.032	-.045	-.079	-.192	-.105	.113	-.011	-.160	-.148	.684
16	Contious vs Adventurous	.689	.020	-.478	.154	-.021	.118	-.096	.039	.128	.161	-.072	-.227	.851
3	Submissive vs Assertive	.579	-.532	.025	.195	.346	.078	-.172	-.071	-.058	.094	-.001	.078	.837
29	Self-contained vs Sociable	.683	.103	-.314	-.276	-.246	.152	-.186	-.120	-.014	.074	.058	-.077	.806
7	Languid, Slow vs Energetic	.770	.086	.038	.079	.076	.144	-.155	.226	.114	.122	.040	-.285	.820
33	Say, "Sincere" vs Composed	.723	-.016	-.220	.225	.342	.201	-.016	-.108	-.193	.115	-.027	.038	.851
35	Slight vs Marked Interest in Opposite Sex	.425	-.134	-.259	-.060	-.173	.427	.007	-.088	-.204	.104	.133	.026	.560
32	Depressed vs Cheerful	.612	.405	-.252	-.025	-.208	.171	-.147	.185	.097	.133	.104	-.193	.806
10	Spiteful vs Goodnatured	.132	.803	-.178	-.178	-.026	-.019	.122	-.036	-.079	-.063	-.002	-.188	.788
27	Malicious vs Not So	-.106	.799	.011	.155	.066	-.012	.117	.049	.102	.039	-.126	-.146	.738
22	Demanding vs Emotionally Mature	-.094	.802	.163	.053	.103	-.054	.159	.032	-.049	-.107	.121	-.156	.775
13	Self-willed vs Mild	-.237	.836	.101	-.105	.034	-.082	.111	-.151	.084	-.097	.031	-.118	.875
1	Restrictive vs Cooperative	.353	.621	.272	-.100	.239	.059	.113	-.077	.000	-.111	.112	-.223	.763
6	Suspicious vs Trustful	.133	.715	-.050	.310	.023	.196	.001	.003	.007	.188	.202	-.221	.801
21	Rigid vs Adaptable	.226	.629	-.266	.079	-.245	.179	.106	.000	.079	.178	-.057	-.196	.707
17	Hard, Stern vs Kindly	-.074	.737	-.106	-.521	-.005	-.023	.175	-.040	-.138	-.034	.182	-.115	.931
5	Cool, Aloof vs Attentive to People	.652	.655	-.012	-.117	-.116	-.240	.221	.111	.034	-.226	.170	.169	.1125
31	Attentive, Getting vs Self-sufficient	-.504	.571	.321	.119	.024	-.095	-.020	.111	.104	-.100	-.094	.014	.749
18	Relaxed, Indolent vs Insistently Orderly	-.110	-.133	.738	-.002	.206	.007	-.101	.128	-.108	-.174	-.037	.177	.718
1	Practical vs Responsible	.023	.416	.585	.064	.483	-.128	.019	-.021	-.079	-.091	-.026	-.036	.787
25	Unscrupulous vs Conscientious	-.209	.604	.332	-.244	.339	-.244	-.110	.020	.003	-.200	-.036	.054	.809
15	Gutting vs Persevering	.110	.047	.704	.206	.454	-.073	.058	.030	-.019	.132	.167	-.197	.853
13	Unconventional vs Conventional	-.264	.313	.488	-.354	-.147	-.002	-.119	-.154	.013	.093	.136	.219	.686
25	Nearotic vs Not So	-.025	.469	.120	.516	-.183	-.012	-.182	.171	-.084	-.044	.131	-.100	.667
26	Worrying, Anxious vs Placid	.018	.152	-.130	.812	.033	.055	-.086	-.100	.110	-.201	-.066	-.060	.787
6	Easily Upset vs Poised, Tough	.188	-.097	.053	.668	.391	.120	-.063	-.154	-.106	.131	-.171	.115	.787
12	Hypochondriacal vs Not So	-.115	.416	-.049	.514	-.125	.016	-.168	.170	.105	-.022	.174	-.265	.638
11	Emotional vs Calm	-.448	.376	.198	.537	.130	.082	-.007	-.113	-.056	-.208	-.087	.151	.703
2	Changeable vs Emotionally Stable	-.044	.563	.374	.416	.326	.017	-.130	-.010	.057	-.040	-.094	-.070	.774
6	Superior vs Intellectual, Cultured	.041	.269	.147	.104	.845	-.071	-.012	.179	.068	.091	.135	.036	.830
27	Lacking Artistic Feeling vs Esthetically Fastidious	-.026	-.092	.135	-.028	.280	.618	.035	.139	.014	-.167	-.004	.142	.558
36	Practical, Logical vs Imaginative	.106	.123	-.531	-.399	.179	.198	.214	-.177	.070	.038	.159	-.228	.700
19	Clumsy, Awkward vs Polished	-.004	.259	.319	-.021	.489	.580	-.272	-.262	.095	.071	.049	-.046	.861
30	Immature vs Independent-Minded	.301	.068	.083	.375	.761	-.098	-.113	.101	-.078	.129	.096	.162	.913

APPENDIX G: Study G Factor Analysis

TABLE G1. Intercorrelations Among Trait Ratings from Fliske's Teammates<sup>a</sup>

(N = 128 male first-year graduate students in clinical psychology)

Trait Variable No. Name	14	28	16	3	7	35	32	10	1	9	21	5	4	25	24	6	2	37	8	34	19	30
14 Silent vs Talkative	61	71	64	71	54	66	-02	18	02	30	41	-24	-21	-01	14	03	09	33	35	15	33	
28 Secretive vs Frank	61	50	46	54	57	61	17	30	22	39	55	-11	-10	-01	04	09	07	29	38	14	28	
16 Cautious vs Adventurous	71	50	54	59	58	58	14	24	20	54	37	-32	-24	10	19	01	19	39	49	30	39	
3 Submissive vs Assertive	64	46	54	53	47	35	22	01	-12	16	22	-15	-20	-15	11	-07	10	34	34	07	45	
7 Languid, Slow vs Energetic	71	54	59	53	50	54	04	17	08	25	36	-22	-18	-23	-17	02	-07	12	34	01	32	
35 Slight vs Marked Interest in Opposite Sex	54	57	58	47	50	52	07	08	18	37	28	-34	-30	06	09	-03	12	17	35	18	27	
32 Depressed vs Cheerful	66	61	58	35	54	52		28	38	26	52	50	-19	-09	23	24	13	19	19	38	25	26
10 Spiteful vs Goodnatured	-02	17	14	-22	04	07	28		50	58	41	35	03	23	38	14	24	34	14	19	40	05
1 Obstructive vs Cooperative	18	30	24	00	17	08	38	50	42	45	52	01	22	39	27	50	27	26	31	42	12	
9 Suspicious vs Trustful	02	22	20	-12	08	18	26	56	42	40	35	09	31	35	16	26	28	18	23	33	10	
21 Rigid vs Adaptable	38	39	54	16	25	37	52	41	45	40	47	-04	08	34	34	08	45	38	42	54	23	
5 Cool, Aloof vs Attentive to People	41	55	37	22	36	28	50	35	52	35	47	-01	10	16	17	31	21	32	39	46	18	
4 Frivolous vs Responsible	-24	-11	-32	-15	-22	-34	-19	03	01	09	-04	-01		44	10	15	32	18	18	-02	14	15
25 Unscrupulous vs Conscientious	-21	-10	-24	-20	-18	-30	-09	23	22	31	08	10	44		20	12	19	32	19	09	33	17
24 Worrying, Anxious vs Placid	-01	-01	10	-15	-23	06	23	38	39	35	34	18	10	20		59	38	45	16	07	40	22
6 Easily Upset vs Poised, Tough	14	04	19	11	-17	09	24	14	27	16	34	17	15	12	59	28	33	28	08	35	17	
2 Changeable vs Emotionally Stable	03	09	01	-07	02	-03	13	24	50	26	08	31	32	19	38	28	10	09	01	22	05	
37 Dependent vs Self-sufficient	09	07	19	10	-07	12	19	34	27	28	45	21	18	32	45	33	10	32	27	46	44	
8 Boorish vs Intellectual, Cultured	33	29	39	34	12	17	19	16	26	18	30	32	18	19	16	28	09	32	53	47	44	
34 Practical, Logical vs Imaginative	35	38	49	34	34	35	38	19	31	23	42	29	-02	09	07	08	01	27	53	44	40	
19 Clumsy, Awkward vs Polished	18	14	30	07	01	16	25	40	42	33	54	46	14	33	40	35	22	46	47	44	31	
30 Immature vs Independent-Minded	33	28	39	45	32	27	26	05	12	10	23	18	15	17	22	17	05	44	44	40	31	

<sup>a</sup> Made available through the courtesy of Dr. Donald W. Fliske and reproduced with his permission. Certain variables have been reflected from the original matrix. Decimals have been omitted.

## APPENDIX G (Continued)

TABLE G2. Loadings on Five Orthogonalized Multiple-Group and One Centroid Factor from Fiske's Teammates Ratings  
(N = 128 male first-year graduate students in clinical psychology)

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u><sup>2</sup> h</u>
No.	Name							
14	Silent vs Talkative	.764	-.151	-.206	.130	.390	.279	.896
28	Secretive vs Frank	.633	.139	-.104	-.094	.361	.224	.634
16	Cautious vs Adventurous	.604	-.035	-.438	.105	.555	-.113	.889
3	Submissive vs Assertive	.560	-.416	-.128	.087	.353	.172	.688
7	Languid, Slow vs Energetic	.776	.019	-.130	-.270	.221	.155	.766
35	Slight vs Marked Interest in Opposite Sex	.625	-.022	-.415	.109	.320	-.176	.709
32	Depressed vs Cheerful	.635	.264	-.186	.198	.386	.126	.711
S:								
10	Spiteful vs Goodnatured	-.067	.677	-.055	-.055	.313	-.166	.608
1	Obstructive vs Cooperative	.051	.533	-.053	.076	.466	.265	.582
9	Suspicious vs Trustful	.020	.587	.110	-.019	.348	-.157	.503
21	Rigid vs Adaptable	.208	.295	-.170	.145	.630	-.115	.591
5	Cool, Aloof vs Attentive to People	.281	.324	-.077	-.090	.550	.290	.585
F:								
4	Frivolous vs Responsible	-.427	-.018	.577	.023	.141	.244	.566
25	Unscrupulous vs Conscientious	-.441	.238	.456	-.097	.287	.098	.560
C:								
24	Worrying, Anxious vs Placid	-.175	.432	.001	.620	.296	-.108	.702
6	Easily Upset vs Poised, Tough	-.074	.102	.060	.669	.334	.106	.589
2	Changeable vs Emotionally Stable	-.018	.459	.282	.231	.150	.350	.490
37	Dependent vs Self-sufficient	-.129	.177	.161	.258	.494	-.263	.454
A:								
8	Boorish vs Intellectual, Cultured	.002	-.133	.081	.047	.708	.060	.531
34	Practical, Logical vs Imaginative	.161	-.053	-.128	-.173	.713	-.023	.581
19	Clumsy, Awkward vs Polished	-.163	.186	.046	.126	.706	-.060	.581
30	Immature vs Independent-Minded	.188	-.198	.180	.148	.541	-.098	.431

## APPENDIX G (Continued)

TABLE G3 Loadings on Six Rotated Factors from Fiske's Teammates Ratings  
(N = 128 male first-year graduate students in clinical psychology)

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u><math>h^2</math></u>
14	Silent vs Talkative	883	-115	-050	180	159	192	890
28	Secretive vs Frank	751	178	036	-017	155	066	626
16	Cautious vs Adventurous	703	057	-358	236	447	015	862
3	Submissive vs Assertive	674	-368	-013	145	244	115	684
7	Languid, Slow vs Energetic	840	034	-060	-205	075	-054	760
35	Slight vs Marked Interest in Opposite Sex	646	021	-434	202	280	-162	708
32	Depressed vs Cheerful	720	293	-097	271	105	083	705
37								
10	Spiteful vs Goodnatured	-004	735	-023	055	217	-107	602
1	Obstructive vs Cooperative	225	602	180	133	217	239	567
9	Suspicious vs Trustful	058	631	098	115	181	-206	500
21	Rigid vs Adaptable	331	396	-075	307	465	-020	582
5	Cool, Aloof vs Attentive to People	478	414	175	001	324	193	5.3
4								
25	Frivolous vs Responsible	-357	-004	686	046	043	034	603
	Unscrupulous vs Conscientious	-350	287	555	-015	200	-053	556
24								
6	Worrying, Anxious vs Placid	-159	453	001	666	077	078	686
2	Easily Upset vs Poised, Tough	-012	128	145	690	995	229	575
37	Changeable vs Emotionally Stable	061	444	416	216	-154	188	480
	Dependent vs Self-sufficient	-089	249	134	421	376	-189	442
8								
34	Boorish vs Intellectual, Cultured	185	-001	274	213	605	054	524
	Practical, Logical vs Imaginative	349	094	059	007	678	-005	594
19	Clumsy, Awkward vs Polished	-002	317	199	297	585	017	571
30	Immature vs Independent-Minded	260	-121	207	316	418	-149	422

APPENDIX H: Study H Factor Analysis

TABLE H1. Intercorrelations Among Trait Ratings from Fiske's Staff Ratings<sup>a</sup>  
(N = 128 male first-year graduate students in clinical psychology)

Trait Variable No. Name	14	28	16	3	7	35	32	10	1	9	21	5	4	25	24	6	2	37	8	34	19	30
14 Silent vs Talkative	49	50	68	66	38	64	-04	-07	05	34	61	-32	-31	18	30	-12	08	30	26	03	17	
28 Secretive vs Frank	44	19	49	20	49	43	33	47	54	52	10	29	22	21	03	08	30	23	14	07		
16 Cautious vs Adventurous		40	37	35	51	34	09	03	51	48	-14	03	24	34	-07	39	31	26	08	32		
3 Submissive vs Assertive		45	41	36	-32	-33	-26	10	33	-23	-34	14	28	-18	32	36	29	03	48			
7 Languid, Slow vs Energetic			18	41	00	-05	02	20	48	-15	-06	-18	-13	-31	-11	25	26	-18	12			
35 Slight vs Marked Interest in Opposite Sex				40	00	04	03	25	38	-35	-33	35	36	-26	22	13	18	13	21			
32 Depressed vs Cheerful						30	30	41	55	59	-13	-04	54	46	17	31	18	12	24	14		
10 Spiteful vs Goodnatured							70	71	57	42	47	66	24	25	35	11	04	02	36	-10		
1 Obstructive vs Cooperative								57	44	35	44	54	26	24	42	10	06	04	33	-12		
9 Suspicious vs Trustful									52	35	30	57	37	32	39	13	-04	-13	23	-14		
21 Rigid vs Adaptable										50	13	26	47	47	15	40	45	37	40	25		
5 Cool, Aloof vs Attentive to People											02	12	30	39	13	09	21	23	25	03		
4 Erratic vs Responsible												75	-11	08	37	07	08	07	30	09		
2 Unscrupulous vs Conscientious													-08	01	30	04	03	02	23	-03		
24 Worrying, Anxious vs Placid														70	58	42	15	05	48	17		
6 Easily Upset vs Poised, Tough															23	55	31	17	58	34		
2 Changeable vs Emotionally Stable																11	-17	-27	26	-17		
37 Dependent vs Self-sufficient																	38	23	41	59		
8 Boorish vs Intellectual, Cultured																		65	45	67		
34 Practical, Logical vs Imaginative																			31	57		
19 Clumsy, Awkward vs Polished																				26		
30 Immature vs Independent-Minded																						

<sup>a</sup> Made available through the courtesy of Dr. Donald W. Fiske and reproduced with his permission. Certain variables have been reflected from the original matrix. Decimals have been omitted.

## APPENDIX H (Continued)

TABLE H2. Loadings on Five Orthogonalized Multiple-Group and One Centroid Factor from Fiske's Staff Ratings  
(N = 128 male first-year graduate students in clinical psychology)

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u><math>\eta^2</math></u>
14	Silent vs Talkative	846	-073	-028	-068	268	056	801
	Secretive vs Frank	468	452	101	-169	304	184	589
	Cautious vs Adventurous	561	137	036	046	295	117	438
	Submissive vs Assertive	661	-431	293	282	309	090	891
	Languid, Slow vs Energetic	672	-039	263	-454	150	121	765
	Slight vs Marked Interest in Opposite Sex	484	-007	-384	075	200	-222	477
	Depressed vs Cheerful	674	372	-194	155	245	153	738
6	10	010	870	070	-084	191	080	810
	1	-073	748	-007	-050	218	-114	636
	9	064	807	-063	134	027	184	712
	21	266	524	-217	-070	595	217	798
	5	622	406	015	-036	313	-221	700
4	Frivolous vs Responsible	-405	462	533	078	204	-064	714
	25	-312	690	484	-078	127	064	634
24	Worrying, Anxious vs Placid	201	303	-490	520	309	087	746
	6	233	248	-185	628	481	-086	783
	2	-149	493	022	472	-082	104	506
	37	101	057	-036	439	463	228	474
8	Boorish vs Intellectual, Cultured	066	-126	024	-125	836	194	774
	34	078	-161	087	-214	733	-030	624
	19	-144	286	-111	340	633	-164	664
	30	079	-271	199	192	681	245	680

## APPENDIX H (Continued)

TABLE H3 Loadings on Six Rotated Factors from Fiske's Staff Ratings  
(N = 128 male first-year graduate students in clinical psychology)

<u>Trait Variable</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u><math>h^2</math></u>
No.	Name							
14	Silent vs Talkative	.857	.099	-.138	.048	.077	.071	.777
28	Secretive vs Frank	.464	.511	.223	.003	.122	.175	.572
16	Cautious vs Adventurous	.573	.193	.076	.160	.096	.110	.418
3	Submissive vs Assertive	.772	-.447	.104	.182	.167	.075	.873
7	Languid, Slow vs Energetic	.713	.143	.035	-.427	.130	.140	.749
35	Slight vs Marked Interest in Opposite Sex	.440	.170	-.356	.276	.000	-.207	.468
32	Depressed vs Cheerful	.608	.432	-.015	.366	-.065	.166	.722
♂								
10	Spiteful vs Goodnatured	-.039	.768	.415	.098	-.029	-.102	.784
1	Obstructive vs Cooperative	-.112	.680	.315	.150	.027	-.169	.623
9	Suspicious vs Trustful	-.046	.667	.316	.283	-.204	.186	.703
21	Rigid vs Adaptable	.273	.664	.064	.311	.375	.166	.784
5	Cool, Aloof vs Attentive to People	.614	.471	.130	.135	.014	-.223	.684
♀								
4	Frivolous vs Responsible	-.322	.185	.735	-.009	.155	-.128	.719
25	Unscrupulous vs Conscientious	-.282	.446	.735	-.105	.064	.020	.834
♂♀								
24	Worrying, Anxious vs Placid	.127	.296	-.147	.784	.001	.069	.745
6	Easily Upset vs Poised, Tough	.251	.144	.130	.804	.117	-.134	.779
2	Changeable vs Emotionally Stable	-.228	.211	.353	.447	-.276	.105	.508
37	Dependent vs Self-sufficient	.157	-.019	.156	.557	.278	.172	.466
♂♂								
8	Boorish vs Intellectual, Cultured	.247	.071	.035	.139	.817	.094	.763
34	Practical, Logical vs Imaginative	.256	.037	.028	-.006	.729	-.117	.613
19	Clumsy, Awkward vs Polished	-.059	.241	.188	.573	.407	-.273	.665
30	Immature vs Independent-Minded	.260	-.252	.186	.276	.635	.155	.668

Div. 28/4, 23/1

Aeronautical Systems Division, Personnel Laboratory,  
Lockland Air Force Base, Texas. RECURRENT PERSONALITY FACTORS BASED ON TRAIT RATINGS, by  
Ernest C. Tupes and Raymond E. Christal. May 1961.  
vi, + 40 p. (Project 7717; Task 17110)(ASD-TR-61-97)  
Unclassified report

Intercorrelations among ratings on 35 personality traits, selected as representative of the personality domain, were obtained for eight samples. These samples differed in length of acquaintanceship from three days to more than a year; in kind of acquaintanceship from assessment programs in a military training course to a fraternity house situation; in type of subject from airmen with only a high school education to male and female undergraduate students to three-year graduate students; and in type of rater from very

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naive persons to clinical psychologists and psychiatrists with years of experience in the evaluation of personality. Centroid or multiple-group factors were extracted and rotated orthogonally to simple structure. For one study, an independent solution was obtained in which analytic rotations were accomplished on an IBM 650 computer using Kaiser's normal varimax criterion. Five fairly strong and recurrent factors emerged from each analysis, labeled as 1) Surgency, (2) Agreeableness, (3) Dependability, (4) Emotional Stability, and (5) Culture.

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