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An investigation of the possible existence of an effect of the service tenure upon personality characteristics as measured by the Structured-Objective Rorschach Test (SORT).

Rushing, Charles F.

Monterey, California: U.S. Naval Postgraduate School



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AN INVESTIGATION OF THE POSSIBLE EXISTENCE
OF AN EFFECT OF SERVICE TENURE UPON
PERSONALITY CHARACTERISTICS AS
MEASURED BY THE STRUCTURED-
OBJECTIVE RORSCHACH
TEST (SORT)

CHARLES F. RUSHING

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BY THE STRUCTURED-OBJECTIVE RORSCHACH TEST (SORT)

by

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Lieutenant Commander, United States Navy

Submitted in partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE
IN
MANAGEMENT

United States Naval Postgraduate School
Monterey, California

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SERVICE TENURE UPON PERSONALITY CHARACTERISTICS AS MEASURED
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Charles F. Rushing

This work is accepted as fulfilling
the research paper requirements for the degree of

MASTER OF SCIENCE

IN

MANAGEMENT

from the

United States Naval Postgraduate School

ABSTRACT

Structured-Objective Rorschach Test (SORT) scores of 218 United States Naval Postgraduate School students were subjected to a multiple regression analysis to determine if there is an effect of service tenure upon personality characteristics. The results obtained indicate that SORT scores, which are a measure of personality characteristics, are probably random in respect to service tenure and age.

The study includes a review of the history of group Rorschach methods, civilian and military, and evaluates the possible future use of the SORT in the Navy. It concluded that the value of the SORT for military group comparisons is undetermined, and that further use of the test at the Naval Postgraduate School is necessary in order that its value definitely may be established.

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CHAPTER I

STATEMENT OF THE PROBLEM

Since 1921, when Dr. Hermann Rorschach introduced his first model of the projective psychological test, the "ink-blot" technique of personality interpretation has become one of the most valuable tools in the fields of Psychology, Sociology, Psychiatry, and Anthropology. Behavioral scientists have developed, in the past forty years, many types of personality tests for use in the clinic as well as in education and industry. While no one test can stand alone as a panacea in the search for a yardstick of trait characteristics, the Rorschach technique remains pre-eminent.

Over the years, several variations of the original Rorschach methods have evolved, the characteristics of each being dependent upon its intended use. One of these, the "Structured-Objective Rorschach Test" (SORT), was developed by the California Test Bureau for use in education and industry as an aid in vocational guidance and personnel selection.

The military services are now making relatively little use of Rorschach methods. This study will analyse the SORT scores of 218 Naval Postgraduate School students and, through regression and discriminant analysis, relate the results to possible further utilization of the SORT in the naval service.

THE PROBLEM

This research study was undertaken to investigate the possible existence of an effect of service tenure upon personality characteristics as measured by the SORT. Do organizational stresses and environmental conditions within the Navy operate to

shift personality differences among naval personnel? If so, are these shifts proportional to individual length of service?

SOCIAL PURPOSE

A study of this nature might benefit the Navy, the other military services and, perhaps, industry in the following ways:

1. It would add to the store of knowledge of group personality characteristics, thereby:
 - a. permitting a further degree of comparison of an individual with his contemporaries as an aid in the evaluation of his performance, and
 - b. aiding in the assignment of personnel to differentiated groups, as an adjunct to other tests and criteria.
2. It might reveal the effects of organizational stresses upon group personality characteristics. Identifiable features of the organization might then be changed to offset undesirable trends.
3. Information obtained in a study of this type might be useful in other highly structured organizations, such as in industry.
4. If it is determined by this and further studies that personality characteristics are consistent over time, pre-enlistment/pre-commissioning personality assessment tests would bear closer relationships to subsequent performance.

DEFINITIONS OF KEY TERMS

Personality: ... the progressive final integration of all the systems of response that represent an individual's adjustment to his various environments.

-- Gordon W. Allport (1, p.349)

Service Tenure: The number of years an individual has served on active duty in the military. For this study, service tenure has been computed to the nearest six months as of the date of the test.

Enlisted Service, Commissioned Service, Longevity: The three categories of service tenure as used in this study, the latter being the sum of the other two.

Regression Analysis: Yamane (18, p.368, p.640) defines simple linear regression analysis as the computation of a relation between two variables that are related causally. "Multiple" linear regression analysis, which is used in this study, calculates the relation among one dependent variable and two or more independent variables. Here, we handle three separate measures of service tenure (individually) as dependent variables, and measure the interrelationships of as many as 25 independent variables (SORT scores).

Discriminant Analysis: A means of calculating a best index for discrimination between two or more groups. (17, BIMD 05, p.1)

Structured-Objective Rorschach Test (SORT): A forced response paper-and-pencil projective ink-blot personality test designed to appraise vocationally significant personality traits. (14)

SORT Variables: The 15 stimulus-responses to the characteristics of ink-blot which the subject may make. See the Appendix for a complete description. They will be referred to in this study by their symbols, i.e.: W, D, Dd, Fch, etc.

SORT T-Scores: A measure of the subject's responses to the various characteristics of the ink-blot. T-Scores are normalized standard scores having arithmetic means equal to 50 and standard

deviations equal to 10. Relationships between T-Scores are interpreted as having similar magnitude of differences all along the scales. This stability of comparison is the specific virtue accounting for the use of T-Scores in the SORT, making it possible to convert T-Scores to ratings as follows: (14, p.13)

TABLE 1

TABLE FOR CONVERTING T-SCORES TO RATINGS

| <u>T-Scores</u> | <u>Ratings</u> | <u>Expected Per Cent of Cases</u> |
|-----------------|----------------|-----------------------------------|
| 66-80 | High | 7% |
| 55-65 | Above Average | 23% |
| 45-55 | Average | 40% |
| 35-44 | Below Average | 23% |
| 20-34 | Low | 7% |

Percentages based on Normative Population of SORT which consisted of over 8000 adults drawn from diverse occupations. (14, p.4-10)

SORT Attributes: The personality "factors" (25 of which are used in this study) derived from interpretation of the SORT Variables. In the case of the SORT, interpretation of attributes relies on basic Rorschach interpretation, which assumes a relationship between the kinds of responses to the stimulus-blots and "behavior domains" (Attributes). (14, p.7-8) A complete description of the Attributes may be found in the Appendix.

SORT Attribute Scores: Derived from the T-Scores through the relationships implied by the definitions of the Attributes. Formulae are included with the Attribute definitions in the Appendix. It should be noted that a constant, 60, was added to all formulae which result in ranges from -60 to +60, changing the ranges to 0-120. This would facilitate plotting and also render input data acceptable to certain BIMD programs.

Program BIMD 34: One of the BIMD (Biomedical) Series of computer programs, prepared in the Division of Biostatistics, University of California at Los Angeles, with support in part from the National Institutes of Health, U. S. Public Health Service. Available in the USNPGS Computer Facility Library, the programs are written in FORTRAN language and, in this case, were used with the CDC 1604 Computer. The BIMD 34 program calculates multiple regression in a stepwise manner, i.e., at each step an independent variable is added to the regression equation which makes the greatest improvement in "goodness of fit". (17)

Program BIMD 05: This program computes a linear function of n variables measured on each individual of two groups which in a certain sense serves as a best index for discrimination between the groups, e.g., "discriminant analysis". (17)

Correlation Coefficient: A measure of the degree of relationship between two or more variables or, in other words, the degree to which variables or measures vary together. Mathematically, the value may range from a perfect positive correlation (+1.0) through no relationship (0.0) to a perfect negative correlation (-1.0). When correlating variables, the coefficients indicate roughly the following strengths of relationships between the variables: (7, p.219)

- Less than .20 ...Slight, almost negligible relation.
- .20-.40Low correlation, definite but slight relationship.
- .40-.70Moderate correlation, substantial relationship.
- .70-.90High correlation, marked relationship.
- .90-1.0Very high correlation, very dependable relationship.

Those who employ tests in guidance and selection consider that a correlation coefficient should be at least .45 for material usefulness and that best results are obtained when the coefficient is above .60.

Level of Significance: The maximum probability with which we would be willing to risk a Type I error (rejection of an hypothesis which should be accepted). Or, conversely, with a significance level of .01, we are 99% confident that we have made the right decision. (15, p.168) Desired significance level for this study is .05.

F-Statistic: A factor which indicates the degree of variance between two groups, such degree of variance being dependent upon the relationship between that factor and the "degrees of freedom" which exist. (18, p.610)

Degrees of Freedom: The number of elements that can be chosen freely; or, the number of variables that can vary freely; or, the number of independent variables. (18, p.474)

ASSUMPTIONS

1. It is theoretically possible to separate the effects of age (developmental differences) and service tenure (organizational effect differences), although the two are interdependent and often intuitively inseparable.

2. The validity of standard statistical methods as utilized in the BIMD Series is assumed.

3. Service in the U. S. Coast Guard would expose a personality to the same organizational stresses as would service in the U. S. Navy.

LIMITATIONS

The performance of this study and the interpretation and use of its results are subject to the following limitations:

1. The number of subjects (observations) was limited by the number of completed SORT tests available at the time of this study. Results from this year's tests were immediately available, while SORT scores from last year's Management group were obtained from the Dreese-Russell study (5, p.43-52).

2. Since almost half of the subjects were from last year's group and not located in the area, the only personal information available on all subjects is that which is found in the Navy Register (3) and the Coast Guard Register (16). Access to general service performance records (i.e., fitness reports, etc.) is not attainable.

3. It is possible that the sample of 218 subjects is too small to give dependable results. Further, since it was necessary to "mix" aviators with Supply Corps officers, etc., there may be differences in sub-group norms which counteract with one another and spoil correlation of the variables.

4. Before the results of this study can be applied to the naval service as a whole, it should be recognized that this subject group is not truly representative of an "average" group of naval officers. With few exceptions, subjects are all "successes" in their fields, and it is presumed that each was picked to attend the Postgraduate School on the basis of promising potential. Not all naval officers on active duty possess the same level of potential as does this group.

5. Mary D. Ainsworth and Bruno Klopfer warn that:

... to fill the "flesh" of the personality in a meaningful way it is highly desirable to consider the Rorschach findings in the context of findings from other psychological tests and case history information. (9, Vol.1, p.251-252)

6. The Literature is replete with reminders that the test situation itself can influence Rorschach scores to a marked degree. Gibbey, Kimble, and Lord, in three separate experiments (9, Vol.1, p.457-459), successfully determined (in the order cited) that:

a. The Rorschach technique is not wholly resistant to deliberate efforts on the part of the subject to change his pattern of response, particularly in the case of normal, flexible subjects.

b. The standard Rorschach Test, when taken in a "social" situation, produced strikingly different results than when taken individually.

c. The change in "atmosphere" produced by changing the examiner resulted in different responses by the same individuals in a test-retest situation.

This test was taken by the several sub-groups at different times and proctored by several different examiners. Although the SORT is relatively insusceptible to effects of the test situation (14, p.16), degree of influence cannot be determined since test-retest checking of the results were not conducted.

7. Joics B. Stone (14, p.16-17) offers the following cautions in the use of SORT results:

a. The visual acuity of the subject could have an effect on the SORT score, but such an effect has not been

documented in the history of the SORT. Neither has this possible effect been considered in this study: it has been assumed that poor vision was, in each case, corrected with glasses. (This is required of active-duty naval officers).

b. Interpretations of temperament must be conditional. The inherent dynamic emotional structure of an individual may fluxuate from time to time. This study did not utilize test-retest methods to isolate this factor.

c. SORT data indicates "tendencies" and not "skills". (See the Appendix for a complete description of SORT Attributes.)

8. Personality traits are interrelated one to another and each individual trait score should not be perceived out of context with the overall score profile.

9. In view of the General Telephone Study, the Brigham Young University Study, and certain Interoccupational Comparisons, all described in the SORT Manual (14, p.6-7) as successful tests of the concurrent validity of SORT, it is considered that the SORT is a valid and reliable test. The validity and reliability of the particular tests taken in this study, however, cannot be checked directly since a study of this exact nature has never been attempted before with the SORT, and naval officer group norms are not available. Comparison of the SORT correlation matrix with this study's matrix is discussed in the Procedures section.

RESEARCH SIGNIFICANCE

Use of the Rorschach technique in the military since the Korean Conflict has been limited. A search of Department of Defense Documentation Center files reveals only a few examples

now on record, although Holtzman (8, p.4) and Molish (11) describe an upsurge in the use of Rorschach methods as a pre-selection device during World War II.

The Molish paper, published in 1956, concerns itself only with the Rorschach test as used in the military in a prognostic, rather than a diagnostic role. Molish, a PhD and Navy Medical Service Corps officer, pointed out that the Rorschach was used in many variations from standard procedures. One of the tests developed for the services which bore a close relationship to traditional methods, however, was the Multiple Choice Rorschach (MCR). Dr. Molish describes the use of this test in large military groups for the purpose of predicting future performance. Procedures for this test included an individual inquiry conducted with each subject by a skilled Rorschach worker. (The MCR, then, is relatively unstructured, when compared with the SORT.) Molish concluded that the use of large scale Rorschach techniques as applied to the problems of selection and screening of large military populations is not too encouraging since "... It would appear that even when applied to normal superior adults, any interpretation of Rorschach scores must be made within the framework of the norms for that subpopulation to which the subject belongs." (11, p.813) In his summary, Molish generalized his review of military use of Rorschach to date (1956) as being of "limited adequacy". (11, p.815)

An abstract of a study by Fokkema, conducted in Europe, describes an unsuccessful attempt to construct a foolproof quantitative Rorschach score for selection purposes in aviation psychology. The author concluded that construction of such a score was not yet possible. (6)

Dreese and Russell (5) used the SORT, together with several other tests, to determine predictors of academic performance in the Management Curriculum at the Navy Postgraduate School. They concluded that SORT, by itself, was not a useful predictor.

After a thorough review of Rorschach research up to this time, although many group studies using military personnel have been made, it appears that no study for the purpose specified herein has ever been accomplished.

It would seem appropriate at this point to reiterate the goal of this study in order that a parallel may be drawn with other research in the field of group comparison techniques. Regression analyses will be performed to determine if there is a correlation among service tenure (and age) on one side of the coin and personality factors (SORT Variables or SORT Attributes) on the other. If high correlations do exist, the results would serve to either confirm or delimit popular intuitive beliefs about naval officers such as: Senior officers are more rigid than junior officers; junior officers tend to pay more attention to detail than senior officers; the longer you stay in the service, the more you conform; etc. It would also seem possible, given a SORT Variable matrix loaded with high correlation coefficients, to take an individual's SORT Variable scores and say, "There is a high probability that this officer is about 34 years old, has been commissioned for ten years, and began his service as an enlisted man for several years before entering the Naval Academy." We could also take his Attribute scores and compare his personality profile with that of his contemporaries' group

norms and determine, for instance, whether or not he is "more rigid" or "more structured" than the average officer in his category.

It is in the latter area that this project differs from other studies in the field of group comparison. According to Klopfer, et. al. (9, Vol.1, p.465-469):

Usually such group comparisons limit themselves to statistical treatment of the various scoring categories and quantitative proportions and omit considerations of qualitative differences.

For example, the SORT Manual (14), in its tabulations of group norms, limits the comparisons to the differences in SORT Variable scores: the SORT Attributes (qualitative scores) are not used in group comparisons but only in analysing the individual.

Quantitative analysis of the SORT Variables is made a part of this study, but only for checking the results of qualitative analysis of the Attributes. Klopfer would argue that this is "skating on thin ice", so to speak:

... it is rare that a group comparison is sufficiently crucial to lend strong positive support to the claim for validity of any given hypothesis, but rather support is to be found in the general congruency of the Rorschach findings with "common sense" of theoretical understanding of the differential character of groups. ... Thus, group comparisons are a means of detecting grossly invalid hypotheses, and sometimes provide a basis for the delimitation of the generality of interpretative hypotheses. (9, Vol.1, p.465-466)

In other words, we could "prove" ourselves right with mediocre correlations, so long as our intuitive beliefs about a naval officer group are generally congruent with the SORT findings -- but it would require very high correlations to convince us that we are wrong, and we could very well be wrong. Perhaps an

officer with 20 years service should score lower on Conformity than one with 10 years longevity, but such a conclusion would contradict intuition. (Proper use of the "level of significance" guards against such erroneous findings.)

Just such a paradox was uncovered in an experiment by Roe (9, Vol.1, p.466-477). It has long been hypothesized that "M" responses (human movement) were related to "creativity". But Roe found that M responses were less frequent among a group of high-ranking artists, and she therefore concluded that the Rorschach concept of creativity referred to "personality" rather than to "output" in the sense of artistic production. This parallels Stone's reminder that SORT scores indicate "tendencies" and not "skills".

Before leaving the subject of research significance, it would be well to mention that the field of Rorschach group comparisons abounds with examples of relatively successful studies which indicate the existence of organizational and developmental effects upon the personality. Klopfer's anthology (9), and Sherman's volume (13) include many significant contributions in the investigation of organizational (which include cultural and institutional) effects upon groups. This would lend justification to an hypothesis that service in the military does change the personality. In the realm of developmental effects, Holtzman includes a study by Thrope (9, p.181-183) which indicates group norm Rorschach score changes at a level of significance less than 1%. Louise Bates Ames has conducted several experiments with developmental changes (2, p.287-315; 12, p.160-161), especially with children and elderly people.

These indications that developmental effects do probably occur prompted the inclusion of "age" as a dependent variable in this regression analysis.

The number of studies which have proved "successful" in the areas of institutional and developmental effects is imposing, indeed -- but one cannot help but ponder the number which have produced insignificant data and may have gone unreported. The fact that those responses which produce significant changes vary from one study to another is perhaps indicative of the inconsistencies in this area. For example, Ames (2) reports increasingly high "F" (form) responses with age, while Thorpe's study (9, p.181-183) registers an increase of F in the early stages, tapering off to a decrease in later life. Ames found a change in "A" (animal) response, while Thorpe did not. It seems likely that the responses which change vary as often as the age groups studied vary. The different cultural backgrounds of the groups may also produce differences in developmental changes.

REVIEW OF THE LITERATURE

It is the opinion of the author that the field of Rorschach Psychology was researched as deeply as necessary for the purpose of this study. It was our intention to outline non-military research only to the extent necessary to justify the hypotheses. A thorough search of military records uncovered no studies which bore a direct relationship to this project. Following is a list of sources investigated:

1. A request to the Defense Documentation Center for references to all uses of the Rorschach Test in the military, with no date limit.

2. Correspondence with the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.
3. Correspondence with the Psychological Research Branch of the Bureau of Naval Personnel, Navy Department, Washington, D. C.
4. An inquiry to the Personnel Research Activity, U. S. Naval Base, San Diego, California.
5. Search of the Navy Postgraduate School Library files for all pertinent references.
6. Psychological Abstracts
7. Dissertation Abstracts
8. Current Periodicals

CHAPTER II

THE STUDY

METHOD

The main function of this study was to perform multiple regression analysis of SORT score data and personal history data, using 218 male officer students of the Naval Postgraduate School as subjects. The purpose of the analysis was to find the relationships among the personal data (service tenure classifications and age) and the SORT scores. The problem, in effect, consisted of eight sub-problems:

| <u>Sub-Prob</u> | <u>Dependent Variable</u> | <u>Independent Variables</u> |
|-----------------|---------------------------|------------------------------|
| 1. | Commissioned Service | 15 SORT Variable Scores |
| 2. | Former Enlisted Ser. | 15 SORT Variable Scores |
| 3. | Total Service | 15 SORT Variable Scores |
| 4. | Age | 15 SORT Variable Scores |
| 5. | Commissioned Service | 25 SORT Attribute Scores |
| 6. | Former Enlisted Ser. | 25 SORT Attribute Scores |
| 7. | Total Service | 25 SORT Attribute Scores |
| 8. | Age | 25 SORT Attribute Scores |

As a check on the results of the regression analysis, a discriminant analysis was performed using two sub-groups of approximately the same size and composition: 96 members of the 1964 Management Class and 100 members of the 1965 Management Class. This analysis was performed to determine if a significant "difference" existed between the two groups.

MATERIALS

Materials used in both analyses have been described previously in the Description of Terms section. They are: scores taken from the SORT tests, the BIMD 34 program, and the BIMD 05 program. There is a distinction between the SORT and the traditional Rorschach test, and perhaps that distinction should be made clear at this point. The standard Rorschach makes use of ten "ink-blots", and a score is determined by the subject's reaction (responses) to those ink blots. The test is usually given to one subject at a time, with the test administrator taking an active part and allowing the subject to elicit a wide variety of responses. The SORT uses the same 10 ink blots, but the test is administered to groups and the administrator merely acts as a projectionist and proctor. The subject is given limited, multiple-choice response, and the number of responses to each blot is fixed. This structured feature of the SORT permits its use in groups as well as making it possible for administration by field psychologists who are relatively inexperienced in Rorschach methods. Further, the scores are adaptable to quantitative analysis, a valuable feature where this study is concerned.

RESPONDENTS

Two Hundred and eighteen (218) male officer students at the U. S. Naval Postgraduate School were used as subjects for this study. These subjects were members of four distinct subgroups:

1. Members of current Management Curriculum (100)
2. Members of current Data Processing Curriculum (15)

3. Miscellaneous students, 1964-65 (7)

4. Members of the 1963-64 Management Curriculum (96)

TABLE 2, below, shows the composition of each group, and the percentages of each category relative to that group. Group designations are keyed to input data in the Appendix.

TABLE 2
SUBJECT GROUP COMPOSITION

| <u>GROUP</u> | <u>AVE. AGE</u> | <u>AVE. COMM SERV</u> | <u>SERV ACAD GRADS</u> | <u>GEN LINE</u> | <u>AVIA-TION</u> | <u>STAFF CORPS</u> | <u>MISC.</u> | <u>TOTAL</u> |
|----------------------------|-----------------|-----------------------|------------------------|-----------------|------------------|--------------------|--------------|--------------|
| 1 | 33.7 | 9.7 | 31 31% | 33 33% | 29 29% | 25 25% | 13 13% | 100 |
| 2 | 31.6 | 8.3 | 11 73% | 3 20% | 2 13% | 9 60% | 1 7% | 15 |
| 3 | 34.4 | 10.9 | 0 | 2 29% | 5 71% | 0 | 0 | 7 |
| 4 | 35.8 | 12.0 | 27 28% | 35 36% | 24 25% | 27 10% | 10 | 96 |
| TOTALS ¹ (%) | | | 69 32% | 73 34% | 60 28% | 61 28% | 24 11% | 218 |

PROCEDURES

Collection of Data. SORT scores from the Dreese-Russell study (5, p.43-52) for Group 4 and the scores for the remaining three groups were collected. Since the Dreese-Russell scores were "raw", it was necessary to convert this data by means of the nomagrams (14, p.284).

Subjects were listed by name, along with the T-Scores for each of the 15 SORT Variables. By either direct reference to, or interpolation of, data found in the Navy Register (3) or the Coast

¹Vertical column totals only.

Guard Register (16), the following statistics for each subject were obtained:

1. Source of Commission (USNA, USCGA, NROTC, etc.)
2. Corps Designator (1100, 1310, 3500, etc.)
3. Years Commissioned Service at time test was taken, to nearest six months.
4. Years former enlisted service, to nearest six months.
5. Age, to nearest six months at time test was taken.

Student numbers (001-218) were then assigned to each subject and the names were discarded. Following this step, ADP cards were punched, one card per subject.

Calculation of SORT Attribute Scores. Since one-half of this study was a multiple regression analysis using the Attribute scores, the next step was to calculate the Attribute values as functions of the SORT Variable scores used in the other half of the study. Formulae for this calculation are included with each Attribute definition in the Appendix.

Program REGRESS 1 (see Appendix) was used for this task. In this problem, $Y(1,J)$ through $Y(15, J)$ are the SORT Variables, while $TY(1,J)$ through $TY(25,J)$ are the SORT Attributes. "J" represents the student numbers, and this J value in the DO Loop permits computation of all 25 personality factors for each of the 218 subjects.

The formulae used in REGRESS 1 were deduced from the SORT Manual descriptions (14, p.13-14) and by analysis of the ABAC tables (14, p.25-27). The "S-Equivalent" and "CF-Equivalent" factor formulae (SEQ and CFEQ) were obtained through graphical

analysis. An IF statement provides for the three variations in the SEQ formula which are determined by the value of S in relation to 50.

Eight of the Attribute scores (8, 9, 17, 18, 19, 21, 23, and 25) begin at negative values, ranging from -60 to +60. To facilitate plotting and to render the scores more adaptable to the BIMD program series, a constant, 60, was added to each such formula. This resulted in a positive range from 0 to 120 for each of those eight variables. This change would not effect the results of the study.

Preparation of BIMD Programs. Control data cards for the BIMD 34 program were then prepared. Since the input data did not include a figure for Total Service, it was necessary to use a transgeneration card in the program to add the values of Commissioned Service and Enlisted Service. This sum, total service, was designated LONGEV and inserted into the problems as a dependent variable.

Computer Use. Two main problems were run with the BIMD 34 program on the CDC 1604 Computer: one was an analysis of the relationship between the service tenure categories and SORT Variables, and the other between service tenure and the SORT Attributes.

RESULTS

The following results were obtained from the main program:

SORT Variable Analysis: The highest correlation achieved with this particular analysis was .14306 between Age as the dependent variable and FC (responses involving color and closely resembling the form of the stimulus). This indicates slight, almost negligible correlation.

SORT Attribute Analysis: The highest correlation in this matrix is .14907, between Enlisted Service as the dependent variable and Moodiness as the independent variable. This also indicates slight, almost negligible correlation.

Correlation Matrices: Tables 3 and 4, beginning on the next page, are the correlation matrices for the two main programs.

TABLE 4

SORT Attribute CORRELATION MATRIX - Part 1

| | ES | AGE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------------------|------|-----|-----|------|------|------|------|------|------|------|------|------|
| * COMM SERV | -.07 | .82 | .08 | -.04 | -.08 | .08 | .01 | -.05 | -.02 | .07 | .02 | 0 |
| * ENL SERV | | .40 | .01 | .01 | -.01 | -.03 | -.05 | .02 | -.06 | -.08 | -.06 | -.07 |
| * AGE | | | .10 | -.05 | -.10 | .06 | -.04 | -.04 | -.07 | 0 | -.02 | -.07 |
| 1. THEORETICAL | | | | -.80 | -.47 | .80 | -.28 | -.21 | -.67 | -.48 | .45 | .26 |
| 2. PRACTICAL | | | | | -.12 | -.63 | .49 | -.03 | .44 | .30 | -.30 | -.21 |
| 3. PEDAGOGIC | | | | | | -.44 | -.28 | .38 | .47 | .35 | -.35 | -.15 |
| 4. INDUCTION | | | | | | | .29 | -.20 | -.60 | -.39 | .67 | .60 |
| 5. DEDUCTION | | | | | | | | -.13 | .03 | .07 | .35 | .50 |
| 6. RIGIDITY | | | | | | | | | .36 | .28 | .06 | -.06 |
| 7. STRUCTURING | | | | | | | | | | .88 | -.36 | -.21 |
| 8. CONCENTRATION | | | | | | | | | | | -.21 | -.09 |
| 9. RANGE OF INTERESTS | | | | | | | | | | | | .63 |
| 10. HUMAN RELATIONS | | | | | | | | | | | | |
| 11. POPULAR | | | | | | | | | | | | |
| 12. ORIGINAL | | | | | | | | | | | | |
| 13. PERSISTENCE | | | | | | | | | | | | |
| 14. AGGRESSIVENESS | | | | | | | | | | | | |
| 15. SOCIAL RESPONSIBILITY | | | | | | | | | | | | |
| 16. COOPERATION | | | | | | | | | | | | |
| 17. TACT | | | | | | | | | | | | |
| 18. CONFIDENCE | | | | | | | | | | | | |
| 19. CONSISTENCY | | | | | | | | | | | | |
| 20. ANXIETY | | | | | | | | | | | | |
| 21. MOODINESS | | | | | | | | | | | | |
| 22. ACTIVITY POTENTIAL | | | | | | | | | | | | |
| 23. IMPULSIVENESS | | | | | | | | | | | | |
| 24. FLEXIBILITY | | | | | | | | | | | | |
| 25. CONFORMITY | | | | | | | | | | | | |
| * LONGEVITY (LON) | | | | | | | | | | | | |

NOTE: * indicates DEPENDENT variables. Only correlations between Dependent Variables, individually, and INDEPENDENT Variables (1-25) are pertinent to the problem. Correlations among the dependent variables, and among the independent variables, do not pertain.

TABLE 4

SORT Attribute CORRELATION MATRIX - Part 2

| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | LOI* |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| *CS | .10 | -.05 | -.05 | .02 | .10 | .06 | .06 | .03 | -.05 | .03 | -.08 | .05 | -.07 | .08 | .08 | .75 |
| *IS | -.07 | .09 | .02 | -.10 | -.05 | 0 | -.11 | -.11 | -.05 | .02 | .15 | -.06 | .08 | -.05 | -.09 | .61 |
| *AGE | .09 | -.04 | -.04 | -.07 | .08 | .08 | .03 | -.03 | -.10 | .06 | .02 | -.01 | 0 | .05 | .07 | .92 |
| 1. | .54 | -.44 | -.21 | -.38 | .40 | .36 | .23 | .23 | -.66 | .53 | .23 | .29 | .48 | .25 | .53 | .07 |
| 2. | -.26 | .24 | -.02 | .23 | -.16 | -.10 | -.10 | -.18 | .49 | -.46 | -.11 | -.22 | -.30 | -.13 | -.28 | -.03 |
| 3. | -.51 | .37 | .38 | .25 | -.47 | -.44 | -.27 | -.18 | .34 | -.18 | -.16 | -.23 | -.35 | -.30 | -.48 | -.07 |
| 4. | .54 | -.37 | -.20 | .07 | .72 | .18 | .40 | .63 | -.49 | .18 | -.13 | .81 | .39 | .68 | .49 | .04 |
| 5. | .12 | .02 | -.13 | .60 | .57 | -.14 | .30 | .58 | .21 | -.53 | -.47 | .75 | -.07 | .67 | .05 | -.02 |
| 6. | -.05 | .09 | 1.00 | .23 | -.25 | -.42 | -.16 | -.11 | .16 | -.12 | -.15 | -.12 | -.28 | -.07 | -.07 | -.02 |
| 7. | -.41 | .30 | .36 | .68 | -.45 | -.51 | -.22 | -.20 | .91 | -.53 | -.57 | -.30 | -.88 | -.25 | -.58 | -.05 |
| 8. | -.24 | .16 | .28 | .69 | -.27 | -.35 | -.21 | -.15 | .77 | -.39 | -.71 | -.14 | -1.00 | -.13 | -.22 | 0 |
| 9. | .48 | -.24 | .06 | .15 | .49 | .09 | .47 | .65 | -.34 | .16 | -.29 | .62 | .21 | .48 | .38 | -.02 |
| 10. | .15 | -.01 | -.06 | .35 | .49 | -.11 | .24 | .54 | -.10 | -.11 | -.31 | .71 | .09 | .57 | .08 | -.05 |
| 11. | ----- | -.69 | -.05 | -.12 | .50 | .39 | .29 | .26 | -.34 | .17 | .01 | .33 | .24 | .36 | .91 | .03 |
| 12. | ----- | ----- | .08 | .15 | -.32 | -.32 | -.08 | -.04 | .25 | -.15 | -.10 | -.16 | -.16 | -.20 | -.93 | .02 |
| 13. | ----- | ----- | ----- | .23 | -.25 | -.42 | -.16 | -.11 | .16 | -.12 | -.15 | -.12 | -.28 | -.08 | -.07 | -.02 |
| 14. | ----- | ----- | ----- | ----- | .17 | -.52 | .12 | .42 | .72 | -.67 | -.86 | .49 | -.69 | .41 | -.15 | -.05 |
| 15. | ----- | ----- | ----- | ----- | ----- | .35 | .60 | .62 | -.28 | -.11 | -.22 | .76 | .27 | .90 | .44 | .04 |
| 16. | ----- | ----- | ----- | ----- | ----- | ----- | .27 | -.02 | -.43 | .22 | .30 | -.07 | .35 | -.08 | .38 | .05 |
| 17. | ----- | ----- | ----- | ----- | ----- | ----- | ----- | .83 | .16 | .07 | -.42 | .41 | .21 | .52 | .20 | -.03 |
| 18. | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | -.11 | -.08 | -.59 | .78 | .16 | .67 | .16 | -.05 |
| 19. | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | -.71 | -.55 | -.14 | -.77 | -.10 | -.32 | -.07 |
| 20. | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | .37 | -.24 | .39 | -.22 | .17 | .04 |
| 21. | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | -.44 | .71 | -.38 | .06 | .04 |
| 22. | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | .16 | .84 | .26 | 0 |
| 23. | .24 | -.16 | -.27 | -.69 | .27 | .35 | .21 | .15 | -.77 | .39 | .71 | .14 | --- | .13 | .21 | 0 |
| 24. | .35 | -.20 | -.08 | .42 | .90 | -.08 | .52 | .67 | -.10 | -.22 | -.38 | .85 | .12 | --- | .30 | .03 |
| 25. | .91 | -.93 | -.07 | -.15 | .44 | .38 | .20 | .16 | -.32 | .17 | .06 | .26 | .21 | ----- | ----- | 0 |

ANALYSIS OF THE RESULTS

As no significant correlations emerged from these two computer runs, the following steps were taken to test the validity of the study to this point:

1. Matrix Comparison. The historical SORT Variable correlation matrix (14, p.10) was compared with TABLE 3. Although Holtzman discourages such a comparison (8, p.146), it was felt that a favorable match between the two matrices would supply a clue to validity. The resemblance was slight. This comparison of matrices would have no bearing on comparative naval officer-civilian SORT scores, but merely is a test of relationships among the SORT Variables themselves.

2. Removal of High Deviations. The cards of all subjects with any one score falling outside the range of plus or minus two standard deviations from the mean were removed from the deck. This was done under the premise that some inaccuracies of the test situation might have upset the correlations. This step did not improve correlations, nor did the new correlation matrix compare favorably (or even closer to) the matrix in the SORT Manual. Only the SORT Variable problem was used for this validity check, since the Attributes are functions of the Variables.

3. Discriminant Analysis. A discriminant analysis was run on Groups 1 and 4. A glance at TABLE 2 will show that these two groups are similar in both size and occupational group composition (aviators, general line, staff, etc.), but Average Age and Average Commissioned Service are more than two years greater for Group 4. If it were found, in the BIMD 34 program regression

analysis, that personality characteristics do change in relation to age and tenure, then a significant "difference" between the two groups from the BIMD 05 calculations would serve to confirm those findings. It would be necessary, however, for the variables which show the greatest differences in the BIMD 05 program to correspond with those BIMD 34 variables with the highest correlations. Results of the discriminant analysis between Groups 1 and 4 are tabulated below:

TABLE 5
DISCRIMINANT ANALYSIS -- GROUPS 1 AND 4

| <u>VARIABLE</u> | <u>MEAN, GRP 1</u> | <u>MEAN, GRP 4</u> | <u>DIFFERENCE</u> | <u>ORDER</u> |
|-----------------|--------------------|--------------------|-------------------|--------------|
| 1. W | 51.27 | 52.82 | -1.55 | 8 |
| 2. D | 49.68 | 49.06 | .62 | 13 |
| 3. Dd | 50.18 | 47.84 | 2.34 | 4 |
| 4. S | 52.28 | 54.84 | -2.56 | 3 |
| 5. F | 58.32 | 57.31 | 1.01 | 11 |
| 6. F- | 49.79 | 48.03 | 1.76 | 6 |
| 7. M | 51.20 | 52.54 | -1.34 | 9 |
| 8. FM | 53.19 | 53.91 | - .72 | 12 |
| 9. FC | 49.84 | 49.98 | - .14 | 15 |
| 10. CF | 42.04 | 39.45 | 2.59 | 2 |
| 11. Fch | 47.69 | 49.26 | -1.57 | 7 |
| 12. A | 51.71 | 48.67 | 3.04 | 1 |
| 13. H | 50.63 | 50.19 | .44 | 14 |
| 14. P | 47.65 | 49.61 | -1.96 | 5 |
| 15. O | 38.55 | 39.81 | -1.26 | 10 |

The above discriminant analysis results in an F-Statistic of 2.84 with 180 degrees of freedom. From Yamane's Table 5 (18, Appendix),

this indicates a significant difference between the two groups at a level of significance of less than 1%. Although time did not permit further analysis, the author intends to perform further discriminant analysis on these two groups as an extension project, treating Age and Commissioned Service as variables along with the SORT scores. This procedure should determine whether or not Age and Commissioned Service are the discriminant factors.

SUMMARY AND CONCLUSIONS

Summary. This study was undertaken to investigate the possible existence of an effect of service tenure upon personality characteristics as measured by the Structured-Objective Rorschach Test (SORT). The entire field of Rorschach Psychology was researched in an effort to find examples of quantitative and qualitative experiments which sought for and (if found) measured organizationally and developmentally induced differences in group personality characteristics.

On the quantitative side, sufficient parallels were uncovered which indicated that such effects upon human behavioral characteristics could exist -- enough evidence to justify the continuation of this study beyond the first stages.

Using BIMD computer programs, statistical methods were employed in a multiple regression analysis. Service Tenure (commissioned service, enlisted service, total service of the 218 subjects) and Age served in separate sub-problems as dependent variables. Two sets of SORT scores (one quantitative and the other qualitative) for each subject were used as independent

variables. All correlations were found to be below a value of .20, and all were considered negligible.

Conclusions. From the results of this study, the following conclusions have been determined:

1. Multiple regression analysis reveals no apparent relationship between Service Tenure and Personality Characteristics as measured by the Structured-Objective Rorschach Test (SORT). By the same methods, no apparent relationship exists between Age and SORT personality scores.

2. Although BIMD 05 did discriminate between Groups 1 and 4, this procedure failed to substantiate the results of the BIMD 34 regression analysis. In TABLE 5, the most discriminating variables are A, CF, and S, in that order. The BIMD 34 correlation matrix (TABLE 3) shows:

| | Correlation Coefficients | |
|--------------|--------------------------|---------------------------|
| | <u>AGE</u> | <u>COMMISSIONED SERV.</u> |
| A | .0298 | .0117 |
| CF | -.0309 | -.0214 |
| S | -.0376 | -.0463 |

From TABLE 2, Average Age and Average Commissioned Service for Group 4 are over two years greater than for Group 1, while the group sizes and occupational compositions are comparable. Since the two groups are significantly "different", and differ mostly in the SORT scores for A, CF, and S, it would seem that the regression correlation coefficients for A, CF, and S versus Age and Commissioned Service should be relatively high. This is not the case.

3. If relationships do, in reality, exist among the dependent and independent variables of this study, failure to achieve correlations could be attributed to the following:

a. This study did not conduct discriminant analyses between the distinct occupational sub-groups (aviators vs General Line, etc.). Differences among these groups may have served to counteract one another.

b. Influences of the test situation may have caused deviations beyond normal proportions.

4. Results indicating that the SORT scores are apparently random do not detract from the value of this study. On the contrary, pre-recruitment and pre-commissioning psychology test administrators would benefit by the knowledge that personality characteristics will maintain consistency throughout subsequent military service.

RECOMMENDATIONS

In view of the results of this study, the following recommendations are submitted:

1. That a discriminant analysis be conducted with this subject group to investigate possible deleterious effects mentioned in paragraph 2.a. of the Conclusions.

2. That a discriminant analysis be conducted between sub-groups 1 and 4, using Age and Commissioned Service as variables along with the SORT scores, to determine if the former are determinant factors.

3. That, in the future, particular emphasis be placed on standardizing the test situation in every detail, and that

test-retests be given at intervals throughout the group as a check on the test situation.

4. That this study be repeated each year for several years in order that the value of the SORT for military group comparisons definitely may be determined.

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SUBJECT PERSONAL DATA

| STU NUM | GRP | SRC | DLS | COL SER | HL SER | AGE | STU NUM | GRP | SRC | DLS | COL SER | HL SER | AGE |
|------------|-----|-----|-----|------------|-----------|-----|------------|-----|-----|-----|------------|-----------|-----|
| 1 | 1 | 1 | 2 | 7 | | 29 | 44 | 1 | 2 | 1 | 11 | | 34 |
| 2 | 1 | 2 | 8 | 11 | | 35 | 45 | 1 | 2 | 5 | 13 | 7 | 40 |
| 3 | 1 | 2 | 8 | 11 | | 34 | | | | | | | |
| 4 | 1 | 2 | 5 | 11 | | 34 | 46 | 1 | 2 | 1 | 6 | 6 | 29 |
| 5 | 1 | 1 | 1 | 16 | | 37 | 47 | 1 | 2 | 5 | 13 | | 36 |
| | | | | | | | 48 | 1 | 1 | 1 | 6 | | 29 |
| 6 | 1 | 2 | 1 | 7 | 1 | 31 | 49 | 1 | 2 | 2 | 12 | | 34 |
| 7 | 1 | 1 | 5 | 12 | 1 | 36 | 50 | 1 | 2 | 5 | 9 | | 31 |
| 8 | 1 | 1 | 1 | 7 | 2 | 31 | | | | | | | |
| 9 | 1 | 1 | 1 | 15 | 2 | 39 | 51 | 1 | 2 | 2 | 6 | 1 | 31 |
| 10 | 1 | 2 | 8 | 4 | 11 | 35 | 52 | 1 | 2 | 1 | 7 | | 30 |
| | | | | | | | 53 | 1 | 2 | 1 | 11 | 2 | 36 |
| 11 | 1 | 8 | 2 | 13 | 9 | 39 | 54 | 1 | 2 | 5 | 14 | 5 | 38 |
| 12 | 1 | 2 | 1 | 7 | | 28 | 55 | 1 | 1 | 1 | 4 | | 26 |
| 13 | 1 | 2 | 2 | 11 | 1 | 34 | | | | | | | |
| 14 | 1 | 2 | 5 | 7 | | 28 | 56 | 1 | 1 | 5 | 9 | 1 | 33 |
| 15 | 1 | 2 | 1 | 9 | | 31 | 57 | 1 | 2 | 2 | 11 | 5 | 35 |
| | | | | | | | 58 | 1 | 1 | 8 | 6 | 16 | 38 |
| 16 | 1 | 2 | 5 | 12 | 3 | 37 | 59 | 1 | 1 | 6 | 10 | 1 | 32 |
| 17 | 1 | 2 | 6 | 12 | | 34 | 60 | 1 | 2 | 1 | 9 | 6 | 33 |
| 18 | 1 | 2 | 2 | 7 | | 30 | | | | | | | |
| 19 | 1 | 2 | 2 | 16 | 4 | 38 | 61 | 1 | 2 | 8 | 7 | | 30 |
| 20 | 1 | 1 | 1 | 10 | | 32 | 62 | 1 | 2 | 2 | 6 | | 29 |
| | | | | | | | 63 | 1 | 2 | 2 | 12 | 2 | 36 |
| 21 | 1 | 2 | 2 | 11 | 5 | 35 | 64 | 1 | 1 | 1 | 10 | | 32 |
| 22 | 1 | 2 | 8 | 13 | | 36 | 65 | 1 | 2 | 1 | 9 | | 30 |
| 23 | 1 | 1 | 2 | 13 | | 36 | | | | | | | |
| 24 | 1 | 2 | 5 | 8 | | 30 | 66 | 1 | 1 | 5 | 11 | 2 | 35 |
| 25 | 1 | 2 | 2 | 8 | 5 | 30 | 67 | 1 | 2 | 2 | 5 | 1 | 28 |
| | | | | | | | 68 | 1 | 1 | 5 | 17 | | 39 |
| 26 | 1 | 2 | 2 | 11 | 2 | 35 | 69 | 1 | 1 | 2 | 6 | | 36 |
| 27 | 1 | 1 | 2 | 5 | | 27 | 70 | 1 | 1 | 5 | 15 | 3 | 40 |
| 28 | 1 | 2 | 1 | 18 | 3 | 40 | | | | | | | |
| 29 | 1 | 2 | 6 | 14 | 6 | 39 | 71 | 1 | 2 | 2 | 5 | 1 | 28 |
| 30 | 1 | 2 | 1 | 10 | 1 | 35 | 72 | 1 | 2 | 2 | 10 | 2 | 34 |
| | | | | | | | 73 | 1 | 2 | 8 | 10 | | 33 |
| 31 | 1 | 1 | 5 | 14 | 1 | 37 | 74 | 1 | 2 | 1 | 12 | 6 | 39 |
| 32 | 1 | 2 | 8 | 15 | 2 | 37 | 75 | 1 | 1 | 1 | 15 | | 38 |
| 33 | 1 | 1 | 8 | 8 | 2 | 29 | | | | | | | |
| 34 | 1 | 2 | 1 | 6 | | 28 | 76 | 1 | 2 | 5 | 12 | 7 | 37 |
| 35 | 1 | 2 | 5 | 7 | | 29 | 77 | 1 | 2 | 1 | 10 | | 32 |
| | | | | | | | 78 | 1 | 1 | 1 | 3 | | 26 |
| 36 | 1 | 2 | 1 | 10 | | 35 | 79 | 1 | 2 | 5 | 6 | | 27 |
| 37 | 1 | 2 | 2 | 10 | | 31 | 80 | 1 | 2 | 1 | 7 | 3 | 31 |
| 38 | 1 | 2 | 2 | 16 | 5 | 39 | | | | | | | |
| 39 | 1 | 2 | 8 | 13 | 5 | 38 | 81 | 1 | 2 | 2 | 14 | | 36 |
| 40 | 1 | 2 | 2 | 11 | | 33 | 82 | 1 | 2 | 2 | 6 | | 31 |
| | | | | | | | 83 | 1 | 2 | 1 | 7 | | 30 |
| 41 | 1 | 2 | 1 | 6 | | 28 | 84 | 1 | 2 | 1 | 8 | | 30 |
| 42 | 1 | 2 | 8 | 5 | 8 | 32 | 85 | 1 | 1 | 1 | 13 | | 34 |
| 43 | 1 | 2 | 1 | 6 | 2 | 29 | | | | | | | |
| | | | | | | | 86 | 1 | 2 | 8 | 4 | 17 | 38 |
| | | | | | | | 87 | 1 | 1 | 2 | 5 | | 27 |

LEGEND ON PAGE 36

| STU NUM | GRP | SRC | DLS | COE SAR | ALL SAR | AGE | STU NUM | GRP | SRC | DLS | COE SAR | ALL SAR | AGE |
|------------|-----|-----|-----|------------|------------|-----|------------|-----|-----|-----|------------|------------|-----|
| 88 | 1 | 1 | 2 | 5 | | 27 | 132 | 4 | 2 | 2 | 16 | 5 | 41 |
| 89 | 1 | 2 | 5 | 12 | 4 | 36 | 133 | 4 | 2 | 1 | 16 | 4 | 38 |
| 90 | 1 | 2 | 2 | 18 | 3 | 42 | 134 | 4 | 2 | 5 | 12 | 3 | 37 |
| | | | | | | | 135 | 4 | 2 | 1 | 12 | 7 | 39 |
| 91 | 1 | 1 | 6 | 11 | 1 | 34 | | | | | | | |
| 92 | 1 | 2 | 5 | 10 | 6 | 38 | 136 | 4 | 2 | 8 | 4 | 14 | 36 |
| 93 | 1 | 1 | 2 | 5 | | 27 | 137 | 4 | 1 | 2 | 11 | 1 | 34 |
| 94 | 1 | 2 | 1 | 9 | | 30 | 138 | 4 | 2 | 5 | 15 | 4 | 37 |
| 95 | 1 | 1 | 5 | 6 | 4 | 32 | 139 | 4 | 2 | 5 | 11 | 2 | 33 |
| | | | | | | | 140 | 4 | 2 | 1 | 18 | 3 | 40 |
| 96 | 1 | 1 | 1 | 8 | 1 | 33 | | | | | | | |
| 97 | 1 | 1 | 2 | 13 | 2 | 37 | 141 | 4 | 2 | 2 | 10 | 1 | 34 |
| 98 | 1 | 1 | 6 | 8 | | 31 | 142 | 4 | 2 | 8 | 11 | 1 | 34 |
| 99 | 1 | 2 | 8 | 12 | 7 | 37 | 143 | 4 | 1 | 1 | 18 | | 41 |
| 100 | 1 | 2 | 1 | 10 | 5 | 33 | 144 | 4 | 1 | 5 | 14 | 2 | 39 |
| | | | | | | | 145 | 4 | 1 | 5 | 12 | 1 | 35 |
| 101 | 2 | 1 | 5 | 10 | 1 | 33 | | | | | | | |
| 102 | 2 | 2 | 8 | 13 | | 34 | 146 | 4 | 2 | 6 | 6 | 2 | 31 |
| 103 | 2 | 1 | 5 | 12 | 2 | 37 | 147 | 4 | 2 | 2 | 14 | 2 | 36 |
| 104 | 2 | 1 | 5 | 7 | 1 | 29 | 148 | 4 | 2 | 2 | 8 | 1 | 29 |
| 105 | 2 | 1 | 1 | 5 | 2 | 31 | 149 | 4 | 2 | 2 | 16 | 4 | 39 |
| | | | | | | | 150 | 4 | 2 | 1 | 18 | 3 | 39 |
| 106 | 2 | 2 | 1 | 3 | | 26 | | | | | | | |
| 107 | 2 | 2 | 2 | 5 | | 27 | 151 | 4 | 2 | 5 | 14 | 7 | 39 |
| 108 | 2 | 2 | 5 | 8 | | 31 | 152 | 4 | 2 | 1 | 6 | | 28 |
| 109 | 2 | 1 | 5 | 7 | | 31 | 153 | 4 | 1 | 2 | 12 | | 36 |
| 110 | 2 | 1 | 2 | 5 | | 28 | 154 | 4 | 1 | 5 | 15 | | 39 |
| | | | | | | | 155 | 4 | 2 | 8 | 5 | 5 | 33 |
| 111 | 2 | 1 | 5 | 10 | | 33 | | | | | | | |
| 112 | 2 | 1 | 1 | 6 | | 30 | 156 | 4 | 2 | 1 | 8 | 1 | 30 |
| 113 | 2 | 1 | 5 | 9 | | 32 | 157 | 4 | 1 | 1 | 10 | 5 | 37 |
| 114 | 2 | 1 | 5 | 14 | 2 | 38 | 158 | 4 | 2 | 2 | 13 | 8 | 39 |
| 115 | 2 | 1 | 5 | 10 | 3 | 34 | 159 | 4 | 2 | 5 | 15 | 4 | 37 |
| | | | | | | | 160 | 4 | 1 | 6 | 6 | 2 | 31 |
| 116 | 3 | 2 | 2 | 10 | 5 | 33 | | | | | | | |
| 117 | 3 | 2 | 2 | 13 | 3 | 34 | 161 | 4 | 2 | 2 | 17 | 3 | 38 |
| 118 | 3 | 2 | 1 | 6 | 12 | 35 | 162 | 4 | 2 | 1 | 9 | 8 | 37 |
| 119 | 3 | 2 | 2 | 12 | 5 | 35 | 163 | 4 | 1 | 2 | 12 | | 35 |
| 120 | 3 | 2 | 1 | 6 | | 30 | 164 | 4 | 2 | 1 | 12 | | 35 |
| | | | | | | | 165 | 4 | 1 | 1 | 6 | 2 | 32 |
| 121 | 3 | 2 | 2 | 16 | 4 | 38 | | | | | | | |
| 122 | 3 | 2 | 2 | 13 | 3 | 36 | 166 | 4 | 2 | 5 | 13 | 4 | 40 |
| 123 | 4 | 2 | 1 | 6 | 1 | 29 | 167 | 4 | 2 | 2 | 14 | 4 | 37 |
| 124 | 4 | 2 | 2 | 8 | | 31 | 168 | 4 | 2 | 5 | 13 | | 35 |
| 125 | 4 | 1 | 2 | 11 | 1 | 34 | 169 | 4 | 2 | 2 | 14 | 3 | 36 |
| | | | | | | | 170 | 4 | 2 | 1 | 18 | 6 | 43 |
| 126 | 4 | 2 | 1 | 11 | 3 | 35 | | | | | | | |
| 127 | 4 | 1 | 5 | 3 | 5 | 31 | 171 | 4 | 2 | 1 | 16 | 4 | 40 |
| 128 | 4 | 1 | 5 | 13 | 7 | 40 | 172 | 4 | 2 | 1 | 10 | 1 | 33 |
| 129 | 4 | 2 | 6 | 7 | | 29 | 173 | 4 | 1 | 8 | 17 | | 40 |
| 130 | 4 | 2 | 1 | 9 | 1 | 32 | 174 | 4 | 2 | 1 | 13 | | 35 |
| | | | | | | | 175 | 4 | 2 | 5 | 4 | 10 | 33 |
| 131 | 4 | 1 | 1 | 17 | | 39 | | | | | | | |

| STU NUM | GRP | SRC | DES | COM SMR | ENL SMR | AGE |
|------------|-----|-----|-----|------------|------------|-----|
| 176 | 4 | 2 | 8 | 5 | 10 | 33 |
| 177 | 4 | 2 | 5 | 11 | | 33 |
| 178 | 4 | 2 | 1 | 6 | 11 | 34 |
| 179 | 4 | 2 | 2 | 12 | 3 | 35 |
| 180 | 4 | 2 | 5 | 14 | 6 | 39 |
| 181 | 4 | 2 | 2 | 15 | 6 | 40 |
| 182 | 4 | 2 | 2 | 16 | 5 | 40 |
| 183 | 4 | 2 | 1 | 9 | | 31 |
| 184 | 4 | 2 | 1 | 10 | 1 | 33 |
| 185 | 4 | 1 | 1 | 18 | | 42 |
| 186 | 4 | 1 | 2 | 16 | | 37 |
| 187 | 4 | 2 | 1 | 14 | 1 | 36 |
| 188 | 4 | 2 | 5 | 13 | 2 | 37 |
| 189 | 4 | 1 | 1 | 9 | 1 | 32 |
| 190 | 4 | 2 | 8 | 6 | 15 | 38 |
| 191 | 4 | 2 | 1 | 16 | 4 | 37 |
| 192 | 4 | 2 | 1 | 17 | | 38 |
| 193 | 4 | 2 | 6 | 11 | | 33 |
| 194 | 4 | 2 | 5 | 14 | 5 | 36 |
| 195 | 4 | 2 | 2 | 15 | 5 | 40 |
| 196 | 4 | 1 | 5 | 8 | | 30 |
| 197 | 4 | 2 | 8 | 4 | 15 | 36 |
| 198 | 4 | 2 | 8 | 18 | 2 | 38 |
| 199 | 4 | 2 | 1 | 9 | 1 | 31 |
| 200 | 4 | 1 | 2 | 13 | | 35 |
| 201 | 4 | 1 | 6 | 15 | 2 | 39 |
| 202 | 4 | 2 | 5 | 12 | | 34 |
| 203 | 4 | 2 | 5 | 14 | 6 | 38 |
| 204 | 4 | 1 | 2 | 8 | 1 | 30 |
| 205 | 4 | 1 | 1 | 18 | 2 | 41 |
| 206 | 4 | 2 | 8 | 12 | 7 | 39 |
| 207 | 4 | 2 | 1 | 11 | 1 | 33 |
| 208 | 4 | 2 | 2 | 14 | 1 | 38 |
| 209 | 4 | 2 | 2 | 13 | 2 | 35 |
| 210 | 4 | 2 | 1 | 10 | 1 | 34 |
| 211 | 4 | 2 | 5 | 11 | 6 | 36 |
| 212 | 4 | 2 | 2 | 17 | | 38 |
| 213 | 4 | 2 | 5 | 14 | | 39 |
| 214 | 4 | 2 | 1 | 18 | 2 | 39 |
| 215 | 4 | 1 | 1 | 14 | | 37 |
| 216 | 4 | 1 | 1 | 13 | | 35 |
| 217 | 4 | 1 | 8 | 8 | | 30 |
| 218 | 4 | 1 | 1 | 9 | 2 | 35 |

LEGEND

GRP -- Group Number

SRC -- Source Code

1 - Service Academy

2 - Non-Academy

DES -- Designator Code

1 - General Line

2 - Aviator

5 - Supply Corps

6 - CAC

8 - Miscellaneous

COM SMR -- Commissioned Service

ENL SMR -- Enlisted Service

AGE -- Age

V A R I A B L E S C O R E S

| STU NBR | 1 W | 2 D | 3 DD | 4 S | 5 F | 6 F- | 7 M | 8 FM | 9 FC | 10 CF | 11 FCH | 12 A | 13 H | 14 P | 15 O |
|------------|--------|--------|---------|--------|--------|---------|--------|---------|---------|----------|-----------|---------|---------|---------|---------|
| 1 | 52 | 58 | 37 | 45 | 50 | 57 | 47 | 55 | 47 | 40 | 57 | 57 | 56 | 48 | 40 |
| 2 | 60 | 53 | 30 | 50 | 50 | 50 | 55 | 45 | 67 | 35 | 50 | 50 | 52 | 65 | 20 |
| 3 | 45 | 48 | 65 | 55 | 70 | 47 | 50 | 55 | 45 | 50 | 40 | 38 | 55 | 46 | 40 |
| 4 | 58 | 50 | 40 | 62 | 67 | 40 | 60 | 40 | 42 | 50 | 52 | 22 | 52 | 55 | 30 |
| 5 | 75 | 38 | 35 | 45 | 37 | 57 | 58 | 40 | 55 | 52 | 55 | 47 | 50 | 62 | 25 |
| 6 | 55 | 38 | 67 | 55 | 57 | 52 | 45 | 50 | 47 | 40 | 57 | 57 | 47 | 46 | 45 |
| 7 | 48 | 50 | 55 | 55 | 77 | 62 | 55 | 45 | 42 | 27 | 37 | 50 | 45 | 46 | 35 |
| 8 | 52 | 41 | 65 | 57 | 77 | 50 | 42 | 40 | 42 | 45 | 50 | 63 | 43 | 50 | 43 |
| 9 | 67 | 41 | 40 | 45 | 35 | 47 | 60 | 65 | 60 | 35 | 55 | 55 | 52 | 42 | 30 |
| 10 | 55 | 51 | 42 | 42 | 52 | 50 | 50 | 50 | 50 | 35 | 60 | 51 | 66 | 28 | 43 |
| 11 | 60 | 45 | 45 | 60 | 55 | 42 | 58 | 62 | 50 | 45 | 45 | 47 | 52 | 52 | 37 |
| 12 | 58 | 45 | 50 | 67 | 70 | 47 | 42 | 55 | 40 | 45 | 55 | 42 | 50 | 52 | 35 |
| 13 | 52 | 53 | 42 | 55 | 60 | 52 | 50 | 65 | 45 | 45 | 37 | 47 | 55 | 51 | 30 |
| 14 | 55 | 45 | 55 | 55 | 57 | 50 | 30 | 65 | 55 | 45 | 50 | 61 | 45 | 55 | 30 |
| 15 | 36 | 66 | 42 | 45 | 60 | 50 | 47 | 40 | 47 | 52 | 52 | 47 | 41 | 53 | 43 |
| 16 | 60 | 36 | 60 | 57 | 62 | 52 | 55 | 55 | 47 | 40 | 42 | 63 | 45 | 62 | 25 |
| 17 | 65 | 41 | 42 | 47 | 47 | 40 | 75 | 60 | 47 | 40 | 47 | 51 | 75 | 62 | 20 |
| 18 | 70 | 35 | 50 | 45 | 42 | 60 | 47 | 57 | 45 | 35 | 62 | 57 | 47 | 51 | 37 |
| 19 | 58 | 48 | 42 | 47 | 55 | 45 | 55 | 50 | 60 | 52 | 45 | 55 | 50 | 58 | 30 |
| 20 | 42 | 60 | 45 | 62 | 67 | 45 | 47 | 67 | 45 | 35 | 42 | 60 | 55 | 58 | 30 |
| 21 | 50 | 50 | 52 | 47 | 60 | 55 | 65 | 40 | 45 | 40 | 42 | 38 | 62 | 42 | 60 |
| 22 | 67 | 41 | 40 | 60 | 42 | 45 | 65 | 62 | 55 | 27 | 57 | 50 | 62 | 72 | 20 |
| 23 | 52 | 50 | 50 | 55 | 55 | 47 | 45 | 62 | 50 | 35 | 55 | 51 | 52 | 55 | 35 |
| 24 | 52 | 48 | 52 | 65 | 60 | 47 | 70 | 60 | 40 | 45 | 37 | 42 | 60 | 51 | 37 |
| 25 | 60 | 43 | 50 | 47 | 45 | 60 | 50 | 50 | 55 | 25 | 65 | 40 | 43 | 42 | 40 |
| 26 | 50 | 55 | 52 | 37 | 60 | 57 | 42 | 55 | 47 | 52 | 42 | 60 | 47 | 43 | 37 |
| 27 | 52 | 45 | 55 | 62 | 62 | 45 | 45 | 55 | 60 | 32 | 52 | 53 | 55 | 55 | 35 |
| 28 | 55 | 41 | 60 | 57 | 80 | 47 | 47 | 37 | 42 | 35 | 47 | 40 | 55 | 43 | 37 |
| 29 | 55 | 55 | 37 | 50 | 42 | 50 | 70 | 60 | 55 | 40 | 42 | 53 | 58 | 61 | 30 |
| 30 | 52 | 50 | 50 | 42 | 70 | 37 | 42 | 50 | 60 | 35 | 57 | 55 | 55 | 41 | 43 |
| 31 | 65 | 40 | 42 | 50 | 47 | 37 | 60 | 62 | 60 | 32 | 55 | 50 | 65 | 41 | 37 |
| 32 | 33 | 60 | 57 | 47 | 67 | 52 | 30 | 45 | 47 | 40 | 57 | 53 | 47 | 41 | 43 |
| 33 | 42 | 53 | 57 | 57 | 60 | 62 | 55 | 45 | 50 | 40 | 37 | 45 | 60 | 35 | 50 |
| 34 | 40 | 53 | 60 | 50 | 60 | 55 | 80 | 45 | 42 | 40 | 22 | 50 | 80 | 45 | 37 |
| 35 | 52 | 48 | 52 | 60 | 62 | 50 | 45 | 37 | 62 | 32 | 57 | 40 | 41 | 51 | 30 |
| 36 | 36 | 61 | 50 | 45 | 72 | 55 | 42 | 57 | 50 | 35 | 35 | 40 | 41 | 35 | 40 |
| 37 | 78 | 35 | 35 | 45 | 35 | 47 | 75 | 55 | 47 | 52 | 50 | 38 | 70 | 52 | 30 |
| 38 | 38 | 60 | 52 | 47 | 75 | 50 | 58 | 60 | 42 | 50 | 25 | 60 | 60 | 41 | 50 |
| 39 | 46 | 55 | 50 | 32 | 42 | 42 | 55 | 60 | 50 | 62 | 47 | 53 | 45 | 50 | 40 |
| 40 | 61 | 45 | 42 | 42 | 45 | 60 | 47 | 32 | 62 | 50 | 57 | 53 | 47 | 48 | 45 |
| 41 | 58 | 41 | 55 | 55 | 50 | 50 | 65 | 55 | 45 | 52 | 42 | 47 | 66 | 62 | 35 |
| 42 | 55 | 41 | 60 | 67 | 75 | 52 | 47 | 45 | 42 | 45 | 42 | 32 | 37 | 46 | 43 |
| 43 | 50 | 41 | 67 | 55 | 57 | 60 | 45 | 57 | 45 | 50 | 42 | 63 | 55 | 35 | 55 |

| STU NRR | 1 W | 2 D | 3 DD | 4 S | 5 F | 6 F- | 7 M | 8 FM | 9 FC | 10 CF | 11 FCH | 12 A | 13 H | 14 P | 15 O |
|------------|--------|--------|---------|--------|--------|---------|--------|---------|---------|----------|-----------|---------|---------|---------|---------|
| 44 | 45 | 45 | 70 | 67 | 80 | 30 | 55 | 72 | 35 | 40 | 40 | 63 | 52 | 30 | 50 |
| 45 | 40 | 53 | 60 | 50 | 75 | 42 | 42 | 57 | 55 | 40 | 42 | 67 | 41 | 41 | 43 |
| 46 | 45 | 53 | 55 | 47 | 67 | 40 | 58 | 65 | 40 | 50 | 40 | 61 | 56 | 41 | 37 |
| 47 | 42 | 60 | 45 | 47 | 70 | 52 | 42 | 40 | 65 | 32 | 45 | 60 | 45 | 41 | 50 |
| 48 | 36 | 65 | 45 | 45 | 72 | 55 | 27 | 40 | 67 | 45 | 40 | 60 | 41 | 40 | 45 |
| 49 | 40 | 56 | 52 | 57 | 80 | 47 | 30 | 50 | 62 | 32 | 42 | 55 | 40 | 40 | 50 |
| 50 | 38 | 45 | 80 | 70 | 65 | 55 | 45 | 65 | 40 | 40 | 42 | 55 | 45 | 38 | 50 |
| 51 | 61 | 38 | 55 | 55 | 50 | 50 | 65 | 57 | 42 | 50 | 45 | 55 | 65 | 55 | 35 |
| 52 | 58 | 41 | 55 | 57 | 62 | 45 | 58 | 50 | 40 | 60 | 42 | 61 | 47 | 46 | 43 |
| 53 | 48 | 51 | 52 | 42 | 50 | 55 | 65 | 40 | 60 | 40 | 42 | 63 | 43 | 58 | 25 |
| 54 | 48 | 58 | 40 | 40 | 45 | 45 | 65 | 57 | 50 | 35 | 55 | 51 | 65 | 51 | 40 |
| 55 | 70 | 38 | 42 | 47 | 45 | 40 | 50 | 65 | 47 | 45 | 62 | 51 | 50 | 52 | 40 |
| 56 | 46 | 55 | 50 | 45 | 60 | 55 | 58 | 60 | 40 | 50 | 37 | 45 | 60 | 50 | 37 |
| 57 | 60 | 46 | 42 | 37 | 50 | 45 | 50 | 57 | 62 | 45 | 50 | 55 | 47 | 51 | 37 |
| 58 | 42 | 58 | 50 | 55 | 65 | 50 | 42 | 57 | 47 | 45 | 45 | 55 | 35 | 42 | 30 |
| 59 | 42 | 51 | 57 | 50 | 70 | 62 | 50 | 45 | 42 | 32 | 47 | 53 | 50 | 33 | 40 |
| 60 | 36 | 61 | 52 | 57 | 70 | 47 | 55 | 37 | 47 | 40 | 50 | 45 | 52 | 41 | 45 |
| 61 | 58 | 45 | 50 | 55 | 45 | 52 | 55 | 60 | 47 | 45 | 52 | 63 | 56 | 62 | 25 |
| 62 | 65 | 40 | 45 | 57 | 45 | 47 | 65 | 60 | 45 | 45 | 50 | 51 | 68 | 50 | 37 |
| 63 | 56 | 55 | 35 | 32 | 30 | 50 | 45 | 65 | 67 | 50 | 55 | 60 | 47 | 52 | 37 |
| 64 | 50 | 53 | 45 | 42 | 50 | 47 | 75 | 57 | 55 | 30 | 42 | 40 | 68 | 46 | 35 |
| 65 | 61 | 33 | 65 | 50 | 70 | 52 | 47 | 57 | 42 | 35 | 45 | 57 | 55 | 46 | 37 |
| 66 | 36 | 66 | 42 | 47 | 67 | 47 | 40 | 57 | 55 | 45 | 45 | 65 | 32 | 48 | 35 |
| 67 | 61 | 46 | 40 | 50 | 50 | 52 | 55 | 57 | 45 | 40 | 55 | 55 | 56 | 55 | 37 |
| 68 | 58 | 46 | 45 | 47 | 50 | 45 | 58 | 57 | 45 | 52 | 52 | 45 | 55 | 53 | 35 |
| 69 | 55 | 51 | 42 | 55 | 60 | 50 | 45 | 37 | 60 | 45 | 55 | 57 | 41 | 63 | 25 |
| 70 | 36 | 68 | 40 | 57 | 70 | 62 | 35 | 50 | 62 | 30 | 42 | 67 | 35 | 43 | 35 |
| 71 | 48 | 56 | 42 | 50 | 65 | 40 | 45 | 65 | 47 | 40 | 50 | 60 | 32 | 42 | 50 |
| 72 | 50 | 51 | 50 | 50 | 52 | 57 | 42 | 40 | 37 | 45 | 47 | 50 | 40 | 52 | 30 |
| 73 | 27 | 76 | 42 | 60 | 77 | 65 | 50 | 57 | 50 | 32 | 27 | 51 | 41 | 36 | 50 |
| 74 | 50 | 63 | 57 | 65 | 60 | 52 | 35 | 55 | 55 | 45 | 52 | 60 | 56 | 51 | 40 |
| 75 | 46 | 48 | 60 | 55 | 70 | 57 | 42 | 57 | 40 | 45 | 42 | 71 | 47 | 43 | 37 |
| 76 | 33 | 63 | 55 | 60 | 70 | 57 | 30 | 45 | 45 | 40 | 55 | 60 | 40 | 32 | 80 |
| 77 | 40 | 48 | 70 | 70 | 72 | 57 | 70 | 60 | 35 | 32 | 27 | 50 | 60 | 45 | 55 |
| 78 | 55 | 46 | 52 | 60 | 57 | 50 | 58 | 45 | 40 | 40 | 62 | 30 | 56 | 55 | 35 |
| 79 | 48 | 53 | 50 | 40 | 55 | 57 | 45 | 40 | 42 | 57 | 52 | 47 | 32 | 51 | 30 |
| 80 | 60 | 46 | 42 | 45 | 37 | 40 | 65 | 45 | 55 | 62 | 52 | 47 | 50 | 48 | 40 |
| 81 | 35 | 55 | 67 | 47 | 50 | 50 | 58 | 55 | 60 | 40 | 47 | 63 | 56 | 40 | 45 |
| 82 | 50 | 53 | 42 | 60 | 52 | 47 | 50 | 57 | 55 | 45 | 50 | 45 | 52 | 56 | 35 |
| 83 | 38 | 56 | 57 | 55 | 62 | 47 | 55 | 55 | 62 | 40 | 37 | 53 | 50 | 43 | 45 |
| 84 | 52 | 51 | 45 | 60 | 57 | 57 | 45 | 45 | 62 | 35 | 47 | 63 | 56 | 51 | 30 |
| 85 | 73 | 41 | 30 | 50 | 37 | 50 | 58 | 60 | 55 | 45 | 55 | 51 | 52 | 65 | 20 |
| 86 | 61 | 50 | 35 | 57 | 47 | 47 | 45 | 60 | 60 | 45 | 55 | 45 | 52 | 56 | 35 |
| 87 | 27 | 65 | 60 | 47 | 77 | 50 | 30 | 50 | 50 | 50 | 40 | 65 | 30 | 35 | 45 |
| 88 | 52 | 50 | 50 | 57 | 45 | 55 | 42 | 45 | 47 | 52 | 65 | 40 | 55 | 31 | 60 |

| STU NBR | 1 W | 2 D | 3 DD | 4 S | 5 F | 6 F- | 7 M | 8 FM | 9 FC | 10 CF | 11 FCH | 12 A | 13 H | 14 P | 15 O |
|------------|--------|--------|---------|--------|--------|---------|--------|---------|---------|----------|-----------|---------|---------|---------|---------|
| 89 | 50 | 45 | 60 | 60 | 60 | 40 | 65 | 55 | 47 | 45 | 50 | 38 | 56 | 48 | 25 |
| 90 | 48 | 51 | 52 | 65 | 60 | 55 | 30 | 50 | 50 | 45 | 57 | 45 | 30 | 43 | 37 |
| 91 | 40 | 45 | 75 | 80 | 80 | 42 | 45 | 45 | 45 | 27 | 42 | 40 | 37 | 33 | 65 |
| 92 | 70 | 31 | 55 | 45 | 47 | 52 | 50 | 57 | 45 | 45 | 57 | 60 | 45 | 53 | 37 |
| 93 | 55 | 46 | 52 | 47 | 45 | 55 | 40 | 60 | 47 | 45 | 62 | 40 | 43 | 33 | 35 |
| 94 | 45 | 56 | 50 | 40 | 65 | 35 | 58 | 65 | 47 | 52 | 37 | 65 | 47 | 45 | 35 |
| 95 | 52 | 45 | 57 | 60 | 65 | 52 | 47 | 67 | 47 | 32 | 37 | 73 | 37 | 45 | 30 |
| 96 | 55 | 45 | 55 | 57 | 60 | 50 | 47 | 57 | 62 | 35 | 42 | 53 | 41 | 41 | 40 |
| 97 | 55 | 51 | 42 | 65 | 65 | 47 | 55 | 57 | 45 | 32 | 50 | 45 | 58 | 53 | 37 |
| 98 | 58 | 43 | 52 | 40 | 50 | 47 | 50 | 50 | 60 | 30 | 65 | 53 | 45 | 45 | 43 |
| 99 | 45 | 51 | 57 | 47 | 67 | 45 | 70 | 62 | 37 | 45 | 35 | 47 | 70 | 41 | 60 |
| 100 | 54 | 58 | 28 | 49 | 43 | 48 | 48 | 40 | 60 | 54 | 60 | 20 | 54 | 56 | 37 |
| 101 | 58 | 51 | 37 | 50 | 57 | 42 | 50 | 55 | 62 | 40 | 50 | 47 | 40 | 65 | 20 |
| 102 | 67 | 38 | 45 | 62 | 45 | 50 | 72 | 40 | 40 | 40 | 62 | 30 | 72 | 41 | 50 |
| 103 | 48 | 46 | 60 | 70 | 70 | 52 | 45 | 37 | 62 | 35 | 45 | 42 | 47 | 45 | 60 |
| 104 | 40 | 56 | 55 | 57 | 57 | 47 | 60 | 57 | 47 | 40 | 45 | 42 | 62 | 50 | 45 |
| 105 | 46 | 48 | 60 | 47 | 52 | 52 | 47 | 50 | 60 | 32 | 57 | 51 | 41 | 52 | 40 |
| 106 | 67 | 38 | 45 | 45 | 47 | 40 | 65 | 50 | 45 | 52 | 57 | 36 | 70 | 40 | 55 |
| 107 | 61 | 53 | 27 | 55 | 45 | 45 | 65 | 57 | 50 | 52 | 45 | 35 | 55 | 66 | 37 |
| 108 | 56 | 43 | 55 | 50 | 67 | 52 | 47 | 40 | 55 | 35 | 47 | 50 | 52 | 40 | 62 |
| 109 | 36 | 56 | 60 | 60 | 60 | 50 | 42 | 50 | 40 | 45 | 65 | 36 | 37 | 42 | 43 |
| 110 | 46 | 58 | 42 | 57 | 65 | 45 | 60 | 57 | 60 | 30 | 40 | 42 | 55 | 55 | 37 |
| 111 | 48 | 58 | 40 | 42 | 62 | 62 | 65 | 40 | 42 | 40 | 35 | 42 | 65 | 41 | 60 |
| 112 | 50 | 51 | 50 | 57 | 67 | 57 | 47 | 45 | 45 | 32 | 50 | 36 | 50 | 51 | 35 |
| 113 | 50 | 55 | 42 | 47 | 42 | 47 | 65 | 62 | 50 | 45 | 45 | 57 | 62 | 48 | 37 |
| 114 | 50 | 53 | 45 | 62 | 60 | 55 | 60 | 62 | 62 | 25 | 32 | 57 | 47 | 52 | 43 |
| 115 | 33 | 72 | 40 | 47 | 80 | 52 | 35 | 55 | 47 | 35 | 40 | 53 | 43 | 45 | 43 |
| 116 | 38 | 58 | 55 | 57 | 70 | 52 | 40 | 62 | 50 | 35 | 40 | 61 | 32 | 45 | 37 |
| 117 | 33 | 58 | 65 | 42 | 67 | 40 | 58 | 55 | 50 | 32 | 50 | 55 | 40 | 40 | 40 |
| 118 | 46 | 61 | 37 | 47 | 47 | 62 | 58 | 57 | 50 | 45 | 37 | 51 | 56 | 45 | 45 |
| 119 | 40 | 51 | 65 | 55 | 75 | 42 | 45 | 57 | 40 | 40 | 52 | 55 | 52 | 31 | 60 |
| 120 | 56 | 51 | 40 | 50 | 47 | 47 | 72 | 50 | 47 | 32 | 55 | 51 | 58 | 63 | 30 |
| 121 | 61 | 35 | 60 | 57 | 47 | 52 | 55 | 55 | 47 | 50 | 52 | 47 | 50 | 55 | 40 |
| 122 | 52 | 53 | 42 | 50 | 47 | 42 | 65 | 65 | 62 | 45 | 35 | 60 | 50 | 61 | 25 |
| 123 | 58 | 55 | 30 | 50 | 42 | 67 | 55 | 55 | 47 | 45 | 42 | 53 | 56 | 55 | 37 |
| 124 | 55 | 41 | 60 | 45 | 62 | 45 | 35 | 45 | 67 | 32 | 60 | 67 | 43 | 43 | 35 |
| 125 | 56 | 45 | 52 | 57 | 57 | 52 | 55 | 57 | 45 | 32 | 52 | 42 | 37 | 40 | 37 |
| 126 | 56 | 41 | 57 | 55 | 57 | 45 | 42 | 62 | 55 | 32 | 57 | 71 | 50 | 61 | 35 |
| 127 | 46 | 58 | 42 | 50 | 62 | 45 | 42 | 55 | 50 | 50 | 52 | 40 | 45 | 45 | 45 |
| 128 | 60 | 50 | 37 | 65 | 50 | 47 | 55 | 57 | 62 | 32 | 52 | 51 | 56 | 63 | 20 |
| 129 | 35 | 58 | 60 | 62 | 80 | 40 | 62 | 57 | 42 | 35 | 35 | 51 | 66 | 50 | 40 |
| 130 | 42 | 48 | 67 | 67 | 70 | 47 | 40 | 55 | 47 | 35 | 52 | 53 | 40 | 36 | 40 |
| 131 | 52 | 48 | 50 | 50 | 57 | 40 | 72 | 40 | 60 | 35 | 47 | 36 | 65 | 61 | 30 |
| 132 | 63 | 45 | 40 | 50 | 50 | 50 | 60 | 57 | 55 | 35 | 47 | 51 | 50 | 58 | 40 |
| 133 | 42 | 61 | 42 | 57 | 77 | 47 | 45 | 50 | 62 | 30 | 37 | 63 | 37 | 42 | 45 |
| 134 | 61 | 46 | 40 | 65 | 50 | 50 | 58 | 45 | 60 | 30 | 60 | 30 | 62 | 63 | 35 |

| STU NBR | 1 W | 2 D | 3 DD | 4 S | 5 F | 6 F- | 7 M | 8 FM | 9 FC | 10 CF | 11 FCH | 12 A | 13 H | 14 P | 15 O |
|------------|--------|--------|---------|--------|--------|---------|--------|---------|---------|----------|-----------|---------|---------|---------|---------|
| 135 | 63 | 38 | 52 | 47 | 47 | 42 | 62 | 45 | 40 | 50 | 52 | 40 | 55 | 56 | 43 |
| 136 | 73 | 40 | 35 | 45 | 25 | 52 | 60 | 60 | 50 | 52 | 60 | 35 | 55 | 56 | 25 |
| 137 | 45 | 53 | 55 | 60 | 62 | 52 | 62 | 55 | 50 | 32 | 37 | 50 | 50 | 40 | 43 |
| 138 | 76 | 31 | 42 | 57 | 27 | 35 | 50 | 62 | 62 | 60 | 65 | 36 | 55 | 62 | 25 |
| 139 | 42 | 53 | 55 | 62 | 62 | 57 | 45 | 60 | 55 | 40 | 37 | 60 | 50 | 53 | 40 |
| 140 | 48 | 53 | 42 | 55 | 67 | 47 | 72 | 50 | 47 | 32 | 32 | 40 | 58 | 51 | 40 |
| 141 | 46 | 58 | 42 | 62 | 52 | 62 | 47 | 57 | 60 | 32 | 42 | 55 | 47 | 50 | 45 |
| 142 | 58 | 41 | 55 | 65 | 57 | 47 | 60 | 50 | 37 | 40 | 60 | 36 | 52 | 60 | 30 |
| 143 | 61 | 50 | 35 | 40 | 32 | 47 | 40 | 57 | 55 | 55 | 71 | 57 | 40 | 52 | 37 |
| 144 | 50 | 51 | 42 | 37 | 52 | 50 | 60 | 40 | 47 | 57 | 42 | 26 | 43 | 48 | 50 |
| 145 | 65 | 48 | 30 | 55 | 45 | 52 | 60 | 45 | 65 | 40 | 47 | 45 | 56 | 65 | 30 |
| 146 | 42 | 50 | 65 | 67 | 65 | 40 | 70 | 60 | 42 | 35 | 42 | 42 | 60 | 48 | 35 |
| 147 | 45 | 51 | 55 | 55 | 70 | 37 | 65 | 55 | 42 | 35 | 47 | 42 | 68 | 41 | 55 |
| 148 | 50 | 55 | 42 | 50 | 60 | 57 | 55 | 60 | 50 | 30 | 40 | 57 | 58 | 48 | 50 |
| 149 | 50 | 46 | 57 | 65 | 50 | 57 | 65 | 57 | 40 | 40 | 45 | 35 | 56 | 45 | 55 |
| 150 | 55 | 41 | 60 | 60 | 45 | 55 | 47 | 55 | 47 | 52 | 55 | 35 | 43 | 53 | 25 |
| 151 | 46 | 53 | 52 | 62 | 60 | 50 | 47 | 70 | 45 | 32 | 45 | 67 | 52 | 38 | 40 |
| 152 | 48 | 55 | 45 | 62 | 77 | 50 | 45 | 50 | 62 | 30 | 35 | 50 | 35 | 51 | 43 |
| 153 | 56 | 51 | 42 | 45 | 60 | 57 | 58 | 45 | 55 | 40 | 37 | 50 | 55 | 53 | 45 |
| 154 | 36 | 55 | 65 | 62 | 80 | 42 | 30 | 57 | 40 | 52 | 50 | 55 | 41 | 41 | 55 |
| 155 | 56 | 46 | 45 | 57 | 62 | 47 | 60 | 40 | 40 | 55 | 45 | 45 | 52 | 62 | 30 |
| 156 | 50 | 45 | 60 | 50 | 70 | 52 | 47 | 50 | 50 | 30 | 47 | 51 | 52 | 48 | 45 |
| 157 | 42 | 51 | 55 | 62 | 80 | 60 | 42 | 57 | 47 | 30 | 20 | 65 | 40 | 36 | 40 |
| 158 | 48 | 53 | 50 | 62 | 42 | 52 | 40 | 60 | 62 | 40 | 47 | 57 | 55 | 52 | 35 |
| 159 | 48 | 53 | 50 | 55 | 55 | 45 | 55 | 60 | 47 | 35 | 55 | 60 | 65 | 40 | 43 |
| 160 | 67 | 43 | 37 | 55 | 45 | 42 | 65 | 50 | 47 | 55 | 52 | 36 | 58 | 63 | 20 |
| 161 | 46 | 50 | 57 | 60 | 60 | 52 | 58 | 50 | 45 | 35 | 50 | 51 | 58 | 55 | 43 |
| 162 | 55 | 43 | 57 | 60 | 57 | 60 | 30 | 55 | 60 | 30 | 57 | 53 | 40 | 40 | 35 |
| 163 | 40 | 55 | 57 | 55 | 77 | 47 | 50 | 50 | 40 | 40 | 45 | 50 | 50 | 52 | 40 |
| 164 | 65 | 46 | 35 | 57 | 52 | 52 | 50 | 35 | 55 | 45 | 60 | 35 | 47 | 63 | 37 |
| 165 | 56 | 53 | 37 | 55 | 37 | 47 | 70 | 55 | 65 | 35 | 47 | 38 | 55 | 58 | 37 |
| 166 | 55 | 48 | 50 | 55 | 62 | 40 | 58 | 55 | 55 | 30 | 55 | 40 | 68 | 52 | 37 |
| 167 | 56 | 45 | 52 | 50 | 62 | 45 | 60 | 50 | 60 | 32 | 45 | 55 | 52 | 52 | 40 |
| 168 | 63 | 41 | 45 | 57 | 40 | 52 | 45 | 60 | 47 | 52 | 57 | 50 | 40 | 52 | 35 |
| 169 | 35 | 70 | 40 | 57 | 80 | 50 | 45 | 50 | 47 | 32 | 42 | 51 | 35 | 42 | 50 |
| 170 | 73 | 30 | 52 | 45 | 50 | 42 | 60 | 55 | 47 | 45 | 57 | 47 | 62 | 43 | 37 |
| 171 | 46 | 46 | 65 | 60 | 65 | 52 | 50 | 40 | 55 | 32 | 50 | 53 | 56 | 43 | 43 |
| 172 | 38 | 61 | 50 | 60 | 67 | 52 | 45 | 60 | 42 | 35 | 45 | 42 | 55 | 33 | 55 |
| 173 | 52 | 50 | 45 | 42 | 65 | 37 | 75 | 55 | 45 | 40 | 37 | 35 | 66 | 43 | 50 |
| 174 | 55 | 45 | 55 | 62 | 55 | 55 | 50 | 57 | 47 | 35 | 50 | 45 | 52 | 38 | 60 |
| 175 | 36 | 56 | 60 | 57 | 55 | 70 | 55 | 57 | 40 | 32 | 42 | 42 | 43 | 25 | 80 |
| 176 | 48 | 51 | 52 | 50 | 45 | 50 | 47 | 65 | 50 | 45 | 52 | 55 | 40 | 55 | 43 |
| 177 | 73 | 33 | 42 | 55 | 25 | 40 | 58 | 62 | 65 | 50 | 65 | 47 | 47 | 67 | 30 |
| 178 | 80 | 28 | 42 | 57 | 37 | 42 | 62 | 35 | 60 | 45 | 71 | 25 | 56 | 63 | 30 |
| 179 | 55 | 56 | 35 | 40 | 67 | 47 | 47 | 57 | 62 | 35 | 37 | 55 | 45 | 46 | 40 |
| 180 | 60 | 46 | 42 | 55 | 60 | 32 | 58 | 60 | 50 | 45 | 52 | 57 | 50 | 48 | 55 |

| STU NRR | 1 W | 2 D | 3 DD | 4 S | 5 F | 6 F- | 7 M | 8 FM | 9 FC | 10 CF | 11 FCII | 12 A | 13 H | 14 P | 15 O |
|------------|--------|--------|---------|--------|--------|---------|--------|---------|---------|----------|------------|---------|---------|---------|---------|
| 181 | 63 | 41 | 45 | 60 | 45 | 52 | 42 | 57 | 60 | 40 | 60 | 50 | 37 | 60 | 35 |
| 182 | 58 | 45 | 50 | 50 | 47 | 55 | 50 | 55 | 50 | 50 | 50 | 50 | 52 | 55 | 37 |
| 183 | 55 | 50 | 45 | 60 | 60 | 47 | 42 | 57 | 47 | 40 | 55 | 53 | 35 | 46 | 20 |
| 184 | 61 | 53 | 27 | 47 | 35 | 50 | 55 | 60 | 67 | 32 | 57 | 61 | 47 | 52 | 40 |
| 185 | 60 | 46 | 40 | 47 | 45 | 45 | 62 | 57 | 47 | 50 | 52 | 42 | 56 | 51 | 35 |
| 186 | 58 | 40 | 57 | 60 | 50 | 62 | 25 | 35 | 45 | 40 | 80 | 45 | 28 | 36 | 45 |
| 187 | 60 | 45 | 45 | 45 | 47 | 57 | 62 | 55 | 47 | 45 | 42 | 45 | 55 | 53 | 45 |
| 188 | 76 | 36 | 35 | 42 | 50 | 40 | 50 | 50 | 47 | 40 | 70 | 36 | 62 | 51 | 40 |
| 189 | 36 | 58 | 55 | 60 | 77 | 52 | 47 | 55 | 45 | 32 | 40 | 45 | 56 | 36 | 40 |
| 190 | 35 | 51 | 72 | 55 | 55 | 75 | 45 | 50 | 32 | 35 | 55 | 55 | 37 | 26 | 62 |
| 191 | 55 | 58 | 30 | 37 | 57 | 45 | 72 | 57 | 50 | 50 | 30 | 45 | 60 | 60 | 30 |
| 192 | 65 | 46 | 35 | 50 | 50 | 42 | 45 | 55 | 60 | 50 | 60 | 45 | 45 | 50 | 30 |
| 193 | 36 | 63 | 50 | 50 | 57 | 47 | 50 | 50 | 50 | 45 | 55 | 57 | 41 | 53 | 35 |
| 194 | 36 | 65 | 45 | 65 | 77 | 50 | 47 | 50 | 40 | 52 | 37 | 53 | 55 | 46 | 62 |
| 195 | 61 | 43 | 50 | 45 | 52 | 42 | 30 | 55 | 55 | 55 | 65 | 55 | 43 | 43 | 50 |
| 196 | 55 | 53 | 40 | 57 | 60 | 45 | 55 | 60 | 47 | 35 | 50 | 60 | 58 | 50 | 37 |
| 197 | 55 | 51 | 42 | 57 | 67 | 45 | 50 | 65 | 50 | 25 | 47 | 55 | 52 | 51 | 37 |
| 198 | 38 | 60 | 50 | 60 | 75 | 40 | 45 | 55 | 47 | 32 | 55 | 50 | 40 | 51 | 30 |
| 199 | 58 | 45 | 50 | 60 | 67 | 52 | 45 | 50 | 35 | 35 | 62 | 51 | 43 | 40 | 37 |
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| 202 | 45 | 50 | 57 | 57 | 80 | 42 | 47 | 60 | 37 | 40 | 37 | 45 | 50 | 50 | 35 |
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| 204 | 46 | 53 | 50 | 55 | 62 | 50 | 58 | 50 | 40 | 40 | 52 | 55 | 55 | 50 | 43 |
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| 207 | 45 | 63 | 37 | 60 | 75 | 55 | 55 | 45 | 45 | 32 | 40 | 50 | 56 | 51 | 43 |
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| 209 | 52 | 45 | 57 | 65 | 62 | 45 | 62 | 57 | 37 | 40 | 50 | 36 | 62 | 32 | 43 |
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| 214 | 55 | 51 | 42 | 50 | 65 | 35 | 60 | 50 | 50 | 35 | 55 | 50 | 47 | 61 | 35 |
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| 216 | 52 | 50 | 42 | 47 | 45 | 50 | 70 | 55 | 50 | 45 | 45 | 51 | 58 | 50 | 43 |
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| 13 | 52 | 53 | 42 | 102 | 103 | 55 | 60 | 68 | 66 | 55 | 51 | 30 | 55 | 110 | 95 | 90 | 43 | 45 | 84 | 37 | 64 | 50 | 52 | 100 | 81 |
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| 25 | 60 | 43 | 50 | 110 | 93 | 47 | 45 | 45 | 63 | 43 | 42 | 40 | 47 | 95 | 105 | 80 | 63 | 60 | 57 | 65 | 68 | 50 | 75 | 115 | 62 |
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| 29 | 55 | 55 | 37 | 125 | 125 | 50 | 42 | 52 | 67 | 58 | 61 | 30 | 50 | 112 | 125 | 95 | 63 | 70 | 69 | 42 | 59 | 70 | 68 | 128 | 91 |
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| 40 | 61 | 45 | 42 | 108 | 92 | 42 | 45 | 45 | 55 | 47 | 48 | 45 | 42 | 92 | 109 | 112 | 83 | 75 | 56 | 57 | 60 | 47 | 75 | 103 | 63 |
| 41 | 58 | 41 | 55 | 123 | 106 | 55 | 50 | 60 | 77 | 66 | 62 | 35 | 55 | 115 | 110 | 97 | 60 | 70 | 72 | 42 | 55 | 65 | 60 | 112 | 87 |
| 42 | 55 | 41 | 60 | 102 | 88 | 67 | 75 | 83 | 70 | 37 | 46 | 43 | 67 | 122 | 89 | 87 | 60 | 62 | 85 | 42 | 48 | 47 | 37 | 96 | 63 |
| 43 | 50 | 41 | 67 | 95 | 86 | 55 | 57 | 57 | 42 | 55 | 35 | 55 | 55 | 102 | 90 | 95 | 48 | 48 | 79 | 42 | 68 | 45 | 63 | 93 | 40 |
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| 45 | 40 | 53 | 60 | 82 | 95 | 50 | 75 | 93 | 34 | 41 | 41 | 43 | 50 | 117 | 97 | 95 | 52 | 45 | 102 | 42 | 51 | 42 | 27 | 100 | 58 |
| 46 | 45 | 53 | 55 | 103 | 111 | 47 | 67 | 87 | 48 | 56 | 41 | 37 | 47 | 125 | 98 | 90 | 44 | 53 | 92 | 40 | 50 | 58 | 33 | 103 | 64 |
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| 49 | 40 | 56 | 52 | 70 | 86 | 57 | 80 | 93 | 45 | 40 | 40 | 50 | 57 | 110 | 92 | 94 | 56 | 40 | 100 | 42 | 54 | 30 | 27 | 95 | 50 |
| 50 | 38 | 45 | 80 | 83 | 90 | 70 | 65 | 70 | 47 | 45 | 38 | 50 | 70 | 110 | 85 | 80 | 38 | 40 | 72 | 42 | 65 | 45 | 50 | 95 | 48 |
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| 52 | 58 | 41 | 55 | 116 | 99 | 57 | 62 | 77 | 46 | 47 | 46 | 43 | 57 | 120 | 98 | 100 | 59 | 68 | 82 | 42 | 48 | 58 | 43 | 98 | 63 |
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| 54 | 48 | 58 | 40 | 113 | 123 | 40 | 45 | 60 | 67 | 65 | 51 | 40 | 40 | 110 | 115 | 85 | 61 | 68 | 55 | 55 | 56 | 65 | 60 | 123 | 71 |
| 55 | 70 | 38 | 42 | 120 | 88 | 47 | 45 | 65 | 60 | 50 | 52 | 40 | 47 | 95 | 97 | 92 | 44 | 45 | 59 | 62 | 65 | 50 | 55 | 101 | 72 |
| 56 | 46 | 55 | 50 | 104 | 113 | 45 | 60 | 65 | 70 | 60 | 50 | 37 | 45 | 118 | 98 | 90 | 49 | 58 | 84 | 37 | 59 | 58 | 55 | 103 | 73 |
| 57 | 60 | 46 | 42 | 110 | 96 | 37 | 50 | 65 | 54 | 47 | 51 | 37 | 37 | 100 | 112 | 107 | 59 | 53 | 60 | 50 | 61 | 50 | 55 | 109 | 74 |
| 58 | 42 | 58 | 50 | 84 | 100 | 55 | 65 | 75 | 44 | 35 | 42 | 30 | 55 | 107 | 89 | 92 | 48 | 45 | 85 | 45 | 60 | 42 | 45 | 93 | 72 |
| 59 | 42 | 51 | 57 | 92 | 101 | 50 | 70 | 68 | 49 | 50 | 33 | 40 | 50 | 120 | 92 | 74 | 61 | 65 | 94 | 47 | 54 | 50 | 52 | 105 | 53 |
| 60 | 36 | 61 | 52 | 91 | 116 | 57 | 70 | 83 | 62 | 52 | 41 | 45 | 57 | 125 | 102 | 87 | 74 | 78 | 86 | 50 | 40 | 55 | 37 | 109 | 56 |
| 61 | 58 | 45 | 50 | 113 | 100 | 55 | 45 | 53 | 55 | 56 | 62 | 25 | 55 | 100 | 102 | 92 | 51 | 55 | 62 | 52 | 66 | 55 | 67 | 106 | 97 |
| 62 | 65 | 40 | 45 | 130 | 105 | 57 | 45 | 58 | 68 | 68 | 50 | 37 | 57 | 110 | 110 | 90 | 55 | 65 | 61 | 50 | 59 | 65 | 62 | 115 | 73 |
| 63 | 56 | 55 | 35 | 101 | 100 | 32 | 30 | 40 | 50 | 47 | 52 | 37 | 32 | 75 | 112 | 117 | 51 | 40 | 32 | 55 | 80 | 45 | 80 | 104 | 75 |
| 64 | 50 | 53 | 45 | 125 | 128 | 42 | 50 | 63 | 77 | 68 | 46 | | | | | | | | | | | | | | |

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|------------|----|----|----|-----|-----|----|----|--------|--------|----|----|----|----|-----|-----|-----|---------|---------|---------|----|---------|----|---------|-----|---------|----|
| 66 | 36 | 66 | 42 | 75 | 106 | 47 | 67 | 80 | 35 | 32 | 48 | 35 | 47 | 107 | 95 | 100 | 51 | 43 | 89 | 45 | 59 | 40 | 40 | 95 | 73 | |
| 67 | 61 | 46 | 40 | 116 | 101 | 50 | 50 | 58 | 61 | 56 | 55 | 37 | 50 | 105 | 100 | 85 | 53 | 58 | 70 | 55 | 62 | 55 | 62 | 108 | 78 | |
| 68 | 58 | 46 | 45 | 116 | 104 | 47 | 50 | 65 | 69 | 55 | 53 | 35 | 47 | 108 | 103 | 97 | 55 | 61 | 69 | 52 | 57 | 58 | 55 | 105 | 78 | |
| 69 | 55 | 51 | 42 | 100 | 96 | 55 | 60 | 70 | 55 | 41 | 63 | 25 | 55 | 105 | 105 | 105 | 76 | 68 | 75 | 55 | 51 | 45 | 50 | 103 | 98 | |
| 70 | 36 | 68 | 40 | 71 | 103 | 57 | 70 | 68 | 32 | 35 | 43 | 35 | 57 | 105 | 97 | 92 | 59 | 45 | 90 | 42 | 64 | 35 | 52 | 101 | 68 | |
| 71 | 48 | 56 | 42 | 93 | 101 | 50 | 65 | 85 | 37 | 32 | 42 | 50 | 50 | 110 | 92 | 87 | 41 | 40 | 88 | 50 | 58 | 45 | 35 | 99 | 52 | |
| 72 | 50 | 51 | 50 | 92 | 93 | 50 | 52 | 55 | 56 | 40 | 52 | 30 | 50 | 94 | 79 | 82 | 60 | 62 | 76 | 47 | 62 | 42 | 65 | 88 | 82 | |
| 73 | 27 | 76 | 42 | 77 | 126 | 60 | 77 | 72 | 48 | 41 | 36 | 50 | 60 | 127 | 100 | 82 | 53 | 53 | 101 | 27 | 58 | 50 | 48 | 109 | 46 | |
| 74 | 50 | 63 | 57 | 85 | 98 | 65 | 60 | 68 | 54 | 56 | 51 | 40 | 65 | 95 | 90 | 100 | 50 | 40 | 67 | 52 | 66 | 35 | 52 | 90 | 71 | |
| 75 | 46 | 48 | 60 | 88 | 90 | 55 | 70 | 73 | 34 | 47 | 43 | 37 | 55 | 112 | 82 | 85 | 44 | 45 | 92 | 42 | 61 | 42 | 47 | 90 | 66 | |
| 76 | 33 | 63 | 55 | 63 | 93 | 60 | 70 | 73 | 36 | 40 | 32 | 80 | 60 | 100 | 75 | 85 | 53 | 45 | 80 | 55 | 61 | 30 | 47 | 83 | 12 | |
| 77 | 40 | 48 | 70 | 110 | 118 | 70 | 72 | 75 | 63 | 60 | 45 | 55 | 70 | 142 | 105 | 67 | 53 | 70 | 86 | 27 | 48 | 70 | 45 | 122 | 50 | |
| 78 | 55 | 46 | 52 | 113 | 104 | 60 | 57 | 67 | 86 | 56 | 55 | 35 | 60 | 115 | 98 | 80 | 64 | 73 | 64 | 62 | 50 | 58 | 53 | 108 | 80 | |
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| 80 | 60 | 46 | 42 | 125 | 111 | 45 | 37 | 57 | 62 | 50 | 48 | 40 | 45 | 102 | 120 | 117 | 75 | 80 | 54 | 52 | 52 | 65 | 63 | 112 | 68 | |
| 81 | 35 | 55 | 67 | 93 | 113 | 47 | 50 | 60 | 45 | 56 | 40 | 45 | 47 | 108 | 118 | 100 | 64 | 63 | 71 | 47 | 59 | 58 | 60 | 118 | 55 | |
| 82 | 50 | 53 | 42 | 100 | 103 | 60 | 52 | 65 | 69 | 52 | 56 | 35 | 60 | 102 | 105 | 100 | 56 | 53 | 65 | 50 | 61 | 50 | 55 | 105 | 81 | |
| 83 | 38 | 56 | 57 | 93 | 111 | 55 | 62 | 75 | 54 | 50 | 43 | 45 | 55 | 117 | 117 | 102 | 64 | 60 | 86 | 37 | 53 | 55 | 45 | 116 | 58 | |
| 84 | 52 | 51 | 45 | 97 | 96 | 60 | 57 | 60 | 51 | 56 | 51 | 30 | 60 | 102 | 107 | 97 | 69 | 60 | 71 | 47 | 60 | 45 | 60 | 109 | 81 | |
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| 87 | 27 | 65 | 60 | 57 | 95 | 47 | 77 | 87 | 28 | 30 | 35 | 45 | 47 | 107 | 80 | 100 | 50 | 40 | 102 | 40 | 57 | 30 | 33 | 80 | 50 | |
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| 115 | 33 | 72 | 40 | 68 | 107 | 47 | 80 | 88 | 51 | 43 | 45 | 43 | 47 | 115 | 82 | 82 | 46 | 40 | 105 | 40 | 56 | 35 | 32 | 91 | 62 | |
| 116 | 38 | 58 | 55 | 78 | 98 | 57 | 70 | 78 | 38 | 32 | 45 | 37 | 57 | 110 | 90 | 85 | 43 | 38 | 91 | 40 | 62 | 40 | 42 | 98 | 68 | |
| 117 | 33 | 58 | 65 | 91 | 116 | 42 | 67 | 87 | 45 | 40 | 40 | 40 | 42 | 125 | 108 | 82 | 59 | 63 | 82 | 50 | 45 | 58 | 33 | 117 | 60 | |
| 118 | 46 | 61 | 37 | 104 | 119 | 47 | 47 | 45 | 60 | 56 | 45 | 45 | 47 | 105 | 108 | 95 | 57 | 61 | 73 | 37 | 67 | 58 | 75 | 111 | 60 | |
| 119 | 40 | 51 | 65 | 85 | 96 | 55 | 75 | 93 | 47 | 52 | 31 | 60 | 55 | 120 | 85 | 80 | 46 | 48 | 92 | 52 | 50 | 45 | 27 | 95 | 31 | |
| 120 | 56 | 51 | 40 | 128 | 123 | 50 | 47 | 60 | 70 | 58 | 63 | 30 | 50 | 119 | 119 | 79 | 70 | 82 | 67 | 55 | 49 | 72 | 60 | 130 | 93 | |
| 121 | 61 | 35 | 60 | 116 | 90 | 57 | 47 | 55 | 66 | 50 | 55 | 40 | 57 | 102 | 102 | 97 | 56 | 60 | 62 | 52 | 63 | 55 | 65 | 104 | 75 | |
| 122 | 52 | 53 | 42 | 117 | 118 | 50 | 47 | 65 | 56 | 50 | 61 | 25 | 50 | 112 | 127 | 107 | 59 | 60 | 77 | 35 | 58 | 65 | 55 | 124 | 96 | |
| 123 | 58 | 55 | 30 | 113 | 110 | 50 | 42 | 35 | 63 | 56 | 55 | 37 | 50 | 97 | 102 | 92 | 56 | 60 | 69 | 42 | 73 | 55 | 85 | 106 | 78 | |
| 124 | 55 | 41 | 60 | 90 | 76 | 45 | 62 | 77 | 36 | 43 | 43 | 35 | 45 | 97 | 102 | 99 | 66 | 50 | 75 | 60 | 57 | 35 | 43 | 103 | 68 | |
| 125 | 56 | 45 | 52 | 111 | 100 | 57 | 57 | 65 | 55 | 47 | 37 | 40 | 37 | 57 | 112 | 100 | 77 | 53 | 58 | 72 | 52 | 59 | 55 | 55 | 112 | 63 |
| 126 | 56 | 41 | 57 | 98 | 83 | 55 | 57 | 72 | 45 | 50 | 61 | 35 | 55 | 99 | 97 | 87 | 47 | 40 | 71 | 57 | 64 | 42 | 48 | 104 | 86 | |
| 127 | 46 | 58 | 42 | 88 | 100 | 50 | 62 | 77 | 65 | 45 | 45 | 45 | 50 | 104 | 92 | 100 | 51 | 47 | 84 | 52 | 58 | 42 | 43 | 92 | 60 | |
| 128 | 60 | 50 | 37 | 115 | 105 | 65 | 50 | 63 | 69 | 56 | 63 | 20 | 65 | 105 | 117 | 94 | 62 | 58 | 57 | 52 | 60 | 55 | 57 | 120 | 103 | |
| 129 | 35 | 58 | 60 | 97 | 120 | 62 | 80 | 100 | 6 | | | | | | | | | | | | | | | | | |

| STU NUM | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|------------|----|----|----|-----|-----|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|-----|----|----|----|----|-----|-----|
| 135 | 63 | 38 | 52 | 125 | 100 | 47 | 47 | 65 | 76 | 55 | 56 | 42 | 47 | 109 | 102 | 90 | 66 | 77 | 66 | 52 | 49 | 62 | 55 | 107 | 73 |
| 136 | 73 | 40 | 35 | 133 | 100 | 45 | 25 | 33 | 81 | 55 | 56 | 25 | 45 | 85 | 110 | 102 | 59 | 60 | 38 | 60 | 74 | 60 | 87 | 109 | 91 |
| 137 | 45 | 53 | 55 | 107 | 115 | 60 | 62 | 70 | 55 | 50 | 40 | 43 | 60 | 124 | 112 | 82 | 61 | 67 | 81 | 37 | 52 | 62 | 50 | 121 | 57 |
| 138 | 76 | 31 | 42 | 126 | 91 | 57 | 27 | 52 | 83 | 55 | 62 | 25 | 57 | 77 | 112 | 122 | 54 | 48 | 35 | 65 | 70 | 50 | 68 | 101 | 97 |
| 139 | 42 | 53 | 55 | 87 | 92 | 62 | 62 | 65 | 52 | 50 | 53 | 40 | 62 | 107 | 100 | 95 | 50 | 45 | 70 | 37 | 65 | 45 | 55 | 103 | 73 |
| 140 | 48 | 53 | 42 | 120 | 125 | 55 | 67 | 80 | 75 | 58 | 51 | 40 | 55 | 139 | 119 | 79 | 70 | 82 | 94 | 32 | 39 | 72 | 40 | 130 | 71 |
| 141 | 46 | 58 | 42 | 93 | 105 | 62 | 52 | 50 | 54 | 47 | 50 | 45 | 62 | 99 | 107 | 92 | 57 | 50 | 67 | 42 | 70 | 47 | 70 | 111 | 65 |
| 142 | 58 | 41 | 55 | 118 | 101 | 65 | 57 | 70 | 80 | 52 | 60 | 30 | 55 | 117 | 97 | 77 | 59 | 70 | 60 | 60 | 50 | 60 | 50 | 109 | 90 |
| 143 | 61 | 50 | 35 | 101 | 90 | 40 | 32 | 45 | 49 | 40 | 52 | 37 | 40 | 72 | 95 | 110 | 51 | 43 | 34 | 71 | 76 | 40 | 75 | 90 | 75 |
| 144 | 50 | 51 | 42 | 110 | 111 | 37 | 52 | 62 | 80 | 43 | 48 | 50 | 37 | 112 | 107 | 104 | 74 | 80 | 66 | 42 | 49 | 60 | 58 | 105 | 58 |
| 145 | 65 | 48 | 30 | 125 | 108 | 55 | 45 | 53 | 76 | 56 | 65 | 30 | 55 | 105 | 125 | 105 | 78 | 75 | 64 | 47 | 56 | 60 | 67 | 123 | 95 |
| 146 | 42 | 50 | 65 | 112 | 120 | 67 | 65 | 85 | 72 | 60 | 48 | 35 | 67 | 135 | 112 | 77 | 56 | 70 | 75 | 42 | 43 | 70 | 35 | 124 | 73 |
| 147 | 45 | 51 | 55 | 110 | 116 | 55 | 70 | 93 | 73 | 68 | 41 | 55 | 55 | 135 | 107 | 77 | 59 | 70 | 89 | 47 | 39 | 65 | 27 | 119 | 46 |
| 148 | 50 | 55 | 42 | 105 | 110 | 50 | 60 | 63 | 56 | 58 | 48 | 50 | 50 | 115 | 105 | 80 | 53 | 55 | 88 | 40 | 61 | 55 | 57 | 115 | 58 |
| 149 | 50 | 46 | 57 | 115 | 111 | 65 | 50 | 53 | 76 | 56 | 45 | 55 | 65 | 115 | 105 | 80 | 56 | 68 | 60 | 45 | 60 | 65 | 67 | 115 | 50 |
| 150 | 55 | 41 | 60 | 102 | 88 | 60 | 45 | 50 | 73 | 43 | 53 | 25 | 60 | 92 | 94 | 99 | 52 | 52 | 55 | 55 | 69 | 47 | 70 | 95 | 88 |
| 151 | 46 | 53 | 52 | 93 | 100 | 52 | 60 | 70 | 38 | 52 | 38 | 40 | 62 | 107 | 92 | 77 | 36 | 37 | 73 | 45 | 67 | 47 | 50 | 104 | 58 |
| 152 | 48 | 55 | 45 | 93 | 100 | 62 | 77 | 87 | 53 | 35 | 51 | 43 | 62 | 122 | 107 | 92 | 64 | 55 | 95 | 35 | 49 | 45 | 33 | 111 | 68 |
| 153 | 56 | 51 | 42 | 114 | 109 | 45 | 60 | 63 | 64 | 55 | 53 | 45 | 45 | 118 | 113 | 95 | 72 | 73 | 84 | 37 | 52 | 58 | 57 | 116 | 68 |
| 154 | 36 | 55 | 65 | 66 | 85 | 62 | 80 | 98 | 46 | 41 | 41 | 55 | 62 | 110 | 70 | 92 | 38 | 33 | 91 | 50 | 55 | 30 | 22 | 74 | 46 |
| 155 | 56 | 46 | 45 | 116 | 106 | 57 | 62 | 75 | 72 | 52 | 62 | 30 | 57 | 122 | 100 | 95 | 70 | 80 | 50 | 45 | 43 | 60 | 45 | 103 | 92 |
| 156 | 50 | 45 | 60 | 97 | 92 | 50 | 70 | 78 | 59 | 52 | 48 | 45 | 50 | 117 | 97 | 80 | 59 | 57 | 94 | 47 | 53 | 47 | 42 | 107 | 63 |
| 157 | 42 | 51 | 55 | 84 | 93 | 62 | 80 | 80 | 33 | 40 | 36 | 40 | 62 | 122 | 89 | 77 | 48 | 45 | 106 | 20 | 58 | 42 | 40 | 101 | 56 |
| 158 | 48 | 53 | 50 | 88 | 93 | 62 | 42 | 50 | 57 | 55 | 52 | 35 | 62 | 82 | 102 | 102 | 51 | 40 | 54 | 47 | 75 | 40 | 70 | 101 | 77 |
| 159 | 48 | 53 | 50 | 103 | 108 | 55 | 55 | 70 | 53 | 65 | 40 | 43 | 55 | 110 | 102 | 82 | 51 | 55 | 70 | 55 | 58 | 55 | 50 | 111 | 57 |
| 160 | 67 | 43 | 37 | 132 | 108 | 55 | 45 | 63 | 85 | 58 | 63 | 20 | 55 | 110 | 112 | 102 | 66 | 75 | 62 | 52 | 51 | 65 | 57 | 111 | 103 |
| 161 | 46 | 50 | 57 | 104 | 108 | 60 | 60 | 68 | 66 | 58 | 55 | 43 | 60 | 118 | 103 | 80 | 62 | 68 | 73 | 50 | 52 | 58 | 52 | 113 | 72 |
| 162 | 55 | 43 | 57 | 85 | 73 | 60 | 57 | 57 | 47 | 40 | 40 | 35 | 60 | 87 | 90 | 90 | 50 | 35 | 66 | 57 | 74 | 30 | 63 | 95 | 65 |
| 163 | 40 | 55 | 57 | 90 | 105 | 55 | 77 | 90 | 61 | 50 | 52 | 40 | 55 | 127 | 90 | 80 | 55 | 60 | 97 | 45 | 45 | 50 | 30 | 100 | 72 |
| 164 | 65 | 46 | 35 | 115 | 96 | 57 | 52 | 60 | 80 | 47 | 63 | 37 | 57 | 102 | 105 | 100 | 78 | 75 | 63 | 60 | 53 | 50 | 60 | 105 | 86 |
| 165 | 56 | 53 | 37 | 126 | 123 | 55 | 37 | 50 | 79 | 55 | 58 | 37 | 55 | 107 | 135 | 100 | 73 | 75 | 56 | 47 | 58 | 70 | 70 | 135 | 81 |
| 166 | 55 | 48 | 50 | 113 | 106 | 55 | 62 | 82 | 80 | 68 | 52 | 37 | 55 | 120 | 113 | 85 | 62 | 63 | 77 | 55 | 48 | 58 | 38 | 121 | 75 |
| 167 | 56 | 45 | 52 | 116 | 105 | 50 | 62 | 77 | 57 | 52 | 52 | 40 | 50 | 122 | 120 | 92 | 70 | 70 | 87 | 45 | 47 | 60 | 43 | 124 | 72 |
| 168 | 63 | 41 | 45 | 108 | 86 | 57 | 40 | 48 | 56 | 40 | 52 | 35 | 57 | 85 | 92 | 99 | 46 | 45 | 52 | 57 | 74 | 45 | 72 | 93 | 77 |
| 169 | 35 | 70 | 40 | 80 | 115 | 57 | 80 | 90 | 48 | 35 | 42 | 50 | 57 | 125 | 92 | 79 | 56 | 55 | 100 | 42 | 48 | 45 | 30 | 103 | 52 |
| 170 | 73 | 30 | 52 | 133 | 90 | 45 | 50 | 68 | 66 | 62 | 43 | 37 | 45 | 110 | 107 | 92 | 59 | 65 | 64 | 57 | 54 | 60 | 52 | 111 | 66 |
| 171 | 46 | 46 | 65 | 96 | 96 | 60 | 65 | 73 | 57 | 56 | 43 | 43 | 60 | 115 | 105 | 87 | 73 | 70 | 78 | 50 | 49 | 50 | 47 | 112 | 60 |
| 172 | 38 | 61 | 50 | 83 | 106 | 60 | 67 | 75 | 62 | 55 | 33 | 55 | 60 | 112 | 87 | 77 | 44 | 45 | 82 | 45 | 60 | 45 | 45 | 99 | 38 |
| 173 | 52 | 50 | 45 | 127 | 125 | 42 | 65 | 88 | 80 | 66 | 43 | 50 | 42 | 140 | 120 | 85 | 65 | 80 | 86 | 37 | 36 | 75 | 32 | 128 | 53 |
| 174 | 55 | 45 | 55 | 105 | 95 | 62 | 55 | 60 | 60 | 52 | 38 | 60 | 62 | 105 | 97 | 82 | 52 | 53 | 66 | 50 | 64 | 50 | 60 | 106 | 38 |
| 175 | 36 | 56 | 60 | 91 | 111 | 57 | 55 | 45 | 52 | 43 | 25 | 80 | 57 | 110 | 95 | 72 | 51 | 58 | 75 | 42 | 69 | 55 | 75 | 109 | 5 |
| 176 | 48 | 51 | 52 | 95 | 98 | 50 | 45 | 55 | 53 | 40 | 55 | 43 | 50 | 92 | 97 | 95 | 44 | 42 | 67 | 52 | 72 | 47 | 65 | 100 | 72 |
| 177 | 73 | 33 | 42 | 131 | 91 | 55 | 25 | 45 | 70 | 47 | 67 | 30 | 55 | 83 | 123 | 115 | 60 | 56 | 35 | 65 | 70 | 58 | 75 | 116 | 97 |
| 178 | 80 | 28 | 42 | 142 | 90 | 57 | 37 | 55 | 95 | 56 | 63 | 30 | 57 | 99 | 122 | 105 | 86 | 87 | 42 | 71 | 49 | 62 | 65 | 120 | 93 |
| 179 | 55 | 56 | 35 | 102 | 103 | 40 | 67 | 80 | 51 | 45 | 46 | 40 | 40 | 114 | 109 | 97 | 58 | 50 | 86 | 37 | 55 | 47 | 40 | 111 | 66 |
| 180 | 60 | 46 | 42 | 118 | 104 | 55 | 60 | 88 | 52 | 50 | 48 | 55 | 55 | 118 | 108 | 95 | 54 | 58 | 77 | 52 | 47 | 58 | 32 | 111 | 53 |
| 181 | 63 | 41 | 45 | 105 | 83 | 60 | 45 | 53 | 59 | 37 | 60 | 35 | 60 | 87 | 102 | 100 | 54 | 45 | 53 | 60 | 71 | 42 | 67 | 102 | 85 |
| 182 | 58 | 45 | 50 | 108 | 95 | 50 | 47 | 52 | 64 | 52 | 55 | 37 | 50 | 97 | 100 | 100 | 55 | 55 | 70 | 50 | 67 | 50 | 68 | 100 | 78 |
| 183 | 55 | 50 | 45 | 97 | 92 | 60 | 60 | 73 | 48 | 35 | 46 | 20 | 60 | 102 | 89 | 87 | 48 | 45 | 70 | 55 | 61 | 42 | 47 | 96 | 86 |
| 184 | 61 | 53 | 27 | 116 | 108 | 47 | 35 | 45 | 49 | 47 | 52 | 40 | 47 | 90 | 122 | 99 | 61 | 55 | 51 | 57 | 70 | 55 | 75 | 123 | 72 |
| 185 | 60 | 46 | 40 | 122 | 108 | 47 | 45 | 60 | 72 | 56 | 51 | 35 | 47 | 107 | 109 | 97 | 58 | 65 | 64 | 52 | 58 | 62 | 60 | 111 | 76 |
| 186 | 58 | 40 | 57 | 83 | 65 | 60 | 50 | 48 | 47 | 28 | 36 | 45 | 60 | 75 | 70 | 85 | 60 | 50 | 48 | 80 | 71 | 25 | 72 | 78 | 51 |
| 187 | 60 | 45 | 45 | 122 | 107 | 45 | 47 | 50 | 69 | 55 | 53 | 45 | 45 | 109 | 109 | 92 | 60 | 67 | 69 | 42 | 62 | 62 | 70 | 113 | 68 |
| 188 | 76 | 36 | 35 | 126 | 86 | 42 | 50 | 70 | 81 | 62 | 51 | 40 | 42 | 100 | 97 | 87 | 59 | 60 | 55 | 70 | 55 | 50 | 50 | 104 | 71 |
| 189 | 36 | 58 | 55 | 83 | 105 | 60 | 77 | 85 | 61 | 56 | 36 | 40 | 60 | 124 | 92 | 77 | 51 | 52 | 95 | 40 | 52 | 47 | 35 | 104 | 56 |
| 190 | 35 | 51 | 72 | 80 | 96 | 55 | 55 | 40 | 37 | 37 | 26 | 62 | 55 | 100 | 77 | 67 | 49 | 55 | 70 | 55 | 73 | 45 | 80 | 94 | 24 |
| 191 | 55 | 58 | 30 | 127 | 130 | 37 | 57 | 72 | 75 | 60 | 60 | 30 | 37 | 129 | 122 | 100 | 64 | 75 | 77 | 30 | 47 | 72 | 48 | 122 | 90 |
| 192 | 65 | 46 | 35 | 110 | 91 | 50 | 50 | 68 | 63 | 45 | 50 | 30 | 50 | 95 | 105 | 110 | 58 | 50 | 68 | 60 | 61 | 45 | 52 | 100 | 80 |
| 193 | 36 | 63 | 50 | 86 | 113 | 50 | 57 | 70 | 50 | 41 | 53 | 35 | 50 | 107 | 100 | 95 | 60 | 60 | 77 | 55 | 55 | 50 | 50 | 103 | 78 |
| 194 | 36 | 65 | 45 | 83 | 112 | 65 | 77 | 87 | 58 | 55 | 46 | 62 | 55 | 124 | 87 | 92 | 54 | 57 | 91 | 37 | 48 | 47 | 33 | 91 | 44 |
| 195 | 61 | 43 | 50 | 91 | 73 | 45 | 52 | 70 | 48 | 43 | 43 | 50 | 45 | 82 | 85 | 110 | 48 | 35 | 62 | 65 | 68 | 30 | 50 | 80 | 53 |
| 196 | 55 | 53 | 40 | 110 | 108 | 57 | 60 | 75 | 54 | 58 | 50 | 37 | 57 | 115 | 102 | 82 | 51 | 55 | 76 | 50 | 55 | 55 | 45 | 111 | 73 |
| 197 | 55 | 51 | 42 | 105 | 101 | 57 | 67 | 82 | 57 | 52 | 51 | 37 | 57 | 117 | 100 | 75 | 45 | 45 | 84 | 47 | 57 | 50 | 38 | 113 | 74 |
| 198 | 38 | 60 | 50 | 83 | 105 | 60 | | | | | | | | | | | | | | | | | | | |

| STU NUM | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 * | 9 * | 10 | 11 | 12 | 13 | 14 | 15 * | 16 | 17 * | 18 * | 19 * | 20 * | 21 * | 22 | 23 * | 24 | 25 * |
|------------|----|----|----|-----|-----|----|----|--------|--------|----|----|----|----|-----|---------|-----|---------|---------|---------|---------|---------|----|---------|-----|---------|
| 203 | 61 | 40 | 52 | 112 | 98 | 55 | 67 | 80 | 56 | 40 | 66 | 30 | 65 | 125 | 108 | 82 | 69 | 73 | 76 | 47 | 44 | 58 | 40 | 117 | 96 |
| 204 | 46 | 53 | 50 | 104 | 111 | 55 | 62 | 72 | 53 | 55 | 50 | 43 | 55 | 120 | 98 | 80 | 50 | 68 | 70 | 52 | 50 | 58 | 48 | 108 | 67 |
| 205 | 67 | 43 | 37 | 122 | 98 | 47 | 57 | 80 | 69 | 47 | 70 | 25 | 47 | 112 | 110 | 95 | 58 | 58 | 74 | 55 | 51 | 55 | 40 | 113 | 105 |
| 206 | 50 | 53 | 45 | 95 | 98 | 60 | 60 | 102 | 45 | 43 | 48 | 43 | 60 | 125 | 85 | 75 | 41 | 43 | 93 | 50 | 47 | 45 | 17 | 98 | 65 |
| 207 | 45 | 63 | 37 | 100 | 118 | 60 | 75 | 80 | 54 | 50 | 51 | 43 | 60 | 130 | 100 | 77 | 65 | 70 | 93 | 40 | 45 | 55 | 40 | 112 | 68 |
| 208 | 65 | 41 | 37 | 120 | 96 | 47 | 40 | 53 | 64 | 55 | 53 | 43 | 47 | 95 | 110 | 95 | 60 | 60 | 51 | 67 | 61 | 55 | 62 | 113 | 70 |
| 209 | 52 | 45 | 57 | 114 | 107 | 65 | 62 | 77 | 71 | 62 | 32 | 43 | 65 | 124 | 99 | 77 | 53 | 65 | 70 | 50 | 49 | 62 | 43 | 111 | 49 |
| 210 | 50 | 48 | 55 | 100 | 98 | 50 | 60 | 70 | 53 | 58 | 48 | 55 | 50 | 110 | 97 | 77 | 52 | 53 | 80 | 55 | 59 | 50 | 50 | 109 | 53 |
| 211 | 46 | 53 | 50 | 96 | 103 | 55 | 80 | 95 | 56 | 45 | 52 | 35 | 55 | 130 | 112 | 89 | 56 | 50 | 110 | 25 | 48 | 50 | 25 | 118 | 77 |
| 212 | 67 | 41 | 35 | 127 | 101 | 55 | 47 | 57 | 80 | 65 | 51 | 30 | 55 | 107 | 102 | 82 | 51 | 60 | 64 | 52 | 62 | 60 | 63 | 111 | 81 |
| 213 | 63 | 46 | 45 | 108 | 91 | 42 | 47 | 60 | 31 | 25 | 50 | 25 | 42 | 92 | 105 | 105 | 48 | 40 | 62 | 50 | 70 | 45 | 60 | 103 | 85 |
| 214 | 55 | 51 | 42 | 115 | 111 | 50 | 65 | 90 | 64 | 47 | 61 | 35 | 50 | 125 | 110 | 85 | 65 | 70 | 85 | 55 | 40 | 60 | 30 | 118 | 86 |
| 215 | 38 | 60 | 50 | 83 | 105 | 65 | 62 | 75 | 57 | 37 | 62 | 30 | 65 | 107 | 100 | 90 | 48 | 43 | 74 | 42 | 61 | 45 | 45 | 105 | 92 |
| 216 | 52 | 50 | 42 | 122 | 120 | 47 | 45 | 55 | 63 | 58 | 50 | 43 | 47 | 115 | 120 | 95 | 65 | 75 | 67 | 45 | 55 | 70 | 65 | 123 | 67 |
| 217 | 30 | 55 | 65 | 80 | 105 | 60 | 80 | 100 | 56 | 50 | 31 | 45 | 60 | 130 | 87 | 72 | 49 | 55 | 103 | 30 | 43 | 50 | 20 | 101 | 46 |
| 218 | 42 | 53 | 57 | 104 | 115 | 67 | 62 | 75 | 75 | 58 | 51 | 25 | 67 | 124 | 109 | 99 | 65 | 72 | 75 | 35 | 47 | 62 | 45 | 110 | 86 |

LEGEND

STU NUM -- Student Number.

Numerical COLUMN HEADINGS (1-25) -- Numbers are keyed to the SORT Attribute numbers found in SORT ATTRIBUTE DESCRIPTIONS, pp. 49-53.

* -- Indicates those Attribute scores where a constant, 60, has been added to the true SORT score. See notes in SORT ATTRIBUTE DESCRIPTIONS, p. 49, for explanation.

```

PROGRAM REGRESS1
DIMENSION Y(15,218), IY(25,218), JY(25,218)
L=218
READ 10, ((Y(I,J), I=1,15), J=1,L)
10 FORMAT(14X,15F3.0)
PRINT 50
50 FORMAT(1H1//)
12 DO 17 J=1,L
IY(1,J)=Y(1,J)
IY(2,J)=Y(2,J)
IY(3,J)=Y(3,J)
IY(4,J)=Y(1,J)+Y(7,J)
IY(5,J)=Y(2,J)+Y(7,J)
IY(6,J)=Y(4,J)
IY(7,J)=Y(5,J)
IY(8,J)=Y(5,J)-Y(6,J)+60
IY(9,J)=(Y(14,J)+Y(13,J))/2.-(Y(12,J))+60.
IY(10,J)=Y(13,J)
IY(11,J)=Y(14,J)
IY(12,J)=Y(15,J)
IY(13,J)=Y(4,J)
IY(14,J)=Y(5,J)+Y(7,J)
IY(15,J)=Y(9,J)+Y(7,J)
IY(16,J)=Y(10,J)+Y(9,J)
IY(17,J)=((Y(9,J)+Y(7,J))/2.)-Y(8,J)+60.
IY(18,J)=Y(7,J)-Y(8,J)+60.
IF(Y(4,J)-50.)13,14,15
13 SEQ=125.-(Y(4,J)+2.)
GO TO 16
14 SEQ=25.
GO TO 16
15 SEQ=(Y(4,J)+2.)-75.
16 IY(19,J)=Y(5,J)-((SEQ+Y(11,J))/2.)+60.
IY(20,J)=Y(11,J)
IY(21,J)=((Y(8,J)+Y(6,J))/2.)-(Y(5,J)+Y(7,J))/2.+60.
IY(22,J)=Y(7,J)
IY(23,J)=Y(6,J)-Y(5,J)+60.
CFEQ=100.-Y(10,J)
IY(24,J)=((CFEQ+Y(9,J))/2.)+Y(7,J)
17 IY(25,J)=Y(14,J)-Y(15,J)+60.
DO 20 I=1,25
DO 20 J=1,L
20 IY(I,J)=IY(I,J)+.5
18 PRINT 19,((IY(I,J), I=1,25), J=1,L)
19 FORMAT(1H0,3X,3I2,2I3,2I3,4I2,6I3,1I2,1I3,1I2,3I3)
END
END

```

SEE ATTRIBUTE SCORE DEFINITIONS
IN DEFINITIONS OF KEY TERMS SEC-
TION FOR EXPLANATION OF ADDITION
OF CONSTANT, 60, TO EIGHT OF
THESE FORMULAE.

Note: Following is a sample input data card for Student #83:

0831511100070038.80.57.11.2.47.11.55.42.40.37.53.50.43.45.

Columns 10-25 are the 15 Variable scores.

SORT VARIABLE DESCRIPTIONS
(14, p. 3)

| <u>Number</u> | <u>Symbol</u> | <u>Description</u> |
|---------------|---------------|--|
| 1 | W | Whole-blot responses |
| 2 | D | Major blot-details |
| 3 | Dd | Minor blot-details |
| 4 | S | White-space responses |
| 5 | F | Responses closely resembling the form of the stimulus. |
| 6 | F- | Responses poorly resembling the form of the stimulus. |
| 7 | M | Responses involving human movement or posture-tension. |
| 8 | FM | Responses involving animal movement or posture-tension. |
| 9 | FC | Responses involving color and closely resembling the form of the stimulus. |
| 10 | CF | Responses involving color and poorly resembling the form of the stimulus. |
| 11 | Fch | Responses involving textural density of gray or shading. |
| 12 | A | Responses involving whole animals or parts of animals. |
| 13 | H | Responses involving total human figure or parts of humans. |
| 14 | P | Modal responses (Statistically derived) |
| 15 | O | Rare responses (Statistically derived) |

SORT ATTRIBUTE DESCRIPTIONS

- Notes: (1) From the SORT Manual (14, p. 15-16)
- (2) Each description is accompanied by a formula for calculating the attribute as a function of the SORT Variables.
- (3) Those marked with an asterisk (*) indicate that a constant, 60, has been added to the formula to render the results positive. For true SORT Attribute scores, subtract 60.

1. Theoretical: Facility for thinking in broad, general or abstract terms; facility for getting perspective, visualizing the overall picture, and seeing relationships between the parts.

W

2. Practical: Tendency for thinking or attacking problems on the basis of practical, concrete, or very definite details. D

3. Pedantic: Preference for thinking and attacking problems from the standpoint of fine, minute details; tendency to be perfectionistic and to focus on precise, sometimes trivial details. Dd

4. Induction: Facility for logical thinking based upon inferences from elements; utilization of their accumulative synthesis to lead to conclusions, principles, or generalizations; ability to organize details into a meaningful whole.

W + M

5. Deduction: Readiness to employ the logical approach in which established or speculative theories, principles, or generalizations are applied to data or details for the purpose of analysing their relationships to one another (and to the principle probably involved). A balance between facilities

for inductive and deductive thinking, especially when both are high, would point toward a mental adaptiveness or "efficiency" wherein such intellectual potential as the individual has is the more effective because of versatility in logical processes. D + M

6. Rigidity: Tendency toward the dogmatic or toward fixed ideas. Higher scores suggest an unwillingness to change a point of view in spite of evidence to the contrary; low scores suggest an uncritical acceptance of others' viewpoints. S

7. Structuring: Facility for mental alertness and precision and exactitude in perception of reality. Occasionally this relates to a somewhat rigid and formalistic way of solving problems, but usually indicates an awareness of and conformity to the environment and its demands. F

* 8. Concentration: Capacity for attending to the task at hand or for avoiding distractions from one's environment or from one's own extraneous thoughts. F-FNeg + 60

* 9. Range: Tendency of interests to be either expansive or to be narrow and confined. $\frac{P+H}{2} - A + 60$

10. Human Relationships: Disposition toward the perception of and attention to elements having human connotations. H

11. Popular: Tendency to perceive the same features in the same way as others; to see things as other persons do; empathic tendencies. P

12. Original: Disposition to perceive the unique, the different, and the non-conforming, perhaps even the eccentric; emphasis on individualism of actions. 0

13. Persistence: The determination not to deviate from a set course. It may appear as doggedness or stick-to-itiveness. It can range from inability to stick to or complete a task along to the further extreme of stubbornness, defiance, or contentiousness. S

14. Aggressiveness: The aspiration toward goals by means of well-accepted and morally developed procedures; willingness and desire to work; sense of a mature self-control with social conformity. F + M

15. Social Responsibility: Willingness to subserve oneself, even though no personal gains are evident; energetic acceptance of one's obligations to himself, to his family, and to society. FC + M

16. Cooperation: Willingness to use a teamwork approach; sensitivity toward others in combination with appreciation and responsiveness in human relationships. Willingness to submerge one's immediate needs to the long-range interests of other persons is implied. CF + FC

* 17. Tact: Control of impulses and biases; maturity expressed in the ability to maintain stable relationship with superiors, peers, and inferiors. There is balance between inner impulses, conscious self-control, and demands of the social environment. $\frac{FC+M}{2} - M+60$

* 18. Confidence: Ego-strength, self-confidence, morale; inner feelings of prestige or personal worth, ranging from feelings of inferiority to strong feelings of self-assurance.

It implies ability to withstand stresses and strains and to maintain feelings of self-worth (prestige) in the face of adversity. $M-FM+60$

* 19. Consistency of Behavior: Predictability of actions; tendency for characteristic behavior patterns to be stable and well established. $F - \frac{SEQ+Fch}{2} + 60$

20. Anxiety: Generalized apprehensiveness, uneasiness, or internal disquietude; self-concern and preoccupation with personal well-being, feelings, emotions, and sensations, resulting from a feeling of insecurity. A low anxiety score indicates composure; however, excessive composure, or almost complete absence of anxiety, may indicate a tendency to smother feelings to the point of seeming cold and insensitive. Anxiety may reflect itself in feelings of insecurity, expressions of inadequacy, or constriction of behavior; it may also reflect itself in erratic behavior. Fch

* 21. Moodiness: Sharp fluctuations in mood, ranging from elation to depression. The intensity and duration of either phase may vary greatly. $\frac{FM+FNeg}{2} - \frac{F+M}{2} + 60$

22. Activity Potential: Control of emotional energy; energy endowment; capacity to follow through on a planned course of action; concentration of energies in a given direction, as opposed to dissipation of strength in non-productive channels. M

* 23. Impulsiveness: Tendency to act upon impulse rather than on a basis of a considered plan; reflected in spur-of-the-moment decisions. $FNeg - F + 60$

24. Flexibility: Adaptability; faculty for accepting and handling most life situations in a mature manner; capacity to adjust readily from one type of situation to another.

$$\frac{\text{CFEQ} + \text{FC}}{2} + \text{M}$$

* 25. Conformity: Tendency to accept and be directed by the socially accepted codes, customs, mores. P - 0 + 60

FNeg: F-

CFEQ: CF Equivalent (See ABAC Tables)

SEQ: S Equivalent (See ABAC Tables)

GROUP MEANS

Following are the group means and standard deviations for this 218 person subject group for the variables used in this study. In the case of the SORT Variables, a comparison is made with the scores for Industrial Supervisors (14, p.7), intuitively chosen as the civilian group most closely comparable with the subjects in this study. Comparative means for the Attributes are not available. The constant, 60, has been subtracted from the Attributes to which it was added earlier. This permits entry to the ABAC Tables (rear of Appendix) for calculation of ratings.

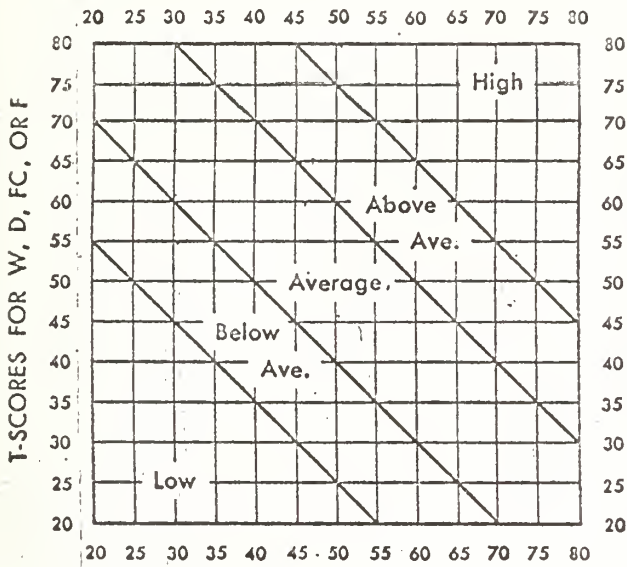
| <u>VARIABLE</u> | T- SCORE | | <u>Study Group</u> <u>STD. DEVIATIONS</u> |
|-----------------|--|---------------------------------------|--|
| | <u>G R O U P</u> <u>Ind. Super.</u> | <u>M E A N S</u> <u>Study Grp.</u> | |
| 1. W | 58.0 | 51.7 | 10.5 |
| 2. D | 48.1 | 49.6 | 8.1 |
| 3. Dd | 41.1 | 49.0 | 9.7 |
| 4. S | 52.5 | 53.5 | 9.7 |
| 5. F | 60.5 | 57.8 | 8.1 |
| 6. F- | 46.1 | 49.0 | 12.7 |
| 7. M | 50.5 | 52.2 | 7.0 |
| 8. FM | 55.4 | 53.4 | 10.6 |
| 9. FC | 46.1 | 50.0 | 8.0 |
| 10. CF | 32.5 | 40.6 | 8.0 |
| 11. Fch | 42.0 | 48.3 | 8.2 |
| 12. A | 45.5 | 49.9 | 9.6 |
| 13. H | 31.1 | 50.5 | 9.6 |
| 14. P | 50.9 | 48.6 | 9.6 |
| 15. O | 35.9 | 39.5 | 9.0 |
| COMM. SERV. | | 10.6 | 3.9 |
| ENL. SERV. | | 2.4 | 3.3 |
| AGE | | 34.3 | 3.9 |
| LONGEVITY | | 13.1 | 4.9 |

GROUP MEANS (CONTINUED)

| <u>ATTRIBUTE</u> | <u>MEAN</u> | <u>STD. DEV.</u> | <u>RATING</u> |
|------------------------|-------------|------------------|---------------|
| 1. Theoretical | 51.74 | 10.52 | Average |
| 2. Practical | 49.64 | 8.04 | Average |
| 3. Pedantic | 48.98 | 9.74 | Average |
| 4. Induction | 103.95 | 16.98 | Average |
| 5. Deduction | 101.85 | 11.83 | Average |
| 6. Rigidity | 53.48 | 8.05 | Average |
| 7. Structuring | 57.84 | 12.66 | Above Av. |
| 8. Concentration | 8.88 | 14.68 | Average |
| 9. Range | -1.92 | 14.49 | Average |
| 10. Human Rel. | 50.54 | 9.63 | Average |
| 11. Popular | 48.63 | 9.03 | Average |
| 12. Original | 39.55 | 10.18 | Below Av. |
| 13. Persistence | 53.48 | 8.05 | Average |
| 14. Aggressiveness | 110.06 | 13.86 | Above Av. |
| 15. Social Resp. | 102.19 | 12.29 | Average |
| 16. Cooperation | 90.56 | 10.51 | Average |
| 17. Tact | -3.87 | 10.00 | Average |
| 18. Confidence | -2.76 | 12.82 | Average |
| 19. Consistence | 14.24 | 12.48 | Above Av. |
| 20. Anxiety | 48.32 | 9.58 | Average |
| 21. Moodiness | -4.42 | 8.95 | Average |
| 22. Activity Potential | 52.21 | 10.59 | Average |
| 23. Impulsiveness | -9.12 | 14.67 | Average |
| 24. Flexibility | 107.17 | 11.54 | Average |
| 25. Conformity | 9.08 | 17.66 | Above Av. |

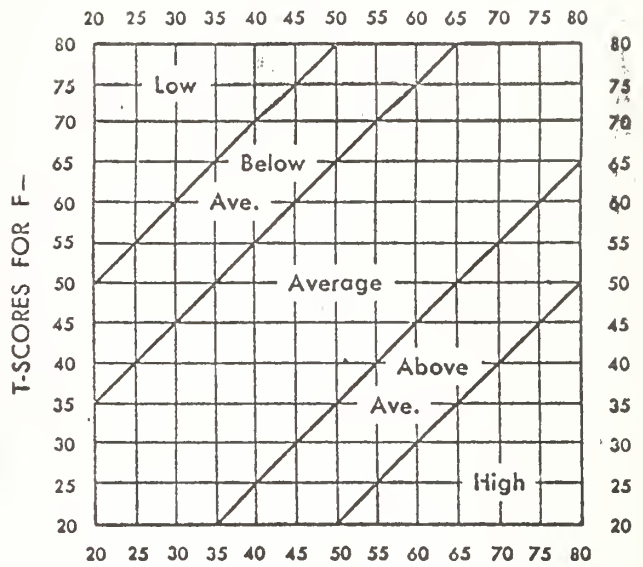
ABAC 1
 RATINGS FOR INDUCTION (W:M),
 DEDUCTION (D:M), SOCIAL RESPONSIBILITY (FC:M)
 AND AGGRESSIVENESS (F:M)

T-SCORES FOR M



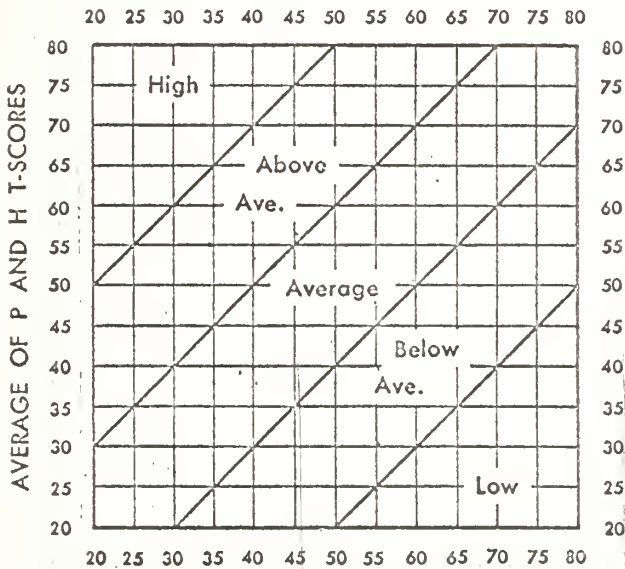
ABAC 2
 RATING FOR CONCENTRATION (F--:F)

T-SCORES FOR F



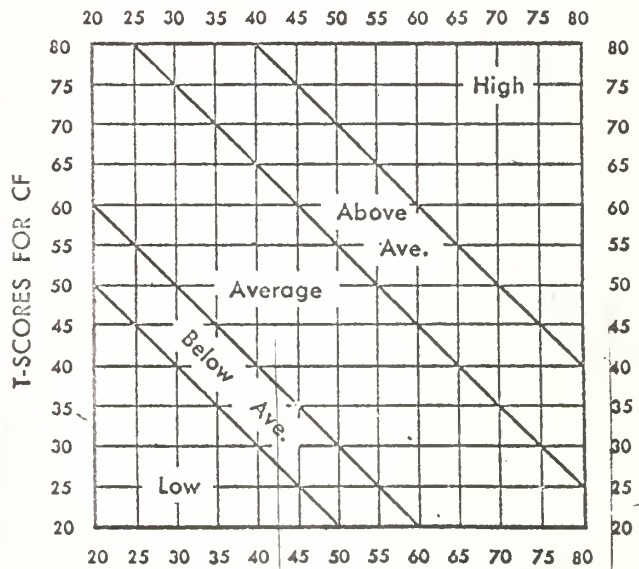
ABAC 3
 RATING FOR RANGE OF INTERESTS (P:H::A)

T-SCORES FOR A



ABAC 4
 RATING FOR COOPERATION (CF:FC)

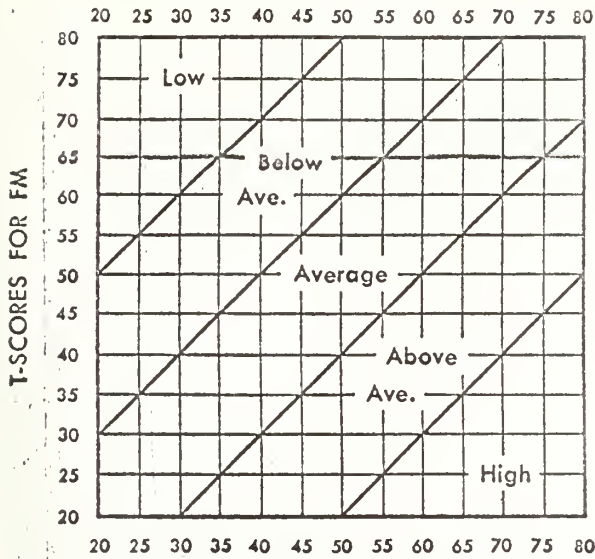
T-SCORES FOR FC



NOTE: These tables are for use in calculating SORT
 Historical Norm RATINGS of Attributes, using SORT Vari-
 able scores to enter tables. (14, p. 25-27)

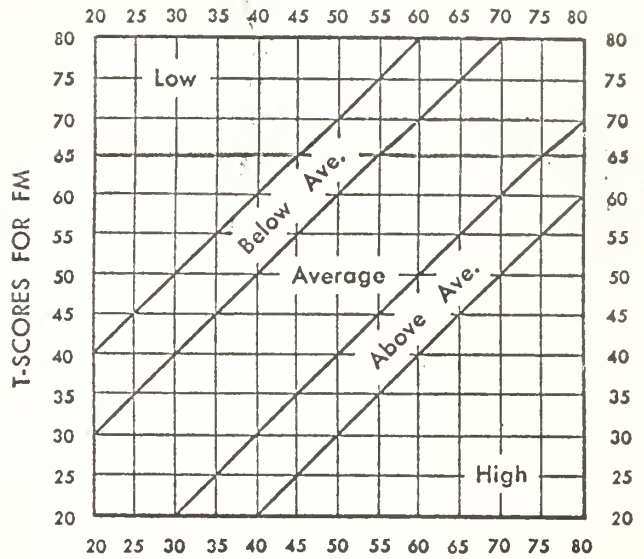
ABAC 5
RATING FOR TACT (FM::FC:M)

AVERAGE OF FC AND M T-SCORES



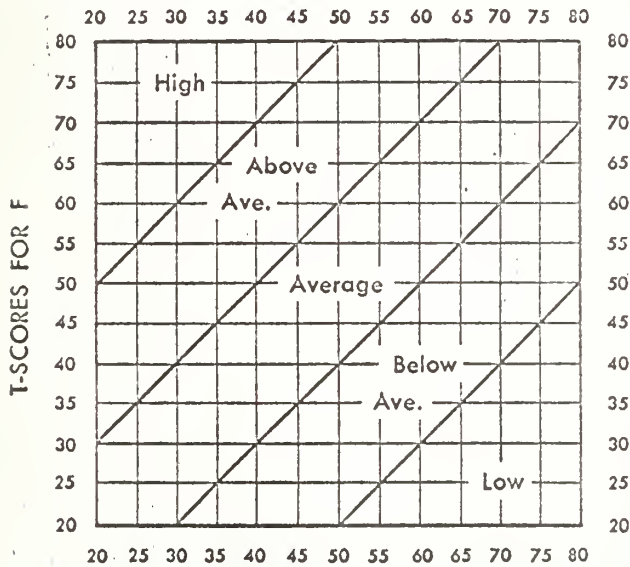
ABAC 6
RATING FOR CONFIDENCE (FM:M)

T-SCORES FOR M



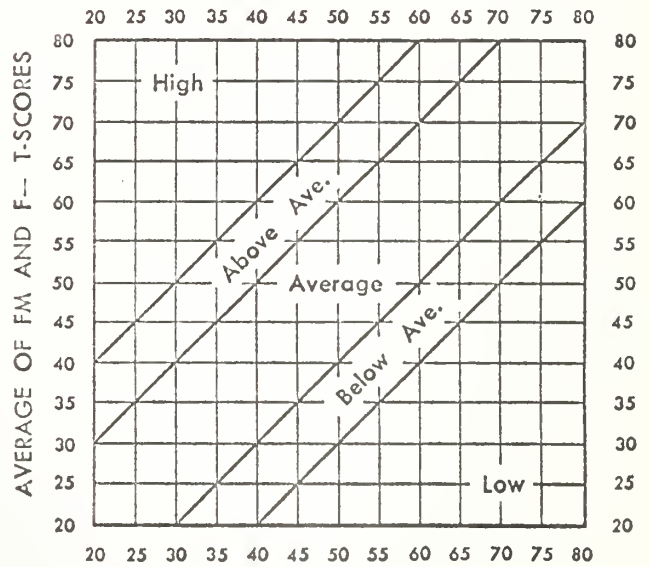
ABAC 7
RATING FOR CONSISTENCY (F::S:Fch)

AVERAGE OF S EQUIVALENT* AND Fch T-SCORES



ABAC 8
RATING FOR MOODINESS (FM:F--::F:M)

AVERAGE OF F AND M T-SCORES



*T-SCORE FOR S EQUIVALENT

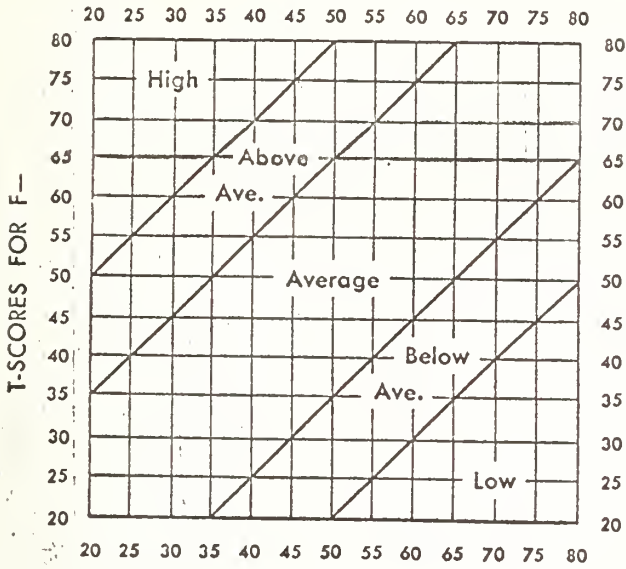
| | |
|----|----|
| 25 | 75 |
| 35 | 55 |
| 45 | 35 |
| 50 | 25 |

T-SCORE FOR S EQUIVALENT

| | |
|----|----|
| 55 | 35 |
| 65 | 55 |
| 75 | 75 |

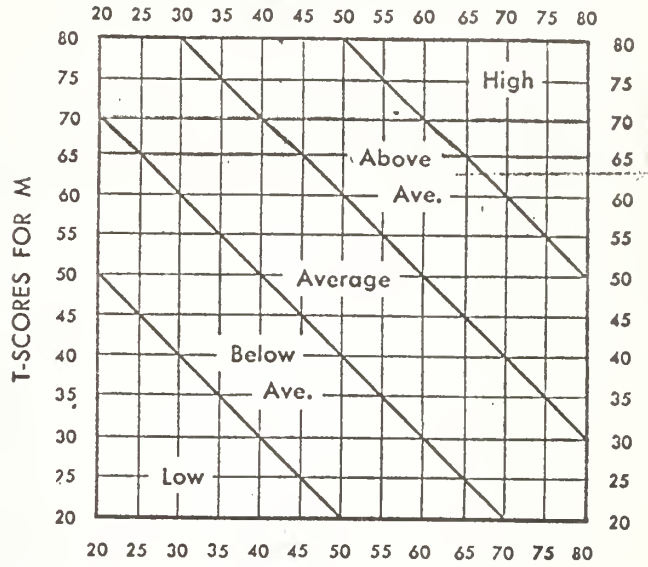
ABAC 9
RATING FOR IMPULSIVENESS (F--:F)

T-SCORES FOR F



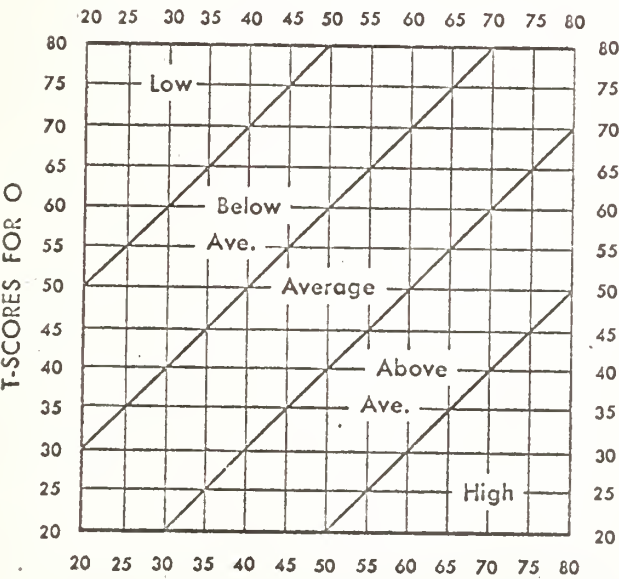
ABAC 10
RATING FOR FLEXIBILITY (M::CF:FC)

AVERAGE OF CF EQUIVALENT* AND FC T-SCORES



ABAC 11
RATING FOR CONFORMITY (O:P)

T-SCORES FOR P



* T-SCORES
FOR CF EQUIVALENT

| | |
|----|----|
| 25 | 75 |
| 35 | 65 |
| 45 | 55 |
| 50 | 50 |
| 55 | 45 |
| 65 | 35 |
| 75 | 25 |

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