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TITLE AN EVALUATION OF THE RELATIONSHIP OF VALUES TO SOCIOMETRIC SELECTION

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AN EVALUATION OF THE RELATIONSHIP OF VALUES TO SOCIOMETRIC SELECTION

by

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AN EVALUATION OF THE RELATIONSHIP OF VALUES TO SOCIOMETRIC SELECTION

Chapter I

VALUES AND INTERPERSONAL ATTITUDES

INTRODUCTION

The question whether opposite or like persons are mutually attracted in friendship and marriage has held sufficient popular interest for opposing views to become crystallized into two contradictory proverbs. The application of scientific methods to the study of the correlates of interpersonal choice began during the latter half of the nineteenth century as a part of the evolving interest in social and biological science. Initial studies focused their attention upon mating and the family. While interest in this problem has continued, scientific study has also gradually been extended to additional areas of interpersonal relations in which people have the opportunity to choose associates. For example, the similarity of various characteristics of grade school associates, preschool friends, school and neighborhood chums, college friends, sociometric choices, classroom friends, and adult friends

has been the subject of numerous investigations. Early studies explored similarity with regard to physical characteristics and either ignored or employed only extremely crude measures of other personal traits. As new measures of personal attributes have been developed, they have frequently been applied in studies of similarity of personal associates. Consequently, some of the more recent investigations have involved similarity of associates with respect to such aspects as intelligence, vocational interest, academic achievement, personal adjustment, selected attitudes, socio-economic status, opinions, and personality as measured by personality inventories. The most significant studies pertaining to similarity among personal associates, together with their principal findings, are presented in the subsequent section.

PREVIOUS RESEARCH

Early General Studies

Darwin (12,255)[1] proposed the natural principle of "sexual selection" in 1860 according to which males select the most attractive and vigorous females and the latter the most attractive and vigorous males.

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[1]The first number in parenthesis here and later refers to the numbered item in the Bibliography; the second number, to the page of the reference given.

Galton's (19,315) first edition of Hereditary Genius, which appeared in 1869, pointed out that men of superior intelligence tend to marry women who are above average in this trait. He also reported the tendency of "like to like" with regard to other traits among the marriages of intellectual men and women.

> "The large numbers of eminent descendants from illustrious men must not be looked upon as expressing the results of their marriage with mediocre women, for the average ability of the wives of such men is above mediocrity. This is my strong conviction, after reading very many biographies, although it clashes with a commonly expressed opinion that clever men marry silly women.... They establish the existence of a tendency of 'like to like' among intellectual men and women ... on the other hand, there is no evidence of a strongly marked antagonistic taste of clever men likely to marry really half-witted women ... the aunts, sisters, and daughters of eminent men do not marry, on the average so frequently as other women, because they would be accustomed to a higher form of culture and intellectual and moral tone in their family circle than they could easily find elsewhere."

Similarity between physical characteristics of husbands and wives was reported by Pearson (38,481) in 1902. He also proposed a refinement of Darwin's term "sexual selection" into "preferential mating" in which males or females with certain values find it less easy to mate than persons with other values, and "assortative mating" in which, while all classes of males and females find mates, certain classes have greater mutual attraction than others. Pearson also treated Galton's family records statistically and reported the following correlation coefficients for one thousand pairs of husbands and wives: stature .28; span .1989; left forearm .1977. Pearson summarizes as follows:

> "We thus reach the conception that husband and wife are as much alike as uncle and niece, and probably as much alike as, if not more alike than, first cousins; this is not only true for definite physical organs like stature and forearm, but also for the general physical constitution. Such a degree of resemblance is one which would certainly not have been anticipated and which may appear paradoxical to many."

A distinction was made by Lutz (33,249) between the relative influence of conscious and unconscious selection as it operates in assortative mating. Longevity is given as an example of unconscious selection while age is taken as an example of conscious selection. A coefficient of .76 is reported for the ages of man and wife. This is compared with the coefficient for longevity (.223) for the purpose of demonstrating the differential influence of the two types.

Similarity among Engaged Couples and the Family

A study of occupational influence on marriage selection reported by Marvin (34,149) in 1928 indicates that among the American population there are 2.79 times as many marriages within occupations as would take place if mating were merely a matter of chance.

Davenport (13,386), employing a probability technique, concluded that persons of similar stature and of like types of bodies tend to marry each other.

Evidence of selection of defectives by defectives, either mental or physical, is provided by Bushee (9,249). Schooley (47,340) believes that this type of assortative mating is probably due to association at the same health

resort or segregation of a similar type and also to the rejection of the defective by the normal.

Some 170 married couples were classified with regard to similarity of constitution by Kretschmer (27,22). He reports that the great majority of the couples were different in type. The nature of the sample and the method of classification, however, create doubt as to the significance which can be attached to these conclusions.

A number of investigators have studied the relationship of intelligence among mates and engaged couples. The Army Alpha was used by Jones (25,72) to study the relationship of intelligence for one hundred and five pairs of husbands and wives in rural New England. He reported a coefficient of .60. A battery of verbal and non-verbal tests was administered to approximately ninety fathers and mothers in the vicinity of Palo Alto by Willoughby (31,58). The correlation coefficients obtained were .44 for both types of material. Burks (26,28) employed the Stanford Revision with two groups of husbands and wives. A group of 174 pairs with one or more foster children gave a coefficient of .42. A control group with "true" children, including, however, some of the same husbands and wives who were members of the experimental group, gave a coefficient of .55. Freeman, Holzinger and Mitchell (26,143) used the Otis Self-Administering Higher Examination with 150 pairs of husbands and wives and obtained a coefficient of .49. Schiller (46,316) used a control group technique to study,

among other traits, such mental traits as association reactions, arithmetic reasoning, vocabulary, information and opinions. He concluded that all traits except vocabulary point to selective mating through homogamy.

A review of studies concerned with homogamy in intellectual abilities by Jones (27,369) appeared in 1929. He reported the unweighted average of the correlations for over five hundred pairs of husbands and wives as approximately .55. This is for a sample ranging from rural to urban and from New England to California. He noted that this coefficient is somewhat higher than for marital resemblance in physical traits, with husband-wife correlations for stature, eye-color, etc., averaging about .25. Jones summarized a number of factors which may be responsible for homogamous mating in intelligence. These were social status selection, education selection--propinquity in high school and college, racial selection, and courtship selection--selection on the basis of similarity to relatives.

Personality factors in marital compatibility were studied by Terman and Buttenwieser (52,267). They secured marital happiness scores as well as scores on the Bernreuter Personality Inventory and Strong Vocational Interest Test. These scores were compared for one hundred happily married and one hundred divorced couples. They found only low or negligible correlations between total test scoresand marital happiness. Statistical treatment of the responses to the individual test items, however, indicated that they have

appreciable validity for prediction of marital compatibility. Kelly (28,749) interviewed engaged couples and administered an extensive battery of tests to the same subjects in a long-time study of factors underlying marital compatibility. His data include scores from the Otis, Bernreuter, Bell, Strong, and Allport-Vernon tests, several attitude scores, anthropometric measurements, blood groupings, and life history data. Correlations between mates on these measures range from zero to .79; none are significantly negative.

The relative influence of the home environment as compared with the school environment was investigated by Kulp and Davidson (30,137). They administered the Neumann, Kulp, and Davidson International Relations Test to ninety-one pairs of brothers and sisters of high school age. They found a correlation of .32 between opinions of all siblings, .29 between brothers, .41 between sisters, and .30 between brothers and sisters. Correlations for randomly matched pairs of non-siblings within the same schools were significantly closer to zero. The authors concluded that home environment and not the school is responsible for the greater resemblance.

Scores for three hundred engaged couples on religious attitudes, as measured by the Kelley-Remmer's Scale, Allport-Vernon Study of Values, Self Rating and Rating by fiance reported by Satter (44,13), yielded coefficients of .38, .54, .33 and .41, respectively.

A battery of tests was administered to eighty married couples by Schooley (47,340) in an investigation of similarity of personality traits. The group of eighty was also divided into two groups of forty couples each on a basis of length of marriage for the purpose of studying the effect of number of years of married life on similarity between husbands and wives. The tests used in this investigation were the Otis Self-administering Intermediate Examination, the Clark Revision of the Thurstone Personality Schedule, the Kent-Rosanoff Free Association Test, two Thurstone Blanks testing attitude toward communism and birth control, the Snellen Chart for determining visual acuity, five values of the Allport-Vernon Scale of Values, and an orally repeated list of twenty words to determine immediate memory ability. In addition, subjects were rated for appearance by three judges and for socio-economic status by means of the five group system devised by Sims. Some of the correlations for the entire group are as follows: age .91, appearance .41, height .24, visual acuity .39, socio-economic status .62, theoretical values .37, aesthetic values .25, political values .23, religious values .45, associations .47, communism .60, birth control .58, neurotic tendency .30, weight .27, intelligence .55, memory .57, and education .57.

A comparison of traits for couples married one to four years with couples married five to twenty years gave the following coefficients (in each case the result for the

group married one to four years is presented first): theoretical values .47 and .27, economic values .21 and .44, aesthetic values .30 and .21, political values .17 and .22, religious values .21 and .45, neurotic tendency .22 and .35, attitude toward communism .64 and .61, attitude toward birth control .52 and .67, attitude toward free association .40 and .61, and weight .25 and .16.

Schooley drew the following conclusions:

1. Husbands and wives tend to marry persons similar to themselves in all of the characteristics measured by the present study.

2. Husbands and wives tend to grow more alike as they grow older together, in most of the characteristics considered in the second part of the study.

The Correlates of Friendship

A number of investigators have studied the correlates of friendships. For the most part, pairs of friends have been identified by observers who are sufficiently acquainted with the subjects to select people frequently seen together. In some cases special observers have been employed to record friendly acts by group members on a time-sample basis or during special situations. Studies have been made for both sexes and range from groups of preschool age to adults. Thirty-three preschool boys and girls from twenty-seven to fifty-nine months were observed with regard to the frequency with which they were seen in groups by Challman (11,106). The children making up each

group at the time of observation were noted. Challman concluded that similarities seem to be more important than differences in preschool contacts, although many traits seem to have no importance at this age level. A study involving forty nursery school children at the University of Minnesota was reported by Greene (21,251). An interesting conclusion was that mutual friends are more quarrelsome and mutual quarrelers are more friendly than the average; therefore, quarreling is a part of friendly social interaction at these ages. Greene reported that the ratio of quarreling to friendship decreases with age. Wellman (57,132) observed junior high school students and identified closest associates on the basis of time spent with one another. Such characteristics as chronological age, mental age, intelligence quotient, scholastic achievement, extravertive tendencies, height, and physical achievement were studied. It was found that pairs of girls were more alike in scholarship than in any other characteristic and less alike in height, while pairs of boys were more alike in height, intelligence, and chronological age and less alike in extraversion, scholarship, and mental age.

Almack (5,529) used a sociometric test to identify the fellow students whom 387 grade school children would prefer as work and play associates. He found coefficients of .53 and .54 for chronological age and mental age, respectively, for a work criterion. Coefficients were slightly lower for a play criterion. Thirty pairs of friends

at DePauw University were studied with regard to intelligence, school grades, neuroticism, social intelligence, selected attitudes, and selected opinions by Vreeland and Corey (56,336). The only significant relationships obtained were for social intelligence and neuroticism. Richardson (41,307) reported correlation coefficients for 42 pairs of undergraduate female friends for scores on the Allport-Vernon Scale of Values which ranged from .10 to .34, and for 21 pairs of adult female friends which ranged from .00 to .45. The Religious and Aesthetic Values provided the highest relationships in each case. Observations by acquaintances were used to identify friends in these studies. The relative importance of personal characteristics in friendships of undergraduate men and women was explored by Windslow and Frankel (64,37) by means of ratings assigned to a variety of characteristics presented to the raters in the form of a questionnaire. The raters indicated the most important characteristics of friends were those which produce congeniality in face-to-face personal contacts. Highest in the scale of preference were "loyalty," "ability to be confided in," and "frankness"; characteristics most strongly disliked were "thin-skinnedness," "hypersensitivity," "garrulity," and "braggart about conquests with the opposite sex." Less personal characteristics such as religious beliefs, political beliefs, economic status, and intelligence were deemed to be relatively unimportant. Bonney (6,21) conducted a study designed to identify factors

which influence the formation of friendships at the elementary, secondary, and college levels. Sociometric tests were used as the friendship criterion at the elementary level, while observers were used to identify friends at the secondary and college levels. Some of the instruments employed by Bonney were the Minnesota Home Status Index, California Test of Personality, Bell Adjustment Inventory, Gate's Primary Reading Test, Stanford Achievement Test, Otis Self-administering Test of Mental Ability, and Kuder Preference Record. In addition, an unstandardized scale designated Capacity to Win Friends was administered on the high school and college levels. Mutual choices at the elementary school level gave consistently higher correlation coefficients for intelligence and academic variables than were obtained from unreciprocated pairs. The Social and Emotional scores on the Bell Adjustment Inventory provided coefficients of .49 in both cases at the high school level. The highest relationships found for the Kuder Preference Record scores at the high school level were clerical .54, art .36, music .28, and commercial .24. At the college level some of the higher coefficients were science .63, social .49, literature .38, and music .28. The author concluded, however, that most high school and college friendships are formed without reference to occupational interest areas. A small but rather certain relationship was identified between a measure of socio-economic background and friendship formation. Pintner et al. (40,48)

employed personality and attitude tests to study elementary school friends, identified by sociometric tests. These investigators concluded that insofar as tests give true measures of personality characteristics there was no tendency for children to be influenced by such characteristics in the choice of friends. They believed that physical maturity and, to some extent, mental maturity were the more important influencing factors in friendships. Richardson (42,104) reported in 1939 that the study of friendship was an aspect of social psychology which had received increasing attention in recent years. She noted that the temporal distribution of the twenty-one pertinent titles in her bibliography indicated twelve relevant articles between 1931 and 1937, seven from 1922 to 1930, and the remaining two were published in 1898 and 1902. Windslow (65,433) prepared a questionnaire by drawing questions from a number of sources dealing with topics of attitude toward the Negro, American foreign policy, religion, and the present policies of the United States Government, and he administered it to a group of undergraduates. In addition to completing this form in the conventional manner, each subject was asked to complete it as he believed a particular friend would complete it. The term "friend" was apparently interpreted rather loosely since no directions were reported with regard to the intimacy of the relationship, e.g., best friend, etc. A coefficient of .24 was obtained between "true" opinions of friends, while

the estimate correlated .45 with the friend's true opinion. A breakdown of the data, according to length of friendship for the true opinions, provided coefficients of .24 for zero to three years, .40 for three to five years, and .23 for six to twenty years. The correlation between the estimate and true opinion subdivided according to sex was .61 for males and .77 for females.

A review of research pertaining to the mental resemblance between husbands and wives, as well as between friends, was published in 1939 by Richardson (42,104). Among her conclusions were the following:

> "Throughout all the traits and the range of ages the correlations between paired scores of friends or marriage partners have been positive with few exceptions. At all ages with the possible exception of part or all of the preschool period, a tendency to resemblance in intelligence was found.... In traits of temperament, the correlations at most ages have tended to run considerably lower than in intelligence, though they are still positive in a great majority of the cases.... It is in the field of temperament that the one negative correlation which approached reliability appeared: the correlation for extroversion in a group of fifteen two-year olds. In attitudinal traits appear the greatest differences between results for the several age groups. At the elementary school level ... found correlations in measures of cultural attitudes to be near zero. Between husbands and wives, however, correlations in attitude scores are among the highest that have been found in any type of trait. The fact that they are lower between college friends may be due to the age factor again.... The field of attitudes and interests appears to be one of the most promising approaches to the study of marital compatibility...."

Trait Similarity among Infrahumans

A number of investigators have studied the influence of similarity in physical traits in the mating habits of

lower vertibrates, invertibrates, and plants. Pearl (23,213), working with paramecia, reported that the correlation coefficient measuring assortative mating with respect to length is between .50 and .60. Jones (26,121) reports several similar investigations. For instance, he reported that Jennings obtained a coefficient of .25 for length in a race of paramecia descending from a single individual, and one of .38 in a mixed race; Crozier found a coefficient of .60 for the mollusk; Crozier and Snyder found a coefficient of .91 for crustacea. Lutz (33,249) reported that he had at hand data which would show the operation of the principle of "attraction of like for like" among certain insects and spiders as well as among humans. He stated that we were doubtlessly dealing with a biological as well as a sociological factor. Jones (26,130) presented evidence that fertilization took place less readily when the gametes came from unlike forms than when homogeneous unions were made. Similarly (26,140), with animals he concluded that sexual reproduction did not take place between random sexual pairs but on the contrary was selective.

Summary

The application of scientific method to the study of interpersonal relations began in the latter half of the nineteenth century with Darwin's announcement of the principle of sexual selection. Galton then provided evidence of the operation of this principle among humans. Pearson proposed preferential and assortative mating as forms of

sexual selection. Lutz demonstrated the superior influence of conscious selection over unconscious selection. Other investigators presented evidence of the relationship of vocations, mental and physical defects, and body structure to the selection of mates.

Following World War I various measures of intellectual power were employed in numerous studies and were found to provide correlations of about .50 among married and engaged couples. A slightly lower relationship has usually been found for friends and associates. As other devices for the measurement of mental traits were developed, they were frequently applied in studies investigating the influence of similar attributes in the choice of personal associates. Some of the instruments and techniques most frequently employed were the Bernreuter Personality Inventory, Strong Vocational Inventory, Bell Adjustment Inventory, Allport-Vernon Study of Values, various attitude tests, Kuder Preference Record, biographical data forms, and interview. Such factors as age, height, weight, and other physical measures have also frequently been used.

Studies involving friends and associates have been accomplished at all age levels from preschool through middle age. The most frequent technique employed for the identification of friends and associates has been the reports of observers, although in a few instances sociometric tests have been employed.

Many factors have interfered with the measurement of the true relationship of the various traits in the

numerous situations studied. A general estimate, however, based upon the review of data presented above appears to place the quantitative rank of the coefficients for the various traits in about the following order from high to low: age, intelligence, socio-economic status, opinions, attitudes, values, height, weight, vocational interests, and personality traits as measured by personality inventories.

Conclusions

The following general conclusions seem justified:

1. There is a general tendency for people to choose associates with traits similar to their own. The strength of this tendency varies with the type of traits considered, the ages of the subjects, and the nature of the association between subjects.

2. Studies investigating the correlates of interpersonal choice have most frequently involved families and engaged couples, although friends have frequently been investigated and occasionally associates, as identified by sociometric tests, have been studied.

3. The greatest variation in the magnitude of correlation coefficients for the various traits seems to be in the area of opinions, attitudes, and values. It appears that this variation may be to some extent generated by differences in the pertinency of traits in various situations.

PURPOSE OF THIS STUDY

The above data fail to provide conclusive evidence with respect to the relationship of values to the sociometric choices of adults. A few previous studies have

employed sociometric tests at the elementary school level, but have not investigated values as a correlate. At least one study, which employed modified sociometric selections, is available for the undergraduate level. This study explored a relatively narrow area of opinion, however, rather than a more general system of values. Generalizations from all the studies considered collectively suggest the general probability that values are influential in sociometric choice. Consequently, the present study purposes to investigate this relationship more conclusively. Special attention will be focused upon persons who are rejected for personal association as well as upon those who are chosen. The influence of different criteria of choice and rejection will be noted. The influence of position in the choice sequence, e.g., first, second, will be observed. Because subjects may not be able to find persons with completely satisfactory value systems among the group from which selections will be made, the opportunity will be offered for subjects to report the presumed value systems of so-called ideal companions, as well as presumed value systems for extremely objectionable persons. Because individual differences may exist in ability to estimate the "true" value systems of other persons or because individual differences may exist in the perception of other value systems, differences in the reports of observers and persons observed will be studied. Because certain personality types may perform differently than

other personality types in making sociometric choices, exploration of this possibility will be attempted.

HYPOTHESES

The major hypothesis for this study is that values are influential factors in sociometric nomination. Minor hypotheses with regard to sociometric nomination are as follows:

1. People tend to choose for personal association persons with values similar to their own.
2. People tend to reject for personal association persons with values different from their own.
3. People tend to perceive desired associates as having values similar to their own.
4. People tend to perceive persons whom they reject as personal associates as having values different from their own.
5. People tend to perceive ideal associates as having values similar to their own.
6. People tend to perceive extremely unacceptable associates as having values different from their own.

Chapter II

INSTRUMENTS USED IN EVALUATING SOCIOMETRIC CHOICES

The present study is an attempt to determine the relationship of values to sociometric choice. This chapter presents a description of the subjects, a description of the psychological devices employed in the study, an outline of the methods and procedures followed in the collection of data, and a brief description of the procedures followed in analyzing the data.

THE SUBJECTS

Introduction

A brief description of the subjects employed in the present study is presented in this section. The purpose of the description is two-fold. It is believed that these data will offer a background of information which will be useful in understanding and interpreting the relationships between the different value variables which are

the focus of consideration in Chapter III of this study. In addition, it is hoped that a description of a number of the more general characteristics of the group will provide some estimate of the variability and/or homogeniety of the subjects in general, i.e., the extent to which each subject is like or different from each other subject. Consequently, data relative to the college environment and to related characteristics of the subjects are presented below.

The College

The sixty-six subjects participating in this study were all of the male students of the senior class who were expected to be graduated from Adrian College in the spring or summer of 1950 with the Baccalaureate Degree in either Arts or Science. This college is located in Adrian, a city of approximately 20,000 population in the south central section of Michigan. The college campus is located on the west edge of the city.

The general purpose of the school is to provide a combined religious and academic program. The college catalog (66,24) states that the school has never been sectarian. The governing body is a board of twenty-nine members elected by the Detroit and Michigan conferences of the Methodist Church and the Alumni Association. The college was begun in 1845. Its early educational efforts were sponsored by the Wesleyan Methodist Church. The preparation of students for the ministry is an important

aspect of the present college program. A number of the subjects participating in this study held part-time ministerial charges in communities surrounding Adrian in addition to their academic work at the college.

An important feature of the college is the self-help plan for students. This is reportedly based on the belief that students are usually able to work at least fifteen hours per week while carrying a normal academic load (2,36). Many are employed part-time, both on the campus and in business establishments in the city. Off-campus work may be in factories, stores, and homes. On-campus employment includes work as faculty assistants, library assistants, kitchen and dining room assistants, janitors, maintenance workers, and assistants in administrative offices.

Student Subject-Matter Fields

Information available in the office of the college registrar and other data collected directly from the students by means of a biographical data form provided information relative to some of the more important interests, achievements, abilities, and other characteristics of the subjects. The nature of the subject-matter interests of the students was one of the factors explored.

The various departments of instruction within the college are grouped under the Humanities, Social Studies, Natural Sciences, and Philosophy and Religion. These are also the areas of student subject-matter specialization

or concentration. The areas of concentration for the sixty-six students are shown in Table 1. These data indicate a strong emphasis among the participating subjects upon Natural Sciences and Social Studies.

Table 1

FREQUENCY DISTRIBUTION OF SUBJECT-MATTER CONCENTRATION OF PARTICIPATING STUDENTS

Concentration	Frequency
Humanities	9
Natural Sciences	24
Social Studies	27
Philosophy and Religion	5

The major subject-matter fields for sixty-three students were obtained from records in the office of the registrar. A distribution of these data appears in Table 2.

Table 2

FREQUENCY DISTRIBUTION OF MAJOR SUBJECT-MATTER FIELDS OF PARTICIPATING STUDENTS

Subject-matter Field	Frequency
Education and:	
Physical Education	13
History	4
Chemistry	3
Biology	2
English	2
Music	1
Physics	1
Social Studies	1
Economics	12
History	6
Psychology	6
Mathematics	4
Journalism	3
English	2
Music	1
Speech	1
Chemistry	1

Preparation for teaching in some subject-matter field is by far the largest category. Religion is not listed in Table 2. This was due to the fact that courses in religion appear under other subject-matter areas, e.g., psychology and history. Physical Education is the most common subject-matter field for students preparing for teaching, while Economics is the most popular subject-matter area for the remaining group.

There are three social fraternities at Adrian College. Slightly more than half of the group studied were fraternity members. Among those belonging to fraternities, 19 were members of Alpha Tau Omega, 7 of American Association of Common Clubs, and 10 of Sigma Alpha Epsilon. Thirty men were not fraternity members.

Religious Affiliation

The religious affiliation of each student was obtained from the individual records available in the registrar's office. A summary of these data appears in Table 3. There were eight Christian and one non-Christian religions indicated. Methodists made up the largest group with 27, while Catholics were second with 8.

Table 3

FREQUENCY DISTRIBUTION OF RELIGIOUS AFFILIATION OF SUBJECTS

Religion	Frequency
Methodist	27
Catholic	8
Presbyterian	7
Lutheran	6
Baptist	3
Episcopal	3
Protestant*	2
Church of Christ	1
Mohammedan	1
Evangelical Reform	1

*Did not designate the particular protestant church

Race

There were two Indians and one Mongolian in the group. The remainder were listed as white. Six students reported that they were born outside of the United States.

Years of College Attendance

As would be expected, a large proportion of the men had attended Adrian College during all four years of college. Three, however, had attended only during the senior year, seven only during the last two years, two for the last three years, and one had attended another college during his junior year.

Veteran Status

The percentage of veterans was high with fifty-two men falling in that category. The age range was from 20 to 39 with an average age of 26.7 years. Eight men were

30~~29~~ years or older. The most common age was 23 with eleven men at that level.

Table 4

FREQUENCY DISTRIBUTION OF AGE OF SUBJECTS

Age	Frequency
20	1
21	5
22	7
23	11
24	10
25	8
26	10
27	4
28	
29	1
30	3
31	
32	1
33	1
34	
35	1
36	
37	1
38	
39	1
Average	26.7

Height and Weight

No extreme deviants with respect to height and weight were found among the subjects. There appears to be, however, sufficient variation among each of these characteristics to permit sociometric nominations according to individual preferences. A distribution of the height of the subjects is reported in Table 5. The shortest subject was 5'5" and the tallest 6'3". Most of the men were above the national average in height. The average height for this group was 5' $9\frac{1}{2}$".

Table 5

FREQUENCY DISTRIBUTION OF HEIGHT OF SUBJECTS

Height	Frequency
5 ft. 5 in.	2
6 in.	4
7 in.	5
8 in.	13
9 in.	8
10 in.	14
11 in.	7
6 ft.	6
1 in.	3
2 in.	1
3 in.	2
Average	5 ft. 9½ in.

Data relative to the eight of the subjects are reported in Table 6. The average weight of the group was 172 pounds. Several persons in the group may stand out in this respect. The lightest person, weighing 125 pounds, appeared unusually small while those men weighing over 200 pounds may have been sufficiently large to attract

Table 6

FREQUENCY DISTRIBUTION OF WEIGHT OF SUBJECTS

Weight	Frequency
125	1
135	0
145	1
155	12
165	15
175	20
185	7
195	4
205	2
215	1
225	1
Average	172

special attention. The investigator did not observe any special physical characteristics which might appear objectionable to other class members.

Marital Status

Slightly more than one-third of the group were married. Almost all of the married students maintained homes of some type for their families in the vicinity of the college. Only two of the thirty-four married students reported that they were temporarily separated from their wives because of school. No other marital separations of any type were reported.

Housing

Some idea of the general housing situation of the subjects may be gained from their reports of their most typical type of living situation while in college (Table 7).

Table 7

DISTRIBUTION OF HOUSING SITUATIONS OF SUBJECTS

Type of Housing	Frequency
Private Home	24
Maintain Own Home	21
Fraternity	10
Parental Home	7
Dormitory	4

These data indicate that a large percentage of the group have typically lived off the campus; 24 reported that they roomed in private homes; 21 indicated that they maintained their own homes; and 7 stated that they lived in their

parental homes. Of the remainder, 10 lived in a fraternity house and 4 in a dormitory.

A number of the subjects lived in nearby communities. This is indicated by Table 8 which presents a frequency distribution of the distances the subjects lived from the campus. Ten reported that they lived twelve or more miles away. Eleven stated that their residence was on the campus. This does not completely agree with Table 7 where only four are shown as living in dormitories. This difference occurs because fraternity houses are considered as on the campus by some students and not on the campus by others.

Table 8

FREQUENCY DISTRIBUTION OF DISTANCE SUBJECTS LIVED FROM THE CAMPUS

Distance in Miles	Frequency
1/8*	13
1/4	8
1/2	6
3/4	2
1	12
1 1/4	1
2	3
12	1
14	1
20	2
21	1
22	1
23	1
25	1
30	1
50	1
On Campus	11

*Includes one and two blocks and across the street

Part-time Work

Many students earned all or part of their expenses while they were in college. One student operated his own service station; another was farming a medium-sized farm; five reported that they were working forty or more hours per week. A total of 51 subjects were employed; 16 of these had found work on the campus; 15 students did not work. A frequency distribution of the hours worked per week appears in Table 9.

Table 9

FREQUENCY DISTRIBUTION OF THE NUMBER OF HOURS STUDENTS WERE EMPLOYED PER WEEK

Hours	Frequency
5	6
10	3
15	6
20	15
25	7
30	4
35	4
40	4
45	1
60	1

Parental Income

Each subject was asked to estimate the average yearly income of his parents during the past ten years. The replies ranged from $1,000 to $30,000 per year (Table 10). The most frequently reported incomes were between $2,000 and $4,000.

Table 10

FREQUENCY DISTRIBUTION OF AVERAGE PARENTAL INCOME OF SUBJECTS

Income	Frequency
$1,000-1,999	7
2,000-2,999	15
3,000-3,999	19
4,000-4,999	8
5,000-5,999	6
6,000-6,999	2
7,000-7,999	2
8,000-8,999	3
9,000-9,999	
10,000-10,999	3
30,000	1

Parental Occupations

Data with regard to the parental occupations of most subjects were available in the office of the registrar. These data were used to classify the parental occupations into the major occupational groups employed in the Dictionary of Occupational Titles. The results of this classification are summarized in Table 11. The parental occupations fall for the most part into three categories which are Professional and Managerial, Clerical and Sales Occupations, and Skilled Occupations.

Table 11

FREQUENCY DISTRIBUTION OF PARENTAL OCCUPATIONS OF SUBJECTS*

Kind of Occupation	Frequency
Professional and Managerial	16
Clerical and Sales	14
Service	0
Agricultural, fishing, forestry, and kindred occupations	7
Skilled	14
Semi-skilled	1
Unskilled	2

*The occupational groups and the rules of classification are the same as those employed in the Dictionary of Occupational Titles.

Average Grades

The average of the grades for all courses taken at Adrian College was secured for most of the subjects. The distribution of grades for the school as a whole was not obtained. The available data reported in Table 12, however, suggests considerable variation among the subjects with respect to grades. A grade of A is equivalent to three points, a grade of B is equivalent to two points, and a grade of C is equivalent to one point. A grade lower than C is not awarded points. Some idea of the relative value of the various grades may be obtained from the point average required for the college honor roll (2,31). The minimum grade required for the honor roll is 2.7; for honorable mention, grades may be between 2.25 and 2.69. A minimum of 124 honor points is required for a degree. This is an average of one honor point for each hour of credit (2,27).

Table 12

FREQUENCY DISTRIBUTION OF GRADE AVERAGES OF SUBJECTS FOR ALL COLLEGE GRADES

Grade	Frequency
.9	6
1.0	5
1.1	5
1.2	8
1.3	8
1.4	7
1.5	5
1.6	3
1.7	2
1.8	3
1.9	2
2.0	2
2.1	1
2.2	1
2.3	2
2.4	3

It appears that some of the subjects were required to take extra hours to meet degree requirements since Table 12 indicates some averages of less than one. It also appears that none of the group was consistently a member of the honor roll.

Psychological Test Scores

The high school battery of the General Education Development Tests was administered to many of the subjects at the time they entered Adrian College. This battery consists of five areas: correctness and effectiveness of expression; interpretation of reading material in the social studies, natural sciences, and literature; and general mathematical ability (51,154). Decile scores for those subjects for whom they were available are presented in Table 13. Considerable variation among the subjects with regard to academic achievement level is indicated.

Table 13

FREQUENCY DISTRIBUTION OF DECILE SCORES OF SUBJECTS FOR THE GENERAL EDUCATION DEVELOPMENT BATTERY

Decile Score	Frequency				
	Expression	Social Studies	Natural Sciences	Literature	Mathematics
1	4		1	1	
2	7	1	1	3	2
3	8	2	3	3	2
4	6	4	1	4	5
5	4	4	5	9	2
6	4	7	3	2	6
7	6	5	10	6	11
8	3	5	7	5	7
9	1	15	12	11	8

The American Council on Education Psychological Examination for College Freshmen was administered to 43 of the subjects at the time they entered college. Decile scores for those taking the test are presented in Table 14. Confidential comments by students with regard to these test scores indicated that a low degree of motivation may have influenced the scores.

Table 14

FREQUENCY DISTRIBUTION OF DECILE SCORES OF SUBJECTS FOR THE AMERICAN COUNCIL ON EDUCATION EXAMINATION (For Four-year Colleges)

Decile Score	Frequency
1	4
2	2
3	8
4	0
5	10
6	9
7	0
8	5
9	3
10	2

Personality scores and fields of interest as determined from the Gentry Vocational Inventory were available for 44 subjects. This inventory reportedly provides an indication of one's general field of vocational interest and of likes and dislikes for activities involved in the occupations. The students' strengths of interest are classified with reference to the following occupational groups: social service, literary work, business, law and government, art, mechanical designing, mechanical construction, and science (8,655). A frequency distribution of the

reported fields of interest is presented in Table 15. Personality scores obtained from the Gentry Vocational Inventory were nine introverts, twenty ambiverts, and ten extraverts.

Table 15

FREQUENCY DISTRIBUTION OF SUBJECTS' FIELDS OF INTEREST ON THE GENTRY VOCATIONAL INVENTORY

Field of Interest	Frequency
Science	26
Business	25
Law and Government	22
Mechanical Designing	21
Mechanical Construction	20
Literary Work	7
Social Service	7
Art	2

Most subjects had reported a primary vocational preference to the College Registrar at some time during their college career. These preferences are tabulated in Table 16.

Table 16

FREQUENCY DISTRIBUTION OF VOCATIONAL PREFERENCE

Preference	Frequency
Teaching	29
Business Administration	12
Ministry	9
Industrial Work	2
Electrical Engineer	1
Economics	1
Commercial Arts	1
Laboratory Technician	1
Writer	1
Law	1
Sales Engineer	1
Personnel Work	1

Summary

A brief description of Adrian College and the subjects participating in this study has been presented in this section. The religious and self-help aspects have been noted. Data relative to the general area of subject-matter concentration, major subject-matter field, fraternities, religious preference, race, number of years of attendance at Adrian College, veteran status, age, height, weight, marital status, living quarters, family income, parental occupation, college grades, achievement test scores, scores of intellectual capacity, field of vocational interest, and area of vocational preference have been presented in order to provide background information about the subjects and to demonstrate the presence of variability among the subjects with regard to both environmental and personal factors. In some cases complete data have not been available. Doubtlessly, many of the extreme scores from the various attribute variables were among those not present; however, almost without exception, these data present a picture of individual differences rather than similarity. Perhaps the area of greatest homogeneity is the socio-economic background of the subjects. Almost all of the factors and characteristics studied indicate sufficient variation to permit sociometric nominations within the group according to individual preferences. This suggests that the factors reported in this section, as well as an undetermined number of

other traits, interests, attitudes, abilities, etc., were considered when sociometric nominations were made. The research summarized in Chapter I indicates that positive relationships are found more frequently than would be expected by chance between the characteristics of preferred personal associates. It is believed, however, that where there are many variables one should not anticipate a high relationship between the characteristics of associates for any single variable.

PSYCHOLOGICAL DEVICES

Introduction

Six psychological devices employed in this study are worthy of mention. Each will be discussed independently in this section. The Study of Values and the F Scale questionnaires are the principal devices employed and consequently are treated in more detail.

The Study of Values Questionnaire

Background and Development

The Allport-Vernon Study of Values (55,231) is based directly upon the six basic interests or motives in personality outlined in Edward Spranger's Types of Men (49) which in turn were suggested by the German philosopher, Wilhelm Dilthey. Dilthey published the Ideas Concerning a Descriptive and Analytical Psychology in 1894

which proposed a psychology distinct from experimental psychology, studying mental life from the point of view of meaning and content and types of character (24,46):

> "The foundation of individuality is not qualitative but quantitative. The same elementary capacities and the same elementary contents of thought and will constitute human nature everywhere and always, but with infinite variations in efficiency and intensity and in the distribution of interest. These variations are partly there from birth, but are then worked upon by influences from the physical and especially the social environment and the result is the crystallization of individual character.... A proper grasp of these processes will make possible a typology of human nature, such as the human studies require."

Spranger described six basic types of men, viz.: theoretic, economic, aesthetic, social, political, and religious. In addition, he suggested complex types and a hierarchy of values (49). Spranger emphasized the functional interrelatedness of the various values in each individual and employed the concept of "hierarchy of values" to describe the relationship between the individual's dominant value direction and the subordinate values (49,104):

> "... and in view of our principle that in every mental phenomenon the totality of mind is somehow imminent, the other mental acts cannot be absent. But their achievements are transferred in every case in such a way that they seem to be subordinated to the dominant value direction.... We may symbolize this in the figure of a gambler's die, of which in every instance one side with its figures must lie uppermost. The others are not, however, absent but are instead in a definite relation to the figure on top."

Brief descriptions of Spranger's six basic types of men follow (4,7):

(1) The theoretical. The dominant interest of the theoretical man is the discovery of truth. In the pursuit of this goal he characteristically takes a "cognitive" attitude, one that looks for identities and differences; one that divests itself of judgments regarding the beauty or utility of objects, and seeks only to observe and to reason. Since the interests of the theoretical man are empirical, critical, and rational, he is necessarily an intellectualist, frequently a scientist or philosopher. His chief aim in life is to order and to systematize his knowledge.

(2) The economic. The economic man is characteristically interested in what is useful. Based originally upon the satisfaction of bodily needs (self-preservation), the interest in utilities develops to embrace the practical affairs of the business world--the production, marketing, and consumption of goods, the elaboration of credit, and the accumulation of tangible wealth. This type is thoroughly "practical" and conforms well to the prevailing stereotype of the average American business man.

The economic attitude frequently comes into conflict with other values. The economic man wants education to be practical and regards unapplied knowledge as waste. Great feats of engineering, Taylorism, pragmatism, and "applied psychology" result from the demands which economic men make upon science. The value of utility likewise conflicts with the aesthetic value, excepting when art serves commercial ends. Without feeling inappropriateness in his act, the economic man may denude a beautiful hillside or befoul a river with industrial refuse. In his personal life he is likely to confuse luxury with beauty. In his relations with people he is more likely to be interested in surpassing them in wealth than in dominating them (political attitude) or in serving them (social attitude). In some cases the economic man may be said to make his religion the worship of Mammon. In other instances, however, he may have regard for the traditional God, but inclines to consider Him as the giver of good gifts, of wealth, properity, and other tangible blessings.

(3) The aesthetic. The aesthetic man sees his highest value in form and harmony. Each single experience is judged from the standpoint of grace, symmetry, or fitness. He regards life as a manifold of events; each single impression is enjoyed for its own sake. He need not be a creative artist; nor need he be effete; he is aesthetic if he but finds his chief interest in the artistic episodes of life.

The aesthetic attitude is in a sense diametrically opposed to the theoretical; the former is concerned with the diversity, and the latter with the identities of experience. The aesthetic man chooses, with Keats, to consider truth as equivalent to beauty, or else to agree with Mencken that "to make a thing charming is a million times more important than to make it true." In the economic sphere the aesthetic sees the process of manufacturing, advertising, and trade as a wholesale destruction of the values most important to him. In social affairs he may be said to be interested in persons but not in the welfare of persons; he tends toward individualism and self-sufficiency. Aesthetic people often like the beautiful insignia of pomp and power, but oppose political activity when it makes for the repression of individuality. In the field of religion they are likely to confuse beauty with purer religious experience.

(4) The social. The highest value for this type is love of people; whether of one or many, whether conjugal, filial, friendly, or philanthropic. The social man prizes other persons as ends, and is therefore himself kind, sympathetic, and unselfish. He is likely to find the theoretical, economic, and aesthetic attitudes cold and inhuman. In contrast to the political type, the social man regards love as itself the only suitable form of power, or else repudiates the entire conception of power as endangering the integrity of personality. In its purest form the social interest is selfless and tends to approach very closely to the religious attitude.

(5) The political. The political man is interested primarily in power. His activities are not necessarily within the narrow field of politics; but whatever his vocation, he betrays himself as a Machtmensch. Leaders in any field generally have high power value. Since competition and struggle play a large part in all life, many philosophers have seen power as the most universal and most fundamental of motives. There are, however, cer-

tain personalities in whom the desire for a direct expression of this motive is uppermost, who wish above all else for personal power, influence, and renown.

(6) The religious. The highest value of the religious man may be called unity. He is mystical, and seeks to comprehend the cosmos as a whole, to relate himself to its embracing totality. Spranger defines the religious man as one "whose mental structure is permanently directed to the creation of the highest and absolutely satisfying value experience." Some men of this type are "immanent mystics," that is, they find in the affirmation of life and in active participation therein their religious experience. A Faust with his zest and enthusiasm sees something divine in every event. The "transcendental mystic" on the other hand seeks to unite himself with a higher reality by withdrawing from life; he is the ascetic, and, like the holy men of India, finds the experience of unity through self-denial and meditation. In many individuals the negation and affirmation of life alternate to yield the greatest satisfaction.

Mixtures. Spranger does not imply that a given man belongs exclusively to one or another of these types of values. In every personality, as the present test shows, there exist all of these six values, although usually in varying degrees of prominence.

The Study of Values questionnaire by Allport and Vernon was designed to determine the relative prominence of each of the above six values in a given personality. It consists of a number of questions, based upon a variety of familiar situations, to which alternative answers are provided. In all there are 120 answers, 20 of which refer to each of the six values (55,236).

Reliability

The authors of the Study of Values test have reported split-half reliabilities (55,242) for the separate values for three groups of 40, 136, and 48 college

students. The average of the eighteen coefficients thus obtained was .65. It was practically always found that the religious and aesthetic values were the most reliable, while the social value was the least reliable (55,243). A study of the reliability of the Study of Values test was reported by Whitely (58,10) who administered it to 84 students on two occasions separated by an interval of one hundred days. The following reliability for each of the values was obtained: religious .87, aesthetic .86, economic .79, political .76, theoretical .68, social .50.

The Third Mental Measurements Yearbook (35,100) reported the following with regard to the reliability of the Study of Values test:

> "The reliabilities in the sense of internal consistency are not as high as are usually required, if this is to be taken as any great consequence; test-retest reliability range from around .70 to .90 with the exception of one score, the social; which is reported by the authors and numerous investigators as being of doubtful meaning and stability."

Validity and Relationships with Other Variables

The authors established the theoretical validity of the Study of Values test as .85 (55,245). They reported the following average correlations with five external ratings and one self-rating for forty-eight subjects: theoretical .40, economic .57, aesthetic .57, social -.06, political .44, religious .69.

The following results (Table 17) were obtained from several special groups studied by Allport and Vernon (55,247):

Table 17

ALLPORT-VERNON VALUE SCORES FOR SELECTED GROUPS

N	Subjects	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
110	Salesmanship Students	28.5	38.9	23.7	27.3	35.6	26.0
26	Boy Scout Leaders	31.6	32.6	21.5	32.3	28.5	33.5
13	Theological Students	25.7	22.3	23.3	33.5	26.0	49.2
17	Members of a Roman Catholic Club, mostly business men	26.8	32.6	21.2	28.1	33.8	37.5

Cantril and Allport (10,262) pointed out logically characteristic differences in mean test scores for the following groups of subjects (Table 18):

Table 18

ALLPORT-VERNON VALUE SCORES FOR OCCUPATIONAL GROUPS

N	Subjects	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
125	Commercial Students (male)	32.2	34.5	21.9	28.7	31.8	30.9
80	Missionaries (both sexes)	27.0	23.0	26.3	35.0	21.8	48.9
81	Salesmanship Students(male)	27.1	38.3	24.2	26.8	36.4	25.5
24	Students of Literature (female)	23.7	27.2	40.2	29.4	29.5	30.1
18	Students of Science (female)	35.0	26.3	31.1	31.3	28.1	28.3
66	Prison Inmates	33.2	34.8	21.2	31.1	31.6	27.9

Median scores were obtained by Pintner (67,352) for the various tests of the Study of Values for students in a class of Educational Psychology at Columbia University. These data for various interest and professional fields are presented in Table 19.

Table 19

ALLPORT-VERNON VALUE SCORES FOR SELECTED OCCUPATIONAL GROUPS
(Median Scores)

Subjects	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
Administration						
11 Females	30	23	39	33	27	31
15 Males	33	29	21	30	31	32
English and Language						
30 Females	23	28	35	32	25	35
Mathematics						
16 Males	32	29	26	31	26	29
History						
12 Females	26	27	31	32	29	30
Classroom Teachers						
30 Females	26	28	30	33	27	32
Mental Tests						
33 Females	32	28	35	31	26	27
20 Males	40	27	31	32	25	27

Pintner (39,351) gave both the Study of Values questionnaire and Thurstone's scale for measuring attitudes toward the church to a group of fifty-three students. He found a correlation of .78 between the scores for the religious value and attitudes favorable to the church.

Woolbert (10,265) obtained rank-order correlations as high as .71 between the group scores on the Study of Values test and the recognition of items in various interest areas in a specially prepared newspaper.

Newman, Nickerson, and Bryer (10,267), using 100 Harvard and 59 Radcliffe students as subjects, studied the relation between interest in clothes and scores on the Study of Values test. They concluded that the specific interest of both sexes in their own appearance is generally consistent with their prevailing values as measured by the Study of Values test.

The relationship between a person's values and those of someone the subject considered to be an "ideal man" as determined by a rating scale was studied by MacDonald (10,268). The following correlations were reported: religious .64, aesthetic .47, economic .36, political .29, social .23, and theoretical .01.

A similar study was made by Nickerson (10,269) with regard to the communality of follower and leader interest. A questionnaire with items corresponding to the Spranger value types was used. The correlations obtained in this case were religious .52, political .44, economic .19, aesthetic .16, social .11, and theoretical -.09.

Schaefer (45,419) reported that major students in departments of the college showed certain logical differences in value attitudes, and that certain logical relations appeared between value scores and scores on the American Council College Sophomore Tests.

Harris (22,102) found characteristically different scores on the Study of Values questionnaire for stu-

dents and faculty members from different vocational fields.

Duffy and Crissy (15,228) obtained scores on the Study of Values test for 108 freshmen entering Sarah Lawrence College. They reported that this group, made up chiefly of individuals from wealthy and socially prominent families, had much higher political value scores and slightly higher scores for aesthetic values than the scores reported for 1,592 college women by Cantril and Allport (10,263). They found logical relationships between the Study of Values scores and vocational interests as indicated by the Strong Vocational Interest Blank for Women. They also found higher theoretical value scores for students of biology and physical science than for students in other fields of study.

Whitely (58,13) found that independently determined characteristics of certain individuals corresponded with the Allport-Vernon test profiles.

A critical review of investigations employing the Allport-Vernon Study of Values and other tests of evaluative attitude by Duffy (14,609) was published in 1940. She concluded:

> "There are characteristic differences between the evaluative attitudes in different colleges, between students in different fields of study within the same college, between individuals in different occupations, between individuals who express a preference for different occupations, between individuals who score differently on the Strong Vocational Interest Blank, and between men and women....

> Recent studies fully support the Cantril and Allport conclusion that evaluative attitudes are pervasive, enduring, and above all generalized traits of personality."

Limited relationships between scores of the Study of Values and interest scores on the Strong Blank were reported by Sarbin and Birdie (43,287). Seashore (48,757) reported that the Study of Values test has been shown to yield the expected profiles for groups of Health and Physical Education majors and Social Science majors in a men's undergraduate professional school. Bruner et al. (7,285) reported that in general the higher a subject's value score, the lower his threshold of recognition for a word symbolizing that value. Evans (16,96) investigated the relationship between the Study of Values and the scores of the Strong Vocational Inventory, Michigan Vocabulary, and the Kuder Preference Record. He concluded that the Study of Values test appeared to be independent of the other measures.

Intercorrelations and Factor Analysis

Intercorrelations of the tests of the Study of Values and the results of factor analyses with these and allied tests are summarized in this section. Intercorrelations for the six scores of the Study of Values reported by Evans (16,52) for Ohio State University undergraduates are presented in Table 20. The general pattern is negative relationship between the test scores. The highest negative coefficients are for the Economic-

Table 20

INTERCORRELATION OF STUDY OF VALUES SCORES FOR 220 STUDENTS AT OHIO STATE UNIVERSITY

Test	2	3	4	5	6
1. Theoretical	-.099	-.259	-.260	-.060	-.156
2. Economic		-.199	-.181	.113	-.351
3. Aesthetic			-.054	-.158	-.293
4. Social				-.300	.025
5. Political					.338
6. Religious					

Religious and the Political-Social relationships. The highest positive coefficients are for the Religious-Political and Economic-Political relationships.

Intercorrelations of the six scores of the Study of Values for one hundred non-professional school students at the University of Chicago as reported by Wickert (60,282) are presented in Table 21. The variables are negatively related for the most part. The highest negative coefficients are for the Economic-Aesthetic and the Political-Aesthetic relationships. The highest positive coefficients are for the Economic-Political and the Theoretical-Social relationships.

Table 21

INTERCORRELATIONS FOR STUDY OF VALUES SCORES FOR 100 STUDENTS AT UNIVERSITY OF CHICAGO

Test	2	3	4	5	6
1. Theoretical	-.34	.05	.07	-.51	-.13
2. Economic		-.77	-.16	.46	-.30
3. Aesthetic			-.08	-.52	-.29
4. Social				.05	-.20
5. Political					-.11
6. Religious					

The intercorrelations for the six values of the Allport-Vernon test reported by Pintner (67,355) for 187 students in an Educational Psychology class at Columbia University are presented in Table 22.

Table 22

INTERCORRELATION OF STUDY OF VALUES SCORES FOR 187 STUDENTS AT COLUMBIA UNIVERSITY

Test	2	3	4	5	6
1. Theoretical	-.26	.10	-.25	-.07	-.43
2. Economic		-.46	-.20	.53	-.20
3. Aesthetic			-.22	-.05	-.22
4. Social				-.25	.02
5. Political					-.52
6. Religious					

These coefficients are predominantly negative. The highest negative coefficients are for the Political-Religious and the Economic-Aesthetic relationships. The highest positive coefficients are for the Economic-Political and the Theoretical-Aesthetic relationships.

The intercorrelations obtained by Todd (53,151) for 137 college students from approximately forty selected colleges are reported in Table 23. The pattern of relationship is predominantly negative. The highest negative coefficients are for the Political-Religious and Economic-Aesthetic relationships. The highest positive coefficients are for the Economic-Political and the Aesthetic-Social relationships.

Table 23

INTERCORRELATION OF STUDY OF VALUES SCORES FOR 137 STUDENTS AT FORTY SELECTED COLLEGES

Test	2	3	4	5	6
1. Theoretical	.000	-.138	-.191	-.387	-.088
2. Economic		-.423	-.181	.244	-.409
3. Aesthetic			.083	-.131	-.107
4. Social				-.201	.025
5. Political					-.460
6. Religious					

The general pattern of relationship between the test scores of the Study of Values is negative. Positive coefficients are frequently found, however, for the Political-Economic, Theoretical-Aesthetic, and Religious-Social relationships. The highest negative coefficients are most frequently found for Economic-Theoretical, Economic-Religious, Economic-Aesthetic, Aesthetic-Religious, and Theoretical-Religious relationships.

An application of the Thurstone multiple factor technique was made by Lurie (32,32) in an attempt to determine stable categories for the classification of personality with regard to value types. A special test made up of items classed according to Spranger's value types was used. Four basic attitudes were found, viz., the Social type, which values especially human relations; the Philistine type, which emphasizes utility and power at the expense of beauty and harmony; the Theoretical type, which stresses truth and cognitive values; and the

Religious type, which emphasizes the spiritual side of life. Three less important factors influencing the scores to a marked extent were found. These were open-mindedness, practicality, and aesthetic attitude.

A factor analysis by Duffey and Crissy (44,244) of value scores for the Allport-Vernon tests revealed three factors. These were called a Philistine factor, a factor of Interest in People, and a Theoretical factor. These correspond with three of the four factors reported by Lurie.

Average Value Scores

Average scores on the Study of Values questionnaire for approximately 207 men and 186 women students of sophomore standing, or beyond, at Pennsylvania State College were reported by Hartmann (23,109) and are included here in Table 24. The highest average value scores for the men in this sample are for the Political and Theoretical values.

Table 24

AVERAGE SCORES FOR THE TESTS
OF THE STUDY OF VALUES
(Hartmann)

N	Sex	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
207	men	32.08	31.44	26.49	28.99	33.12	30.50
186	women	28.30	29.09	31.11	30.70	30.03	33.65

The median scores for the several tests of the Study of Values were reported by Pintner (67,351) for 58 men and 129 women students in an Educational Psychology class at Columbia University. These data are reported here in Table 25. The highest median value scores for the men in this sample are for the Theoretical and Religious values.

Table 25

MEDIAN SCORES FOR THE TESTS OF THE STUDY OF VALUES (Pintner)

N	Sex	Theoretical	Economic	Aesthetic	Social	Political	Religious
58	Males	32.83	29.36	26.17	29.83	28.00	30.83
129	Females	27.14	28.67	31.46	32.70	26.45	33.64

Average scores for the tests of the Study of Values were reported by the test authors (3,7) in the Manual of Directions for 2,755 males and females. These data are reported here in Table 26. This relatively large group of men obtained the highest average scores for the Economic and Political values.

The mean scores on the Study of Values test for 142 Reed College students as reported by Schaffer (45,419) are included here in Table 27. The males obtained the highest average value scores for the Theoretical and Aesthetic values.

Table 26

MEAN SCORES FOR THE TESTS
OF THE STUDY OF VALUES
(Allport and Vernon)

N	Sex	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
1,163	males	30.83	32.02	27.04	29.74	32.08	27.96
1,592	females	27.69	27.04	33.03	31.65	27.87	33.31
2,755	combined	29.26	29.53	30.04	30.69	29.98	30.63

Table 27

AVERAGE SCORES FOR THE TESTS
OF THE STUDY OF VALUES
(Schaffer)

N	Sex	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
73	men	34.40	26.18	32.11	31.48	26.63	28.19
69	women	30.13	26.06	35.94	31.78	24.80	29.87

Whitely reported scores on the Study of Values test for 84 male students for four consecutive years of college (59,406). These data show gradual decreases in the Political and Religious values and gradual increases in the Theoretical and Aesthetic values during the four-year period. Whitely's scores are reported in Table 28.

Table 28

CHANGES IN SCORES FOR THE STUDY OF VALUES DURING FOUR YEARS OF COLLEGE

(Whitely)

84 Male Students	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
1st year	29.78	30.99	24.31	29.21	32.05	33.65
2nd year	30.10	30.54	25.10	29.39	32.20	32.56
3rd year	30.31	30.85	26.62	28.93	33.11	30.15
4th year	30.38	30.04	26.37	30.79	31.01	31.38

Cantril and Allport (10,263) presented average scores for 1,592 women obtained from nine colleges. These data were presented to demonstrate institutional differences in average scores for the Study of Values (Table 29).

The material presented above in Tables 24 through 29 indicates that college men more frequently obtain high scores on the Theoretical and Political than on the other tests of the Study of Values. There is some evidence to indicate that there is a gradual increase in some

Table 29

INSTITUTIONAL DIFFERENCES IN SCORES FOR THE STUDY OF VALUES
(Cantril and Allport)

N	Institution	Theoret-ical	Econ-omic	Aesthe-tic	Soc-ial	Polit-ical	Reli-gious
380	Wellesley Freshmen	26.5	26.3	31.6	31.0	30.1	34.3
245	Wellesley Seniors	27.7	24.9	33.7	32.2	25.1	36.1
250	Mt. Holyoke Seniors	28.6	27.5	33.2	32.3	25.8	33.1
250	Barnes Commercial	26.4	30.8	26.7	31.3	29.5	35.4
90	Stanford	27.4	27.9	36.7	30.4	29.2	28.4
77	Radcliffe	30.4	26.0	34.2	31.4	26.1	32.1
69	Boston Univ. Prac. Arts	26.4	28.8	32.0	30.1	31.2	31.1
30	Randolph-Macon Upper-classmen	26.6	26.9	34.1	31.9	28.5	31.4
27	Wheaton	24.8	26.5	36.8	34.9	25.0	32.0
1,592	Total	27.7	27.0	33.0	31.6	27.9	33.3

value test scores and a gradual decrease in others during the four-year college course. There appear to be some institutional differences in college student scores for the Study of Values tests.

Standard Deviations for the Study of Values

The standard deviations for Study of Values test scores from several studies are presented in Table 30. The largest and most consistent variation is among the Religious and Aesthetic scores. These data are for students from public and private colleges with no special emphasis upon religious education.

Table 30

STANDARD DEVIATIONS FOR COLLEGE UNDERGRADUATES ON THE STUDY OF VALUES

Reference	Sex	N	Theoretical	Economic	Aesthetic	Social	Political	Religious
(58,7)	M	84	8.10	6.97	8.78	5.23	8.06	9.73
(53,156)	M	137	6.41	7.05	8.07	4.98	6.90	9.76
(23,109)	M	207	4.57	6.87	8.43	6.06	6.71	8.64
(23,109)	F	186	6.57	5.58	8.28	5.45	5.97	8.06
(41,306)	F	96	7.25	6.85	7.72	5.02	6.84	6.04

Summary and Conclusions

The test-retest reliability of the tests of the Study of Values ranges from about .70 to .90 with the exception of the Social which is reported by numerous investigators as being of doubtful meaning and stability. There are characteristic differences between the evaluative attitudes in different colleges, between students in different fields of study within the same college, between individuals in different occupations, between individuals who express a preference for different occupations, between men and women, between people from different income levels, between male students and their ideals, and between different clothing and reading interests. The test scores of the Study of Values appear to be relatively independent of scores of other tests. The general pattern of relationship between the Study of Values test scores is negative. Positive coefficients are frequently found,

however, for the Political-Economic, Theoretical-Aesthetic, and Religious-Social relationships. College men have been found to have higher scores on the Theoretical and Political values than on the other tests; however, this finding may be due to the institutions at which studies have been conducted since institutional differences between value scores have been found. The Religious and Aesthetic scores have usually been found to have greater variance than that found for the other four tests. In short, the Study of Values test has been demonstrated to be adequately reliable, with the exception of the Social test, and sufficiently valid to be employed as a measure of evaluative attitudes.

The F Scale

Historical Background and Development

The American Jewish Committee in May, 1944, organized a conference of a group of American scholars of various backgrounds and disciplines to discuss religious and social prejudice. A research program was outlined at this meeting which would employ the scientific method in the solution of problems of prejudice (1,V). The resulting research program was guided by the major hypothesis that the political, economic, and social convictions of an individual often form a broad and coherent pattern which is an expression of deep-lying personality trends.

Major emphasis was placed upon the study of subjects believed to be potentially fascistic--persons whose personality structure was believed to render them particularly susceptible to anti-democratic propaganda (61,1). This approach presumes that anti-Semitism is based more largely upon factors in the subject and in his total situation than upon actual characteristics of Jews, and that one place to look for determinants of anti-Semitic opinions and attitudes is within the persons who express them (1,2). The investigators defined anti-Semitism as an ideology, a relatively organized, relatively stable system of opinions, values, and attitudes concerning Jews and Jewish-Gentile relations with emphasis upon negative and hostile attitudes toward Jews (1,58):

> "Anti-Semitism is conceived here as an ideology, that is a relatively organized, relatively stable system of opinions, values, and attitudes concerning Jews and Jewish-Gentile relations. More specifically, it involves <u>negative opinions</u> regarding Jews (that they are unscrupulous, clannish, power-seeking, and so on); hostile attitudes toward them (that they should be excluded, restricted, kept subordinate to Gentiles, and so on); and moral values which permeate the opinions and justify the attitudes."

The first step in carrying out the proposed program of research was the development of an opinion--attitude scale for the measurement of anti-Semitic ideology referred to as the A-S Scale (17,533). A relatively satisfactory scale resulted which seemed

to reveal a rather general tendency for each person to accept or reject anti-Semitic ideology.

The next step (17,535) taken was to determine if the trends found in anti-Semitic ideology were also expressed in the individual's social thinking about group relations. Accordingly, an Ethnocentric scale--referred to as the E Scale--was constructed along lines similar to those employed for the A-S Scale. Clusters of items were centered around Negroes, minorities, and patriotism. The A-S Scale correlated .80 with the E Scale.

The third step (17,536) in the program of research was the attempt at a quantitative investigation of personality variables underlying ethnocentric ideology. The investigators had reached the conclusion that the main variables underlying the various ideological areas thus far studied represented personality trends expressed in ideological form. They also desired to explore further an original primary hypothesis in this research that an individual is most receptive to those ideologies which offer the fullest expression to his over-all personality structure.

Consequently, a scale was constructed which was called the F Scale because it was intended to measure some of the personality trends which seemed to express a predisposition, or deep-lying receptivity, to fascism. The items were designed as statements of opinions and attitudes in non-ideological areas such as self, family,

people in general, sex, personal values, and so on. The main difference between the scales is that the F Scale items are less openly ideological. Nine main variables guided the F Scale construction (61,228), viz.: conventionalism, authoritarian submission, authoritarian aggression, anti-intraception, superstition-stereotypy, power and "toughness", destructiveness and cynicism, projectivity, and sex.

F Scale Scores

The final form (Form 40) of the F Scale consists of thirty items, has a reported reliability of .85, and correlates with the A-S and E Scales about .75. The subject uses the following key (62,15) printed on the top of the separate forms to rate each item:

+1 I agree a little	−1 I disagree a little
+2 I agree pretty much	−2 I disagree pretty much
+3 I agree very much	−3 I disagree very much

If a subject tends to accept the items, a high score will be earned and the person is designated as being relatively authoritarian. If the subject rejects the items, a low F score is earned and the person is then designated as non-authoritarian. An item which is rated as -3 is given a scoring weight of 1; a +3 receives a weight of 7; and omitted items receive a weight of 4.

Norms, Reliability, and Validity

Approximate norms, means, standard deviations, and ranges are reported by Lasky (62,15) on the basis

of a private communication from Sanford as follows: mean 110 to 130; standard deviation 30 to 40; low quartile range 30 to 85; high quartile range 140 to 210. More recently Adorno et al. (1,258) have reported reliability of .90, mean of 115.20, standard deviation of 33, and range of 42 to 189 for 1,518 men and women. These data for the 919 men alone are: reliability .88, mean 119.4, standard deviation 29.7, and range of 45 to 186. Distribution statistics for various subgroups are reported in Table 31.

Williams (61) reported means ranging from 110 to 130 and standard deviations from 30 to 40. Substantial validity data for the F Scale is meager. Williams (61) investigated the relation of the F, E, and PEC Scales to extrapunitiveness as measured by the Rosenzweig Picture Frustration Study. The largest relationship found was a .15 for 183 cases which was significant at the five per cent level. Lasky (31,14) tested the null hypothesis, viz.:

> "The amount of experimentally induced change in the acceptance or rejection of F Scale items is unrelated to original score on the F Scale."

The null hypothesis was rejected at less than the one per cent level of significance. Correlations are also reported by Adorno et al. (1,263) for the F Scale with the E Scale of .73 and with the PEC Scale of .52 for 2,150 cases.

Table 31

MEAN F-SCALE SCORES OF GROUPS TAKING FORMS 40 AND 45 OF THE QUESTIONNAIRE*

Group	N	Mean	S.D.
Form 40:			
George Washington University Women	132	105.3	27.0
California Service Club Men	63	122.4	30.9
Middle-class Women	154	108.6	37.8
Middle-class Men	69	110.7	36.6
Working-class Women	53	115.8	50.1
Working-class Men	61	125.7	35.4
Los Angeles Women	130	104.7	33.9
Los Angeles Men	117	110.4	35.1
Over-all Mean, Form 40	779	112.8	36.0
Form 45:			
Testing Class Women	59	108.6	29.7
San Quentin Men Prisoners	110	141.9	25.8
Psychiatric Clinic Women	71	110.7	39.0
Psychiatric Clinic Men	50	114.6	30.3
Over-all Mean, Form 45	290	118.8	31.2
Forms 40 and 45:			
Employment Service Men Veterans	106	112.2	31.2
Maritime School Men	343	121.8	23.1
Over-all Mean, Forms 40 and 45	449	117.0	27.0
TOTAL MEN	919	119.4	29.7
TOTAL MEN AND WOMEN	1,518	115.2	33.0

*Form 45 is an earlier form of the F Scale than Form 40. The two forms are similar with regard to items and have quite similar statistical attributes. The authors of the two forms considered them sufficiently similar to permit the combination of the normative data for both forms.

Summary

The F Scale was developed because its authors had reached the conclusions, from previous research with allied scales, that the main variables underlying the various ideological areas of individuals represented personality trends expressed in ideological form. The F Scale was designed to measure some of the personality trends which seemed to express a predisposition, or deep-lying receptivity, to fascism. The F Scale has a reliability of approximately .90, a mean of 115.20, a standard deviation of 33, and a range from 42 to 189. The validity data for the F Scale are meager; however, the few available validity studies support the theoretical considerations underlying the development of the scale. It appears that the F Scale is a satisfactory measure of a particular and relatively narrow aspect of ideology.

Biographical Data Form

A Biographical Data Form was constructed and employed in this study in order to secure general descriptive data about the subjects and to obtain information with regard to the frequency with which the various subjects were seen by each other. It was planned that the information obtained from the form might be used either to describe the sample or to identify subgroups. The design of the research did not include the use of subgroups; it was considered desirable, however, to secure information

which would make such action possible in case a change in plans was considered necessary later. Consequently, the Biographical Data Form requested information relative to marital status, socio-economic status of the subject's family, the amount and type of part-time work performed while in college, proximity of living quarters to the campus, housing with regard to parental independence and association with fellow students, and a series of questions which requested the subject's opinion with regard to his interpersonal relations with other students, e.g., where he most frequently became acquainted with other students, what factors most influenced his acquaintanceship with other senior men, and whether he preferred to work alone. A copy of this form appears in Appendix A.

Student Record Form

A review of the records in the office of the college registrar led to the conclusion that considerable personal and academic information regarding the subjects might be obtained from the files of that office. Accordingly, a one-page form--referred to as the Student Record Form--was constructed. To some extent this form supplemented the Biographical Data Form. It provided for the recording of information relative to age, weight, height, nationality, race, veteran status, church preference, parental occupation, area of academic concentration, vocational preference, average grade, recreation,

extra-curricular activities, various psychological test scores, physical defects, and personality adjustment difficulties. Although it was not possible to obtain complete information for many of the items because data had not been collected in some cases, it was possible to secure sufficient information for enough items to make the form worthwhile. A copy of this form appears in Appendix B.

Nomination Ballot

The major hypothesis of the study involved the relationship of values to sociometric nomination. Accordingly, an adequate device for reporting sociometric nominations was necessary.

It was desired that at least two different criteria for sociometric nomination be included; that the criteria be relatively independent of each other; that they be typical of other criteria; and that they represent matters of importance to the subjects. The two criteria finally decided upon were leisure-time association--subsequently referred to as the leisure criterion--and association in work requiring interdependent responsibility and cooperative action for productiveness--subsequently referred to as the production criterion. A sociometric test was constructed which required subjects to indicate those classmates among the senior class men with whom they would most prefer to spend their leisure time and those classmates with whom they

would least desire to spend their leisure time. Space was provided for five nominations in each case. A similar type form was used for the second criterion. In the latter case a situation was described which required the subject to choose associates who would work with him upon important committee tasks. The subjects were also requested to indicate classmates who would be least acceptable to them in this committee situation. A copy of this test appears in Figure 1, on the following page.

Supplement to the Nomination Ballot

It was desired to secure some type of report from the subjects with regard to their motivation in the sociometric test nominations. A form was devised for this purpose and designated the Supplement to the Nomination Ballot. Subjects were requested to evaluate their own motivation by indicating on a rating scale the extent to which they were influenced in their choices and rejections by similarity between themselves and their sociometric nominees. This form appears in Figure 2 on page 69.

Testing Number_____

Nomination Ballot

This form has been designed to secure information about how people live and work together as well as what kinds of people seem to get along best together. Information of this kind is needed in order to gain some understanding of the factors involved in the many decisions college students must make about selection of vocations, finding jobs, choosing friends, choosing working associates, and in gaining understanding of many interpersonal problems. The information which you provide will be used in a professional and scientific manner. Because of the scientific nature of this project it is necessary to secure your confidence and cooperation in order to secure the most accurate information possible. You may be sure that the information which you provide will be kept absolutely confidential. Great care will be taken to assure that the information which you provide will not operate to the disadvantage of either you or your college associates.

Two hypothetical situations are provided below for which you are requested to provide information. Try to give the most honest and accurate information possible.

Situation I

From the attached roster of Senior Class men select several with whom you would most prefer to spend your spare or leisure time. List first the one you would most prefer and as nearly as possible list the others in the order of preference.

1. _____
2. _____
3. _____
4. _____
5. _____

From the attached roster of Senior Class men select several with whom you would least prefer to spend your spare or leisure time. List first the one you would least prefer and as nearly as possible list the others in the order of least desireability, e.g.,"1" least desirable, "2" next least desirable, etc.

1. _____
2. _____
3. _____
4. _____
5. _____

Figure 1.

Situation II

The college has decided to create a student liaison committee to be composed of three members. Two members are to be men of the Senior Class, the third member will be chosen from the Junior Class. You have been selected as one of the Senior Class representatives on this committee. There will be no committee chairman but instead all three members must work as a team. Each of you will have real responsibility and your recommendations will have substantial influence in determining the administrative policies of the college with regard to student affairs. Your committee will be responsible to the student body for the recommendations that you make. Yourwork on this committee will in a large measure determine your status and reputation among the students and faculty. Your committee will make recommendations with regard to such matters as the following:

1. Student loans
2. Student work
3. Status of the moral ideals of the students
4. Student activities, e.g.,athletics, music, debate, dramatics, etc.
5. Student housing and student food service
6. Chapel attendance and the nature of the chapel programs
7. Policies and rules regarding control of student conduct
8. Nature and type of "special talent" to be brought to the campus

From the attached roster of Senior Class men select several whom you would most prefer to have serve with you on this committee. List first the one you would most prefer and as nearly as possible list the others in the order of preference.

1._____

2._____

3._____

4._____

5._____

List several Senior men whom you would least desire to have serve with you on this committee. List first the one you would least prefer and as nearly as possible list the others in the order of least acceptability, e.g., "1" least acceptable, "2" next least acceptable, etc.

1._____

2._____

3._____

4._____

5._____

Testing Number_____

Supplement to the Nomination Ballot

On this form it is requested that you report something about the basis for your choices on the Nomination Ballot which you completed earlier.

A. Write in the space provided the name of the person whom you named as the most preferred on the leisure time criterion:

_____

B. Now think about the reasons that may have caused you to select the person named above. A number of factors are listed below which may have been influential in your decision. To the left of each statement is a scale composed of the numbers "1" through "6". Read each statement and try to estimate how influential each factor was in making your choice. Then circle the number on the scale which appears to best represent this degree of influence. Number "1" represents the least possible influence and number "6" the most possible influence.

low high

1. 1-2-3-4-5-6
   I selected him because I think he is like me.

2. 1-2-3-4-5-6
   I selected him because he is a person who usually accepts my point of view.

3. 1-2-3-4-5-6
   I selected him because I find it easy to accept his point of view.

4. 1-2-3-4-5-6
   I selected him because he is different from me in most respects.

C. Write the name of the person whom you named as least preferred on the leisure time criterion:

_____

Now think about the reasons that caused you to make this choice. Read each of the statements below and try to estimate how influential each factor was in making your choice. Then circle the number on the scale which appears to best represent this degree of influence.

low high

1. 1-2-3-4-5-6
   He was chosen as least acceptable because he is like me.

2. 1-2-3-4-5-6
   He was chosen as least acceptable because he is a person who usually accepts my point of view.

Figure 2.

3. 1-2-3-4-5-6
He was chosen as least acceptable because I find it easy to accept his point of view.

4. 1-2-3-4-5-6
He was chosen as least acceptable because he is different from me in most respects.

PROCEDURES FOLLOWED IN COLLECTING DATA

Testing Room

Arrangements were made with Adrian College for the administration of the necessary tests and forms to the men in the senior class. The faculty conference room was provided for the test administration. Because it was the best furnished room in the college and was situated in the library building, it provided a dignified and quiet place where the subjects could give complete attention to the task at hand.

Orientation and Procurement of Subjects

A general explanation of the proposed project was presented to the men of the senior class at an informal meeting following chapel exercises several days before the actual collection of data began. There was a general reaction of interest and cooperation. The students were requested at this time to come to the faculty room on designated days and schedule themselves for the tests. Each student was encouraged to arrange this schedule for his own convenience and not that of the examiner. Students in leadership positions, e.g., Senior Class President, were requested to inform members of their organizations about the project. An announcement of the project, together with its objectives, was published in both the college paper and the city paper. A letter was prepared for the dean's signature which was sent to all subjects

informing them of the purpose of the project and encouraging their cooperation. Several of the more prominent student leaders volunteered their assistance in explaining the project to some of the more reticent subjects and in arranging a satisfactory schedule for them. Because of this cooperation, it was possible to administer the forms and tests to the complete group of senior men.

All of the tests were given on an individual basis and all were administered by the investigator. Plans had been made in the beginning to provide for feedback of the results to the subjects upon completion of the project. This emphasis appeared to be particularly useful in securing the cooperation of subjects. When each subject appeared for testing, the investigator explained that the data would be used to provide an evaluation of the subject, of his associates, and of the interaction of the subjects within the group. Each person was informed that he could arrange for a conference for the interpretation of the results when the analysis of the data was completed. Following this brief explanation, subjects were provided an opportunity to ask questions. Most of the subjects requested additional information of one type or another.

Administration of Tests and Forms

The next step was the administration of the tests and forms. Because of the importance of the proper set for many of the tests, extreme care was exercised to

present directions for each test just as the subject was ready to begin it. As each form was completed, the subject waited for new directions before proceeding to the next one. Because there were usually only a few subjects in the room at the same time, this seldom caused delay. The following sequence and sets were employed with the several tests and forms:

1. Assignment of a testing number. The subject was provided with a 3x5 card perforated into halves with duplicate numbers on each part. He was instructed to sign his name below each of the numbers and return one of the numbers to the examiner for filing. The other portion of the card was retained by the examinee for identifying all materials completed by him during the examination period. He was told that the numbers would provide absolute secrecy for the information he reported and that he could be confident that none of the information he provided would be revealed in any manner which would permit his identification with it.
2. Presentation of the Nomination Ballot. The subject was handed this form with a roster of the senior class men attached and was told that the directions provided on the form were complete. It was proposed that the form be read and that the subject proceed according to the directions. Most

individuals completed the form without further remarks. Some protested, however, that they could not select five names for each situation. They were then requested to select as many names as they could but not to feel any compulsion to name five. One or two subjects stated that all men in the senior class were desirable associates and that they were unable to name a "least desirable." These subjects were instructed to select at least one name from those persons they would probably choose last. This seemed to provide a satisfactory procedure.

3. Completion of the F Scale. This scale was handed to the subject with the comment to proceed according to the directions. The examiner checked once with each subject to make sure that the scale was understood.

4. Completion of the Biographical Data Form. No special directions were offered for this form except that correct information be supplied in the various blanks. The examiner supervised this form rather closely to assure that each item was understood.

5. Completion of the Study of Values questionnaire. Because it was necessary to have this form completed seven times with seven different sets, care was taken to make sure the subject understood the directions and the set in each case.

The seven forms completed by each subject were lettered A through G for the purpose of identification.

Form A was presented to the subject with the comment that the directions on the test be read and followed. Soon after the subject began to complete the form, the examiner discussed the procedure with him in order to assure that it was properly understood. The scores derived from Form A are subsequently referred to as Conventional Scores.

Form B was handed to the subject with the comment that it was exactly the same test he had just completed. It was desired, however, that he respond to it this time from a different point of view. He was then requested to select the responses that he believed an ideal associate or companion would choose. It was next suggested that the subject try the first item. After a choice had been recorded, the set was again discussed to make sure that it was understood. If confusion still existed, the examiner made up sample items and discussed them with the subject until the confusion was eliminated. The scores derived from Form B are subsequently referred to as values of Ideals.

Form C was given to the subject while the examiner commented that it was to be answered from still a third point of view. The subject was instructed to supply the responses which he believed would be chosen by a person who would be very unacceptable to him as an associate. The examiner then followed the same procedure employed with Form B to assure that the proper set had been provided. The scores derived from Form C are subsequently referred to as values of Unacceptables.

Form D was given to the subject while the examiner commented that changing his points of view was no longer a problem for the subject. (This was usually literally true. Very few subjects expressed or indicated difficulty with the sets for Forms D, E, F, and G. The examiner, however, continued to discuss this matter with the subjects as they proceeded through the remaining tests.) The examiner then turned to the first choice for Situation I on the Nomination Ballot and wrote the letter D after the name entered there. He requested that the subject respond to the test as he believed this person would answer it. The scores derived from Form D are subsequently referred to as Estimated Leisure-choice values.

Form E was administered in precisely the same manner as Form D with appropriate changes in

remarks for identification of the first rejection for Situation I of the Nomination Ballot for whom the set was to be established. The scores derived from Form E are subsequently referred to as Estimated Leisure-rejection Values.

Forms F and G were treated in a similar manner to Forms D and E with one exception. Where the first choice in Situation II (Form F) was the same name as the first choice in Situation I, the second choice in Situation II was designated, provided a second entry had been made. The same procedure was followed with rejections (Form G). The value scores derived from Form F are subsequently referred to as Estimated Production-choice Values and those of Form G as Estimated Production-rejection Values.

6. Completion of the Supplement to the Nomination Ballot. This form was the last one completed by each subject. It was administered last because it was feared that the relatively direct nature of the items might bias responses to other materials if it preceded them. No special directions were given the subject, except to read the instructions and to enter the data which were requested.

PLAN FOR ANALYSIS OF DATA

General Plan

The general plan followed in the analysis of the data collected for the present study is primarily oriented toward the determination of relationships. The principal method employed in the measurement of relationships is product-moment correlation. The principal variables between which correlations are found are the Study of Values scores of the subjects and the Study of Values scores of their sociometric nominees. The second most important group of variables between which correlations are found are the F Scale scores of the subjects and the F Scale scores of their sociometric nominees. The third group of variables between which correlations are computed are the eight sociometric scores which are derived for each of the subjects. In some cases subgroups of the subjects are treated by the same method of correlation as described in this paragraph for the complete group of subjects.

Sociometric Scores

Sociometric scores for each subject are derived from the Nomination Ballot. A sociometric score unit represents the appearance of the name of a subject on a particular list or group of lists on the Nomination Ballot. Eight sociometric scores were derived for each subject.

Each score represents the number of times each subject was named on one of the lists for the leisure criterion and production criterion of the Nomination Ballot. The four scores for each of these two criteria are:

1. First choice
2. First rejection
3. Total choices
4. Total rejections

Intercorrelations were computed among the eight variables.

Values of the Subjects and the Values of Their Sociometric Nominees

Correlation coefficients between the Study of Values scores of the subjects and the Study of Values scores of their sociometric nominees were computed for each of the six tests of the Study of Values. These coefficients were computed for each of four sets of sociometric nominees, viz., sociometric choices for the leisure criterion, sociometric rejectees for the leisure criterion, sociometric choices for the production criterion, and sociometric rejectees for the production criterion.

Values of the Subjects and the Values of Their Sociometric Nominees for F Scale Subgroups

Correlation coefficients between the Study of Values scores of the subjects and the Study of Values scores of the sociometric nominees were computed for each of the six tests of the Study of Values as described in the paragraph immediately preceding for three

F Scale subgroups. The F Scale subgroups were obtained by dividing the 66 participating subjects into three groups on the basis of the score each subject obtained on the F Scale. The three F Scale subgroups were designated as low F Scale subgroup, medium F Scale subgroup, and high F Scale subgroup. The low F Scale subgroup is made up of those 18 subjects who obtained F Scale scores of 99 and below; the medium F Scale subgroup is composed of those thirty subjects who obtained F Scale scores of 100 to 129, inclusive; the high F Scale subgroup is made up of those eighteen subjects who obtained F Scale scores of 130 and above. These correlation coefficients were computed for each of four sets of sociometric nominees, viz., sociometric choices for the leisure criterion, sociometric rejectees for the leisure criterion, sociometric choices for the production criterion, and sociometric rejectees for the production criterion.

Estimated or Guessed Scores

In addition to taking the Study of Values test in the usual way, each subject completed the test six times with six different psychological sets. The scores from these six additional administrations of the Study of Values are referred to as estimated or guessed value scores. Each subject was requested to estimate or guess scores for an ideal companion, a person who would be considered extremely unacceptable as a companion, his first choice for the leisure criterion, his first rejection on

the leisure criterion, his first choice on the production criterion, and his first rejection on the production criterion. Product-moment correlation coefficients were computed between the Study of Values scores of the subjects and the Study of Values scores obtained from each of these six kinds of estimates for value tests.

Supplement to the Nomination Ballot

Each subject indicated on the Supplement to the Nomination Ballot the extent to which he was influenced by selected factors in making his individual nominations on the Nomination Ballot. This report was made by means of a rating scale. The ratings obtained in this manner were tabulated into frequency distributions for which means and standard deviations were computed. These data are compared from the standpoint of the shape of the frequency distributions and the average score for each of the distributions.

Additional Methods of Analysis

Several methods in addition to those described above were employed in the analysis of the data of this study. Sociometric diagrams were made separately for first and third place nominations for each of the four lists of the Nomination Ballot. Scatterplots on cross-sectioned correlation charts were prepared for all correlations between the Study of Values scores of the subjects and the Study of Values scores of their

sociometric nominees. Correlation coefficients were computed between the Study of Values test scores of the sociometric nominees and selected sets of Study of Values scores which had been guessed or estimated for these nominees.

DEFINITIONS OF TERMS

1. Conventional Scores -- scores from the Study of Values test when it was administered to subjects in the usual manner, according to the directions provided in the Manual of Directions for the test. This administration of the test is also referred to as the Form A Administration of the Study of Values.

2. Nominee -- a subject who has been named on any of the four lists of the Nomination Ballot.

3. Choice or Selectee -- a subject who has been named on the sociometric questionnaire as a desired associate. This might be any one of five subjects chosen for either the leisure or production criterion.

4. Rejectee -- a subject who has been named on the sociometric questionnaire as least desired as an associate. This might be any one of five subjects named for either the leisure or production criterion.

5. Ideal -- the imaginary person each subject had in mind when completing the Study of Values test for a person who would be considered an ideal associate. This administration of the Study of Values is referred to as the Form B Administration.

6. Unacceptable -- the imaginary person each subject had in mind when completing the Study of Values test for a person who would be considered very unacceptable as an associate. This administration of the Study of Values is referred to as the Form C Administration.

7. Leisure criterion -- Situation I on the Nomination Ballot which requests the nomination of classmates on the basis of leisure-time association.

8. Production criterion -- Situation II on the Nomination Ballot which calls for the nomination of classmates on the basis of suitability for committee work.

9. Estimated leisure-choice values -- Each subject completed one Study of Values test as he believed it would be completed by the person he had listed in the first choice position for the leisure criterion of the Nomination Ballot. The resulting value test scores are referred to as the estimated leisure-choice values. This administration of the Study of Values test is referred to as the Form D Administration.

10. Estimated leisure-rejection values -- Each subject completed one Study of Values test as he believed it would be completed by the person he had listed in the first rejection position for the leisure criterion of the Nomination Ballot. The resulting value test scores are referred to as the estimated leisure-rejection values. This administration of the Study of Values test is referred to as the Form E Administration.

11. Estimated production-choice values -- Each subject completed one Study of Values test as he believed it would be completed by the person he had listed in the first selection position for the production criterion of the Nomination Ballot. (If this person was the same as listed in the first position of the selection list for the leisure criterion, the second person was substituted.) The resulting value test scores are referred to as the estimated production-choice values. This administration of the Study of Values test is referred to as the Form F Administration.

12. Estimated production-rejection values -- Each subject completed one Study of Values test as he believed it would be completed by the person he had listed in the first rejection position for the production criterion of the Nomination Ballot. (If this person was the same as listed in the first position of the selection list for the leisure criterion, the second person was substituted.) The resulting value test scores are referred to as the estimated production-rejection values. This administration of the Study of Values test is referred to as the Form G Administration.

13. The seven administrations of the Study of Values tests with seven different psychological sets have been described in the twelve definitions. The specific definitions in which the descriptions occurred are as follows:

Form A Administration--definition 1
Form B Administration--definition 5
Form C Administration--definition 6
Form D Administration--definition 9
Form E Administration--definition 10
Form F Administration--definition 11
Form G Administration--definition 12

Chapter III

SOCIOMETRIC SCORES AND VALUE RELATIONSHIPS

INTRODUCTION

The results obtained from the analysis of the data collected for the present study are presented and discussed in this chapter. An attempt also is made to integrate and synthesize the background material, which was reviewed in Chapters I and II, with the new data presented here in Chapter III in order to provide a more comprehensive basis for the interpretation of the new information. Chapter I of this report consists of a general review of the findings from previous research concerned with the relation of personal attributes to interpersonal relations. Chapter II of this report provides background information about the following aspects of the present investigation:

1. Special attributes of the subjects, e.g., age, interests, intelligence.
2. Statistical characteristics and norms of the psychometric instruments employed in the study.

3. Methods and procedures followed in the collection of the data for this study.

4. The plan followed in the analysis of the data for this study.

5. Definitions of special terms employed in this study.

The material in Chapter III is organized logically for the most part around the major and minor hypotheses under consideration in the present study, which are stated in the concluding paragraph of Chapter I. There are two major exceptions to this plan of organization for Chapter III:

1. The first major section of Chapter III is made up of descriptive material which describes the following:

   a. The Study of Values test scores of the 66 subjects participating in this study.

   b. The F Scale scores of the 66 subjects participating in this study.

   c. The sociometric scores of the 66 subjects participating in this study. These scores are derived from the Nomination Ballot.

This descriptive material is placed in the forepart of Chapter III because it is more or less basic to the understanding of subsequent sections. To include the material in each of the several sections of the chapter would involve much repetition. In addition, it is believed that greater clarity is achieved through presentation in a separate section.

2. The last major section of Chapter III is made up of the discussion of the relation between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric nominees for three subgroups of the 66 participating subjects. The three subgroups were determined on the basis of their F-Scale scores. The discussion is centered around a comparison of the correlation coefficients obtained for each of the three F-Scale subgroups.

The correlation coefficients involved are between the Study of Values scores of the subjects and the Study of Values scores of their sociometric nominees. Separate correlation coefficients are presented for each F-Scale subgroup. This material is presented near the close of Chapter III because it bears upon the major and minor hypotheses only indirectly.

The principal material of Chapter III centers around the major hypothesis of the present study, i.e., values are influential factors in sociometric nominations.

The data pertaining to the major hypothesis are presented so that material relevant to each of the six minor hypotheses is organized into six sub-sections. Each sub-section is made up of the data most relevant to a particular minor hypothesis. The six minor hypotheses about which the material is organized are as follows:

1. People tend to choose for personal association persons with values similar to their own.

2. People tend to reject for personal association persons with values different from their own.

3. People tend to perceive desired associates as having values similar to their own.

4. People tend to perceive persons whom they reject as personal associates as having values different from their own.

5. People tend to perceive ideal associates as having values similar to their own.

6. People tend to perceive extremely unacceptable associates as having values different from their own.

A summary of all the sections of the chapter is presented in the closing paragraphs.

VALUE SCORES, F-SCALE SCORES, AND SOCIOMETRIC SCORES

The material presented in this section concerns the scores which the 66 subjects participating in this study obtained from the conventional administration of the Study of Values test, the F-Scale, and the Nomination Ballot. The data presented here involve average scores, standard deviations for various sets of scores, intercorrelations between selected scores, and the nature of the distributions of selected scores. The subsequent discussion is pointed toward the integration of the new data obtained in the present study with the findings from previous investigations which were summarized in Chapters I and II of this report. When it is possible, interpretations are made, and the implications for the subsequent sections of this chapter are pointed out.

The Study of Values Test Scores of the Subjects

Introduction

The value scores discussed in this section are those obtained from the conventional administration of the Study of Values. The conventional administration is defined in the Definition Section of Chapter II (page 82). It is the normal or ordinary method of administration of the Study of Values test as prescribed in the Manual of Directions (4). Six value scores are derived from each subject's responses to the items of the test which are for the Theoretical, Economic, Aesthetic, Social, Political, and Religious values.

Average Value Scores

The average Study of Values scores of the 66 subjects participating in this study for the six sets of Study of Values test scores are reported in Table 32.

Reference to Table 26 in Chapter II permits a comparison of the average Study of Values scores for the 66 subjects of the present study with the average Study of Values scores for 2,755 males and females from a number of previous studies. The data in Table 26 provide average value scores as follows:

Theoretical	29.26	Social	30.69
Economic	29.53	Political	29.98
Aesthetic	30.04	Religious	30.63

Table 32

INTERCORRELATIONS OF THE SIX STUDY OF VALUES TEST SCORES AND THE F-SCALE SCORES OF THE SUBJECTS
(Mean Scores and Standard Deviations Included)

N = 66

Type of List	Mean	S.D.	2	3	4	5	6	7
1.Theoretical	29.83	6.65	-.280*	-.204	-.096	-.179	-.133	-.147
2.Economic	30.67	8.04		-.184	-.321**	.414**	-.606**	.266*
3.Aesthetic	22.33	6.66			-.232	-.200	-.832**	-.274*
4.Social	31.24	5.25				-.275*	.133	.008
5.Political	31.26	6.80					-.622**	.426**
6.Religious	34.65	10.03						-.226
7.F Scale	115.27	22.02						

*Significant at the 5 per cent level
**Significant at the 1 per cent level

It will be noted that the average score for each of the values for this group of mixed sexes is very close to 30. Because these average value scores are for a rather large heterogeneous group, they suggest that average Study of Values scores in general may be close to 30. If the score of 30 may be accepted as somewhat close to the average Study of Values scores in general, then certain statements can be made about the average Study of Value scores for the 66 subjects participating in the present study whose average scores are as follows (see Table 32):

Theoretical	29.83	Social	31.24
Economic	30.67	Political	31.26
Aesthetic	22.33	Religious	34.65

On the basis of comparison between the average Study of Values scores in Table 26 and the average Study of Values scores for the 66 subjects participating in this

study in Table 32, two average value scores stand out rather markedly. The Religious average value score of 34.65 for the present study is noticeably above the Religious average value score of 30.63 in Table 26, and the Aesthetic average value score of 22.63 for the present study is markedly below the Aesthetic average value score of 30.04 in Table 26. The other four average value scores for the present study are very close to the average value scores reported in Table 26.

Another type of information regarding average Study of Values scores is also available in Table 26 where average Study of Values scores for 1,163 males are reported as follows:

Theoretical	30.83	Social	29.74
Economic	32.02	Political	32.08
Aesthetic	27.04	Religious	27.96

Because the subjects participating in the present study are also all males, these additional data from Table 26 provide the opportunity for further comparison of the average Study of Values scores from the present study with average Study of Values scores for the same sex from an independent source. The most important observations again involve the Aesthetic and Religious Study of Values scores. The rather low average Study of Values scores for men in Table 26 of 27.04 and 27.96 for the Aesthetic and Religious values respectively, suggest that men in general may frequently score relatively low on the Aesthetic and Religious

values. Thus, comparatively, the average score for the Aesthetic value in the present study is not as low as it might appear to be by comparison with only the Aesthetic value average score for both sexes in Table 26, and the Religious value average score in the present study is somewhat higher than it appears by comparison with only the Religious value average score for both sexes in Table 26. Consequently, it may be concluded that the subjects of the present study did obtain a rather low average Study of Values score for the Aesthetic value and a rather high average Study of Values score for the Religious value.

It may be that the below-average Aesthetic value score is to be expected for the group of men participating in this study. Reference to Table 10 in Chapter II indicates that many of the subjects came from homes where parental incomes were relatively low for many years and where the opportunity for development in the Aesthetic value area consequently may have been meager. Additional limitations upon the development of Aesthetic values may have been imposed by the heavy part-time employment load carried by many of the subjects while in college, as is indicated by Table 9. On the other hand, it is probable that a rather high average Religious value score is to be expected for the subjects of the present study because of the strong religious emphasis at Adrian College. Many of the subjects were interested in the ministry profes-

sionally, and a number of them had already accepted ministerial charges on a part-time basis. Consequently, it appears that both the low average score for the Aesthetic value and the high average score for the Religious value are not unexpected and indicate a logical validation of the average scores of the Study of Values test. Such a conclusion is in agreement with the validity data presented in Chapter II of this report for the Study of Values test where above average scores for the Religious test of the Study of Values are reported for theological students in Table 17, members of a Catholic club in Table 17, and missionaries in Table 18, while low average scores for the Aesthetic value of the Study of Values test are reported for these same three groups.

The relationship, from high to low, of the average Study of Values scores has frequently been reported to be of importance. A number of previous investigators have observed that the Study of Values scores with higher averages are more "active" in the behavior of subjects than are the Study of Values scores with lower averages. Newman, et al (10,267), working with clothing interests, MacDonald (10,267), working with "ideal men," and Nickerson (10,267), investigating leaders, reported such findings. The relation of the six average Study of Values scores for the 66 subjects participating in the present study is as follows:

(high)	Religious
	Political
	Social
	Economic
	Theoretical
(low)	Aesthetic

On the basis of the results from previous investigations mentioned above, it might be expected that higher correlations would be found in the present study between the Study of Values scores of the subjects and the Study of Values scores of their sociometric nominees for the value tests with the relatively higher average scores than for the values tests with the relatively lower average scores. The results from the analysis of data for the present study, presented in subsequent sections of this chapter, provide evidence that higher correlation coefficients are found for such relationships among the value tests with higher average scores. One exception to this pattern occurs. This exception is for the Social value of the Study of Values test, which is reported by numerous investigators as having low reliability and doubtful meaning (35,100).

Standard Deviations for the Value Scores

The standard deviations for the six sets of Study of Values test scores for the 66 subjects participating in the present study are reported in Table 32. These standard deviations are for the conventional administration of the Study of Values test (see page 82). The standard deviation for each Study of Values test represents

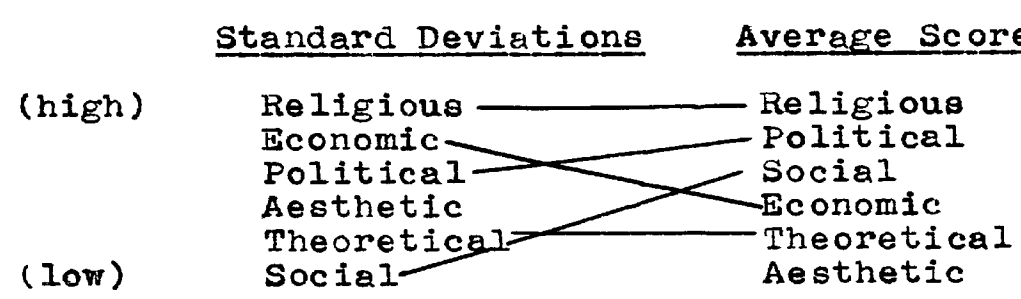
one measure of the amount of variation or difference among the scores of each particular value test. Thus, the standard deviation for each test represents, to some extent, the range of choice available to each subject for sociometric nomination in each value area. This occurs because the standard deviations referred to are for the Study of Values scores of the 66 participating subjects, from whom the sociometric nominations were made. Consequently, the standard deviations of the Study of Values test scores of the subjects are also the standard deviations of the Study of Values test scores of the group from which the sociometric nominations were made. The standard deviations of the Study of Values test scores for the subjects, arranged in order from largest to smallest, are as follows (see Table 32):

(high)	Religious	10.03
	Economic	8.04
	Political	6.80
	Aesthetic	6.66
	Theoretical	6.65
(low)	Social	5.25

On the basis of the relative size of these six standard deviations, it appears that the subjects had a wider range of choice, for example, in the Religious value area than in the Social value area. Another way of stating the same thing might be that it was less difficult for the subjects to discriminate between value extremes, for example, in the Religious value area than in value areas where the standard deviations were smaller and where the

subjects were more homogeneous with regard to the particular value involved. If these observations are sound, one might expect to find higher correlation coefficients between the value test scores of the subjects and the value test scores of their sociometric nominees for the value tests which have higher standard deviations than for the value tests which have lower standard deviations. To some extent the data presented in subsequent sections of this chapter indicate that this result does occur.

A complicating factor is introduced, however, by the fact that the high-to-low rank of the Study of Values tests according to size of standard deviations is similar to the high-to-low rank of the Study of Values tests according to average test scores. This similarity between the high-to-low ranks for standard deviations and average scores for the six Study of Values tests for the 66 subjects of the present study is demonstrated by arranging the six value tests of the Study of Values as follows:



The method of rank-differences[1] produces a rho correlation coefficient between these two rank orders of .51 which is sufficiently high to indicate substantial similarity between the rankings of the Study of Values standard deviations and the average scores for the subjects of the present study. This similarity would be increased if the Social value were ignored because of its low reliability and doubtful meaning (35,100). If the Social value was not considered, the three top values for both lists would be the Religious, Political, and Economic. These are also the three value variables which are found in subsequent sections of this chapter to most frequently generate significant correlation coefficients between the Study of Values scores of the subjects and the Study of Values scores of the sociometric nominees.

While the reports of previous investigators(10,267) have frequently referred to the relation between the average value scores and the magnitude of correlation coefficients found in various types of sociometric situations, no specific reference of a similar nature was discovered for standard deviations for value scores. No attempt has been made in the study to determine the <u>separate</u> or

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[1]The method of rank-difference employed for the computation of rho correlation coefficients in this study is in accordance with the procedures provided for computation of such correlation coefficients by Henry E. Garrett, <u>Statistics in Psychology and Education</u>. New York: Longmans, Green and Co., 1944, p. 360.

independent influence, on the correlation coefficients between the Study of Value test scores of the subjects and the Study of Values test scores of their sociometric nominees, of either the relative size of the average value test scores or the relative size of the standard deviations of the value score variables. It is believed that an investigation of this type is beyond the limits of the present study.

The Intercorrelations between the Value Scores

The intercorrelations between the six sets of Study of Values test scores for the 66 subjects participating in the present study are reported in Table 32. These intercorrelations are for the Study of Values test scores obtained from the conventional administration of the Study of Values test (see page 82). The most prominent feature of the matrix of Study of Values test score intercorrelation coefficients is, perhaps, the high percentage of negative coefficients between the six value tests. Thirteen of the fifteen coefficients in Table 32 are negative. Only the Economic-Political and Social-Religious coefficients are positive. A high percentage of negative coefficients is probably to be expected because of the scoring procedure which is used in scoring the Study of Values test. This is the prescribed scoring procedure outlined in the Manual of Directions for the Study of Values test (55,236); however, one effect of the use of this scoring procedure is that a high score for

one value on a particular test item necessarily results in lower scores on the same test item for other values. Thus, for individual test items there is practically no provision for tie scores. This procedure results in a relative rather than an absolute assessment of values by individual test items. The total score for each of the six tests is obtained by a direct summation of the scores from the individual test items. This procedure thus provides a fixed total score for the sum of the six individual value test scores. The individual value test scores may vary, but their sum must equal a fixed total. Consequently, a high score for one value test must result from reduced scores for other value tests. The usual effect of this procedure is that individual subjects receive some high scores, some intermediate scores, and some low scores for the six value tests. Of course, the possibility exists, but does not frequently occur, that individual subjects can obtain the same score or very close to the same score for all six of the value test scores. Consequently, a high percentage of negative intercorrelations are found when a matrix of intercorrelations is prepared.

Reference is made to Tables 20, 21, and 22 in Chapter II where the intercorrelations between the six Study of Values tests from three previous studies are reported. Evans (16,52) found negative coefficients for 12 of the 15 intercorrelations; Wickert (60,282) listed

negative coefficients for 11 of the 15 intercorrelations; and Pintner (67,355) reported negative coefficients for 12 of the 15 intercorrelations.

It is noted that it is not always the same tests which generated the positive intercorrelations. While the Economic-Political coefficients were found to be positive in all three of these previous studies, the Theoretical-Aesthetic, Political-Religious, Social-Religious, Social-Political, and Theoretical-Social coefficients also were found to be positive in one or more of the reference studies. It appears, therefore, that the intercorrelations of the value scores in the present study are typical of the intercorrelations for the Study of Values scores in several previous studies, insofar as the percentage of negative intercorrelation coefficients and the sign of particular correlation coefficients are concerned.

Reference to the intercorrelations reported in Tables 20, 21, and 22 of Chapter II indicates that none of the six values are consistently highly related. The intercorrelation coefficients which are consistently relatively high are between the Economic and Political Study of Values test scores which are .113, .46, .53, and .414 for the three reference studies and the present study respectively. Other correlation coefficients from the same reference studies which are about the same size but negative in sign are between the following pairs of Study of Values test scores:

Economic - Aesthetic
Aesthetic -Social
Theoretical-Political
Aesthetic - Political
Theoretical-Religious
Economic - Religious
Aesthetic - Religious

Comparison of the intercorrelation coefficients between the six Study of Values tests for the present study in Table 32 with the intercorrelation coefficients for the Study of Values tests of the reference studies in Tables 20, 21, and 22 indicate that the intercorrelation coefficients for the present study are not unusual or unexpected but, on the contrary, are typical.

The matrix of intercorrelation coefficients reported in Table 32 for the Study of Values test scores of the present study have some implications for the results to be expected from the analysis of data of the present study. A review of Table 32 indicates that there are only two positive intercorrelation coefficients. These are the Economic-Political and the Religious-Social coefficients which are .414 and .133, respectively. The unreliability of the Social value (35,100) makes questionable the worthwhileness of a discussion of the Social-Religious coefficient. The Political-Economic coefficient is sufficiently high, however, to suggest that any sociometric nominations which were made on a basis of either of the two values might have a tendency to "inflate" the coefficient involving the other value. Consequently, one might expect higher coefficients between the Study

of Values scores for the subjects and the Study of Values scores of their sociometric nominees for these two value tests, ie., Political and Economic, than for value tests which were more independent. Such a situation does not appear to detract from the value of the present study because the object here is to study the relationship of values in general in sociometric nominations, and this "mutual assistance" between the Political and Economic values may actually offer a stronger value combination for study than would be available if the Political and Economic values were more independent.

The influence of high negative intercorrelation coefficients among the Study of Value tests in Table 32 may present another type of problem. For example, the Religious-Aesthetic intercorrelation coefficient is -.832. Such a relationship is relatively high. Consequently, individuals with high Religious value test scores are quite likely also to have rather low Aesthetic value test scores and vice versa. However, the Religious value is a "strong" value for the group as a whole under study here, as evidenced by the relatively high Religious value average score of 34.65, and the Aesthetic value is a relatively "weak" value for the group as a whole, as indicated by the relatively low Aesthetic value average score of 22.33. Evidence is available from a number of previous research studies (10,267) which indicates that the performance of subjects is more likely to be related to

their dominant or "stronger" values than to their subordinate or "weaker" values. If such a condition may be assumed to prevail in the present study, then the sociometric nominations of the subjects should have been influenced more by the Religious value than by the Aesthetic value. In a situation of this type, the Aesthetic value may have been largely ignored by the subjects when making sociometric nominations. Consequently, the relationships which are found between the Aesthetic values of the subjects and the Aesthetic values of their sociometric nominees would be almost entirely chance relationships or biased relationships resulting from the influence of the Religious value. Thus, consistently significant coefficients between the Aesthetic value test scores of the subjects and the Aesthetic value test scores of their sociometric nominees would not necessarily be expected in the present study. Such a rationale seems to agree with the results obtained from the analysis of the data of the present study which is presented in subsequent sections of this chapter.

The F-Scale Scores of the Subjects

Introduction

The F-Scale average score, the standard deviation for the F Scale, and the correlation coefficients between the F-Scale scores for the subjects and the six Study of Values test scores for the subjects are discussed in this section. All of the F-Scale scores involved in this

section are for the 66 subjects participating in the present study.

The F-Scale Average Score and Standard Deviation

The F-Scale mean and standard deviation for the subjects of the present study are presented in Table 32. Average scores and standard deviations for the F Scale from a number of previous studies are reported in Table 31 of Chapter II. Background information regarding the development and purpose of the F Scale is summarized in Chapter II under the section titled F Scale.

The F Scale was developed for the purpose of measuring authoritarian personality trends as reflected in the ideology of subjects. While there is some variation in the average scores and the standard deviations among the several groups of men with whom the F Scale has been employed in previous studies, the average F-Scale score of 119.4 and the standard deviation of 29.7 for a number of combined groups made up of 919 men reported in Table 31 are fairly representative of the size of these two statistics for men. The average F-Scale score for the 66 subjects participating in the present study is 115.27, and the standard deviation for the same group is 22.02. It will be noted that the F-Scale mean score and standard deviation for the subjects of this study are both slightly lower than found for the same statistics from previous studies reported in Table 31. Although the differences between these statistics for the present study and the corresponding statistics for the

previous studies are not large, they do indicate that subjects of the present study are slightly less authoritarian (if validity for the F Scale may be accepted) and somewhat more homogeneous with respect to the personality variables measured by the F Scale than the combined groups of men previously studied with the F Scale (see Table 31).

Correlation Coefficients between the F-Scale Scores and the Study of Values Test Scores

The correlation coefficients between the F-Scale scores of the subjects and the six Study of Values test scores for the subjects of the present study are reported in Table 32. The F-Scale scores are related significantly to three of the Study of Values test scores. These significant relationships are .426 with the Political value scores, .266 with the Economic value scores, and -.274 with the Aesthetic value scores. These results indicate that, among the 66 subjects participating in the present study, the F-Scale scores are not completely independent of the Political, Economic, and Aesthetic test scores of the Study of Values. More specifically, the results indicate that the authoritarian personality tends to have high Political and Economic values and low Aesthetic values. This finding agrees with the general theoretical concepts outlined for the F Scale in Chapter II (see page 59) and consequently is not unexpected. It is also noted that the correlation coefficients between the F-Scale scores of the subjects and the Study of Values test scores of

the subjects are very similar to the intercorrelation coefficients between the six Study of Values test scores for the subjects.

Sociometric Scores

Introduction

The scores discussed in this section were derived from the Nomination Ballot and are referred to as sociometric scores. A sociometric score, in the present study, is determined from the number of times a subject's name appeared on one of the four lists of the Nomination Ballot. If a subject's name failed to appear on a particular list of the Nomination Ballot, the subject's score for that list is zero. If a subject's name appeared upon a particular list of the Nomination Ballot once, the subject's sociometric score for that particular list is one. Thus each subject's sociometric score for a particular list of the Nomination Ballot is determined by the frequency with which the subject's name appeared on the list involved.

The Number and Types of Sociometric Scores

There are four lists on the Nomination Ballot for which the subjects reported names from among the 66 subjects participating in the present study. These four lists are:

1. Selections for the leisure criterion
2. Rejections for the leisure criterion

3. Selections for the production criterion

4. Rejections for the production criterion

Two sociometric scores were derived for each list, i.e., a first-place score and a total score. Thus, there is a total of eight sociometric scores for each subject, which are as follows:

1. First-place selectee for the leisure criterion-- the number of times the subject's name was reported in the first position as a most desired associate on the leisure criterion.

2. First-place rejectee for the leisure criterion-- the number of times the subject's name was reported in the first position as a least desired associate on the leisure criterion.

3. First-place selectee for the production criterion -- the number of times the subject's name was reported in the first position as a most desired associate on the production criterion.

4. First-place rejectee for the production criterion -- the number of times the subject's name was reported in the first position as a least desired associate on the production criterion.

5. Total selection score for the leisure criterion -- the total number of times the subject's name appeared in any of the five positions as a most desired associate on the leisure criterion.

6. Total rejectee score for the leisure criterion -- the total number of times the subject's name appeared in any of the five positions as a least desired associate on the leisure criterion.

7. Total selection score for the production criterion -- the total number of times the subject's name appeared in any of the five positions as a most desired associate on the production criterion.

8. Total rejectee score for the production criterion-- the total number of times the subject's name appeared in any of the five positions as a least desired associate on the production criterion.

Distribution Statistics for Sociometric Scores

The distribution statistics for the eight sociometric scores derived from the Nomination Ballot are discussed in this section. Particular attention is given here to the mean scores, the standard deviations, and the shapes of the various distributions of scores. Comparisons are made in this section within the following groups of scores:

1. First-place nominations on each of the four lists of the Nomination Ballot are compared with each other.

2. Total nominations on each of the four lists of the Nomination Ballot are compared with each other.

3. First-place nominations on each of the four lists of the Nomination Ballot are compared with total nominations on each of the four lists of the Nomination Ballot.

The mean score for each of the four first-place sociometric scores is 1.00 because all subjects made at least one nomination for each of the four lists of the Nomination Ballot (see Table 33). The four distributions for these scores are skewed sharply to the right because of the large number of subjects who received low sociometric scores, i.e., zero and one (Table 33).

The standard deviations for the two first-place selection scores offer an interesting contrast when they are compared with the standard deviations for the two

Table 33

DISTRIBUTION STATISTICS FOR FIRST-PLACE SOCIOMETRIC SCORES FOR THE FOUR LISTS OF THE NOMINATION BALLOT

N = 66

Leisure Criterion			Production Criterion		
	First-place			First-place	
Score Intervals	Choice Scores	Rejection Scores	Score Intervals	Choice Scores	Rejection Scores
0	37	42	0	36	36
1	13	12	1	17	20
2	6	5	2	4	4
3	3	2	3	3	2
4	3	1	4	2	1
5	4	1	5	2	1
6		0	6	2	0
7		1	7	1	0
8		0	8	0	0
9		1	9	1	0
10		0	10		0
11		0	11		1
12		0	12		1
13		1	13		
Mean	1.00	1.00	Mean	1.00	1.00
Standard Deviation	1.49	2.21	Standard Deviation	1.69	2.05

first-place rejection scores because the former are somewhat smaller than the latter (Table 33):

Standard Deviations

	First-place Selection Scores	First-place Rejection Scores
Leisure Criterion	1.49	2.21
Production Criterion	1.69	2.05

These differences in standard deviations between first-place selection scores and first-place rejection scores of the Nomination Ballot indicate that the first-place selections were more evenly distributed among the subjects than were the first place rejections. Because the sociometric score distributions "taper off" to the right the larger standard deviations for the first place rejectees result for the most part from a few relatively high sociometric scores for the first-place rejection variables. The highest score for the first-place leisure selection variable is 5, and for the first-place production selection variable it is 8; while for the first-place leisure rejection variable and the first-place production variable the highest scores are 13 and 12, respectively (Table 33). Apparently agreement exists among larger subgroups of the subjects about their first-place sociometric rejections (13 and 12) than about their first-place sociometric selections (5 and 8). Whether or not some basic causal factor or principle is responsible for this result is not known. However, it may be that the desire for companionship or some other influence may cause each person to seek out

an available preferred person with whom he then associates and grows to admire. On the other hand, it may be more satisfying to share rejections with several other persons because companionship with rejectees is presumably not desired. Some such combination of factors may be operating to produce the differences between the standard deviations for the first-place selection scores and the standard deviations for the first-place rejection scores of this study.

Just what implications the differences in standard deviations for first-place sociometric nominees discussed in the preceding paragraph have for the present study is not completely clear. There is the possibility that the first-place sociometric choice scores represent more of an individual type of decision, while the first-place rejection sociometric scores represent more of a group type of decision. If this is true, higher correlation coefficients might be expected between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric selectees than would be expected between the Study of Values test scores of the subjects and the Study of Values test scores of their rejectees, because each subject's own personal value system might be expected to have a greater opportunity to operate in the more independent and personal type of decision involving the nomination of desired associates.

The distribution statistics for the four total

sociometric nomination scores (including all five of the nomination positions) are presented in Table 34.

Table 34

DISTRIBUTION STATISTICS FOR THE TOTAL SOCIOMETRIC SCORES FOR THE FOUR LISTS OF THE NOMINATION BALLOT

N = 66

Leisure Criterion			Production Criterion		
Score Interval	Total Choice Scores	Total Rejection Scores	Score Interval	Total Choice Scores	Total Rejection Scores
0	3	12	0	8	8
1	9	15	1	15	12
2	14	5	2	9	8
3	6	9	3	5	11
4	6	7	4	5	2
5	6	1	5	5	7
6	4	1	6	2	5
7	3	5	7	2	1
8	3	1	8	1	4
9	3	2	9	2	2
10	3	2	10	3	1
11	1		11	1	1
12	1		12	2	1
13	1		13	2	
14	1	1	14	2	
15	1		15		
16	1		16		1
17			17	1	
18		3	18		
19			19		
20			20		
21			21		
22			22		1
23			23		
24			24		
25			25		
26			26	1	
27			27		
28			28		1
Mean	4.79	4.48	Mean	4.65	4.39
Standard Deviation	3.91	5.78	Standard Deviation	5.04	5.17

It will be noted that four types of total nomination scores appear in this table as follows:

1. Total sociometric selection (choice) scores for the leisure criterion.
2. Total sociometric rejection scores for the leisure criterion.
3. Total sociometric selection (choice) scores for the production criterion.
4. Total sociometric rejection scores for the production criterion.

As pointed out earlier in this section, each of the four total sociometric scores for a particular subject represents the number of times that subject's name appeared on one type of the four lists of the Nomination Ballot.

The averages or means for the four sociometric scores in Table 34 indicate that the subjects as a group made more selections than rejections for both the leisure and production criteria. The four mean scores are as follows:

Average Score	Leisure Criterion	Production Criterion
Total Selections	4.79	4.65
Total Rejections	4.48	4.39

Each subject was required to enter at least one name on each of the four lists of the Nomination Ballot and was encouraged but not required to enter five names for each of the four lists. Consequently, a number of subjects did not report five names for each of the four lists. Because the subjects were permitted some freedom with regard to the

number of names to be reported, it appears that they found it easier to list selections than to list rejections. Such a conclusion is in agreement with the verbal comments of a number of subjects. More frequent objections were raised by the subjects with regard to supplying names for the rejection lists for the Nomination Ballot than for supplying names for the selection lists of the same instrument.

The distributions for the four total sociometric nomination scores are rather definitely skewed to the right (although not as markedly as was the case with first-place sociometric nomination scores) because of the high percentage of subjects who received low total sociometric nomination scores, i.e., zero, one, and two. The standard deviations for these four sets of total sociometric nomination scores are as follows:

	Selection Scores	Rejection Scores
Leisure Criterion	3.91	5.78
Production Criterion	5.04	5.17

The standard deviation for the total selection scores on the leisure criterion is substantially smaller than the standard deviations for the total selection scores for the production criterion, the total rejection scores for the leisure criterion, and the total rejection scores for the production criterion. Thus, the selection scores for the leisure criterion were more homogeneously distributed among the individual subjects than were the other three total

sociometric nomination scores.

This finding suggests that total sociometric selection scores for the leisure criterion represent more of an individual-type decision, while the total sociometric choice scores for the production criterion and the two total sociometric rejection scores represent more of a group-type decision. If this is true, higher correlation coefficients might be expected between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric nominees for the leisure criterion than would be expected between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric nominees on the production criterion or for the sociometric rejectees for both the production and leisure criteria. This expectation is based upon the logic that each subject's own personal value system might be expected to have a greater opportunity to operate in the more independent and personal type of decision involving the nomination of desired associates for leisure time association.

Intercorrelations of Sociometric Scores

Intercorrelations between the eight sociometric scores derived from the Nomination Ballot were determined for the purpose of finding the answers to three questions:

1. Did the subjects tend to receive similar sociometric scores for both the leisure and production criteria?

2. How similar are the first place sociometric scores for each list of the Nomination Ballot to the total scores for each list?

3. Did the subjects tend to receive similar sociometric scores for selection and rejection lists of the Nomination Ballot?

It will be recalled that the eight sociometric scores derived for each subject were listed and described at the beginning of the present section (see page 107). The matrix of intercorrelations between these eight variables is presented in Table 35. This matrix will not be discussed as a whole, but selected coefficients will be chosen from it for special attention for the purpose of answering the three questions just raised.

Did the subjects tend to receive similar sociometric scores for both the leisure and production criteria? This first question is directed toward the more fundamental one as to the extent to which the subjects differentiated between the two criteria, i.e., leisure and production on the Nomination Ballot. If subjects tended to receive similar scores for both criteria, it might be concluded that as a group they did not differentiate between the criteria because they nominated the same subjects with very nearly equal frequency for both. On the other hand, if the sociometric scores for each individual tended to be different for the two criteria, it might be concluded that certain subjects were deemed differently qualified to meet the requirements for the two criteria, and that some differentiation had occurred

TABLE 35

INTERCORRELATIONS AMONG SOCIOMETRIC SCORES

Sociometric Scores	N	SOCIOMETRIC SCORES						
		2	3	4	5	6	7	8
1. First Choices Leisure	66	-.137	.795**	-.128	.724**	-.154	.721**	-.200
2. First Rejections Leisure	66		-.143	.931**	-.047	.810**	-.110	.845**
3. Total Choices Leisure	316			-.167	.713**	-.230	.778**	-.198
4. Total Rejections Leisure	296				-.070	.862**	-.160	.859**
5. First Choices Production	66					-.094	.856**	-.107
6. First Rejections Production	66						-.179	.858**
7. Total Choices Production	307							-.168
8. Total Rejections Production	290							

* Significant at 5 per cent level
** Significant at 1 per cent level

between the criteria. A high positive correlation coefficient between the corresponding type scores, i.e., selections or rejections, for the two criteria would be considered evidence that differentiation had not occurred. A low positive or negative correlation coefficient between the corresponding type scores for the two criteria would be considered evidence that differentiation had occurred.

The answer to the above question has some implications for the present study. If differentiation between the two criteria were found to occur in some substantial amount, then it might be expected that the subjects had employed different frames of reference in the nominations for the two criteria and, consequently, had selected subjects with different qualities for the two criteria. However, if differentiation between the two criteria were not found in any substantial amount, then it would seem apparent that the subjects had employed the same frame of reference for both criteria, and, consequently, had selected the same subjects for both criteria. If different frames of reference were employed for the two criteria, then it is possible that different values might be more influential in nominations for one criterion than for the other. If different values were employed for the two criteria, it might be expected that the relationships between the values of the subjects and the values of their sociometric nominees might be substantially different for one criterion than for the other. On the other hand, if no differentia-

tion between the two criteria were discovered, quite similar relationships between the values of the subjects and the values of their sociometric nominees might be expected for the two criteria.

For the purpose of answering this question, corresponding type sociometric scores for the leisure criterion and the production criterion were correlated as follows:

1. First-place leisure sociometric scores were correlated with first-place production sociometric scores and total production sociometric scores. Selection scores were correlated only with selection scores and rejection scores only with rejection scores in this case.

2. Total leisure sociometric scores were correlated with first-place production sociometric scores and total production sociometric scores. Selection scores were correlated only with selection scores and rejection scores only with rejection scores in this case.

The results for the selection scores are as follows:

Leisure Criterion	Production Criterion	
	First Choice	Total Choice
First Choice	.724	.721
Total Choice	.713	.778

The results for the rejection scores are as follows:

Leisure Criterion	Production Criterion	
	First Rejection	Total Rejections
First Rejection	.810	.845
Total Rejections	.862	.859

It will be noted that all eight of the correlation coefficients are above .70 which indicates that there is a substantial relationship between the sociometric scores of subjects for the leisure and production criteria. Because the relationship between the corresponding sets of scores is not perfect, i.e., 1.00, it is probable that some differentiation between the two criteria did occur. It would have been possible for the subjects to enter the same names on each of the four lists of the Nomination Ballot because all of the necessary data for this purpose were before them. It is difficult, however, to estimate how much they were deterred from so doing by real discrimination between the two criteria and by other factors, e.g., a moral obligation to report different names for the several lists. It will also be noted that the four correlation coefficients involving selections are slightly but not significantly lower than the correlations involving rejections. This suggests that the subjects differentiated slightly more between the two criteria when making selections than when making rejections.

The answer to the first question -- Did the subjects tend to receive similar sociometric scores for the leisure and production criteria? -- appears to be in the affirmative. The sociometric scores of the subjects for the leisure and production criteria are substantially similar. However, this relationship is slightly higher for rejections than for selections. It appears, therefore, that quite similar relationship might be expected between

the values of the subjects and the values of their sociometric nominees for corresponding relationship of the leisure and production criteria.

How similar are the first-place sociometric scores for each list of the Nomination Ballot to the total sociometric scores for each list? This second question is directed toward the more fundamental one as to whether first-place nominations were made upon the same basis as the other four nominations for each list on the Nomination Ballot. If subjects tended to receive the same sociometric scores for all five positions on each of the four lists that they received for first-place sociometric scores for the same list, it might be concluded that all five of the positions on a particular list of the Nomination Ballot were made on the same basis and that no deterioration, i.e., carelessness, fatigue, etc., occurred as additional names were added to each list. If all of the names on each list were entered upon the same basis, then it would appear possible to employ all of the names and materially increase the number of cases available for study. Consequently, the answer to Question 2 has important implications for the present study.

For the purpose of answering this question, the correlation coefficients between the first-place sociometric scores and the total sociometric scores for the following four lists of the Nomination Ballot were employed:

1. Selection sociometric scores for the leisure criterion.
2. Rejection sociometric scores for the leisure criterion.
3. Selection sociometric scores for the production criterion.
4. Rejection sociometric scores for the production criterion.

The results for the first-place sociometric scores correlated with the total sociometric scores are as follows:

	Leisure Criterion	Production Criterion
First choice scores correlated with total choice scores	.795	.856
First rejection scores correlated with total rejection scores	.931	.858

It will be noted that the correlation coefficients between the first place sociometric scores and the total sociometric scores for each of the four lists range from .795 to .931. This indicates that the first-place sociometric scores are very similar to the total sociometric scores in each case, and it appears that all of the nominations for each particular list of the Nomination Ballot were made upon the same basis. Therefore, it appears permissible to use all five of the nomination positions in the study of the relationships between the values of the subjects and the values of their sociometric nominees.

Did the subjects tend to receive similar sociometric scores for selection and rejection lists of the Nomination Ballot? The third question is directed toward

the more fundamental one as to whether the subjects as a group differentiated between rejection and selection as a criterion in making sociometric nominations. There are doubtlessly many subtle and complicating factors involved in a logical rationale for this approach. For example, if the subjects were sharply divided into two equal subgroups, it is conceivable that all of one subgroup might reject one individual while all of the other subgroup might select the same individual. Such a situation might cause a large number of subjects to obtain equal rejection and selection scores. This would result in positive correlation coefficients between sociometric selection and sociometric rejection scores for the subjects. Additional subgroups would further complicate this situation in an unknown manner. However, the complicating factors would appear to be of such nature as to reduce the size of the relationships found rather than to increase it in either a positive or negative direction. Consequently, it appears that any correlation coefficient obtained between the sociometric selection scores and sociometric rejection scores of the subjects could be looked upon as a valid but somewhat reduced measure of the real relationship between these variables. For the purpose of answering Question 3, correlation coefficients were computed between the sociometric selection scores of the subjects and the sociometric rejection scores of the subjects as follows:

	Leisure Criterion	Production Criterion
First-place Selection scores correlated with first-place Rejection scores	-.137	-.154
Total Selection Scores correlated with total Rejection scores	-.167	-.168

It will be noted that the correlation coefficients between the sociometric selection scores and the sociometric rejection scores for each of the four lists of the Nomination Ballot are all negative. This indicates a slight but not statistically significant tendency for subjects with high sociometric selection scores to have low sociometric rejection scores and vice versa. However, the two types of variables, i.e., selection and rejection, are practically unrelated. Therefore, it appears that the subjects employed different frames of reference as bases in nominating selectees than in nominating rejectees. This gives some empirical validity to the Nomination Ballot because it offers evidence that the subjects did not write the same, or practically the same, names on the selection and rejection lists. The low negative correlation coefficients reported here between selection and rejection scores also suggest that the subsequent analysis of value score relationships between the values of the subjects and the values of their sociometric rejectees may reveal different types of relationships for choices and rejections.

In summary, the twenty-eight correlation coefficients in Table 35 justify the following conclusions:

1. There is practically no evidence that the sociometric scores of the subjects for the leisure and production criteria of the Nomination Ballot are different.

2. There is practically no evidence to indicate that the first-place nomination scores are different from the total sociometric nomination scores for each of the four lists of the Nomination Ballot.

3. There is only a slight, but not significant, relationship between the sociometric selection scores and the sociometric rejection scores of the subjects.

These three findings appear to have implications for the relationships between the values of the subjects and the values of their sociometric nominees as follows:

1. Similar relationships may be expected between the values of the subjects and the values of their sociometric nominees for leisure and production criteria.

2. The same or very similar relationships may be expected between the values of the subjects and the values of their sociometric nominees for first-place and total nominations.

3. Unlike relationships may be expected between the values of the subjects and the values of their sociometric selectees and rejectees.

Summary

Data have been presented in this section relative to the Study of Value test scores, F-Scale scores, and sociometric scores of the 66 subjects participating in

this study. Some interpretations have been presented for these data and certain implications for the subsequent sections of this chapter have been pointed out.

The subjects were found to have above average Study of Values scores for the Religious value and below average Study of Values scores for the Aesthetic value. This situation was found to be true when comparisons were made with Study of Values average scores for both men and for mixed sex groups. Previous studies were noted which indicated that the values with the higher average scores were more frequently reflected in the behavior of individuals than were the values with the lower average scores.

On the basis of these previous findings, it was judged that the Religious, Political, and Economic values might be expected to generate the highest correlation coefficients in the present study if relationships were found to exist, because these were the Study of Values tests with the higher average scores. The Social value was discounted because of prior evidence which indicated it possessed little reliability.

A rather substantial relationship was noted between the rank of the six tests of the Study of Values with respect to the size of the average test scores and the size of the standard deviations for the test scores. The higher average scores tended to have larger standard deviations. It was proposed that the value tests with larger standard deviations might offer the opportunity

for higher correlations between the values of the subjects and the values of their sociometric nominees because they provide a wider value range from which nominations may be made and thus make discrimination between values less difficult.

The intercorrelation coefficients between the six Study of Values test scores of the subjects were found, for the most part, to be negative. Reference to several previous studies indicated that this situation was typical of that found by previous investigators. A substantial positive relationship was found between the Economic and Political value test scores. This was judged to be of importance because both tests had been found also to be among those having higher average value test scores. It was noted that this might produce a rather strong value combination which might generate higher correlation coefficients between the value scores of the subjects and the value scores of their sociometric nominees than would be the case if the scores were more independent.

The F-Scale scores for the subjects of the present study were found to have a slightly lower average score and a slightly smaller standard deviation than had been reported by previous investigators in general. Consequently, the subjects were judged to be somewhat less authoritarian and somewhat more homogeneous with respect to the personality variables measured by the F Scale than the subjects from the reference studies.

Three significant correlation coefficients were found between the six Study of Values test scores and the F-Scale scores of the subjects participating in the present study. The Political and Economic values were significantly positively related to F-Scale scores, and the Aesthetic value was significantly negatively related. Reference to the theoretical considerations in the construction of the F Scale indicated that such correlation coefficients might be expected upon a theoretical basis.

Eight sociometric scores were presented which had been derived from the four lists of the Nomination Ballot. Each score represented the frequency with which a subject's name appeared either in the first place or in all five places of each of the four lists of the Nomination Ballot. Thus, there is a first-place score and a total score for each of the four lists. Means, standard deviations, and intercorrelations were reported for each of the eight scores. The four total sociometric scores were found to be somewhat more normally distributed and to have slightly superior characteristics as criteria than the four first-place sociometric scores. The intercorrelation among the eight scores indicated that the first-place sociometric scores were practically the same as the total sociometric scores, that the sociometric scores of the subjects for the leisure criterion were practically the same as for the production criterion, and that the sociometric rejection scores were very

slightly negatively related to the sociometric selection scores of the subjects.

The principal implications for the subsequent sections of this chapter derived from the findings presented in this section are:

1. The total sociometric scores provide a better base or criterion than the first-place sociometric scores for the study of the relationships between the values of the subjects and the values of their sociometric nominees.

2. If relationships are found, higher correlation coefficients are likely to be found between the values of the subjects and the values of their sociometric nominees for the Religious, Political, and Economic values.

3. If relationships are found between the values of the subjects and the values of their sociometric nominees, the relationships should be quite similar for the leisure and production criteria.

4. If relationships are found between the values of the subjects and the values of their sociometric selectees and rejectees, they may not be similar.

RELATIONSHIPS BETWEEN THE VALUES OF THE SUBJECTS AND THEIR SOCIOMETRIC NOMINEES

Introduction

The data reported and discussed in this section present the evidence which was found for the acceptance or rejection of the major and minor hypotheses of the present study. This study was designed to test the following major hypothesis:

Values are Influential Factors in Sociometric Nomination

The study design provides for testing the major hypothesis by testing six minor or subordinate hypotheses. The minor hypotheses are as follows:

1. People tend to choose for personal association persons with values similar to their own.
2. People tend to reject for personal association persons with values different from their own.
3. People tend to perceive ideal associates as having values similar to their own.
4. People tend to perceive extremely unacceptable associates as having values different from their own.
5. People tend to perceive desired associates as having values similar to their own.
6. People tend to perceive persons whom they reject as personal associates as having values different from their own.

Two types of psychological instruments obviously are required to test the proposed hypotheses. Some measure or measures of values must be employed and some device must be used for the identification of sociometric nominees. The instruments employed for the assessment of values were:

1. The Study of Values
2. The F Scale
3. The Supplement to the Nomination Ballot

These three devices are described in some detail in Chapter II of this report. The device employed for the identification of the sociometric nominees was the Nomination Ballot. In addition, background information relative to each subject was collected by means of the

Biographical Data Form and the Student Record Form. All three of these devices are also described in some detail in Chapter II.

The data presented in this section of Chapter III are organized around the six minor hypotheses. The results of the study pertaining to each minor hypothesis are treated separately. In this section, the 66 subjects participating in the study are treated as a single group. Selected subgroups are treated in a subsequent section.

The typical procedure employed throughout this section is the comparison of the values of the subjects with (1) the values of some group of sociometric nominees who had been nominated by the subjects, or (2) the estimated values, i.e., guessed values, of sociometric nominees, or (3) presumed values of certain extreme types of imaginary persons. The specific groups within these three larger categories are as follows:

1. Sociometric Nominees
   a. Sociometric selectees for the leisure criterion
   b. Sociometric rejectees for the leisure criterion
   c. Sociometric selectees for the production criterion
   d. Sociometric rejectees for the production criterion

2. Estimated values for sociometric nominees
   a. Sociometric selectees for the leisure criterion
   b. Sociometric rejectees for the leisure criterion
   c. Sociometric selectees for the production criterion
   d. Sociometric rejectees for the production criterion

3. Presumed values of certain extreme types of persons
   a. Ideals -- an imaginary ideal associate
   b. Unacceptables -- an imaginary, very unacceptable associate

Definitions for each of the terms and groups mentioned in this paragraph are stated in the concluding pages of Chapter II.

The material presented in this section summarizes a larger body of data which were obtained by more extensive and more detailed analyses. Some of the more detailed results are presented in the Appendix. It is believed, however, that none of the results omitted would alter the findings or conclusions presented in this section, but would sacrifice clarity for detail.

Value Relationships between Subjects and Desired Associates

Introduction

The data presented in this section pertain to the first minor hypothesis of this study -- people tend to choose for personal association persons with values similar to their own. Results obtained from the Study of Values, the F Scale, and the Supplement to the Nomination Ballot, which are relevant to the test of this minor hypothesis, are included. The Nomination Ballot (see page 67) was employed to identify the sociometric nominees among the participating group with whom each subject would like most to be associated. Each subject was requested to nominate a list of classmates (one to five persons) for each of two lists on the Nomination Ballot. One set of nominations was made for those classmates most desired for leisure-time association, and the other set was made for classmates most desired for personal association in productive activities. These two criteria for selection are referred to as the Leisure Criterion and the Production Criterion, respectively.

The Study of Values test was taken by each of the 66 subjects in the usual or standard manner provided in the Manual of Directions (4) for this test. This administration of the test is referred to in this study as the "Conventional Administration" to distinguish the scores obtained from this administration of the test from administrations of the test under different instructions, which will be referred to later in subsequent sections of this chapter.

F-Scale scores were obtained for each of the 66 subjects in a standard administration of the scale as outlined in Chapter II. The Supplement to the Nomination Ballot was employed as a rating device to obtain estimates from the subjects with respect to why they made particular selections for the Nomination Ballot. The individual items of this device are structured around possible points of similarity between the subjects and their sociometric selectees. A copy of this form is included in Chapter II (see page 69).

Study of Values Scores

Correlation coefficients for the relationship between the values of the subjects and the values of their sociometric selectees are reported in Table 36. The reader must distinguish between selectees and rejectees in considering these data. The material in Table 36 is for selectees. Similar types of material for rejectees are presented in the immediately succeeding section. The six value tests referred to in Table 36 are for the Study of

of Values test. The sociometric selectees are the most desired associates named for the leisure and production criteria of the Nomination Ballot.

It will be noted that while there are only 66 subjects participating in this study the number of cases reported in Table 36 is somewhat over 300. This is because the average number of selections by each subject on each of the selection lists of the Nomination Ballot was slightly more than four. The value scores of the subjects were correlated with the value score of each of these selectees. Evidence was presented in an earlier section of this chapter involving sociometric scores which, it is believed, justifies the use of all of the sociometric selectees in this manner.

Table 36

CORRELATION COEFFICIENTS BETWEEN THE VALUES OF THE SUBJECTS AND THE VALUES OF THEIR SOCIOMETRIC SELECTEES

Study of Values Tests	Leisure Criterion Coefficient* N = 316	Production Criterion Coefficient* N = 307
Theoretical	-.069	-.034
Economic	.201**	.185**
Aesthetic	.159**	.041
Social	.067	.048
Political	.152**	.190**
Religious	.262**	.159**

*Significant at 5 per cent level of confidence
**Significant at 1 per cent level of confidence

It will be noted that the correlation coefficients in Table 36 indicate that there are significant relationships between the values of the subjects and the values of their sociometric selectees for the Economic, Political, and Religious values. These significant relationships hold for both the leisure and production criteria. There is also a significant correlation coefficient for the Aesthetic value which is for the Leisure criterion only. Thus, there are significant correlation coefficients between the values of the subjects and the values of their sociometric selectees for some values. Why do significant relationships occur for some values and not for other values?

There may be some evidence to provide at least a partial answer to the question raised in the preceding paragraph. It will be recalled that certain previous investigators (10,267) noted that value scores with higher average scores were found to be more "active" in the behavior of subjects than were the value scores with lower averages. Therefore, it may be that a comparison of the rank order of the average scores for the six value tests of the present study with the rank order of the size of the correlation coefficients in Table 36 will suggest a partial answer to the question. Because the results in Table 36 are quite similar for both the leisure and production criteria, it is believed that the coefficients for each value test can be averaged so that a single

rank-order coefficient may be computed for the entire data in Table 36. If this is done, the rank orders for the value test average scores of the subjects and the value test coefficients are as follows:

	Rank Order of Average Value Scores	Rank Order of the Correlation Coefficients in Table 36
(high)	1. Religious	1. Religious
	2. Political	2. Economic
	3. Social	3. Political
	4. Economic	4. Aesthetic
	5. Theoretical	5. Social
(low)	6. Aesthetic	6. Theoretical

The rho coefficient, as determined by the rank-order correlation method, for this relationship is .60. This indicates that the higher correlation coefficients in Table 36 tend to be found among those values for which the subjects obtained the higher average scores on the Study of Values test. This suggests that the values which are more dominant in the value systems of the subjects are more "active" or influential in the behavior of the subjects than the less dominant, insofar as the nomination of desired associates is concerned.

Another partial answer to the question regarding the reason for differences among the coefficients for the relationship between the values of the subjects and the values of their sociometric selectees may be found by reference to the standard deviations of the six Study of Values test scores of the subjects which were reported in Table 32. It will be recalled that in the discussion

of these standard deviations, it was pointed out that larger standard deviations for some Study of Values tests might permit subjects to discriminate more easily in their nomination of classmates with respect to these particular values.

Therefore, it may be that a comparison of the rank order of the standard deviations of the six Study of Values tests for the subjects with the rank order of the size of the correlation coefficients in Table 36 will suggest a partial answer to the question under consideration here. In order to obtain a single rank-order correlation coefficient for the data in Table 36, the two coefficients for each value test will be averaged. If this is done, the rank orders for the value test standard deviations and the value test coefficients are as follows:

	Rank Order of the Standard Deviations of the Value Tests	Rank Order of the Averaged Correlation Coefficients in Table 36
(high)	1. Religious	1. Religious
	2. Economic	2. Economic
	3. Political	3. Political
	4. Aesthetic	4. Aesthetic
	5. Theoretical	5. Social
(low)	6. Social	6. Theoretical

The rho coefficient, as determined by the rank-order correlation method, for this relationship is .94. This indicates that the higher correlation coefficients in Table 36 are found among those Study of Values tests with larger standard deviations. This suggests that higher correlation coefficients between the values of

the subjects and the values of their sociometric selectees are found in those value areas where there is sufficient difference among the classmates to permit easier discrimination and a wider range of choice. Consequently, it may be concluded that the data in Table 36 indicate a low significant positive relationship between the values of the subjects and the values of their sociometric selectees for those value tests which have larger standard deviations and those value tests for which the subjects obtained the highest average value scores.

F-Scale Scores

The F-Scale was employed also to investigate the minor hypothesis under consideration in this section. It will be recalled that the F Scale was developed from the theory that personality trends are expressed in ideological form (17,536). Although the validity data for the F Scale are limited, the available research suggests that the scale might be considered a possible supplement to the Study of Values test at the ideological level.

The correlation coefficients for the relationships between the F-Scale scores of the subjects and the F-Scale scores of their sociometric selectees are presented in Table 37. It will be noted that positive correlation coefficients were obtained for both the leisure and production criteria. Only the coefficient for the leisure criterion, however, is statistically significant. Apparently there

Table 37

CORRELATION COEFFICIENTS BETWEEN THE F-SCALE SCORES OF SUBJECTS AND THE F-SCALE SCORES OF THEIR SOCIOMETRIC CHOICES

Variables	Leisure Criterion Coefficient* N=316	Production Criterion Coefficient* N=307
F-Scale scores of subjects vs. F-Scale scores of selectees	.153**	.086

*Significant at 5 per cent level
**Significant at 1 per cent level

is a slight tendency for the subjects to nominate sociometric selectees with F-Scale scores similar to their own F-Scale scores.

Supplement to the Nomination Ballot

A third instrument employed to obtain information for testing the minor hypothesis under consideration in this section (i.e., people tend to choose for personal association persons with values similar to their own) is the Supplement to the Nomination Ballot. This instrument was employed as a rating device to obtain estimates from the subjects with regard to how much they were influenced by selected factors when making particular nominations on the Nomination Ballot. A copy of the Supplement to the Nomination Ballot was entered in Chapter II (see page 69). The individual items of the Supplement regarding selections are structured around possible points of similarity or

difference between himself and the classmate he had nominated for the first choice position on the leisure criterion of the Nomination Ballot. Each of the estimates was based upon one of the following four statements:

1. I selected him because I think he is like me.
2. I selected him because he is a person who usually accepts my point of view.
3. I selected him because I find it easy to accept his point of view.
4. I selected him because he is different from me in most respects.

A list of numbers was provided adjacent to each statement upon which the subject was asked to indicate how much he was influenced in making the sociometric choice involved by the factor represented by the item under consideration. On this scale, 1 was designated as low, or little influence, and 6 as high, or much influence. Each subject was asked to read each statement and estimate how much he was influenced in making the sociometric choice involved by the factor or factors represented by the item under consideration. The degree of influence was recorded by circling the number which the subject believed best represented the amount of influence. Distributions of scores, with means, and standard deviations for these scores are reported in Table 38.

It is believed that the value to be derived from precise comparisons of these data by refined statistical techniques is limited because of the recognized implicit

TABLE 38

DISTRIBUTION STATISTICS FOR THE FIRST CHOICE SECTION

OF THE SUPPLEMENT TO THE NOMINATION BALLOT

N= 66

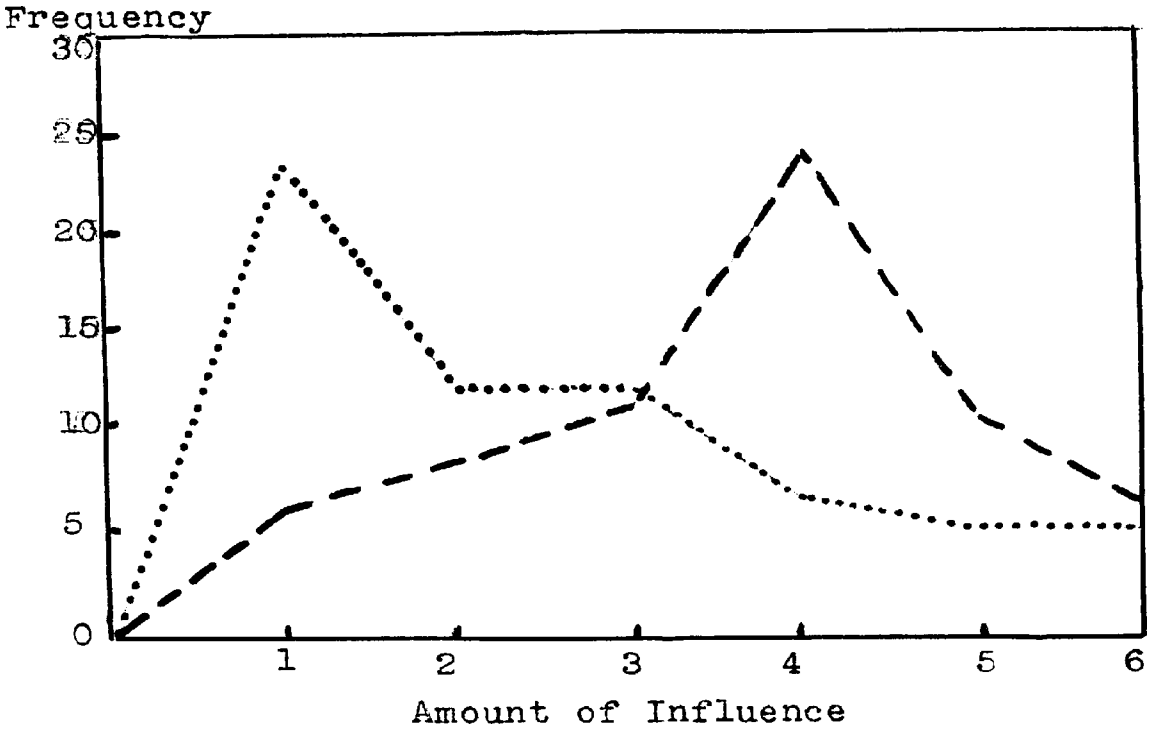
Items of the Supplement to the Nomination Ballot	Frequency Distribution of the Scale Value (Low) 1	2	3	4	5	(High) 6	Mean	Standard Deviation
1. I selected him because I think he is like me	6	8	12	24	10	6	3.642	1.357
2. I selected him because he is a person who usually accepts my point of view	8	13	25	15	4	1	2.970	1.106
3. I selected him because I find it easy to accept his point of view	1	9	15	21	13	7	3.881	1.225
4. I selected him because he is different from me in most respects	23	13	13	7	5	5	2.590	1.590

weaknesses in scales of this type. The scales were designed to provide only a crude check on the Study of Values test scores and the F-Scale scores. Items 1 and 4 of the Supplement were prepared as contrasting items to secure opinions from the subjects as to whether they were consciously seeking similarity or difference, in a very general sense, between themselves and their nominees in the sociometric selections. Items 2 and 3 were included to delimit the concept of similarity or difference more to the ideological level as reflected by point of view. It was assumed that the subject's expressed point of view, at least in part, is a functional expression of his ideals and values, and that similar points of view are more easily accepted than different points of view. It was believed that the use of items 2 and 3 provided the opportunity to express dominant or subordinate personality traits as was desired. However, the basic factor sought in items 2 and 3 was the opinion of the subject with respect to the importance of similarity or difference of points of view or ideology, whether the points of view accepted involved those of the subject, the selectee, or a compromise of the two. Thus items 1 and 4 were designed to secure opinions from the subjects regarding the importance of similarity or difference in general in making sociometric selections, and items 2 and 3 were designed to secure opinions with respect to the importance of a more specific aspect of similarity, i.e., points of view, at the ideological level. If the distributions of

scores presented in Table 38 for items 1 and 4 are compared in graphic form, the results as shown in Graph 1 are obtained.

It will be noted that the subjects tended to rate item 1, i.e., I selected him because I think he is like me, as considerably more influential than item 4, i.e., I selected him because he is different from me in most respects. Thus, apparently, the subjects tended to think of themselves as more similar to than different from their sociometric selectees.

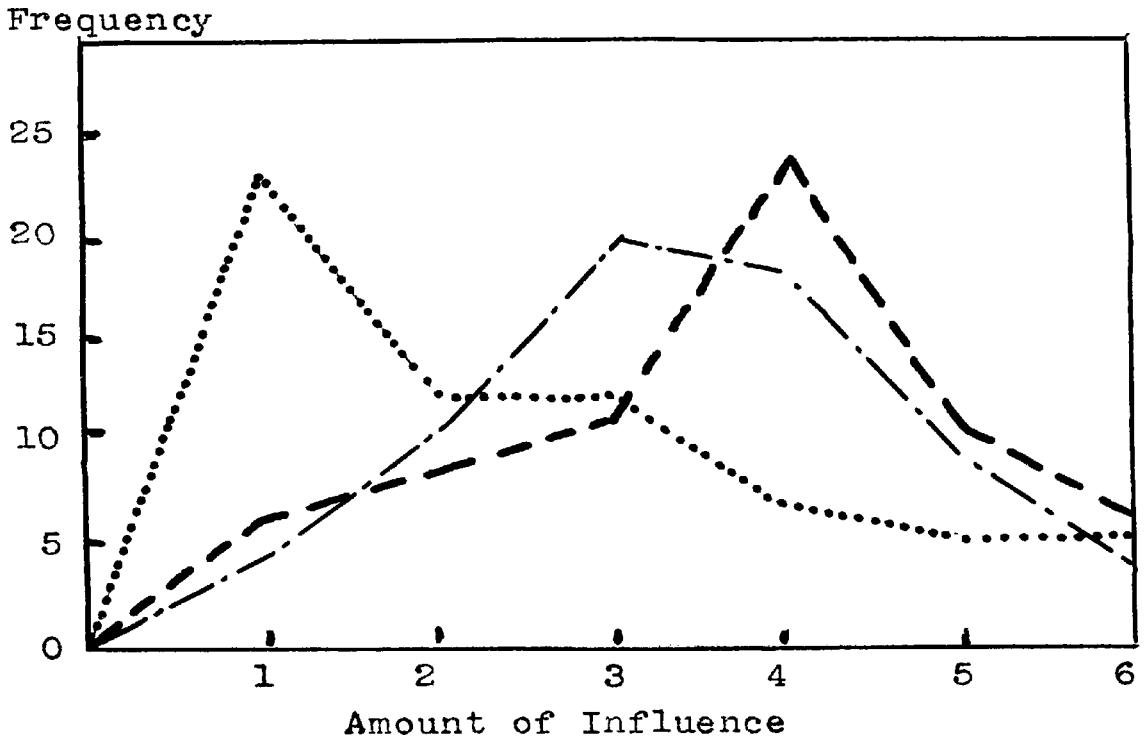
As was mentioned a few paragraphs above, items 2 and 3 were designed to measure the same factor, i.e., the opinion of the subjects with respect to the influence of similarity of points of view upon sociometric selection. Consequently, the scores for each of the intervals on the scales for the two items have been averaged so that a single frequency distribution is available for the two items which is at least numerically comparable to the frequency distributions for items 1 and 4. It will be noted that the frequency distributions for items 2 and 3 are very similar and that the average of the two distributions is not greatly different from either one of the two. If this averaged distribution for items 2 and 3 is compared graphically with the distributions for items 1 and 4, the curves appear as shown in Graph 2. It will be noted that the peak of the distribution curve for items 2 and 3 falls between the peaks for items 1 and 4



Item 1 -- I selected him because I think he is like me.

Item -- I selected him because he is different from me in most respects. ...

Graph 1



Item 1 -- I selected him because I think he is like me.

Average of Items 2 and 3 -- I selected him because he is a person who usually accepts my point of view and I selected him because I find it easy to accept his point of view.

Item 4 -- I selected him because he is different from me in most respects....

Graph 2

and slightly closer to item 1 than to item 4. This suggests that the subjects consider ability to agree with respect to the point of view of some influence in the sociometric nomination of desired associates. If the necessary assumptions, i.e., that point of view is ideological and that similar points of view are more easily accepted, may be imposed, then the subjects tend to believe that similarity of ideology was an influencing factor in sociometric nomination of desired associates, and that they tended to nominate classmates whom they believed possessed ideals similar to their own ideals.

Summary

Data relevant to the first minor hypothesis of this study, viz., people tend to choose for personal association persons with values similar to their own, were presented in this section. Scores from the Study of Values test and the F Scale for the 66 subjects participating in this study were correlated with similar type scores for their sociometric selectees. The sociometric selectees were designated by the subjects on the Nomination Ballot from among their classmates. Significant positive correlation coefficients were found for the Religious, Political, Economic, and the Aesthetic values of the Study of Values Test. Such coefficients were obtained for both the leisure and production criterion for Religious, Political, and Economic values. The Aesthetic value coefficient was significant for only

the leisure criterion. A significant positive correlation coefficient for the F-Scale scores was also obtained for the leisure criterion but not for the production criterion.

Rho rank-order correlation coefficients were employed to compare the rank-order size of the correlation coefficients for the six Study of Values test scores with the rank-order of the six means of the subjects' Study of Values test scores and the six standard deviations for the same Study of Values test scores for the subjects. The resulting coefficients indicate that the rank order of the means and the rank order of the correlation coefficients are related (.60), and the rank order of the standard deviations and the rank order of the correlation coefficients are more closely related (.94). This was judged to indicate that the values which are higher in the value systems of the subjects are more influential, or active, in the behavior of the subjects, insofar as the sociometric nomination of desired associates is concerned, and that the subjects also tended to select desired associates with values more similar to their own values in value areas permitting a greater range of choice than in value areas where the range of choice was more restricted.

The Supplement to the Nomination Ballot was employed as a rating device to obtain estimates from the subjects with respect to the extent they were influenced by selected factors when making sociometric nominations of desired associates. The resulting data indicate that

the subjects believed they were influenced by similarity between themselves and their sociometric selectees, both in general and with respect to ideological characteristics.

The data presented in this section support the minor hypothesis under consideration in this section, viz., people tend to choose for personal association persons with values similar to their own.

Value Relationships between Subjects and Their Sociometric Rejectees

Introduction

The data presented in this section pertain to the second minor hypothesis of this study, viz., people tend to reject for personal association persons with values different from their own. Results obtained from the Study of Values test, the F Scale, and the Supplement to the Nomination Ballot, which are relevant to the test of this minor hypothesis, are included.

The Nomination Ballot was employed to identify the sociometric nominees among the participating group with whom the subjects would least like to be associated. These individuals were designated as rejectees for the purpose of this report. Each subject was requested to nominate a list of classmates (1 to 5 persons) for each of two lists of the Nomination Ballot. One set of nominations was made for those classmates least desired for leisure-time association, and a second set was made

for classmates least desired for personal association in productive activities. These two criteria for nomination are referred to as the leisure criterion and the production criterion, respectively.

The Study of Values test was taken by each of the 66 subjects in the usual or standard manner provided in the Manual of Directions (4) for this list. This administration of the test is referred to in this study as the Conventional Administration to distinguish the scores obtained from this administration of the test from administrations of the test under different instructions, which will be referred to later in subsequent sections of this chapter.

F-Scale scores were obtained for each of the 66 subjects in a standard administration of this scale as outlined in Chapter II. The Supplement to the Nomination Ballot was employed as a rating device to obtain estimates from the subjects with respect to selected factors which logically might have been expected to influence their nominations of least desirable associates on the Nomination Ballot. The individual items of this Nomination Ballot are structured around possible points of difference between the subjects and their sociometric rejectees. A copy of this form is included in Chapter II (see page 67).

Study of Values Scores

Correlation coefficients for the relationships between the values of the subjects and the values of their sociometric rejectees are reported in Table 39. The six value test scores referred to in this table are for the Study of Values test. The sociometric rejectees are the least desired associates named for the leisure and production criteria of the Nomination Ballot. It will be noted that, while there are only 66 subjects participating in the present study, the number of cases reported in Table 39 is somewhat near 300. This is because the average number of rejections by each subject on each of the rejection lists of the Nomination Ballot was slightly more than 4. The value scores of the subjects were correlated with the value scores of each of these rejectees. Evidence was presented in the earlier section of this chapter involving sociometric scores which, it is believed, justifies the use of all of the sociometric rejectees in this manner.

It will be noted that the correlation coefficients in Table 39 indicate that there are significant relationships between the values of the subjects and the values of their sociometric rejectees for the Theoretical, Economic, Political, and Religious value tests. These significant relationships exist for both the leisure and production criteria in the cases of the Religious and Political value tests, while the Theoretical and Economic value tests have

Table 39

CORRELATION COEFFICIENTS BETWEEN THE VALUES OF THE SUBJECTS AND THE VALUES OF THEIR SOCIOMETRIC REJECTEES

Study of Values Tests	Leisure Criterion	Production Criterion
	Coefficient* N = 296	Coefficient* N = 290
Theoretical	.030	-.123**
Economic	-.092	-.129*
Aesthetic	-.009	-.035
Social	-.069	-.025
Political	-.154**	-.187**
Religious	-.129*	-.143*

*Significant at 5 per cent level of confidence
**Significant at 1 per cent level of confidence

significant correlation coefficients for the production criterion only. Thus, as in the case of selectees, there are significant correlation coefficients between the values of the subjects and the values of their sociometric rejectees for some values. Why do significant relationships occur for some values and not for other values?

There may be some evidence to provide at least a partial answer to the question raised in the preceding paragraph. It will be recalled that certain previous investigators (10,267) noted that value scores with higher average scores were found to be more "active" in the behavior of subjects than were the value scores with lower averages. Therefore, it may be that a comparison of the

rank order of the average scores for the six value tests of the present study with the rank order of the size of the correlation coefficients in Table 39 will suggest a partial answer to the question being considered at this point. Because the results in Table 39 are similar for both the leisure and production criteria, it is believed that the coefficients for each value test may be averaged without serious harm so that a single rank-order coefficient may be computed for the entire data in Table 39. If this is done, the rank orders for the value test averages and the value test coefficients are as follows:

	Rank Order of the Average Value Test Scores	Rank Order of the Averaged Correlation Coefficients in Table 39
(High)	1. Religious	1. Political
	2. Political	2. Religious
	3. Social	3. Economic
	4. Economic	4. Social
	5. Theoretical	5. Theoretical
(Low)	6. Aesthetic	6. Aesthetic

The rho coefficient for this relationship, as determined by the rank-order correlation method, is .86. This indicates that the higher correlation coefficients in Table 39 tend to be found among those values for which the subjects obtained the higher average scores on the Study of Values test. This suggests that the values which are more dominant in the value systems of the subjects are more "active" or influential in the behavior of the subjects than are the less dominant values, insofar as the nomination of least-desired associates is concerned.

Another partial answer to the question regarding the reason for differences among the coefficients for the relationship between the values of the subjects and the values of their sociometric selectees may be found by reference to the standard deviations of the six Study of Values test scores of the subjects which were reported in Table 32. It will be recalled that in the discussion of these standard deviations, larger standard deviations for some Study of Values tests might permit subjects to discriminate more in their nominations of classmates with respect to these particular values. It may be, therefore, that a comparison of the rank order of the standard deviations of the six Study of Values tests for the subjects with the rank order of the size of the correlation coefficients in Table 39 will suggest a partial answer to the question under consideration here. In order to obtain a single rank-order correlation coefficient for the data in Table 39, the two coefficients for each value were averaged. When this is done, the rank orders for the value test standard deviations and the value test coefficients are as follows:

	Rank Order of the Standard Deviations of the Value Tests	Rank Order of the Averaged Correlation Coefficients in Table 39
(High)	1. Religious	1. Political
	2. Economic	2. Religious
	3. Political	3. Economic
	4. Aesthetic	4. Social
	5. Theoretical	5. Theoretical
(Low)	6. Social	6. Aesthetic

The rho coefficient for this relationship, as determined by the rank order correlation method, is .77. This indicates that the higher correlation coefficients in Table 39 tend to be found among those Study of Values tests with larger standard deviations. This suggests that higher correlation coefficients between the values of the subjects and the values of their sociometric rejectees are found in those value areas where there is sufficient difference among the classmates to permit easier discrimination, and where there is a wider range of values from which nominations can be made. Consequently, it may be concluded that the data in Table 39 indicate a low significant negative relationship between the values of the subjects and the values of their sociometric rejectees for those value tests which have larger standard deviations and those value tests for which the subjects obtained the higher average value scores.

F Scale Scores

The F Scale was employed also to investigate the minor hypothesis under consideration in this section. It will be recalled that the F Scale was developed from the theory that personality trends are expressed in ideological form (17,536). Although the validity data for the F Scale are limited, the available research suggests that the scale might be considered a possible supplement to the Study of Values test at the ideological level. The correlation coefficients between the F-Scale scores of the subjects

and the F-Scale scores of their sociometric rejectees are presented in Table 40.

Table 40

CORRELATION COEFFICIENTS BETWEEN THE F-SCALE SCORES OF THE SUBJECTS AND THE F-SCALE SCORES OF THEIR SOCIOMETRIC REJECTEES

Leisure Criterion	Production Criterion
Coefficient* N = 296	Coefficient* N = 290
.118*	.001

*Significant at 5 per cent level

It will be noted that the correlation between the F-Scale scores of the subjects and the F-Scale scores of their sociometric rejectees is significantly positive at the five per cent level for the leisure criterion, while the coefficient for the same type variables for the production criterion is not significant. It will be recalled that significantly positive correlation coefficients were reported in Table 37 for these same type variables between the subjects and their sociometric selectees. However, the results reported in Table 37 were consistent with the minor hypotheses under consideration at that point. The positive coefficient for the leisure criterion in Table 40 is not what would be expected from the hypothesis under consideration in this section. On the contrary, the correlation coefficients in Table 40 would be expected to be negative according to the hypothesis, viz., people tend to

reject for personal association persons with values different from their own, under consideration in this section. Consequently, the findings reported in Table 40 do not support the minor hypothesis under consideration here.

Either of two possible explanations of this reversal appear possible: (1) the F Scale does not measure values and ideals but is a measure of personality traits which are treated differently in sociometric nominations or perhaps only in sociometric rejections than are values; (2) the F Scale actually measures values, and ideals and the minor hypothesis under consideration here is in part refuted. The first explanation finds some support among the research literature pertaining to personality and temperament. For example, Richardson (42,104), in a review of research pertaining to mental resemblance between husbands and wives, reported that only in the field of temperament did negative correlation coefficients which approached reliability appear and that the field of attitudes and interests appears to be one of the most promising approaches to the study of marital compatibility between married couples. Thus Richardson distinguishes personality traits of temperament from attitudes and suggests that different types of relationships may be found between married couples for traits of temperament and attitudes. This suggests that the F Scale may be more of a measure of temperament than a measure of attitude and thus produces

results in the present study which are more typical of traits of temperament than of value attitudes, while the Study of Values test scores are more typical of value attitudes than of temperament, and, consequently, produce results more typical of value attitudes than of temperament traits. This explanation is not, however, completely satisfactory because it only suggests differential results and does not account for the fact that significantly positive correlation coefficients between the F-Scale scores of the subjects and the F-Scale scores of both the selectees and rejectees are found. On the other hand, the explanation does permit acceptance of the minor hypothesis under consideration here on a logical basis, insofar as value attitudes are concerned.

It will be recalled that the F Scale was developed from the theory that personality trends are reflected in the ideology of individuals. It may be, therefore, that F-Scale scores are related to personality traits in some manner which produce the type of result obtained in Tables 37 and 40. Such a situation could exist, particularly if the personality traits involved were sufficiently important to dominate the ideological attitudes measured by the F Scale, insofar as sociometric nominations among the subjects of this studyare concerned. The final explanation will require additional research; in the meantime, the available evidence with respect to the F Scale appears neither to refute nor support the minor hypothesis under consideration in this section.

Supplement to the Nomination Ballot

The third instrument employed to obtain information for testing the minor hypotheses under consideration in this section (i.e., people tend to reject for personal association persons with values different from their own) is the Supplement to the Nomination Ballot. This instrument was employed as a rating device to obtain estimates from subjects with regard to how much they were influenced by selected factors when making rejections on the leisure criterion of the Nomination Ballot.

A copy of the Supplement to the Nomination Ballot was entered in Chapter II (see page 69). The individual items of the Supplement regarding rejections are structured around possible points of similarity and difference between each subject and the classmate he nominated for the first rejection position on the leisure criterion of the Nomination Ballot. Each of the estimates is based upon one of the following four statements:

1. He was chosen as least acceptable because he is like me.
2. He was chosen as least acceptable because he is a person who usually accepts my point of view.
3. He was chosen as least acceptable because I find it easy to accept his point of view.
4. He was chosen as least acceptable because he is different from me in most respects.

A list of numbers was provided adjacent to each statement upon which the subject was asked to indicate how much he was influenced in making the sociometric

rejection involved by the factor represented by the item under consideration. On this scale, 1 was designated as low or little influence, and 6 was designated as high or much influence. Each subject was asked to read each statement and estimate how much he was influenced in making the sociometric rejection involved by the factor or factors represented by the item under consideration. The degree of influence was recorded by circling the number which the subject believed best represented the amount of influence. Distribution scores with means and standard deviations for these scores are reported in Table 41.

It is believed that the value to be derived from precise comparisons of these data by refined statistical techniques is limited because of the recognized implicit weaknesses in scales of this type. The scales were designed to provide only a crude check on the Study of Values test scores and the F-Scale scores. Items 1 and 4 of the Supplement were prepared as contrasting items to secure opinions from the subjects as to whether they were consciously seeking similarity or difference in a very general sense between themselves and their rejectees in the sociometric rejections. Items 2 and 3 were included to delimit the concept of similarity or difference more to the ideological level, as reflected by point of view. It was assumed that the subject's expressed point of view, at least in part, is a functional expression of his ideals

Table 41

DISTRIBUTION STATISTICS FOR THE FIRST REJECTION SECTION OF THE SUPPLEMENT TO THE NOMINATION BALLOT

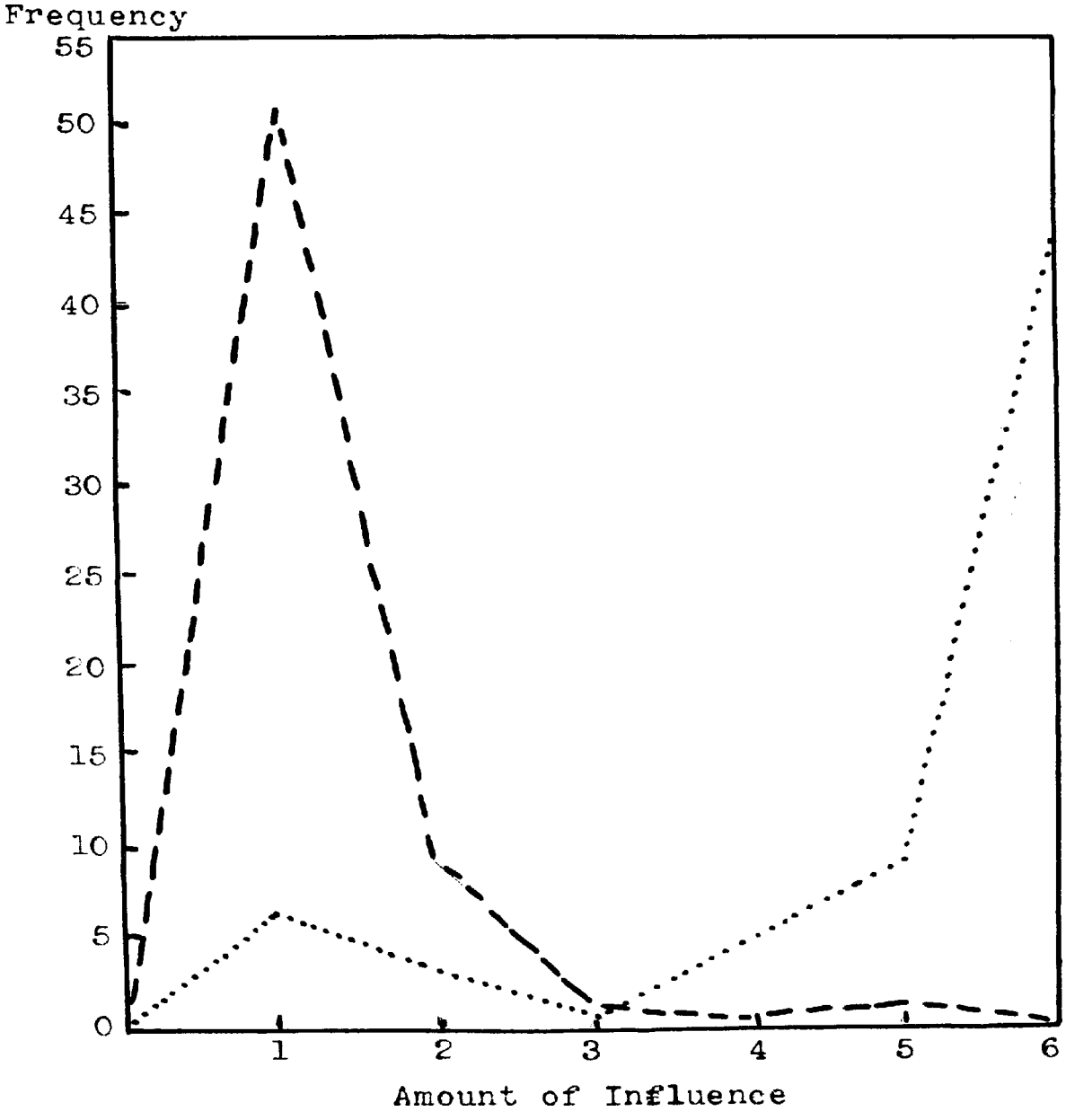
N = 66

Items of the Supplement to the Nomination Ballot	Frequency Distribution of the Scale Values (Low) 1	2	3	4	5	(High) 6	Mean	Standard Deviation
1. He was chosen as least acceptable because he is like me	51	9	2	1	2	1	1.44	1.03
2. He was chosen as least acceptable because he is a person who usually accepts my point of view	39	9	13	3	1	1	1.80	1.15
3. He was chosen as least acceptable because I find it easy to accept his point of view	42	12	5	0	1	6	1.85	1.51
4. He was chosen as least acceptable because he is different from me in most respects	7	3	1	5	9	41	4.96	1.69

and values and that similar points of view are more easily accepted than different points of view. It was believed that the use of items 2 and 3 provided the opportunity to express dominant or subordinate personality traits as desired. The basic factor sought in items 2 and 3, however, was the opinion of the subject with respect to the importance of similarity or difference of points of view or ideology, whether the points of view involved were those of the subject, the selectee, or a compromise of the two. Thus, items 1 and 4 were designed to secure opinions from the subjects regarding the importance of similarity or difference in general in making sociometric rejections, and items 2 and 3 were designed to secure opinions with respect to the importance of a more specific aspect of similarity or difference, i.e., points of view, at the ideological level.

If the distributions of scores reported in Table 41 for items 1 and 4 are compared in graphic form, the results as shown on Graph 3 are obtained. It will be noted that the subjects tended to rate item 1 (he was chosen as least acceptable because he is like me) as considerably less influential than item 4 (he was chosen as least acceptable because he is different from me in most respects). Thus, apparently, the subjects tended to think of themselves as more different from, than similar to, their sociometric rejectees.

As was mentioned a few paragraphs above, items 2 and 3 were designed to measure the same factor, i.e., the

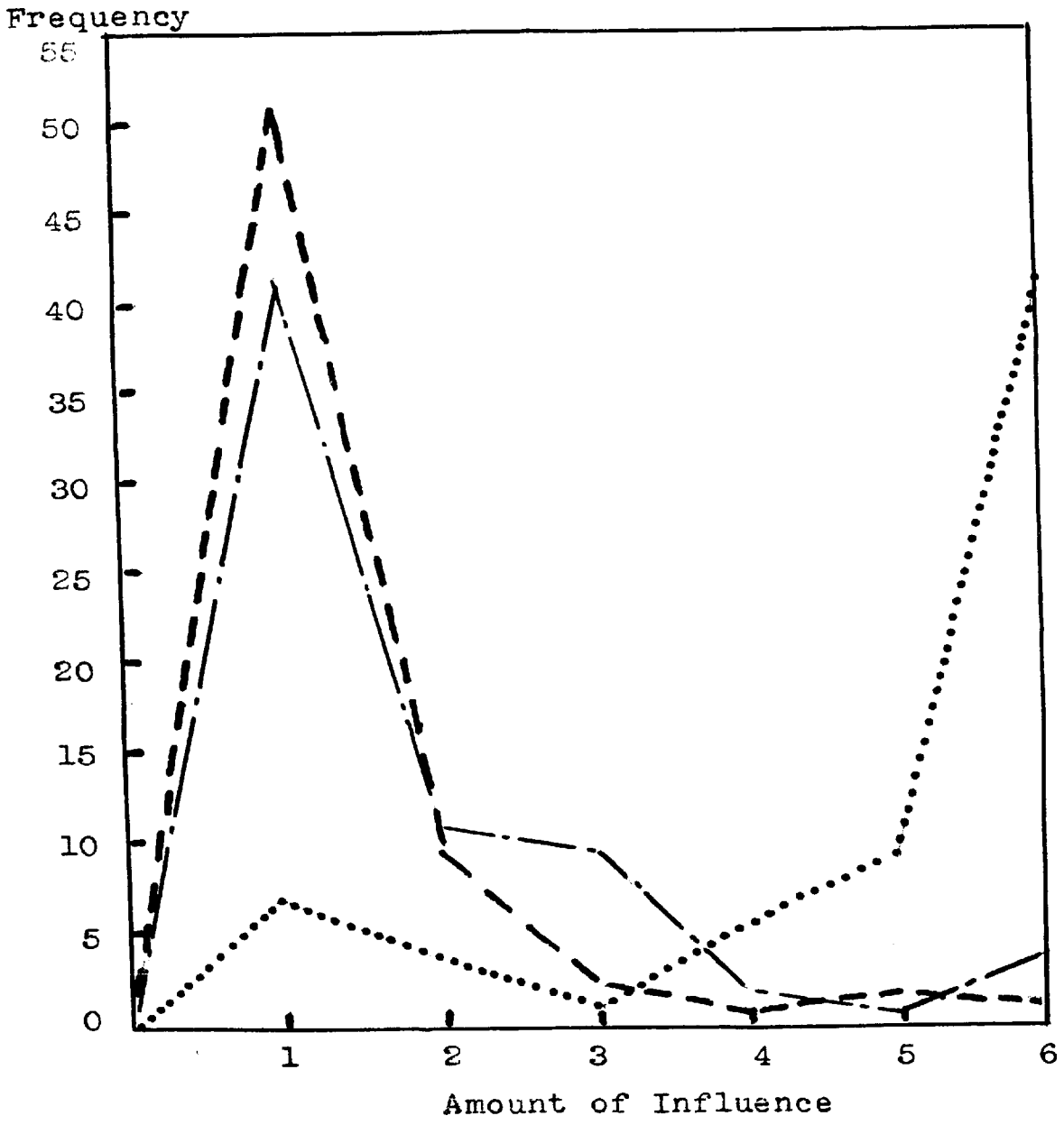


Item 1 -- He was chosen as least acceptable because he is like me. — — —
Item 4 -- He was chosen as least acceptable because he is different from me in most respects. . . .

Graph 3

opinions of the subjects with respect to the influence of similarity or difference of points of view upon sociometric rejection. Consequently, the scores for each of the intervals on the scales for the two items have been averaged so that a single frequency distribution is available for the two items which is at least numerically comparable to the frequency distributions for items 1 and 4. It will be noted that the frequency distributions for items 2 and 3 are quite similar and that the average of the two distributions is not greatly different from the distribution for either one of the two. If this averaged distribution for items 2 and 3 is compared graphically with the distributions for items 1 and 4, Graph 4 results.

It will be noted that mutual acceptance of points of view is given relatively little weight as being an influential factor in the homination of sociometric rejectees. The average distribution for items 2 and 3 is very similar to the distribution for item 1 (he was chosen as least acceptable because he is like me) and almost opposite from item 4 (he was chosen as least acceptable because he is different from me in most respects). If the necessary assumptions, i.e., that point of view is ideological and that different points of view are less easily accepted than similar points of view, may be imposed, then the subjects tend to believe that similarity of ideology was not an important factor in sociometric nomination of least-desired associates and that they tended to nominate



Item 1 -- He was chosen as least acceptable because he is like me. — — —

Items 2 and 3 averaged -- (2) he was chosen as least acceptable because he is a person who usually accepts my point of view. (3) He was chosen as least acceptable because I find it easy to accept his point of view. — . — . —

Item 4 -- He was chosen as least acceptable because he is different from me in most respects. . . . .

Graph 4

classmates as least desired whom they believed possessed ideals different from their own.

Summary

Data relevant to the second minor hypothesis of this study, viz., people tend to reject for personal association persons with values different from their own, were presented in this section. Scores from the Study of Values test and the F Scale for the 66 subjects participating in this study were correlated with similar type scores for their sociometric rejectees. The sociometric rejectees were designated by the subjects on the Nomination Ballot from among their classmates. Significant negative correlation coefficients were found for the Theoretical, Economic, Political, and Religious Study of Values tests on the production criterion and for the Political and Religious Study of Values tests on the leisure criterion. A significantly positive correlation coefficient was found between the F-Scale scores of the subjects and the F-Scale scores of their sociometric rejectees. This was contrary to what was expected from the minor hypothesis under consideration in this section. While the reason for this reversal is not clear, it is believed that it may be caused by certain personality traits associated with F-Scale scores. Such an explanation is supported by some previous research and to some extent by the theoretical considerations upon which the construction of the F Scale was based. Consequently, it was concluded that

the F-Scale data presented in this section neither refutes nor supports the minor hypothesis under consideration here.

Rho rank-order correlation coefficients were employed to compare the rank-order size of the correlation coefficients between the values of the subjects and the values of their sociometric rejectees for the six Study of Values test scores with the rank-order of the six means and the six standard deviations for the same six Study of Values test scores of the subjects. The resulting coefficients indicate that the rank order of the means and the rank order of the correlation coefficients are related .86, and the rank order of the standard deviations and the rank order of the correlation coefficients are related .77. This was judged to indicate that the values which are higher in the value systems of the subjects are more influential or active in the behavior of the subjects, insofar as the sociometric nomination of least desired associates is concerned, and that the subjects revealed a greater tendency to nominate least desired associates with values different from their own in value areas permitting a greater range of values than in value areas where the range of values was relatively restricted. The Supplement to the Nomination Ballot was employed as a rating device to obtain estimates from the subjects with respect to the extent they were influenced by selected factors when making sociometric nominations of rejectees. The resulting data indicate that the subjects believed

they were influenced by differences between themselves and their sociometric rejectees both in general and with respect to ideological characteristics.

The data presented in this section support the minor hypothesis under consideration in this section, viz., people tend to reject for personal association persons with values different from their own.

Value Relationships between the Subjects and Their Ideal Associates

Introduction

The data presented in this section pertain to the third minor hypothesis of the study, viz., people tend to perceive ideal associates as having values similar to their own. Results obtained from two administrations of the Study of Values tests with different psychological sets are presented in this section.

Each of the 66 subjects participating in this study completed the Study of Values test seven times with seven different psychological sets. This required seven separate administrations of the test. For purpose of identification, the Study of Values test employed for each of the seven separate administrations was distinctively labeled. These labels are referred to as Forms A, B, C, D, E, F, and G. The test was administered first in the normal or standard manner. This administration is referred to as Form A, and the data from this administration were

employed in the discussions of the first two minor hypotheses in the immediately preceding sections.

The data presented in this section were obtained from Forms A and B of the Study of Values test. Each of the 66 subjects participating in this study was directed to complete Form B of the Study of Values test as he believed it would be completed by an imaginary person whom he would believe to be an ideal associate for himself. Each was requested to have no particular person in mind but to read each item of the test and select the response that he believed an ideal associate or companion would choose. The value scores resulting from this administration of the Study of Values are referred to here and elsewhere in this paper as the value scores of Ideals. Thus, the scores of the Ideals obtained from the Form B administration of the Study of Values test are the value scores which the subjects ascribed to imaginary ideal associates.

The Study of Values test booklets for the Form B administration were scored according to the standard procedure prescribed in the Manual of Directions (4) for the Study of Values Test. The resulting scores for the Ideals were correlated with the value scores of the subjects obtained from the Form A or standard administration of the Study of Values test. The value test scores for each subject were paired with the corresponding test scores which he ascribed to his Ideal. The resulting correlation coefficients are presented in Table 42.

Table 42

CORRELATION COEFFICIENTS BETWEEN THE STUDY OF VALUE SCORES OF THE SUBJECTS AND THE STUDY OF VALUE SCORES WHICH THEY ASCRIBED TO THEIR IDEAL ASSOCIATES

(Mean scores for each of the variables are also included)

N = 66

Study of Values Tests	Mean Scores		Coefficients
	Subjects	Ideals	
Theoretical	29.83	30.24	.608**
Economic	30.67	29.00	.705**
Aesthetic	22.33	23.58	.688**
Social	31.24	31.00	.713**
Political	31.26	29.41	.753**
Religious	34.65	36.77	.767**

**Significant at the 1 per cent level

It will be noted that all six of the correlation coefficients are positive and significant at the one per cent level. In addition, all of the coefficients are relatively high, ranging from .608 to .767, indicating a substantial relationship between the two types of variables. Consequently, it is concluded that the subjects tend to perceive ideal associates as having values similar to their own.

The fact that some of the correlation coefficients in Table 42 are somewhat higher than others raises the question whether the rank order of the size of these correlation coefficients is related to the rank order of the means or standard deviations of the Form A Study of Values test scores of the subjects, as was found to be the case with the data for the first and second minor hypotheses

reported in preceding sections. If the mean Study of Values scores of the subjects and the correlation coefficients in Table 42, which are between the Study of Values test scores of the subjects and the Study of Values test scores of the Ideals, are arranged in rank orders, the results are as follows:

Mean Value Scores of Subjects	Correlation Coefficients between Values of Subjects and Ideals
1. Religious	1. Religious
2. Political	2. Political
3. Social	3. Social
4. Economic	4. Economic
5. Theoretical	5. Aesthetic
6. Aesthetic	6. Theoretical

The rho coefficient for this relationship, as determined by the rank order correlation method, is .94. This indicates that there is a close relationship between the rank order of the Study of Values average test scores of the subjects and the rank order of the size of the correlation coefficients between the Study of Values test scores of the subjects and the Study of Values test scores which they assigned to their Ideals. Caution is necessary in interpreting the meaning of this rank-order coefficient because the differences between several of the average value scores in one rank order and between several of the correlation coefficients in the other rank order are small. The data strongly suggest, however, that the values of the subjects which are more dominant in the value systems of the subjects are more "active" or influential in the behavior of the subjects than are the less dominant values,

insofar as the assignment of values to ideal associates is concerned.

If the rank order of the standard deviations of the Study of Values scores of the subjects is compared with the rank order of the correlation coefficients in Table 42 between the Study of Values test scores of the subjects and the Study of Values test scores of the Ideals, the results are as follows:

Standard Deviations of the Study of Values Test Scores of the Subjects	Correlation Coefficients between the Study of Values Test Scores of the Subjects and Their Ideals in Table 42
1. Religious	1. Religious
2. Economic	2. Political
3. Political	3. Social
4. Aesthetic	4. Economic
5. Theoretical	5. Aesthetic
6. Social	6. Theoretical

The rho coefficient for this relationship, as determined by the rank-order correlation method, is .54. This indicates that there is considerable relationship between the rank order of the standard deviations of the Study of Values scores of the subjects and the rank order of the correlation coefficients in Table 42. It will be recalled, however, that the correlation coefficient between the rank order of the subjects' average Study of Values scores and the rank order of the standard deviations of the subjects' Study of Values scores was .51. In the previous paragraph, it was found that the rho coefficient between the rank order of the subjects' value score averages and the rank order of the correlation coefficients in Table 42 was .94.

Consequently, the correlation of .54 between the rank order of the standard deviations of the subjects' Study of Values scores and the rank order of the correlation coefficients in Table 42 is not unexpected because two almost equal coefficients were found between the standard deviations of the subjects' value scores and two very highly related variables. Thus, it is believed that in this situation not much significance should be attached to the coefficient of .54 between the standard deviations of the subjects' value scores and the coefficients in Table 42.

It is concluded that the values of the subjects and the values which the subjects ascribe to their Ideals are significantly positively related and that the values of the subjects which are higher in the value systems of the subjects are more "active" in the performance of the subjects than are the values which are lower in the value systems of the subjects, insofar as the assignment of values to imaginary ideal associates is concerned. The data presented in this section support the minor hypothesis under consideration in this section, viz., people tend to perceive ideal associates as having values similar to their own.

Value Relationships between the Subjects and Unacceptable Associates

Introduction

The data presented in this section pertain to the fourth minor hypothesis of this study, viz., people tend to

perceive extremely unacceptable associates as having values different from their own. Results obtained from two administrations of the Study of Values test as described above with different psychological sets are presented in this section.

The data presented were obtained from Forms A and C of the Study of Values test. Each of the 66 subjects participating in this study was instructed to complete Form C of the Study of Values test as he believed it would be completed by an imaginary person whom he would consider extremely unacceptable as a personal associate for himself. The subject was requested to have no particular person in mind but to read each item of the Study of Values test and select the alternative he believed would be chosen by a person who would be very unacceptable to him as a personal associate. The value scores resulting from this administration of the Study of Values test are referred to as the Form C scores or the value scores of Unacceptables. Thus, the value scores obtained from the Form C administration of the Study of Values test are actually the value scores which the subjects ascribed to imaginary persons whom they considered unacceptable as personal associates.

The Study of Values test booklets for the Form C Administration were scored according to the standard procedure prescribed in the Manual of Directions (4) for the Study of Values test. The resulting scores for the Unacceptables were correlated with the value scores of

the subjects obtained from the Form A or standard administration of the Study of Values test. The value test scores for each subject were paired with the corresponding test scores which he assigned to an Unacceptable. The resulting correlation coefficients are presented in Table 43.

Table 43

CORRELATION COEFFICIENTS BETWEEN THE VALUE SCORES OF THE SUBJECTS AND THE VALUES WHICH THEY ASCRIBED TO THEIR SOCIOMETRIC REJECTEES

N = 66

Study of Values Tests	Correlation Coefficients
Theoretical	-.513**
Economic	-.713**
Aesthetic	-.595**
Social	-.501**
Political	-.672**
Religious	-.707**

**Significant at 1 per cent level of confidence

It will be noted that all six of the correlation coefficients are negative and significant at the one per cent level. In addition, all of the coefficients are relatively high, ranging from -.501 to -.713, indicating a substantial relationship between the two types of variables. Consequently, it is concluded that the subjects tend to perceive persons considered to be extremely unacceptable as associates as having values different from their own.

The fact that some of the correlation coefficients in Table 43 are somewhat higher than others raises the question whether the rank order of the size of these correlation coefficients is related to the rank orders of the means or standard deviations of the Form A Study of Values test scores of the subjects, as was found to be the case with the data reported for the first three minor hypotheses in preceding sections. If the mean Study of Values test scores of the subjects (Form A Administration) and the correlation coefficients in Table 43 between the Study of Values test scores of the subjects and the Study of Values test scores of the Unacceptables are arranged in rank orders, the results are as follows:

	Average Study of Values Test Scores of the Subjects	Correlation Coefficients between the Study of Values Test Scores of the Subjects and the Unacceptables
(High)	1. Religious	1. Economic
	2. Political	2. Religious
	3. Social	3. Political
	4. Economic	4. Aesthetic
	5. Theoretical	5. Theoretical
(Low)	6. Aesthetic	6. Social

The rho coefficient for this relationship, as determined by the rank-order correlation method, is .31. This indicates that there is some relationship between the rank order of the Study of Values average test scores of the subjects and the rank order of the size of the correlation coefficients between the Study of Values test scores of the subjects and the Study of Values test scores which the subjects assign to unacceptables. The data suggest that

the values of the subjects which have the higher average scores are slightly more "active" or influential in the behavior of the subjects than are the values of the subjects which have the lower average scores, insofar as the assignment values to unacceptables is concerned.

If the rank order of the standard deviations of the Study of Values scores of the subjects is compared with the rank order of the correlation coefficient in Table 43 between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric rejectees, the results are as follows:

Standard Deviations of the Study of Values Test Scores of the Subjects	Correlation Coefficients between the Study of Values test scores of the Subjects and their Rejectees--Table 43
1. Religious	1. Economic
2. Economic	2. Religious
3. Political	3. Political
4. Aesthetic	4. Aesthetic
5. Theoretical	5. Theoretical
6. Social	6. Social

The rho coefficient for the relationship, as determined by the rank-order correlation method, is .94. This is an interesting result, because the coefficient is precisely the same size as the one obtained between the average Study of Values test scores of the subjects and the correlation coefficients in Table 42 between value scores for subjects and Ideals.

Why this situation should occur is not clear. Apparently the values of the subjects with the higher average scores are more "active" in the assignment of

value scores to Ideals, while the greater variation in scores among the subjects results in higher correlation between the subjects' value scores and the value scores of Unacceptables. Thus, it appears that the more sharply the group is dispersed with regard to a particular value, the more consistently does each member of the group feel that the presence of this value in an associate is undesirable. This phenomenon may reflect some type of tension within the group, e.g., if party politics is an important issue among the individuals of a group, it may be that the conservatives feel the least desirable characteristic of an associate is a liberal political point of view, while the liberals feel that the least desirable characteristic of an associate is a conservative point of view. Such a situation would produce higher negative correlation coefficients between the political views of the subjects and the political views of their sociometric rejectees in those areas in which the group was most sharply divided.

It is concluded from the data in this section that the values of the subjects and the values which the subjects ascribed to their Unacceptables are significantly negatively related and that the more divergence (standard deviation) there is among the group with respect to a particular value the more individual group members look upon divergence from their own point of view as undesirable in associates. The data presented in this section support the minor hypothesis under consideration in this

section, viz., people tend to perceive extremely unacceptable associates as having values different from their own.

Relationships between the Values of the Subjects and the Values which They Ascribe to Desired Associates

The data presented in this section pertain to the fifth minor hypothesis of this study, viz., people tend to perceive desired associates as having values similar to their own. Results obtained from two administrations of the Study of Values test with different psychological sets are presented in this section.

The data presented were obtained from Forms A, D, and F of the Study of Values test. Each of the 66 subjects participating in this study was instructed to complete Form D of the Study of Values test as he believed it would be completed by the person he had nominated as his first choice on the leisure criterion of the Nomination Ballot. Form F of the Study of Values test was completed by the subject as he believed it would be completed by the person he had nominated as his first choice on the production criterion. The value scores resulting from the Form D and F administrations of the Study of Values test are thus actually the Study of Values scores which the subjects assigned to their first selectees on the leisure and production criteria of the Nomination Ballot, respectively.

The Study of Values test booklets for Forms D and F Administrations were scored according to the standard procedure prescribed in the Manual of Directions (4) for the Study of Values test. The resulting value scores which the subjects had ascribed to their selectees were correlated with Form A, or standard administration, of the Study of Values test, i.e., the Study of Value scores of the subjects. The value test scores for each subject were paired with the corresponding value test scores which he had ascribed to his first choice on the Nomination Ballot in one set of correlations and to his first choice on the production criterion of the Nomination Ballot in the second set of correlations. The resulting correlation coefficients are presented in Table 44.

Table 44

CORRELATION COEFFICIENTS BETWEEN THE ACTUAL VALUES OF THE SUBJECTS AND THE VALUES WHICH THE SUBJECTS ASCRIBED TO THEIR SOCIOMETRIC SELECTEES

N = 66

Study of Values Tests	Correlation Coefficients	
	Leisure Criterion	Production Criterion
Theoretical	.370**	.367**
Economic	.619**	.399**
Aesthetic	.512**	.299*
Social	.504**	.310*
Political	.676**	.450**
Religious	.616**	.491**

*Significant at 5 per cent level of confidence
**Significant at 1 per cent level of confidence

It will be noted that all of the correlation coefficients are positive and significant at least at the five per cent level. The coefficients for the leisure criterion are somewhat higher than the coefficients for the production criterion. The average coefficients for these two sets are .549 and .386, respectively. Because the leisure criterion represents a more personal type of situation than the production criterion, this suggests that the subjects tend to perceive their personal associates as having values more similar to their own values than is the case with the values of classmates they choose for association in productive type activities. These coefficients represent the only data in the present study where the subjects made an obvious distinction between the leisure and production criteria of the Nomination Ballot. The data in Table 44 indicate that the subjects tend to perceive desired associates as having values similar to their own.

The fact that some of the correlation coefficients in Table 44 are somewhat higher than others raises the question whether the size of the rank order of the correlation coefficients is related to the rank order of the means or standard deviations of the Form A Study of Values test scores of the subjects, as was found to be the case with the data reported for other minor hypotheses considered in preceding sections. Because variation exists among the correlation coefficients for both the leisure and production criteria, it is believed that the

coefficients for each value test may be averaged so that a single rank-order coefficient may be computed for the entire data in Table 44. If this is done, the rank orders for the value test average scores for the subjects and the value test coefficients in Table 44 are as follows:

	Rank Order of Average Value Test Scores of the Subjects	Rank Order of the Correlation Coefficients in Table 44
(High)	1. Religious	1. Political
	2. Political	2. Religious
	3. Social	3. Economic
	4. Economic	4. Social
	5. Theoretical	5. Aesthetic
(Low)	6. Aesthetic	6. Theoretical

The rho coefficient for this relationship, as determined by the rank-order correlation method, is .83. This indicates that the higher correlation coefficients in Table 44 tend to be found among those values for which the subjects obtained higher average scores on the Study of Values test. This suggests that the values which are more dominant in the value systems of the subjects are more "active" or more influential in the behavior of the subjects than the less dominant values, insofar as the perception of the values of desired associates is concerned.

If the rank order of the standard deviations of the Study of Values scores of the subjects is compared with the rank order of the correlation coefficients in Table 44 between the Study of Values test scores of the subjects and the Study of Values test scores ascribed to the desired associates, the results are as follows:

Standard Deviations of the Study of Values Test Scores of the Subjects	Rank Order of Correlation Coefficients in Table 44
(High) 1. Religious	1. Political
2. Economic	2. Religious
3. Political	3. Economic
4. Aesthetic	4. Social
5. Theoretical	5. Aesthetic
(Low) 6. Social	6. Theoretical

The rho coefficient for this relationship, as determined by the rank-order correlation method, is .66. This indicates that there is a tendency for the subjects to perceive their desired associates as having values more similar to their own in those value areas in which the subjects differ most. Thus, it appears that the subjects were able to discriminate best between the values of classmates in the value areas in which the classmates differed most.

The actual Study of Values scores of the desired associates were correlated with the Study of Values scores which the subjects ascribed to them. These correlations were made to determine some measure of the validity of the ascribed values. The resulting correlation coefficients are reported in Table 45.

It will be noted that all but one of the coefficients are positive. This indicates that, in general, the subjects did tend to make somewhat valid estimates. There is, however, considerable variance among the correlation coefficients indicating that the subjects estimated some values more accurately than others.

Some answer to the relative differences among the

Table 45

CORRELATIONS BETWEEN THE ESTIMATED VALUE SCORES OF THE DESIRED ASSOCIATES AND THEIR ACTUAL VALUE SCORES

N = 66

Study of Values Test	Leisure Criterion	Production Criterion
Theoretical	.144	.316**
Economic	.384**	.312*
Aesthetic	.390**	-.050
Social	.218	.154
Political	.423**	.499**
Religious	.606**	.639**

*Significant at 5 per cent level of confidence
**Significant at 1 per cent level of confidence

correlation coefficients in Table 45 may be suggested by the average value scores of the subjects. If the rank order of the size of the average value scores of the subjects is compared with the rank order of the correlation coefficients in Table 45, the results are as follows:

	Rank Order of the Average Value Scores of the Subjects	Rank Order of the Correlation Coefficients in Table 45
(High)	1. Religious	1. Religious
	2. Political	2. Political
	3. Social	3. Economic
	4. Economic	4. Theoretical
	5. Theoretical	5. Social
(Low)	6. Aesthetic	6. Aesthetic

In order to obtain a single rank-order coefficient for the data in Table 45, the two correlation coefficients for the production and leisure criteria for each test have

been averaged. The rho coefficient for these two rank orders is .83. This indicates that there is a substantial tendency for the higher correlations to be found in the value areas in which the subjects have the higher average scores and suggests that the values which are more dominant in the value hierarchy of the subjects are more active or influential in the behavior of the subjects.

Further information relative to the variation in the correlation coefficients in Table 45 may be obtained by reference to the standard deviation of the value scores of the subjects. If the rank order of the standard deviations of the subjects' Study of Values scores is compared with the rank order of the correlation coefficients in Table 45, which are between the value scores of the desired associates and the values ascribed to them by the subjects, the results are as follows:

Rank Order of the Standard Deviations of the Study of Values Test Scores of the Subjects	Rank Order of the Correlation Coefficients in Table 45
1. Religious	1. Religious
2. Economic	2. Political
3. Political	3. Economic
4. Aesthetic	4. Theoretical
5. Theoretical	5. Social
6. Social	6. Aesthetic

In order to obtain a single rank-order coefficient for the data in Table 45, the two correlation coefficients for the production and leisure criteria for each test have been averaged. The rho coefficient for these two rank orders is .77. This indicates that there is a substantial tendency for the higher correlation coefficients to be found

in the value areas in which the subjects are the most sharply dispersed, which suggests that the subjects were better able to discriminate between the values of their classmates in those value areas in which there are greater differences among the individuals from whom nominations were made.

To summarize, the subjects tend to ascribe values to their desired associates which are similar to their own values. The values of the subjects and the values which the subjects ascribe to desired associates are slightly more alike than are the values of the subjects and the actual values of the desired associates. This indicates that the subjects tend to perceive their desired associates as having values more similar to their own values than actually is the case.

The values which the subjects ascribe to their desired associates have some validity; however, there is considerable variance in this regard among the six values of the Study of Values test. The values are ascribed more validly in those value areas where the subjects have higher average Study of Values scores and in those value areas in which the subjects differ most among themselves. This suggests that the values of the subjects which are higher in their own hierarchy are more active or influential in their behavior and that the subjects may be better able to discriminate between the values of their classmates in those value areas in which the subjects differ most widely.

Relationships between the Values of the Subjects and the Values which They Ascribe to Their Sociometric Rejectees

The data presented in this section pertain to the sixth minor hypothesis of this study, viz., people tend to perceive extremely unacceptable associates as having values different from their own. Results obtained from two administrations of the Study of Values test with different psychological sets are presented in this section.

The data presented were obtained from Forms A, E, and G of the Study of Values test. Each of the 66 subjects participating in this study was instructed to complete Form E of the Study of Values as he believed it would be completed by the person whom he had nominated as his first rejection on the leisure criterion of the Nomination Ballot. Form G of the Study of Values was completed by the subject as he believed it would be completed by the person whom he had nominated as his first rejection on the production criterion. The value scores resulting from the FormEB and FGAdministrations of the Study of Values test are thus actually the Study of Values scores which the subjects assigned to their first rejectees on the leisure and production criteria of the Nomination Ballot, respectively.

The Study of Values test booklets for Forms E and G Administrations were scored according to the standard procedure prescribed in the Manual of Directions (4) for the Study of Values test. The resulting value scores

which the subjects ascribed to their rejectees were correlated with Form A or the Standard Administration of the Study of Values test, i.e., the Study of Values scores of the subjects. The value scores of each subject were paired with the corresponding value test scores which he had ascribed to his first rejectee on the Nomination Ballot in one set of correlations and to his first rejectee on the production criterion of the Nomination Ballot in the second set of correlations. The resulting correlation coefficients are presented in Table 46.

Table 46

CORRELATION COEFFICIENTS BETWEEN THE VALUES OF THE SUBJECTS AND THE VALUES WHICH THE SUBJECTS ASCRIBED TO THEIR SOCIOMETRIC REJECTEES

N = 66

Study of Values Test	Coefficient	
	Leisure Criterion	Production Criterion
Theoretical	.073	-.229
Economic	-.212	-.253*
Aesthetic	-.063	-.186
Social	-.360**	-.382**
Political	-.289*	-.430**
Religious	-.217	-.299**

*Significant at 5 per cent level of confidence
**Significant at 1 per cent level of confidence

It will be noted that all but one of the correlation coefficients are negative. The coefficients for the production criterion are slightly higher than for the leisure

criterion. This suggests that the subjects tend to perceive their least-desired associates in the less personal type of work activity situation, i.e., production criterion as having values which differ more from their own than is the case with least-desired leisure-time associates. The total data presented in Table 46 indicate, however, that the subjects tend to perceive their sociometric rejectees as having values different from their own.

The fact that some of the correlation coefficients in Table 46 are somewhat higher than others again raises the question whether higher negative correlation coefficients between the values of their subjects and the values of their sociometric rejectees may be associated with the more dominant values of the subjects, as was found to be the case with such values in immediately preceding sections of this chapter. Because somewhat similar variation exists among the coefficients for both the leisure and production criteria, it is believed that the coefficients for each value test may be averaged so that a single rank-order correlation coefficient may be computed for all the data in Table 46. If this is done, the rank orders for the value test average scores of the subjects and the value test coefficients in Table 46 are as follows:

Rank Order of the Average Test Scores of the Subjects	Rank Order of the Correlation Coefficients in Table 46
1. Religious	1. Social
2. Political	2. Political
3. Social	3. Religious
4. Economic	4. Economic
5. Theoretical	5. Aesthetic
6. Aesthetic	6. Theoretical

The rho correlation coefficient for these two rank orders is .71. This indicates that the higher correlation coefficients in Table 46 are found among those values of the subjects for which they have the higher average scores. This suggests that the values which are more dominant in the value hierarchy of the subjects are more active or influential in the behavior of the subjects.

Further information relative to the variation among the correlation coefficients in Table 46 may be obtained by reference to the standard deviations of the value scores of the subjects. If the rank order of the standard deviations of the subjects' Study of Values scores is compared with the rank order of the correlation coefficients in Table 46, which are between the value scores of the subjects and the value scores of their sociometric rejectees, the results are as follows:

Rank Order of the Standard Deviations of the Value Scores of the Subjects	Rank Order of the Correlation Coefficients in Table 46
1. Religious	1. Social
2. Economic	2. Political
3. Political	3. Religious
4. Aesthetic	4. Economic
5. Theoretical	5. Aesthetic
6. Social	6. Theoretical

In order to obtain a single rank-order coefficient for the data in Table 46, the two correlation coefficients for the production and leisure criteria for each test have been averaged. The rho coefficient for these two rank orders is -.03. This indicates that there is a slightly

negative relationship between the size of the standard deviations for the value scores of the subjects and the size of the correlation coefficients between the value scores of the subjects and the values which the subjects ascribed to their sociometric rejectees. This relationship is so small that it is believed it should be interpreted as no relationship in this case. The actual Study of Values scores of the rejectees were correlated with the Study of Values scores ascribed to them by the subjects. These correlations were made to determine some measure of the validity of the ascribed values. The resulting correlation coefficients are reported in Table 47.

Table 47

CORRELATIONS BETWEEN THE ESTIMATED VALUE SCORES OF THE REJECTEES AND THEIR ACTUAL VALUE SCORES

N = 66

Study of Values Test	Leisure Criterion	Production Criterion
Theoretical	.010	.115
Economic	.342**	.373**
Aesthetic	.065	.009
Social	.349**	.059
Political	.485**	.543**
Religious	.746**	.631**

*Significant at 5 per cent level of confidence
**Significant at 1 per cent level of confidence

It will be noted that all of the correlation coefficients are positive and that the size of some of the relationships is substantial. In the case of the leisure criterion, coefficients range from .010 to .746, and for the production criterion, they range from .009 to .631. This indicates that some of the estimated value scores for sociometric rejectees have considerable validity. On the other hand, some of the estimates have no validity whatsoever.

The fact that considerable variation exists among the correlation coefficients between the values of the rejectees and the values ascribed to them by the subjects raises the question whether the higher coefficients might be discovered among the values which are higher in the value hierarchy of the subjects. Such a situation was found to prevail for the data discussed under the preceding minor hypotheses in this chapter. Because somewhat similar variation exists among the coefficients for both the leisure and production criteria, it was decided that the two coefficients for each value might be averaged so that a single rank-order correlation coefficient could be computed for the entire data in Table 46. When this is done, the rank orders for the value test average scores of the subjects and the value test coefficients in Table 47 are as follows:

Rank Order of the Average Value Test Scores of the Subjects	Rank Order of the Correlation Coefficients in Table 47
1. Religious	1. Religious
2. Political	2. Political
3. Social	3. Economic
4. Economic	4. Social
5. Theoretical	5. Aesthetic
6. Aesthetic	6. Theoretical

The rho correlation coefficient for these two rank orders is .89. This indicates that there is a substantial tendency for the higher coefficients to be found among the higher average value scores of the subjects, which suggests that the subjects were able to estimate the value scores of their rejectees more accurately in the value areas which are more dominant in their value systems.

Further information relative to the variation among the correlation coefficients in Table 47 may be obtained by reference to the standard deviations of the value scores of the subjects. If the rank order of the standard deviations of the subjects' Study of Values scores is compared with the rank order of the correlation coefficients in Table 47, which are between the actual value scores of the rejectees and the value scores ascribed to them by the subjects, the results are as follows:

Rank Order of the Standard Deviations of the Value Scores of the Subjects	Rank Order of the Correlation Coefficients in Table 47
1. Religious	1. Religious
2. Economic	2. Political
3. Political	3. Economic
4. Aesthetic	4. Social
5. Theoretical	5. Aesthetic
6. Social	6. Theoretical

Because somewhat similar variation exists among the coefficients for both the leisure and production criteria in Table 47, it is believed that the two coefficients for each value in this table may be averaged so that a single rank-order correlation coefficient can be computed for the entire data in Table 47. If this is done, the rho coefficients for the two rank orders just presented is .77. This indicates that there is considerable relationship between the relative size of the standard deviations of the value scores of the subjects and the relative size of the correlation coefficients presented in Table 47, which suggests that the subjects are better able to estimate the values of their classmates in those value areas in which the classmates differ most among themselves. Thus, two factors at least appear to be operating to produce the validity of the value estimates reported in Table 47. One of these factors appears to be the tendency for subjects to estimate values more accurately in the value areas which are higher in their own value systems, and the other factor appears to be the ability of the subjects to discriminate more accurately between the values of their classmates in those value areas in which the classmates differ most among themselves.

In summary, data have been presented in this section pertaining to the sixth minor hypothesis of this study, viz., people tend to perceive extremely unacceptable associates as having values different from their own.

Correlation coefficients were presented between the values of the subjects and the values which the subjects ascribed to their sociometric rejectees. These coefficients indicate that the subjects tend to perceive their sociometric rejectees as having values different from their own. However, there is considerable variation among the coefficients for the six values studied. There is a greater tendency for the subjects to perceive the values of their sociometric rejectees as having values different from their own in the value areas which are more dominant in the value system of the subjects than is the case with the less dominant values.

The validity of the value estimates which the subjects made for their sociometric rejectees was explored by correlating the actual value scores of the rejectees with the value scores ascribed to them by the subjects. The resulting correlation coefficients indicate that there is substantial validity for these coefficients in some value areas. Further exploration of this variation among the coefficients indicated that greater validity is found within those value areas which are more dominant in the subjects' hierarchy of values and in those value areas where the classmates differ most. Perhaps the latter is because discrimination between the values of the individual members of the group is less difficult in the value areas in which the subjects are most dispersed. These data support the minor hypothesis under consideration

in this section, viz., people tend to perceive extremely unacceptable associates as having values different from their own.

Summary

The data which have been reported and discussed in this major section present the evidence which was found for the acceptance or rejection of the major and minor hypotheses of the present study. The major hypothesis under consideration was that values are influential factors in sociometric nomination. The study design provided for testing the major hypothesis by testing six pertinent subordinate hypotheses pertaining to important sub-areas of the major hypothesis. The psychological devices employed in this aspect of the study were:

1. The Study of Values
2. The F Scale
3. The Nomination Ballot
4. The Supplement to the Nomination Ballot

The data presented in this section were organized into six sub-sections. Each one of these sub-sections presents the available evidence pertaining to one of the six minor hypotheses. Various types of value scores for 66 college classmates were employed to determine the relationship between the values of the classmates and various types of associates or persons considered undesirable as associates. The results from this phase of the study indicate that the subjects tend to choose personal

associates who have values similar to their own and tend to reject for personal association classmates with values different from their own. This general conclusion, however, requires several qualifications.

One major qualification is that, while the subjects tend to choose and reject classmates with regard to values as stated in the preceding paragraph, the ~~differences~~ statistics reflecting this tendency are small and in some cases are not statistically significant. This indicates that, while values do play a part in the selection and rejection of classmates for association, there are also other factors which apparently influence these decisions.

A second major qualification is that, while the subjects tend to choose and reject classmates on the basis of values, there is considerable variation in this regard among the various values employed in the present study. For example, the data indicate that the Religious, Political, and Economic values of the subjects are more highly related to the values of their desired associates (positively related) and the values of least-desired associates (negatively related) than is the case with the Theoretical and Aesthetic values. Somewhat more detailed analysis of the data indicated that the subjects as a group obtained higher scores for the Religious, Political, and Economic values than was the case with the Theoretical and Aesthetic values. This finding was interpreted to mean that some values are more important in the value systems of the subjects than are other

values, and that the more important values are more active or influential than are the less important values of the subjects.

A second factor also was found to be related to the variation in value relationship between the subjects and sociometric nominees. This factor is the amount of difference which exists among the subjects themselves with regard to particular value areas. For example, those value areas in which the subjects were found to differ most tended to be the same value areas in which the higher relationships were found to exist between the subjects and their sociometric nominees. This result was attributed to two conditions. First, because the subjects named their sociometric nominees from among themselves, these larger standard deviations among the subjects provided a broader value range from which value choices could be made and thus, probably, made discrimination between various value levels easier in these areas. Second, some sets of value scores employed in this section did not restrict the subjects to their own group for value comparisons. In these instances, higher relationships also were found in those value areas in which the standard deviations of the subjects' value scores were larger. It was judged that such a result might be because of a tension or emotional situation among the subjects, which caused them not only to be widely separated with respect to particular values but also caused them to express themselves more intensely in the consideration of values. It is necessary to state

that the influences of the relative size of the mean scores and the standard deviations of the subjects' value scores were not independent because these two sets of statistics were also related. Thus, the independent influence of each of these factors was not explored but was considered to be beyond the limits of the present study.

The general conclusion derived from the data presented in this major section is that the values of the subjects are influential factors in the nomination of desired associates and in the rejection of unacceptable associates. However, the values which are more dominant in the value systems of the subjects are more influential in the process of nomination than are the lower or less dominant values. These data demonstrate the validity of the major hypotheses of the present study, viz., values are influential factors in sociometric nomination.

COMPARISON OF THE VALUE RELATIONSHIPS FOR THREE F-SCALE SUBGROUPS

Introduction

This section of Chapter III is concerned with findings of the present study regarding the performance of different F-Scale subgroups of subjects in making sociometric nominations. Background information with respect to the development and purpose of the F Scale was summarized in Chapter II. Briefly, the F Scale was developed for the purpose of measuring authoritarian personality trends

as reflected in the ideology of subjects. F-Scale scores were obtained for each of the 66 participating subjects as outlined in Chapter II. The subjects were divided into three F-Scale subgroups on the basis of their F-Scale scores. Eighteen subjects with F-Scale scores of 99 and below were placed in one group, referred to as the low F-Scale subgroup. Thirty subjects with F-Scale scores of 100 to 129, inclusive, were placed in a second group, referred to as the medium F-Scale subgroup. The eighteen remaining subjects with F-Scale scores of 130 and above were placed in a third group, referred to as the high F-Scale subgroup. These three subgroups are compared in this section with respect to their performance in the sociometric nomination of classmates. Attention is given to only two factors in this comparison. These are:

1. The relation between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric nominees.
2. The relation between the F-Scale scores of the subjects and the F-Scale scores of their sociometric nominees.

The Study of Values test scores referred to here are those obtained from the "conventional" or standard administration of the Study of Values test. The Nomination Ballot described in Chapter II was employed to identify the sociometric nominees discussed in this section. It will be recalled that the subjects were requested to nominate five classmates for each of four lists on the Nomination Ballot, i.e., selection and rejection according to the

leisure and production criteria, respectively. Not all of the 66 participating subjects named five subjects for each of the four lists of the Nomination Ballot; however, each subject did name at least one classmate for each of the four lists.

The plan of analysis employed in this section is the correlation of the Study of Values test scores of the subjects with the Study of Values test scores of their sociometric nominees. Separate product-moment correlation coefficients were computed for each of the four lists of the Nomination Ballot, for each of the three F-Scale subgroups, for each of the six sets of test scores of the Study of Values, and for the F-Scale scores. Thus, there are 28 product-moment correlation coefficients for each of the three F-Scale subgroups, or a total of 84 correlation coefficients to be considered in this section.

Comparisons for Sociometric Selectees

The first group of correlation coefficients considered are between the Study of Values scores of the subjects and the Study of Values scores of their sociometric selectees. The question to be answered from these coefficients is whether the subjects with low F-Scale scores, medium F-Scale scores, and high F-Scale scores performed differently in nominating sociometric selectees, insofar as relationships between the Study of Values

scores of the sociometric selectees are concerned. Correlation coefficients between these variables are presented in Table 48.

One possible way to compare the performance of the three F-Scale subgroups in the nomination of sociometric selectees, insofar as value relationships are concerned, is by an examination of the number of significant correlation coefficients for each of the three F-Scale subgrtups as reported in Table 48. Reference to this table indicates that there is a total of 36 coefficients between the Study of Values scores of the subjects and the Study of Values scores of their sociometric selectees. This is a total of twelve coefficients for each of the three F-Scale subgroups. It will be noted that ten of these coefficients are significantly different from zero. These ten significant coefficients are distributed between the low, medium, and high F-Scale subgroups as follows:

Study of Values Tests	Low F-Scale Subgroup	Medium F-Scale Subgroup	High F-Scale Subgroup
Theoretical	0	0	0
Economic	1	0	1
Aesthetic	1	0	1
Social	1	0	0
Political	0	1	0
Religious	2	1	1
Total	5	2	3

It might be inferred from these data that the subjects making up the low F-Scale subgroup tended, slightly more, to nominate selectees with Study of Values scores similar

TABLE 48

CORRELATION COEFFICIENTS BETWEEN THE STUDY OF VALUES SCORES OF SUBJECTS AND THE STUDY OF VALUES SCORES OF THEIR SOCIOMETRIC CHOICES FOR LOW, MEDIUM, AND HIGH F-SCALE SUBGROUPS

Study of Values Test	F-Scale Subgroup	Leisure Criterion		Production Criterion	
		N	Coefficient	N	Coefficient
Theoretical	Low (99 and below)	88	.071	84	-.022
	Medium (100-129)	141	-.143	137	-.059
	High (130 and above)	87	-.152	86	-.029
Economic	Low	88	.324**	84	.166
	Medium	141	.127	137	.145
	High	87	.171	86	.216*
Aesthetic	Low	88	.299**	84	.002
	Medium	141	-.006	141	.063
	High	87	.247*	86	.067
Social	Low	88	.086	84	.216*
	Medium	141	-.003	141	.013
	High	87	.104	86	-.008
Political	Low	88	.111	84	.137
	Medium	141	.149	141	.263**
	High	87	.098	86	.158
Religious	Low	88	.385**	84	.234*
	Medium	141	.232**	141	.130
	High	87	.216*	86	.075

*Significant at the 5 per cent level
**Significant at the 1 per cent level

to their own than was the case with the subjects making up the medium and high F-Scale subgroups. However, the actual number of significant coefficients for each of the F-Scale subgroups is not greatly different, i.e., five for the low subgroup, two for the medium subgroup, and three for the high subgroup. In addition, the method of analysis is global in that the significant coefficients from different value tests, i.e., Religious, Political, etc., and different criteria, i.e., leisure and production, are thrown together. Consequently, based on this information, an inference that the performance of the low F-Scale subgroup is different from the medium or high subgroups, insofar as the value relationships of the subjects and their sociometric selectees are concerned, is extremely hazardous.

Another possible way to compare the performance of three F-Scale subgroups in the nomination of sociometric selectees, insofar as the Study of Values relationships are concerned, is by examination of the significance of the difference between the correlation coefficients for the low, medium, and high F-Scale subgroups.

Reference is made to the correlation coefficients for the Religious value in Table 48 for the purpose of illustrating this method of comparing the performance of the low, medium, and high F-Scale subgroups. The correlation coefficients between the Study of Values test scores of the subjects and the Study of Values scores of their

sociometric selectees for the Religious value in Table 48 are as follows:

F-Scale Subgroup	Leisure Criterion N	Leisure Criterion Coefficient	Production Criterion N	Production Criterion Coefficient
Low	88	.385[a]	84	.234
Medium	141	.232	141	.130
High	87	.216	86	.075[a]

(a -- the same letter adjacent to two coefficients indicates they are significantly different)

Only two of these coefficients are significantly different from each other. These two coefficients are for the low F-Scale subgroup of the leisure criterion (.385) and the high F-Scale subgroup of the production criterion (.075). Logically, these two coefficients might be most expected to be different because they arise from different criteria, i.e., leisure and production, and from the extreme F-Scale subgroups, i.e., high and low. However, there are twelve pairs of coefficients where significant differences might have arisen between the coefficients of the three F-Scale subgroups, but only one such difference occurred. This point will be referred to again later in this section.

If a similar type of comparison is made for the remaining correlation coefficients between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric selectees as reported in Table 48, only one additional significant difference between two correlation coefficients is found among the data for the five remaining tests. This significant

difference is between two of the correlation coefficients for the Aesthetic test. The correlation coefficients between the Study of Values scores of the subjects and the Study of Values test scores of their sociometric selectees as reported in Table 48 for the Aesthetic test are as follows:

F-Scale Subgroup	Leisure Criterion N	Leisure Criterion Coefficient	Production Criterion N	Production Criterion Coefficient
Low	88	.299[a]	84	.002
Medium	141	-.006[a]	141	.063
High	87	.247	86	.067

(a -- the same letter adjacent to two coefficients indicates their difference is significant)

It will be noted that the correlation coefficient for the low F-Scale subgroup of the leisure criterion is significantly different from the correlation coefficient for the medium F-Scale subgroup of the leisure criterion. Logically, a significant difference might least be expected in this situation because the two coefficients arise from adjacent F-Scale subgroups, i.e., low and medium, and from the same criterion, i.e., leisure. No other significant differences occur between the correlation coefficients for the Aesthetic value. Thus, there is one instance of a significant difference between two correlation coefficients for the Aesthetic value out of a possible twelve situations where significant differences might have occurred.

The correlation coefficients between the Study of Values scores of the subjects and the Study of Values

scores of the sociometric selectees for all six tests of the Study of Values for the three F-Scale subgroups offered a total of 72 situations or pairs of coefficients where significant differences between coefficients might have occurred, i.e., twelve situations for each of the six tests. Only two instances were found where significant differences between correlation coefficients occurred. One of these instances occurred between a coefficient for the low F-Scale subgroup and a coefficient for the medium F-Scale subgroup. The second significant difference occurred between a coefficient for the low F-Scale subgroup and the high F-Scale subgroup. Thus, even the two significant differences between correlation coefficients which were found for the data in Table 48 were not found between the same F-Scale subgroups. Consequently, it is concluded that the subjects making up the low, medium, and high F-Scale subgroups did not perform differently in the nomination of sociometric selectees, insofar as the Study of Values scores of the subjects and the Study of Values scores of their selectees are concerned.

Comparisons for Sociometric Rejectees

A second group of correlation coefficients is now considered which also involve the relationships between the Study of Values scores of the subjects and the Study of Values scores of their sociometric rejectees. In the preceding pages of this section, the correlation

coefficients between the Study of Values scores of the subjects and the Study of Values scores of their sociometric selectees for the three F-Scale subgroups were presented and compared. In the immediately following paragraphs the correlation coefficients between the Study of Values scores of the 66 participating subjects and the Study of Values scores for their sociometric rejectees for the three F-Scale subgroups are presented and compared.

The Study of Values scores employed here are for the conventional administration of the Study of Values test which involves administration of the test in the usual manner which is the same procedure prescribed for the administration of the test by the authors in their Manual of Directions (4). The Study of Values scores for the subjects include all of the test scores for the complete group of 66 subjects. The Study of Values test scores for the sociometric rejectees include only the scores for those subjects who were designated as rejectees on the Nomination Ballot. The subjects were divided into three subgroups on the basis of their F-Scale scores for the purpose of studying differences in the behavior of subjects with different levels of F-Scale scores in the nomination of sociometric rejectees, insofar as relationship between value scores of subjects and value scores of rejectees is concerned. These three F-Scale subgroups are the low F-Scale subgroup with F-Scale scores of 99 and below, the medium F-Scale subgroup with F-Scale

scores from 100 to 129 inclusive, and the high F-Scale subgroup with F-Scale scores of 130 and above. These three subgroups are compared here with respect to their performance in the sociometric nomination of rejectees. This comparison is made by inspection of the correlation coefficients between the Study of Values scores of the subjects and the Study of Values scores of their sociometric rejectees for the three F-Scale subgroups which are presented in Table 49.

One possible way to compare the performance of the three F-Scale subgroups in the nomination of sociometric rejectees, insofar as value relationships are concerned, is by an examination of the number of significant correlation coefficients for each of the three F-Scale subgroups as reported in Table 49. This table presents a total of thirty-six coefficients between the Study of Values scores of the subjects and the Study of Values scores of their sociometric rejectees. There is a total of twelve coefficients for each of the three F-Scale subgroups. It will be noted that eight of these coefficients are significantly different from zero and that all of these significant coefficients are negative. These eight significant correlation coefficients are distributed between the low, medium, and high F-Scale subgroups as follows:

TABLE 49

CORRELATION COEFFICIENTS BETWEEN THE STUDY OF VALUES SCORES OF SUBJECTS AND THE STUDY OF VALUES SCORES OF THEIR SOCIOMETRIC REJECTEES FOR LOW, MEDIUM, AND HIGH F-SCALE SUBGROUPS

Study of Values Test	F-Scale Subgroup	Leisure Criterion		Production Criterion	
		N	Coefficient	N	Coefficient
Theoretical	Low (99 and below)	85	-.118	79	-.133
	Medium (100-129)	129	.036	132	-.256**
	High (130 and above)	82	.174	79	-.044
Economic	Low	85	-.154	79	-.112
	Medium	129	-.187*	132	-.029
	High	82	.108	79	-.163
Aesthetic	Low	85	.070	79	.033
	Medium	129	.009	132	-.118
	High	82	-.053	79	.013
Social	Low	85	-.133	79	-.068
	Medium	129	-.087	132	-.035
	High	82	.059	79	-.002
Political	Low	85	-.211*	79	-.32**
	Medium	129	-.223**	132	-.153
	High	82	-.028	79	-.144
Religious	Low	85	-.274**	79	-.325**
	Medium	129	-.060	132	.039
	High	82	-.029	79	-.220*

*Significant at the 5 per cent level
**Significant at the 1 per cent level

Study of Values Test	Low F-Scale Subgroup	Medium F-Scale Subgroup	High F-Scale Subgroup
Theoretical	0	1	0
Economic	0	1	0
Aesthetic	0	0	0
Social	0	0	0
Political	2	1	0
Religious	2	0	1
Total	4	3	1

It might be inferred from these data that the subjects making up the low F-Scale subgroup tended, slightly more, to nominate ~~selectees~~ rejectees with Study of Values scores similar to their own than was the case with subjects making up the medium and high F-Scale subgroups. However, the actual number of significant coefficients for each of the F-Scale subgroups is not greatly different, i.e., four for the low subgroup, ~~one~~ three for the medium subgroup, and one for the high subgroup. In addition, the method of analysis is global in that the significant coefficients from different value tests, i.e., Religious, Political, etc., and different criteria, i.e., leisure and production, are thrown together. Consequently, based on this information, an inference that difference in performance occurred between the three F-Scale subgroups, insofar as the value relationships of the subjects and their sociometric rejectees are concerned, again is extremely hazardous.

Another possible way to compare the performance of the three F-Scale subgroups in the nomination of sociometric rejectees, insofar as the Study of Values relationships between the subjects and their sociometric

rejectees are concerned, is by examination of the significance of the difference between the correlation coefficients for the low, medium, and high F-Scale subgroups. The correlation coefficients between the Study of Values scores of the subjects and the Study of Values scores of their sociometric rejectees for the Religious value in Table 49 are as follows:

F-Scale Subgroup	Leisure Criterion		Production Criterion	
	N	Coefficient	N	Coefficient
Low	85	-.274[a]	79	-.325[b]
Medium	129	-.060	132	.039[ab]
High	82	-.029	79	-.220

(a -- the same letter adjacent to two coefficients indicates they are significantly different)

Only two pairs of these correlation coefficients are significantly different. One pair of these significantly different coefficients arises from the low F-Scale subgroup on the leisure criterion and the medium F-Scale subgroup on the production criterion. The other pair of these significantly different coefficients arises from the low F-Scale subgroup on the production criterion and the medium F-Scale subgroup on the production criterion. There are twelve pairs of coefficients for the Religious value where significant differences might have arisen between the coefficients of the three F-Scale subgroups. Thus, significant differences occurred between one-sixth of the correlation coefficients for the three F-Scale subgroups.

If a similar type of comparison is made for the remaining correlation coefficients in Table 49, which are between the Study of Values scores of the subjects and the Study of Values scores of their sociometric rejectees for the Theoretical, Economic, Aesthetic, Social, and Political value tests, significant differences between correlation coefficients are found only among the coefficients for the Theoretical and Economic values.

The correlation coefficients between the Study of Values scores of the subjects and the Study of Values scores of their sociometric rejectees for the Theoretical value in Table 49 are as follows:

F-Scale Subgroup	Leisure Criterion		Production Criterion	
	N	Coefficient	N	Coefficient
Low	85	$-.188^{d}$	79	$-.133^{c}$
Medium	129	$.036^{a}$	132	$-.256^{ab}$
High	82	$.174^{bcd}$	79	$-.044$

(a -- the same letter adjacent to two coefficients indicates they are significantly different)

It will be noted that there are four pairs of significantly different correlation coefficients for the Theoretical value as designated by the letters a, b, c, and d; e.g., the letter a is placed adjacent to two coefficients which are significantly different. It is pointed out that three of these significant differences between coefficients are found for coefficients arising from different F-Scale subgroups as follows:

1. The high F-Scale subgroup on the leisure criterion and the low F-Scale subgroup on the leisure criterion.

2. The high F-Scale subgroup on the leisure criterion and the low F-Scale subgroup on the production criterion.

3. The high F-Scale subgroup on the leisure criterion and the medium F-Scale subgroup on the production criterion.

One of the pairs of significantly different correlation coefficients arises from the same F-Scale subgroups, i.e., the medium F-Scale subgroup on the leisure criterion and the medium F-Scale subgroup on the production criterion. There are twelve pairs of coefficients for the theoretical value where significant differences might have arisen between the coefficients of the three F-Scale subgroups. There are three pairs of coefficients for the Theoretical value where significant differences might have arisen between the coefficients for the same subgroup, e.g., the coefficients for the leisure and production criteria. Thus, the percentage of significant differences between correlation coefficients arising from different subgroups is .25 per cent and for correlation coefficients arising from the same subgroup it is .33 per cent. This suggests that the performance of subjects of the three F-Scale subgroups in the nomination of sociometric rejectees was not different, insofar as the Theoretical value is concerned.

The correlation coefficients between the Study of Values scores of the subjects and the Study of Values

scores of their sociometric rejectees for the Economic value in Table 49 are as follows:

F-Scale Subgroup	Leisure Criterion		Production Criterion	
	N	Coefficient	N	Coefficient
Low	85	-.154	79	-.112
Medium	129	-.187[a]	132	-.029
High	82	.108[a]	79	-.163

(a -- the same letter adjacent to two coefficients indicates they are significantly different)

It will be noted that there is only one pair of significantly different correlation coefficients for the Economic value. This significant difference is between the coefficients for the medium F-Scale subgroup on the leisure criterion and the high F-Scale subgroup on the leisure criterion.

Thus, for all of the correlation coefficients in Table 49, between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric rejectees, a total of ~~six~~ seven significantly different correlation coefficients is found. ~~Five~~ Six of these significant differences are between correlation coefficients arising from different F-Scale subgroups and one of the significant differences is between correlation coefficients arising from the same subgroup. There are 72 pairs of correlation coefficients for the six Study of Values tests where significant differences between correlation coefficients for different F-Scale subgroups might have arisen. Thus, such significant differences appear

between seven per cent of the pairs of correlation coefficients of this type. There are eighteen pairs of correlation coefficients for the six Study of Values tests where significant differences between correlation coefficients for the same F-Scale subgroups might have arisen. Thus, such significant differences appear between 5.5 per cent of the pairs (one instance) of correlation coefficients of this type. The difference between the number of significantly different correlation coefficients between F-Scale subgroups and the number of significantly different correlation coefficients for the same F-Scale subgroups is not sufficient to infer that any of the three F-Scale subgroups performed differently in the rejection of sociometric rejectees, insofar as values are concerned.

So far in this section two approaches have been followed in comparing the performance of the three F-Scale subgroups, insofar as the value relationships between the values of the subjects and the values of their sociometric nominees are concerned. The correlation coefficients significantly different from zero for both selectees and rejectees have been compared for the three F-Scale subgroups. In addition, the pairs of significantly different correlation coefficients for both selectees and rejectees arising from different F-Scale subgroups were observed.

The first approach employed in this section involving the comparison of the number of correlation coefficients significantly different from zero for sociometric nominees,

i.e., both selectees and rejectees, for the three F-Scale subgroups, indicated a very slight tendency for more of the correlation coefficients for the low F Scale to be significant than was found for the medium and high F-Scale subgroups.

The actual numbers of significant correlation coefficients between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric nominees, i.e., both selectees and rejectees, for the low, medium, and high F-Scale subgroups were 9, 4, 4, respectively. All of these significant correlation coefficients were positive for relationships between the values of the subjects and the values of their sociometric selectees and negative between the values of the subjects and the values of their sociometric rejectees. This suggests a very slightly greater tendency for the subjects from the low F-Scale subgroup to nominate sociometric selectees with values similar to their own and to nominate sociometric rejectees with values different from their own than was found for the medium and high F-Scale subgroup.

The second approach involved comparison of the number of pairs of significantly different correlation coefficients for both selectees and rejectees arising from different F-Scale subgroups. The results indicate that five coefficients for the high F-Scale subgroup are significantly different from coefficients for the medium and low F-Scale subgroups, five coefficients for the

medium F-Scale subgroup are significantly different from coefficients for the high and medium subgroup, and four coefficients for the low F-Scale subgroup are significantly different from the coefficients for the high and medium subgroups. This approach fails to indicate that the correlation coefficients between the Study of Values test scores of the subjects and the Study of Values test scores of their sociometric nominees are consistently different for any one of the F- Scale subgroups.

Comparisons for Selectees and Rejectees Combined

The results from the first of the two approaches described in the preceding section suggest that the correlation coefficients between the values of the subjects and the values of their sociometric nominees might be very slightly higher for the low F-Scale subgroup than for the medium and high F-Scale subgroups. The second approach does not appear hopeful and consequently is not further explored.

Consequently, to investigate further the possibility of different behavior on the part of the 66 participating subjects in the nomination of classmates, insofar as values were concerned, it was decided to average all of the correlation coefficients between the values of the subjects and the values of all of their sociometric nominees (including both selectees and rejectees) separately, for each of the three F-Scale subgroups.

This was done with some reservations because it involved combining correlation coefficients which were derived from quite different sources and also involved some relatively weak assumptions which were necessary to permit changing the sign of certain correlation coefficients. It was decided, however, that if the procedures followed were carefully outlined and if conclusions were made cautiously no serious consequences would result and the procedure would offer at least a crude estimate of the over-all relationships between the v alues of the subjects and the values of their sociometric nominees for each of the three F-Scale subgroups.

Average correlation coefficients were computed from the data presented in Tables 48 and 49. Table 48 involves the correlation coefficients between the values of the subjects and the values of their sociometric selectees. Table 49 involved the correlation coefficients between the values of the subjects and the values of their sociometric rejectees. Both Tables 48 and 49 present separate correlation coefficients for the low, medium, and high F-Scale subgroups.

One single average correlation coefficient for each of the three F-Scale subgroups was obtained as follows:

1. It was assumed that all correlation coefficients between the values of subjects and the values of sociometric choices should be positive. For the most part, these coefficients were positive, and such an assumption does not appear to be seriously in error. Further, because all of the coefficients

were added algebraicly negative coefficients decreased the size of the final average coefficient. Thus it appears that no serious violations are imposed by this assumption.

2. It was assumed that all correlation coefficients between the values of the subjects and the values of their sociometric rejectees should be negative. For the most part, these coefficients were negative and this assumption does not appear to be seriously in error. Further, because all of the coefficients were added algebraicly, the positive coefficients decreased the size of the final average coefficients. Thus it appears that no serious violations are imposed by this assumption.

3. The implications of the two above assumptions become more serious when it is necessary to combine the two sets of coefficients mentioned in 1 and 2 above. Because the coefficients between the values of the subjects and the values of the selectees were, for the most part, positive, and the coefficients between the valuesof the subjects and the values of the rejectees were, for the most part, negative, an algebraic addition of these two sets of coefficients would merely tend to cancel the two sets of coefficients. Consequently, it was arbitrarily decided to change the signs for all the coefficients between the values of the subjects and the values of their sociometric rejectees. Thus the resulting average correlation coefficients are the relationship between the values of the subjects and the values of the sociometric nominees (both selectees and rejectees) only in the sense that they provide a rough estimate of the amount of relationship found in general for each subgroup.

4. The coefficients which were averaged are those appearing in Tables 48 and 49.

5. The correlation coefficients were averaged by weighting each coefficient by the number of cases from which it was derived and dividing the sum of the weighted coefficients by the total number of cases.

The resulting average correlation coefficients are as follows:

F-Scale Subgroup	N	r
Low	2,016	.156**
Medium	3,224	.084**
High	2,004	.063*

*Significant at the 5 per cent level of confidence
**Significant at the 1 per cent level of confidence

A question may arise as to the number of cases reported here for each of the three subgroups. It will be noted, for example, that there were somewhat less than 90 cases for each of the low F-Scale subgroup coefficients in Tables 48 and 49 for each of the twenty-four coefficients included in the average coefficient for this subgroup. Thus, the N for the low F-Scale subgroup is slightly less than 24 x 90, or 2,016, as reported for this subgroup. The number of cases for the medium and high F-Scale subgroups were derived in the same manner. The average correlation coefficient for the low F-Scale subgroup is significantly different at the one per cent level of confidence from the average correlation coefficients for the medium and high F-Scale subgroups. The average correlation coefficients for the medium and high F-Scale subgroups are not significantly different.

These results suggest that the subjects in the low F-Scale subgroup tended, slightly more than the medium and low F-Scale subgroups, to name sociometric selectees with Study of Values scores similar to their own and to nominate sociometric rejectees with Study of Values scores different from their own.

Summary

This major section of Chapter III is concerned with the presentation and discussion of data relevent to the differential performance of three different F-Scale subgroups of subjects in the nomination of classmates, insofar as values are concerned. The three F-Scale subgroups were selected upon the basis of scores obtained on the F-Scale test and represent a group with low F-Scale scores, a group with medium F-Scale scores, and a group with high F-Scale scores. The value scores involved in this section are those obtained from the administration of the Study of Values test in the usual or standard manner.

An analysis of the relationships (correlation coefficients) between the values of the subjects and the values of their sociometric nominees (both selectees and rejectees independently) was made by treating each of the three subgroups independently. The resulting correlation coefficients indicated that there were very slightly more statistically significant relationships for the low F-Scale subgroup than for the medium and high F-Scale subgroups; that the correlation coefficients for no one of the F-Scale subgroups were more consistently significantly different from the correlation coefficients of the other F-Scale subgroups; that when all of the correlation coefficients for each of the three subgroups were averaged independently, the average correlation coefficient for the low F-Scale subgroup was sufficiently higher than

for the medium and high F-Scale subgroups. It is concluded that there is a slightly greater tendency for the subjects of the low F-Scale subgroup to nominate selectees with values similar to their own and rejectees with values different from their own than is the case with the medium and high F-Scale subgroups.

SUMMARY

The results obtained from the analysis of the data collected for the present study are presented and discussed in this chapter. The material of the chapter is organized into three major sections. The first section is devoted to the discussion of the Study of Values test scores, the F-Scale scores, and the eight types of sociometric scores which were obtained by each of the 66 subjects participating in the present study. The second section is concerned with a discussion of the relationships between the Study of Values test scores of the subjects and (1) the Study of Values test scores of their sociometric nominees and (2) other special types of Study of Values test scores. The third section is devoted to the discussion of the differential performance of subjects with various levels of F-Scale scores with respect to the nomination of sociometric nominees, insofar as Study of Values test score relationships are involved.

The Study of Values test scores obtained for the 66 subjects were found to be similar to those reported for college men by previous investigators with two exceptions.

The average score for the Religious value was somewhat higher and the average score for the Aesthetic value was somewhat lower than usually reported for college men. Reference to the background data in Chapter II of this study indicates that these differences might logically be expected from the religious nature of the college in which the study was conducted and the somewhat limited opportunities in the subjects' background for Aesthetic development. The mean score and standard deviation of the F-Scale scores of the subjects were somewhat smaller in each case than for a larger reference group. This was interpreted to mean that the present subjects were somewhat more homogeneous and less authoritarian than the reference group. Analysis of eight sociometric scores derived for each subject from names reported on four lists of the Nomination Ballot indicated that the subjects did not discriminate between the production and leisure criteria of this instrument, that first place scores were slightly less suitable for criterion purposes than total scores employing all of the names reported for each particular type of list of the Nomination Ballot, and that the subjects discriminated rather distinctly between the selection and rejection lists of the Nomination Ballot.

The major hypothesis under consideration in this study, viz., values are influential factors in sociometric nomination, was found to be supported by the findings reported in this chapter. The subjects were found to have nominated classmates for association in leisure-time and

committee-work activities who had values similar to their own and to have rejected classmates for these activities who had values different from their own; to have assigned values which were similar to their own values to so-called ideal associates and to have assigned values which were different from their own values to classmates considered unacceptable as personal associates; to have looked upon or perceived the values of their desired associates as being similar to their own and to have perceived the values of classmates considered unacceptable for personal association as being different from their own values. The Religious, Political, and Economic values were found to consistently generate higher correlations than were found for the remaining three values. Because these three value tests tended to have higher average scores and larger standard deviations than the other value tests, it was concluded that the values of the subjects which are more dominant in the value systems of the subjects and more dispersed among the subjects tended to be more influential in the behavior of the subjects and to facilitate discrimination of values among the subjects.

The influence of authoritarian personality characteristics upon the nomination of classmates for leisure-time and committee-work activities was explored by comparison of the relationship between the values of the subjects and their sociometric nominees for three subgroups of subjects determined upon the basis of their F-Scale scores. The differences between the performances of these three

subgroups with regard to the value relationships of the subjects and their sociometric nominees were extremely small. A very slight tendency was found for the subjects making up the low F-Scale subgroup to generate higher relationships between their own values and the values of their sociometric nominees than was found for the medium and high F-Scale subgroups. The conclusion of the present study is that values are influential factors in sociometric nominations. The data indicate that this influence is not large under the conditions imposed by the present study. However, the extent of the influence was found to vary with the situations under which the nominations were made, the position of particular values in the value systems of the subjects involved, the range of values from which nominations were made, and possibly with the tension or emotional state of the group involved.

Chapter IV

SUMMARY AND CONCLUSIONS

Introduction

The purpose of the present study is to investigate the influence of values in sociometric nominations. Interest in this particular problem arises from the many recent and contemporary attempts to unravel some of the intricately related factors implicit in interpersonal relations and the many important applications which can be made of scientific knowledge in this area. Consequently, a study was designed to investigate a small segment of the larger area of interpersonal relations. The influence of values in sociometric nomination was selected as a specific area because it was believed, on the one hand, that values represent a relatively stable aspect of personality and, on the other hand, that sociometric nominations represent a broader area of interpersonal relations than has usually been studied, e.g., marriage partners, friends. A brief description of the

present study and a statement of the principal findings are reported in the subsequent sections of this chapter.

Description of the Study

The initial step in the design of the present study was the review of research reports and other material pertinent to the general area of values and interpersonal attitudes. This review revealed a large number of relevant studies which suggested that a systematic investigation of the influence of values upon sociometric nominations might produce worthwhile results. For example, previous investigators had found positive relationships between common traits for husbands and wives, friends, and siblings. Consequently, it was decided to design such a study.

The general design of the study provided for the statement of a major hypothesis to be tested by data collected in a field situation. The major hypothesis was stated as follows: values are influential factors in sociometric nomination. The major hypothesis was translated into six more specific minor hypotheses as follows: (1) people tend to choose for personal association persons with values similar to their own; (2) people tend to reject for personal association persons with values different from their own; (3) people tend to perceive desired associates as having values similar to their own; (4) people tend to perceive persons whom they reject as

personal associates as having values different from their own; (5) people tend to perceive ideal associates as having values similar to their own; and (6) people tend to perceive extremely unacceptable associates as having values different from their own. The study design provided for collection of three principal types of information: (1) lists of sociometric nominees from among a relatively large group of subjects who were well acquainted with one another; (2) value measurements for the subjects involved in the study; and (3) background information about the subjects which could be employed in the interpretation and integration of information regarding the value relationships of the subjects and their sociometric nominees.

A second major step in the accomplishment of the study was the selection and design of psychological devices for collection of the required data. An instrument was developed for the identification of sociometric nominees, referred to as the Nomination Ballot, which required each subject to list one to five classmates on each of four lists. The four lists provided for the designation of four types of sociometric nominees, viz.: (1) most desired (selectees) and (2) least desired associates (rejectees) for leisure-time association (leisure criterion), and (3) most desired (selectees) and (4) least desired associates (rejectees) for work-type activities (production criterion). A rating scale was designed to discover the opinions of the subjects regarding why they made some of the nominations. For the measurement of

the values of the subjects involved in the study, the Study of Values test and the F-Scale were selected from among a number of other instruments. Background information relative to the subjects was obtained through the use of a Biographical Data Form and a Student Record Form.

The field situation selected for the conduct of the study was Adrian College, Adrian, Michigan. The subjects participating in the study were the 66 men in the senior class at this college. The college emphasizes religious training and part-time work, in addition to the usual program of academic studies and extracurricular activities usually offered by a liberal arts college. The senior men participating in the study were fairly typical of college men in senior classes in general with the exceptions that they were somewhat older, some came from families with above average religious emphasis, a higher percentage of them were married, there was a high percentage of veterans, and the annual incomes of their parental families were somewhat below the average for parental families of college students.

The subjects each completed the Nomination Ballot, the Supplement to the Nomination Ballot, the F Scale, the Biographical Data Form, and the Study of Values test. The Study of Values test was completed seven times by each student with seven different psychological sets, i.e., in the standard way, as he believed an ideal associate would complete it, as he believed an extremely unacceptable associate would complete it, and as he

believed each of the first nominees on each of the four different lists of the Nomination Ballot would complete it. In addition, information relative to each subject was obtained from college records and recorded on the Academic Record Form.

The data collected with the various psychological devices were analyzed with four principal questions in view. First, were there particular characteristics or influences among the subjects which might produce atypical or unusual results? Second, did the subjects discriminate between the various conditions established for the four lists of the Nomination Ballot? Third, were the values of the subjects related to the values of their sociometric nominees? Fourth, did subjects with particular levels of F-Scale scores tend to choose sociometric nominees with values more or less similar to their own than subjects with other levels of F-Scale scores? With respect to the first question several characteristics or influences were identified among the subjects which might be expected to produce atypical results in the present study. Several of these were mentioned in an earlier paragraph of this chapter in a discussion of the unusual characteristics of the subjects. In addition, the subjects were found to have above average Religious value scores, below average Aesthetic value scores, and slightly below average F-Scale scores. These findings were considered to be logical, insofar as the value scores are concerned, because subjects attending a religious college might be

expected to have above-average Religious value scores, and subjects coming from parental homes with below-average incomes and who devoted much of their time in college to part-time work might be expected to have below-average Aesthetic value scores. The below average F-Scale scores were judged to indicate that the subjects were somewhat less authoritarian than the reference groups for whom F-Scale scores were available.

For the purpose of answering the second question, whether the subjects had discriminated between the various conditions established for the four lists of the Nomination Ballot, eight sociometric scores were derived for each subject from this instrument. Four of these eight scores were derived by simply counting the number of times each subject's name appeared first on each of the four lists. Thus a separate "First Place" score was derived for each subject for each of the four lists. The four remaining scores from the total of eight were derived by counting the total number of times each subject's name appeared in any position, e.g., first, second, etc., on each of the four lists. Thus a "Total" score was derived for each subject for each of the four lists. Distribution statistics were computed for each of the eight scores, and intercorrelations were made among them. The results indicated that "Total" scores appear to be slightly superior for criterion purposes than "First Place" scores; however, correlation coefficients between the two types of scores indicated that they were very similar for each of the four lists of the Nomination

Ballot. The intercorrelation coefficients between the eight sociometric scores indicated that the subjects discriminated very little, if at all, between the production and leisure criteria, but that they very distinctly discriminated between the lists for rejectees and selectees. The results were interpreted to mean that the Nomination Ballot was both reliable and valid in general.

For the purpose of answering the third question, whether the values of the subjects were related to the values of their sociometric nominees, product-moment correlation coefficients were computed between the value scores of the subjects and the value scores of the sociometric nominees. In addition, the value scores of the subjects were correlated with the value scores which the subjects ascribed to their four sets of sociometric nominees, to the so-called Ideals, and the so-called Unacceptables. The results of this analysis indicated that, in general, the values of the subjects are positively related to the values of their selectees (desired associates) and negatively related to the values of their rejectees (least desired associates). Several important qualifications are necessary for the modification of this general statement. First, the correlation coefficients between the value scores of the subjects and the value scores of the sociometric nominees are low and in some cases not statistically significant. This indicates that, while values do play a part in the selection and

rejection of associates, there are also other factors which apparently influence these decisions. Second, there is considerable variation in the size of the correlation coefficients between the values of the subjects and the values of their sociometric nominees. However, this variation is relatively systematic throughout the six Study of Values tests. For example, the Study of Values tests for which the subjects obtained the higher average scores are the same value tests which consistently generated the higher correlation coefficients.

To a lesser extent, a similar result was found to exist for the larger standard deviations of the subjects' Study of Values scores. The association of higher correlation coefficients with the subjects' higher average scores was interpreted to mean that some values are more important than others in the value systems of the subjects, and that the more important or dominant values are more active or influential in the behavior of the subjects than are the less important values. The association of higher correlation coefficients with the larger standard deviations of the subjects' value scores was interpreted to indicate that the subjects experience less difficulty in discriminating between the values of their classmates in those value areas in which the larger standard deviations provided a wider value range from which nominations could be made. A second explanation with regard to the standard deviations may be that some tension or emotional

condition was associated with the subjects' more dispersed value scores which caused them to express themselves more intensely when making sociometric nominations in these value areas.

For the purpose of answering the fourth question, whether the F-Scale scores of the subjects were related to the size of the correlation coefficients between the values of the subjects and the values of their sociometric nominees, the 66 subjects were divided into three subgroups upon the basis of their F-Scale scores. These three subgroups were referred to as the low, medium, and high F-Scale subgroups. Separate correlation coefficients were computed between the Study of Values scores of the subjects and the Study of Values scores of their sociometric nominees for each of these three subgroups. The results indicate that there is a very slight tendency for the values of the low F-Scale subgroup to be more highly related to the values of their sociometric nominees than is the case for the medium and high F-Scale subgroups.

Conclusions

The general conclusions which appear justified from the findings summarized in this chapter are as follows:

1. Values as measured by the Study of Values test are influential factors in sociometric nominations for the subjects of this study.

2. The values which are more dominant or higher in the value systems of the subjects exert greater influence in the choice and rejection of personal associates than values lower in the hierarchy. However, the influence of tension or emotional states in particular situations may operate to temporarily shift the relationships of values within the more permanent value hierarchy.

More specific minor conclusions which appear justified from the findings presented in this report are as follows:

1. The subjects tend to nominate for personal association persons with values similar to their own.

2. The subjects tend to reject for personal association persons with values different from their own.

3. The subjects tend to perceive desired associates as having values similar to their own.

4. The subjects tend to perceive persons whom they reject for personal association as having values different from their own.

5. The subjects tend to perceive imaginary ideal associates as having values similar to their own.

6. The subjects tend to perceive imaginary, extremely unacceptable associates as having values different from their own.

7. Subjects with low F-Scale scores tend very slightly more than subjects with medium and high F-Scale scores to nominate desired associates with values like their own and to nominate least desired associates with values different from their own.

8. Rating scales employed for the purpose of determining the influences operating upon subjects when making sociometric nominations indicate that the subjects are consciously aware of similarity between themselves and their desired associates and of differences between themselves and their least desired associates. This finding was true both in general and specifically at the ideological level.

9. The results of the present study with respect to the relationship between the values of the subjects and the values of their sociometric nominees are in agreement with the findings reported by previous investigators for husbands and wives, engaged couples, and friends, However, the correlation coefficients are somewhat lower for the sociometric relationships of the present study as compared with the closer personal relationship represented by marital and pre-marital couples.

10. The F-Scale scores of the subjects were positively related to the F-Scale scores of their sociometric rejectees. Because this result was contrary to the results obtained with the Study of Values test and a rating scale designed to measure influences in sociometric nomination, the F-Scale scores were judged to be contaminated with other personality variables.

Additional minor specific conclusions, which appear justified from the data reported in this study but which are only incidental to the main purpose of the study, are as follows:

1. F-Scale scores are positively and significantly related to the Economic and Political values and negatively and significantly related to the Aesthetic value of the Study of Values test.

2. The subjects tend to nominate both desired and least desired associates with F-Scale scores similar to their own.

3. The subjects failed to discriminate between the leisure criterion and the work or production criterion of the sociometric questionnaire employed in this study.

4. The subjects discriminated sharply between the selection criterion and the rejection criterion of the sociometric questionnaire employed in the present study.

5. The values which the subjects ascribed to their sociometric nominees are positively related to the actual values of the nominees. However, statistically significant relationships were found only for values which were high in the value systems of the subjects.

6. Sociometric scores made up of several sociometric nominations by each subject present better criterion characteristics than sociometric scores made up of a single sociometric nomination by each subject.

7. The correlation coefficients between the values of the subjects and the values of their sociometric nominees were not significantly different for the five positions, i.e., first, second, third, fourth, fifth of the Nomination Ballot. On the contrary, they were relatively similar.

8. The subjects indicated greater reluctance to name sociometric rejectees (least-desired associates) than sociometric selectees (most-desired associates) on the Nomination Ballot.

9. The subjects reported logically valid, and where data were available for such measurement, empirically valid value scores under different psychological sets.

The data presented in this study demonstrate that values are influential factors in sociometric nomination. The college men who participated tended to choose associates who had values similar to their own and to reject for association classmates with values different from their own. While the results suggest that these tendencies are modified by other factors and by the conditions under which the nominations are made, they also indicate that values are pervasive and dynamic influences upon interpersonal relations.

APPENDIX A

BIOGRAPHICAL DATA FORM

Testing Number _____

Biographical Data Form

Check the item below which best describes your marital status

Check one

1____ Single
2____ Married and living with wife
3____ Married and temporarily separated from wife because of school
4____ Married and not living with wife for reasons other than "3"
5____ Widowed
6____ Divorced
7____ Other (describe) _____

_____

What social-economic class did your family occupy in your home community when you were at home?

Check one

1____ Lower
2____ Middle
3____ Upper middle
4____ Upper

____ What has been the average income of your family during the past ten years?

How adequately did this income provide for your family?

Check one

1____ We had only the most minimum necessities of life
2____ We had only a few of the comforts and pleasures which could be secured after the minimum necessities had been provided
3____ We had many comforts and pleasures which were not available to people with lower incomes
4____ We had all the ordinary comforts and pleasures of life and even some of the things which fall in the luxury class
5____ We had many luxuries and never really wanted things that could not be obtained

. If you have a part-time or full-time job in addition to your regular school studies, answer the following questions

Complete all three

1____ How many hours per week do you work usually
2____ Has your work usually been on or off the campus
3____ What type of work do you do, e.g. typing, cashier, _____

_____

E. _____ How far do you live from the campus?

F. When I am with other people things seem to go better:

Check one

1____ When they do what I say
2____ When someone other than myself takes charge
3____ When we cooperate as a team without anyone really being in charge

G. Where have you lived while you have been in college? Check the item below wh gives the best description. If more than one are appropriate indicate the re tive importance and if necessary discuss under (6), e.g. "1" for first place, for second place, "3" for third place, etc.

1____ Parental Home
2____ Maintain own home
3____ Room at private home
  a.____ With a roommate
  b.____ With no roommate
  c.____ With no other students in the home
  d.____ With other students in the home
4____ Dormitory
5____ Fraternity (Give name) _____
6____ Other (Describe) _____

H. Where have you become acquainted with the men of the Senior Class whom you kno best? Place a "1" before the most usual place, a "2" before the next most usu place, continue for "3" and "4" and "5".
Make entries in all five blanks

1____ In regular classroom work and study
2____ In extracurricular activities
3____ In leisure time activities
4____ Where you room and take your meals
5____ Where you work

I. Which of the following types of activities do you most frequently choose?
Check one
1____ Activities which I can do alone
2____ Activities which can be performed with other
3____ Neither of the above types of activity is chosen more frequently than the other

J. What special conditions with regard to your college attendance have been partic larly influential in determining how well you have become acquainted with the other men of the Senior Class?

Indicate how influential each of the factors has been by rating it on the follo ing scale:

-1 prevented me a little from getting acquainted
-2 prevented me pretty much from getting acquainted
-3 prevented me very much from getting acquainted
0 does not apply
+1 helped me a little in getting acquainted
+2 helped me pretty much in getting acquainted
+3 helped me very much in getting acquainted

Rate each factor

1____ Participation in the social activities of the college
2____ The "outside" job which I had in college
3____ I lived some distance from the campus and was not able to spend much time there
4____ I studied and lived at home and consequently was not on the campus much
5____ I did not find the Senior men particularly interesting and did not try to become acquainted with them
6____ I took only part of my college work here
7____ I have generally lived on the campus
8____ I have spent a lot of time on the campus "just visiting"
9____ Participation in extracurricular activities
10____ Participation in student government and student committees
11____ My friends were people who were not in college here

APPENDIX B

STUDENT RECORD FORM

STUDENT RECORD FORM

Name in full _____ Age _____

Height _____ Weight _____ Nationality _____ Race _____

Veteran or non-veteran _____ Church preference _____

Occupation of parent _____ Ancesteral background-Father _____

Mother _____

Concentration Division _____ Major subject _____

Vocational preference _____ Average grade _____

Number of hours worked per week _____ Kind of work done _____

Favorite recreation _____

Purpose in coming to college _____

Extracurricular record:

Athletics _____ Music _____

Speech _____ Debate _____

Committees _____ Fraternity _____

Other _____

Psychological test scores _____

_____

Personality and Vocational test scores _____

Studies best liked in high school _____

Studies liked least in high school _____

Most difficult studies in high school _____

Amount of money available for college _____ Source of these funds ____

_____

Physical defects if any _____

How far this person lives from the campus _____

Unusual personality or adjustment difficulties _____

_____

APPENDIX C

CORRELATION COEFFICIENTS FOR VALUE SCORES OF SUBJECTS AND NOMINEES

CORRELATION COEFFICIENTS FOR THE THEORETICAL VALUE FOR THE FIVE SOCIOMETRIC NOMINATIONS

Order of Nomination	F Scale Subgroup	Criterion: Leisure N	Leisure Choice	Leisure N	Leisure Rejection	Production N	Production Choice	Production N	Production Rejection
1	Low	18	.171	18	-.216	18	-.022	18	-.523
	Medium	30	-.034	30	.055	30	.013	30	-.267
	High	18	-.514	18	.170	18	-.059	18	.065
	Total	66	.058	66	.067	66	-.035	66	-.186
2	Low	18	-.056	17	-.023	18	.190	17	.079
	Medium	30	-.023	28	-.413	30	-.400	28	-.085
	High	18	.100	18	.145	18	-.102	18	.225
	Total	66	.026	63	-.114	66	-.155	63	-.009
3	Low	18	.178	17	-.355	17	-.025	16	.246
	Medium	29	-.282	25	.146	28	.226	26	-.633
	High	17	.074	17	.205	17	-.472	16	-.092
	Total	64	-.059	59	-.039	62	-.012	58	-.091
4	Low	18	.215	17	.229	16	.210	15	-.204
	Medium	27	-.301	25	.229	25	-.114	25	-.112
	High	17	-.323	15	-.189	17	.451	14	-.536
	Total	62	-.160	57	.052	58	.165	54	-.244
5	Low	16	-.193	16	-.211	15	-.497	13	-.175
	Medium	25	-.073	21	.285	24	.034	23	-.075
	High	17	-.036	14	.530	16	.068	13	.058
	Total	58	-.119	51	.168	55	-.128	49	-.097

CORRELATION COEFFICIENTS FOR THE ECONOMIC VALUE FOR THE FIVE SOCIOMETRIC NOMINATIONS

Order of Nomination	F Scale Subgroup	Criterion: Leisure N	Leisure Choice	Leisure N	Leisure Rejection	Production N	Production Choice	Production N	Production Rejection
1	Low	18	.444	18	-.189	18	.098	18	-.214
	Medium	30	.429	30	-.364	30	.198	30	-.044
	High	18	.024	18	.432	18	.540	18	-.345
	Total	66	.332	66	-.059	66	.251	66	-.203
2	Low	18	.076	17	-.051	18	.207	17	-.086
	Medium	30	.154	28	-.034	30	.329	28	.013
	High	18	.328	18	.028	18	.128	18	.010
	Total	66	.200	63	-.025	66	.263	63	-.050
3	Low	18	.469	17	-.092	17	-.141	16	-.067
	Medium	29	.049	25	-.071	28	-.001	26	-.105
	High	17	-.274	17	.114	17	.233	16	-.323
	Total	64	.084	59	.005	62	.048	58	-.212
4	Low	18	.367	17	-.279	16	.396	15	-.235
	Medium	27	-.098	25	-.137	25	-.033	25	-.122
	High	17	.312	15	-.331	17	.052	14	-.022
	Total	62	.188	57	-.208	58	.139	54	-.142
5	Low	16	.216	16	-.153	15	.228	13	.096
	Medium	25	.031	21	-.310	24	.185	23	.131
	High	17	.429	14	.224	16	.051	13	-.070
	Total	58	.227	51	-.176	55	.185	49	-.020

CORRELATION COEFFICIENTS FOR THE AESTHETIC VALUE FOR THE FIVE SOCIOMETRIC NOMINATIONS

Order of Nomination	F Scale Subgroup	Criterion: Leisure N	Leisure Choice	Leisure N	Leisure Rejection	Production N	Production Choice	Production N	Production Rejection
1	Low	18	.636	18	.004	18	-.158	18	.080
	Medium	30	.068	30	.009	30	-.011	30	.038
	High	18	.328	18	-.345	18	-.262	18	.021
	Total	66	.276	66	-.068	66	-.089	66	-.020
2	Low	18	.194	17	.547	18	-.112	17	.510
	Medium	30	.168	28	.138	30	.044	28	-.191
	High	18	.168	18	.085	18	.312	18	-.196
	Total	66	.195	63	.269	66	.105	63	.126
3	Low	18	.303	17	-.194	17	.290	16	-.373
	Medium	29	.022	25	.123	28	-.127	26	-.312
	High	17	.374	17	-.229	17	.173	16	-.049
	Total	64	.142	59	-.052	62	.116	58	-.280
4	Low	18	.239	17	.026	16	-.204	15	-.141
	Medium	27	-.246	25	-.213	25	.039	25	.282
	High	17	.191	15	.194	17	.020	14	.179
	Total	62	.031	57	-.061	58	-.060	54	.131
5	Low	16	.131	16	-.093	15	.222	13	-.020
	Medium	25	-.080	21	-.037	24	.389	23	-.428
	High	17	.165	14	.134	16	.094	13	.214
	Total	58	.128	51	-.163	55	.222	49	-.153

CORRELATION COEFFICIENTS FOR THE SOCIAL VALUE FOR THE FIVE SOCIOMETRIC NOMINATIONS

Order of Nomination	F Scale Subgroup	Criterion: Leisure N	Leisure Choice	Leisure N	Leisure Rejection	Production N	Production Choice	Production N	Production Rejection
1	Low	18	.128	18	-.189	18	.295	18	.095
	Medium	30	.110	30	-.287	30	.300	30	.003
	High	18	-.417	18	.058	18	.105	18	-.117
	Total	66	.032	66	-.183	66	.254	66	-.024
2	Low	18	.171	17	-.478	18	.012	17	-.477
	Medium	30	-.015	28	.118	30	-.149	28	.307
	High	18	.155	18	-.208	18	.336	18	.360
	Total	66	.084	63	-.147	66	.030	63	.074
3	Low	18	.010	17	-.416	17	.450	16	-.122
	Medium	29	-.055	25	.009	28	.023	26	-.008
	High	17	.330	17	-.079	17	-.334	16	-.155
	Total	64	.060	59	-.145	62	.062	58	-.035
4	Low	18	.191	17	.289	16	-.301	15	.259
	Medium	27	-.171	25	-.204	25	-.150	25	-.254
	High	17	.100	15	.255	17	-.305	14	-.035
	Total	62	.032	57	.028	58	-.251	54	-.011
5	Low	16	-.100	16	.205	15	.321	13	-.005
	Medium	25	.123	21	-.021	24	.002	23	-.292
	High	17	.375	14	.369	16	.138	13	-.157
	Total	58	.128	51	.109	55	.110	49	-.161

CORRELATION COEFFICIENTS FOR THE POLITICAL VALUE FOR THE FIVE SOCIOMETRIC NOMINATIONS

Order of Nomination	F Scale Subgroup	Criterion: Leisure N	Leisure Choice	Leisure N	Leisure Rejection	Production N	Production Choice	Production N	Production Rejection
1	Low	18	.211	18	-.309	18	.111	18	-.209
	Medium	30	.340	30	-.395	30	.553	30	-.491
	High	18	.075	18	.228	18	.217	18	-.161
	Total	66	.320	66	-.254	66	.426	66	-.364
2	Low	18	.187	17	-.160	18	.487	17	-.205
	Medium	30	.079	28	.045	30	.239	28	-.163
	High	18	.525	18	-.066	18	-.043	18	.088
	Total	66	.164	63	.015	66	.157	63	-.242
3	Low	18	.044	17	-.188	18	.036	16	-.117
	Medium	29	-.360	25	-.085	28	-.113	26	.049
	High	17	-.494	17	-.485	17	.124	16	-.324
	Total	64	-.229	59	-.153	63	-.003	58	-.028
4	Low	18	.184	17	-.329	16	-.052	15	-.669
	Medium	27	.300	25	-.457	25	.117	25	-.152
	High	17	.155	15	.117	17	.339	14	.024
	Total	62	.250	57	-.317	58	.144	54	-.184
5	Low	16	-.111	16	-.034	15	.015	13	-.368
	Medium	25	.407	21	-.151	24	.428	23	.144
	High	17	.182	14	.147	16	.159	13	-.386
	Total	58	.246	51	-.081	55	.289	49	-.051

CORRELATION COEFFICIENTS FOR THE RELIGIOUS VALUE FOR THE FIVE SOCIOMETRIC NOMINATIONS

Order of Nomination	F Scale Subgroup	Criterion: Leisure N	Leisure Choice	Leisure N	Leisure Rejection	Production N	Production Choice	Production N	Production Rejection
1	Low	18	.549	18	-.058	18	.278	18	-.232
	Medium	30	.402	30	-.117	30	.238	30	.040
	High	18	.408	18	.255	18	.074	18	.103
	Total	66	.431	66	.036	66	.198	66	.013
2	Low	18	.359	17	-.299	18	.199	17	-.129
	Medium	30	.231	28	.093	30	.388	28	-.097
	High	18	.317	18	-.136	18	.116	18	-.198
	Total	66	.295	63	-.104	66	.288	63	-.150
3	Low	18	.339	17	-.498	17	.240	16	-.389
	Medium	29	.069	25	.046	28	-.244	26	-.085
	High	17	.272	17	-. 436	17	-.078	16	-.461
	Total	64	.148	59	-.217	62	.012	58	-.292
4	Low	18	.543	17	-.185	16	.176	15	-.545
	Medium	27	.146	25	-.271	25	.214	25	.160
	High	17	.273	15	.104	17	.053	14	-.262
	Total	62	.304	57	-.251	58	.175	54	-.158
5	Low	16	.024	16	-.311	15	.276	13	-.368
	Medium	25	.280	21	-.054	24	-.007	23	.210
	High	17	-.242	14	.149	16	.051	13	-.328
	Total	58	.110	51	-.145	55	.099	49	-.135

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