SOME FACTORS IN THE DEVELOPMENT OF PERSONALITY

TRAITS IN COLLEGE STUDENTS ENROLLED

IN SOCIAL FUNDAMENTALS CLASSES

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IN SOCIAL FUNDAMENTALS CLASSES

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By

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INTRODUCTION

Review of Related Studies

In recent years studies have been made on factors which contribute to the personal and social adjustment of nursery school children. Such studies are of primary importance in a study of older groups in that they show a relationship between personality traits and social acceptance. In 1952, Emerson\(^1\) made a study of some of the factors associated with sociometric status in a group of sixteen four-and-five-year-old nursery school children at Cornell University, New York. Data were obtained by observing the children in group situations and by the use of a personality rating scale. The results of the personality scale were treated statistically and grouped according to high and low scores. The high-scoring group was found to be more obedient and adaptable, had more close friends, and had more traits commonly accepted as being desirable than did the low-scoring group. The author found that children of high sociometric status, with better personalities, achieved a better adjustment during the school year than did those of low sociometric status.

Baldwin,² 1948, found that democracy in the home is a contributing factor to the personal adjustment of the child. The study was conducted at Fels Research Institute for the purpose of exploring the influence of democratic practices in the home upon the personality of sixty-seven nursery school children who were four years of age. The result showed that democratic homes produced children who were active, aggressive, fearless, and likely to become leaders. The conclusion drawn was that homes which were democratic were more likely to have children who made better personal and social adjustment.

Some factors which are thought to influence social acceptance are sex, age, and the way in which teachers deal with personal problems of the child. To determine interrelationships between sex, age, intelligence, and acceptance of children in eighth-grade classrooms with varying climates, teachers of the Oakland, California, schools administered the California Test of Mental Maturity and the Ohio-Social Acceptance Scale, under the supervision of Taylor,³ in the fall of 1949. The Ohio Acceptance Scale, a peer judgement rating instrument, was used to obtain measures of social acceptance for five hundred ninety-three boys and five hundred eighty-four girls.


who were involved in the study. To obtain data on mental ages and ability profiles the California Test of Mental Maturity was administered. Results of the test were treated statistically. The investigator found that during a period of three to four months social acceptance scores were as constant as I.Q.'s are reported to be; that the lower constancy of social acceptance scores in progressive classrooms is consistent with the effectiveness with which teachers in these classrooms deal with social problems. The author concluded that it becomes a teacher responsibility to help socially rejected children attain a satisfactory status within the classroom, and to develop pupil skills in attaining social adjustment.

Various studies reveal that pupils at different grade levels exhibit definite tendencies to reflect the attitudes and behavior patterns of their teachers; and that the personal influence of teachers may be more permanently and vitally effective with pupils than their formal classroom teaching. Bollinger, 4 1945, made a study of the social impact of the teacher on the pupil's adjustment in three high schools in Madison, Wisconsin, involving eighteen teachers and four hundred five pupils. The purpose was three-fold. It attempted to discover the significant differences in social adjustment, attitudes, information, and behavior of the teacher and the

pupil groups; what relationships existed between the teachers' and pupils' social adjustment, attitudes, information, and behavior; and, whether these social relationships would show significant change during a six months' interval in a single year. Both teachers and pupils took the Washburne Social Adjustment Inventory, which was used as a measuring instrument. The relationship between teachers' scores and pupils' scores was determined and the results from the three schools were compared. Only one school approached a significant gain in social adjustment. The author concluded that changes in social attitudes and behavior take place only slowly under normal conditions. This fact may account for the lack of statistically significant relationships between pupil gains and teacher status for the qualities measured.

Teacher-pupil relationship can influence adjustment of high school students. To define the importance of the teacher-pupil relationship as a factor in bringing about a change in social adjustments of students, Malone, Rebecco Park Malone, "The Influence of Teacher-Pupil Relationships on the Social Adjustment of Homemaking Students in a Small Rural High School" (Unpublished Master's thesis, School of Home Economics, North Texas State College, 1953).
which these students had. The results of the tests were treated statistically to determine any significant changes in social adjustment during the school year. Gains were found in social adjustment and sufficient evidence was found to show that teacher-pupil relationships can influence adjustment. The investigator stated that the changes may have been brought about largely by the use of the goal-seeking method of teaching which was used consistently during the school year. After pointing out that the results were inconclusive because of imperfect timing and testing conditions, the investigator concluded that the improvement of high school girls in social adjustment is dependent on too many factors for any one teacher or any designated class activities to be responsible for the change. However, when the homemaking teacher becomes well acquainted with her pupils and shares their experiences she establishes a relationship with them which promotes the social development of the individual.

To bring about social adjustment in students, a specialized unit focused on personal development has been found to be effective. An investigation of this nature was made by Wester in 1961, at the Gainesville High School, Gainesville, Texas. The purpose was to try to measure the effectiveness of a specialized unit on personal development in improving

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6 Edna Dean Wester, "The Effectiveness of a Specialized Unit in Improving the Social Adjustment of Homemaking Students" (Unpublished Master's thesis, School of Home Economics, North Texas State College, 1951).
the social adjustment of homemaking girls. Two groups were selected: one class of sixteen members was designated as the experimental group; the control group was another class of nineteen members. The two groups were comparable as to chronological age, socio-economic status, intelligence quotients, and school classification. Three standardized tests, (1) the *California Test of Mental Maturity*, Intermediate Short Form, (2) *Bell's Adjustment Inventory*, Student Form, and (3) the *California Test of Personality*, Secondary Form A, and a sociometric test, were administered to the group at the beginning of the study. The sociometric test used was the type which showed social status within the class. To gain information for constructing a functional unit individual students were interviewed to discover their personal problems. A four-weeks unit on personal development was planned by members of the experimental group and the experimenter. At the end of the course the sociometric test was re-administered to both groups to show any changes in social status. Also, the *California Test of Personality*, Secondary Form A, was re-administered to both groups at the end of the unit. The test scores were treated statistically to show whether any measurable changes had been made in personal and social adjustment. The investigator found that the specialized unit was effective in improving the personal and social adjustment of homemaking students.
In 1950, Fagg,⁷ made a study of the relative effectiveness of two methods of teaching personal development to thirty-four girls in homemaking classes of the Tioga, Texas, High School. Two groups, composed of eighteen juniors and seniors and sixteen freshmen and sophomores, respectively, were enrolled in first-year homemaking. The California Personality Test was administered at the beginning of the year to determine the status of each girl's individual and social adjustment. The tests were analyzed; then, areas of study were planned to meet the needs of the group. Each group had access to the same references and other materials. An additional unit on personality development was planned and taught to the freshmen and sophomore group. At the end of the year the Secondary Series of the same test was given to the groups to determine whether or not any comparable changes had been made. After analyzing the results, the investigator concluded that apparently no more measurable benefits were derived from teaching personal development as a separate unit than by including the unit content as an integral part of the homemaking program.

Studies have been made to determine factors which influence the personal and social adjustment of college students.

That course content and class procedures which provide a permissive atmosphere are factors which are responsible for such improvements was pointed out by Luecke,\(^8\) 1953, in an investigation of ways in which a course in social fundamentals contributes to adjustment.

A course in social fundamentals in which knowledge of social conduct was developed was most effective in promoting the personal and social adjustment of college students at North Texas State College as recorded by Gresham,\(^9\) in 1951. To determine the adjustment progress of one hundred forty students registered in four sections of social fundamentals courses, the Guilford Martin Personnel Inventory, Test on Social Usage and the Bell Adjustment Inventory were administered at the beginning and upon the completion of the course in social fundamentals. Scores from the pre-test and post-test were analyzed to determine whether or not any measurable gains were made by the groups. The investigator found that various classes made consistent gains in their ability to view themselves and their surroundings objectively and dispassionately and that they were willing to accept people and things with a tolerant attitude and with a lack of criticism. The results


also showed that an increase in the knowledge of desirable social conduct is accompanied by pronounced improvement in home, health, social and emotional adjustment and by improvement in personality traits.

Building on the findings of the previous study at North Texas State College, Randolph,¹⁰ 1953, made an investigation of the impact of social comprehension on the adjustment progress of college students. Three hundred fifty-one students who were enrolled in social fundamentals classes, as well as in education, and business administration classes, were involved. Bell's Adjustment Inventory (Stanford University Press) was administered as pre-tests and final-tests to all students in the three subject-matter fields to measure the degree of personal and social adjustment of students. The Furbay-Schrammel Social Comprehension Test (published by the Bureau of Educational Measurements, Kansas State Teachers College, Emporia, Kansas) was administered at the beginning and near the end of the semester to measure the social comprehension of the students. Scores of the tests were treated statistically to find whether any real gains had been made by the various groups involved and to determine whether students in one subject-matter-field had made greater gains than students in another field. To determine the significance of

gains the \( t \) test was used. Test scores showed that significant improvement was made in social comprehension during the study in home economics. The investigator found that the home economics groups made greater personal and social adjustment progress than did either the education group or the business administration group. The conclusion was that social comprehension is an important factor in the adjustment progress of college students. The recommendations stated that further study should be made of the influence of social comprehension on the adjustment of college students.

To measure the personal and social adjustment of college home economics freshmen, the *Minnesota Personality Scale* was administered by Bennett,¹¹ 1952, to freshmen home economics students at the Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma. The women were divided into two groups, "A" and "B", for the purpose of testing the effectiveness of two different kinds of instruction in bringing about improvement in personal and social adjustment. Group "A" consisted of one hundred three freshmen women enrolled in the required basic Home Economics 124 course and group "B" consisted of ninety-eight freshmen women enrolled in the basic Home Economics 114 course. All of the students marked the *Minnesota*

Personality Scale twice, once at the beginning and once at the end of the educational program. The test scores were treated statistically and compared to discover any gains which might have been made. No significant gains in social adjustment were made by either of the groups; however, the over-all results revealed favorable progress in adjustment. The investigator concluded that instruction in the basic home economics courses is effective in bringing about social adjustment, but that more marked changes would have occurred had the educational program extended over a longer period of time.

Statement of Problem

Previous studies show the importance of certain factors in the development of personality traits and in social and personal adjustment. Some studies show that there is a relationship between such factors as age, intelligence, sex, democracy in the home, course content in the high school and college subjects, and teacher-pupil relationship, and personality adjustment. One study, in particular, shows that social comprehension is a factor in the adjustment of college students and in promoting personality development.

The purpose of the present study is to discover additional factors in the development of personality traits. Working with students in social fundamentals classes in which social comprehension has been found to influence the development of these traits, this study attempts to determine whether sex, college classification and subject-matter major are factors in the development of objectivity, agreeableness, and cooperativeness.
PROCEDURE

The present study is a continuation of an earlier one made by Luecke,\(^1\) 1951, at North Texas State College, Denton, Texas. In this study the author made an investigation of one hundred forty-one students enrolled in four sections of the social fundamentals course, offered by the School of Home Economics, to determine whether or not knowledge of social conduct influenced the development of personality traits and the social adjustment of college students. Only students enrolled in the social fundamentals course participated in the study. There were sixteen freshmen, twenty-one sophomores, twenty-seven juniors, and thirty-seven seniors involved.

To enlist their cooperation and interest, the idea of the research was presented to the students after the program of work for the semester had been planned. At the beginning of the semester three types of tests were administered at three successive class meetings. To measure improvement in personal and social adjustment Bell's \textit{Adjustment Inventory}\(^2\) was employed. The \textit{Guilford-Martin Personnel Inventory}\(^3\) was

\(^1\) Luecke, \textit{op. cit.}
\(^2\) Hugh M. Bell, \textit{The Adjustment Inventory}, Student Form.
\(^3\) J. P. Guilford, \textit{Guilford-Martin Personnel Inventory}.
used to measure the degree of personality adjustment of college students and Stephenson and Millett's *Test on Social Usage* was employed for measuring understanding, and knowledge of the rules of social conduct.

The pre-test scores from each group of tests were computed and interpreted to the students. Near the end of the semester the same tests were given. The same form of the *Personnel Inventory* and the *Adjustment Inventory* were used for the final test, as they were the only forms available. However, form "B" of the *Test on Social Usage* was given as the final test. The content of this form covers the same areas as form "A" but is presented in a different manner so that it will not be familiar to the student.

To determine whether or not any measurable gains were made between groups, adjustment scores from the pre-tests and final-tests were analyzed and compared to show gains between the various groups. Results of the tests showed that measurable gains were made.

In the fall of 1952, the research on the contributions of social fundamentals and adjustment was continued and extended to other groups which were used as controls. The control groups were set up to include four sections of education students and four sections of business administration students. It was necessary to select classes with comparable

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4 McKnight and McKnight, *Test on Social Usage*. 
methods of instruction, also, to select classes which had comparable numbers of men and women, and comparable numbers in the four different college classes.

The business administration classes were selected as members of the control groups because in them the group process method of teaching was employed and the classroom procedure was similar to that of the social fundamentals classes. The business administration group included Junior and Senior classes in merchandising art and display and in visual merchandising. These classes also met the other requirements specified for the control group.

The group from the education courses included a Freshman class in psychology of personal and social development, a Sophomore class in principles of secondary education, a Junior class in the administration of secondary schools, and a Senior class in advanced teaching techniques.

The education classes also used the group process method of teaching. Included in the classroom procedure were informal reports, lectures, committee work, demonstrations and individual help for students seeking information. The students and teacher planned individual and group projects and the students worked in a self-directed manner at a rate of speed which suited each individual.

The present study is based on portions of the larger research project. The purpose is to determine whether college classification, subject-matter major, and sex are factors in
the development of certain personality traits in students in social fundamentals classes who have been shown to make significant improvement in social comprehension.

Data were obtained from tests administered to one hundred sixty-nine students enrolled in home economics, one hundred eleven students enrolled in education, and seventy-one students enrolled in business administration courses. A noteworthy fact is that the students enrolled in home economics are not home economics majors but majors in other subject-matter fields who elect the course in social fundamentals offered by the School of Home Economics. The course is open to Freshman, Sophomore, Junior, and Senior. The per cent distribution of majors during the semester in which the study was made was 26 per cent education majors, 46 per cent business administration majors, 4 per cent music education, 4 per cent home economics majors, 10 per cent Arts and Sciences, and 10 per cent Physical education and Industrial arts. These groups were tested to determine progress in social comprehension as well as progress in personality development.

The same tests which were administered in the 1961 study, as pre-tests and final-tests, were given to all participating students in the three subject-matter fields in this study, except the Test on Social Usage, McKnight and McKnight. The

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5McKnight and McKnight, op. cit.
Furbay-Schrammel Social Comprehension Test\textsuperscript{6} was administered instead because it is much more extensive and covers a wider range of subjects than does the test on Social Usage. The Social Comprehension Test is made up of three hundred thirty items which show the student's acquaintance with, and understanding of, the rules of correct behavior. The divisions measure social comprehension related to social calls, teas, receptions, parties, introductions, invitations, table etiquette, dress and personal habits, public courtesies, correspondence, house guests, conversations, travel, funerals, dances and balls, courtship, engagements and weddings, and miscellaneous social situations. Since only one form is available, the odd-numbered questions were used for the pre-tests and the even-numbered items for the final-test. Because this test has a correlation of .86 as a split-half test this use of the test seemed satisfactory.

The Guilford-Martin Personnel Inventory\textsuperscript{7} was administered to the experimental and control groups to ascertain changes in personality traits. This test measures three personality traits which are essentials of good adjustment: objectivity, agreeableness, and cooperation. The test is interesting to the students and has a reported reliability coefficient of

\textsuperscript{6}John H. Furbay and H. E. Schrammel, Social Comprehension Test, 1941.

\textsuperscript{7}J. P. Guilford, op. cit.
.83, .80, .91, respectively. A high score in these areas indicates positive personality adjustment.

After the program of work for the semester had been planned the teachers, in the various experimental and control classes chosen for the study, explained the proposed study to the students to enlist their cooperation and interest. The tests were then administered during the regular class periods. Near the end of the semester the students learned the results of the tests and were given an opportunity to discuss some of the types and causes of unsatisfactory adjustment. Then the final-tests were administered. Score gains from the pre-tests and final-tests were then treated statistically to find out whether real gains were made among the sub-groups which were designated as probable sources of variation.
ANALYSIS OF DATA

Statistical Treatment

In order to achieve the purpose of the study several types of statistical procedure were used. The analysis of variance was used to separate the sources of variance; the t test was then applied to determine the relationships between the sub-groups of the variables. The t test was also used to determine whether real gains were made on social comprehension by the home economics classes.

The analysis of variance, which was used to separate the variables, is a technique for segregating from comparable groups of data the variation which can be traced to specified sources. By the use of this technique it was possible to separate the variation due to differences between the sexes, differences among college classes, and differences among majors.

In the analysis of variance, the variance, or mean square, is derived for each variable by dividing the sum of the squares by the degrees of freedom for that specific variable. The F value, or ratio of the remainder variance to the variance of classes of specified origin is then compared with Snedecor's "Values of F and t" to determine whether the variance is

1 George W. Snedecor, Calculation and Interpretation of Analysis of Variance and Covariance, Table XXXV, Values of F and t (1934), 88-91.
significantly greater among the classes than it is within the classes. Successive steps in computing the analysis of variance are:

The entire group is classified according to specified sources of variation. In this study the three variables were sex, college classification, and subject-matter major. The college classes were freshmen, sophomores, juniors, and seniors.

Since the sampling was too limited to obtain sizeable groups from the many majors represented, the smaller groups of majors were combined according to groups which seemed most similar. The classifications used consisted of six major groups: college of arts and sciences; physical education and industrial arts; home economics; music education; business administration; and education.

In the analysis of variance, the sum of the squares for the entire group is obtained by totaling the squares of the score differences, $\sum x^2$, and subtracting from this sum a correction term $(\bar{x})^2/N$, which is the square of the sum of the score differences divided by the number. The formula for this procedure is $\sum x^2 - (\bar{x})^2/N$.

The total degrees of freedom is the total number of samples in the entire group minus one. The degrees of freedom among the classes are the number of class groups minus one. The degrees of freedom for the remainder are the differences between the degrees of freedom for the total group and the class groups.
The mean square for each of the variables is obtained by dividing the sum of the squares for that variable by its degrees of freedom. The formula for the mean square for the among-class variables is:

\[
\frac{\sum X^2_F}{N_F} + \frac{\sum X^2_So}{N_{So}} + \frac{\sum X^2_{Jr}}{N_{Jr}} + \frac{\sum X^2_{Sr}}{N_{Sr}} = \frac{S^2_{\text{among}}}{N_T}
\]

\( S^2_{\text{among}} \) (among classes)

The remainder variance, or experimental error, is the total square, minus the sum of squares for the among-class groups, divided by the remaining degrees of freedom after the degrees of freedom for the several variables have been subtracted from the total. The formula for the remainder variance after variation attributable to classes has been subtracted is:

\[
V = \left[ \sum X^2_T - \left( \frac{\sum X^2_T}{N_T} \right) \right] - \left[ \frac{\sum X^2_F}{N_F} + \frac{\sum X^2_So}{N_{So}} + \frac{\sum X^2_{Jr}}{N_{Jr}} + \frac{\sum X^2_{Sr}}{N_{Sr}} \right] - \frac{S^2_{\text{among}}}{N_T}
\]

\( S^2_{\text{among}} \) (of the remainder)

The F value for each source of variation is derived by dividing the mean square of each source by the remainder variance. The remainder variance is the mean square for the total after the variation for all of the sources of variation have been removed. To test the significance of the ratio of the remainder variance to the mean square the F value is
compared with $F$ values in the "Values of $F$ and $t$"$^2$ for corresponding degrees of freedom. For the analysis of variance of this array of data the degrees of freedom for the numerator are 1, 3, and 5, respectively, and degrees of freedom for the denominator are 3.51. Reference to Snedecor's$^3$ table shows that $F.05$ values for these respective degrees of freedom are 3.87, 2.63, and 2.24; values for $F.01$ are 6.70, 3.83, and 3.06. If the $F$ value for a given source of variation equals or exceeds the $F.05$ confidence level the interclass variance is greater than the intraclass variance and is judged to be significant.

When an $F$ value for a specified variable was found to be significant it was necessary to determine which group, or groups, within the variable was responsible for the variation. To this end the $t$ test was used. The formulas used for making this test are:

$$t = \frac{D}{S_d}; \quad D = M_1 - M_2; \quad S_d = \sqrt{\frac{V_1 + V_2}{N_1 + N_2}}$$

The standard deviation, $S_d$, is obtained by dividing the variance of two classes by the number in each case, adding the two sums together, then extracting the square root of that sum. The mean difference, $D$, is derived by subtracting one mean score from the other, $M_1 - M_2$. The $t$ value, $D/S_d$ is

$^2$Ibid.  
$^3$Ibid.
obtained by dividing the difference, $D$, by the standard error of the difference. After $t$ was computed this value was referred to tables of $F$ and $t$ to establish statistical significance. The table was entered at the number which most nearly corresponded to the degrees of freedom of the groups which were being compared.

Results

The analysis of variance of score gains are given in Table 1. This table shows the sources of variation, degrees of freedom, sum of squares, mean square, and the $F$ value for the three temperament traits: objectivity, agreeableness, and cooperativeness.

In the first column the degrees of freedom, $N-1$, for each of the three sources of variation are derived from the number of classes in each group. The degrees of freedom for the two sex groups, the four class groups, and the six major groups are 1, 3, and 5, respectively. The degrees of freedom in the remainder are 351.

The second column gives the sums of squares of the gains on objectivity, 62, 71, and 321, respectively, for the three sources of variation. These are subtracted from the total sum of squares, 42,072, leaving a remainder of 41,618. The mean squares, 62, 24, 64, in the third column, are obtained for the three sources of variation by dividing the sum of squares for each variable by its degree of freedom. The
### TABLE 1

**ANALYSIS OF VARIANCE OF SCORE GAINS ON DIFFERENT PERSONALITY TRAITS**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Col. 1</th>
<th>Col. 2</th>
<th>Col. 3</th>
<th>Col. 4</th>
<th>Col. 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sum of Squares</td>
<td>Mean Square</td>
<td>F Value</td>
<td>Sum of Squares</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>360</td>
<td>42,072</td>
<td>62</td>
<td>.61</td>
<td>95</td>
</tr>
<tr>
<td>Between Sexes</td>
<td>1</td>
<td>62</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Among College Classes</td>
<td>3</td>
<td>71</td>
<td>24</td>
<td></td>
<td>.20</td>
<td>5</td>
</tr>
<tr>
<td>Among Majors</td>
<td>5</td>
<td>321</td>
<td>64</td>
<td></td>
<td>.63</td>
<td>214</td>
</tr>
<tr>
<td>Remainder Variance</td>
<td>351</td>
<td>41,618</td>
<td>119</td>
<td></td>
<td>29,248</td>
<td>214</td>
</tr>
</tbody>
</table>

*Indicates that interclass variance is greater than remainder variance, 119, is obtained in a similar manner. The F values, .61, .20, and .63, column 4, are the ratios of the remainder variance to the mean squares of the variables. In columns 11 and 12 the F.05 and F.01 confidence levels are given. Degrees of freedom for these values are 1, 3, and 5, respectively, for the numerator and 351 for the denominator.

Upon examination of Table 1, Section A, objectivity, it is apparent that the mean square for each of the three sources of variation is smaller than the remainder variance. When...
### TABLE 1—Continued

<table>
<thead>
<tr>
<th>Agreeableness</th>
<th>G. Cooperativeness</th>
</tr>
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<tbody>
<tr>
<td>Mean Square</td>
<td>F Value</td>
</tr>
<tr>
<td>Col. 6</td>
<td>Col. 7</td>
</tr>
<tr>
<td>59,225</td>
<td>1.14</td>
</tr>
<tr>
<td>1,048</td>
<td>.02</td>
</tr>
<tr>
<td>946</td>
<td>1.93</td>
</tr>
<tr>
<td>56,423</td>
<td></td>
</tr>
</tbody>
</table>

Intraclass variance.

This occurs variation among the sub-groups is less than the variation within the groups. Therefore, significant variation on objectivity does not occur between sex groups nor among college classes, nor among subject-matter majors.

In Section B of the table the statistics on agreeableness show no significant variation between sexes, among majors, nor among college classes.

Section C of the table, which gives the data on cooperativeness, reveals no significant interclass differences.
between sexes, nor among majors; it does, however, show that the F value for difference among college classes equals the F .01 confidence level, 3.83. This indicates that there is a significant difference in gains on cooperativeness among the college classes.

The interclass gains on cooperativeness are given in Table 2. Columns 1 and 2 show the classification and number in each class. The mean score for each class is given in column 3. Columns 4, 5, and 6, show the mean score difference among the classes and point out the significant difference in terms of $D/S_d$. The $t$ value was computed from these tests to determine the statistical difference between the mean scores.

Examination of the data in Table 2 shows that the mean scores of the freshmen and seniors were 10.42 and 5.06,
respectively. The mean difference between these two groups indicates a gain of 5.36 for freshmen over seniors. The computed $t$ value for this difference is 2.32 which exceeds 1.97 and 2.60, the amounts necessary to be significant for groups of 150-200 degrees of freedom at the 5 per cent and 1 per cent levels of confidence.

Freshmen also made score gains over sophomores and juniors. The mean differences between these groups were 2.14 and 3.40. The mean score gains of sophomores over juniors and seniors was 1.26 and 3.22, respectively. The gain for juniors over seniors was 1.96. The computed $t$ values for these groups were 1.62 for freshmen over sophomores; 0.06 and 1.79 for sophomores over juniors and seniors; and 1.04 for juniors over seniors. It is apparent that these score gains were not significant; however, when sophomores and juniors were compared with seniors, the $t$ values approached the levels necessary to be judged significant.

A statistical analysis of the Furbay-Schrammell test shows that students in the social fundamentals classes made significant gains on social comprehension. The results are reported by Randolph.\(^4\)

\(^4\)Randolph, op. cit.
DISCUSSION OF RESULTS

The purpose of the present study was to determine whether college classification, subject-matter major, and sex are factors in the development of objectivity, agreeableness, and cooperativeness in college students in social fundamentals classes.

Findings of this study show that neither sex made greater gains than the other on any of the three traits, objectivity, agreeableness, and cooperativeness; no majors of a particular subject-matter field made gains over another subject-matter major in these traits. Furthermore, no college class made gains over other classes on objectivity and agreeableness; but there was a gain among the classes on cooperation. Freshmen made substantially greater gains than seniors on this trait and there is some evidence that sophomores and juniors make greater gains than seniors.

The reason for failure of one subject-matter major group to make gains over another in the development of these personality traits is not apparent. It may very well be that one major cannot be expected to develop any of these traits more readily or more rapidly over the short period of a semester. But these results may also be attributable to the limitations of the data. When groupings for the "majors" variable were
made thirty-five students in physical education and industrial arts were combined to form one group. Furthermore, majors in the natural sciences, the social sciences, English, speech, journalism and languages were combined. The fact that the number of majors was disproportionately small, together with the fact that small numbers of majors were grouped together, explains why the achievement of any one major was easily obscured by the lack of achievement of others.

Although the gains on cooperation made by freshmen over seniors is contrary to expectation, several reasons for these gains are apparent. Freshmen are generally considered to be more amenable to suggestions than older groups. Parental influence and eagerness to succeed may cause freshmen to strive harder for recognition. Parental pressure may cause them to place more emphasis on grades, and they may enter into the testing program with more zeal than do other class groups. Moreover, since freshmen are more eager to achieve group standards and less certain of how these standards are achieved than upper classmen, they are likely to be more conscious of the need for cooperation with others and are therefore likely to make greater gains.

On the contrary, upper classmen may be less eager to please than freshmen. This implies that sophomores, juniors and seniors have achieved more self-direction and independence than the freshmen groups, so that in them, the spirit of cooperativeness is less operative. In general, as each class progresses the cooperative trait may show less improvement.
By the time students reach the senior year they have made much broader social contacts. They have established greater independence from parental control and are more self-directive. Their attitudes have undergone greater change; they have more varied interests; and they are faced with more problems for which they assume responsibility. They are likely to be less challenged by class activities than freshmen, sophomores, and juniors and they may therefore place less emphasis on test scores. Seniors, being more mature, have reached a fairly constant level of social and emotional adjustment. Such adjustment would in itself tend to stabilize their test scores on cooperation.

Results of the study lead to the conclusion that subject-matter major and sex were not factors in the development of the personality traits, objectivity, agreeableness, and cooperativeness in college students of social fundamentals classes. However, college classification was a factor in the development of cooperativeness in that freshmen achieved greater gains than seniors over a period of one semester. Although there is insufficient evidence to be conclusive, it appears that less gain occurs over this period of time for each successive class, so that by the time students become seniors the cooperative trait is fairly constant.

Further study is needed to determine whether subject-matter major is a factor in the development of personality traits; to determine whether progress is consistent and
progressive or occurs rapidly at a particular level; and to determine why freshmen make greater progress than do other class groups. Other factors which need to be studied are whether the teacher's personality has any influence on the personality adjustment of college students, and to determine to what extent students who mark the personality inventory a second time can consciously influence their scores.
SUMMARY

The purpose of the study was to determine whether sex, college classification, and subject-matter major are factors in the development of objectivity, agreeableness, and cooperativeness in college students in social fundamentals classes.

Findings of this study show that neither sex made greater gains than the other on any of the three traits, objectivity, agreeableness, and cooperativeness; no majors of a particular subject-matter field made gains over another subject-matter major in these traits. Furthermore, no college class made gains over other classes on objectivity and agreeableness; but there was a gain among the classes on cooperation. Freshmen made substantially greater gains than seniors on this trait and there is some evidence that sophomores and juniors make greater gains than seniors. The reason for failure of one subject-matter major group to make gains over another in the development of these personality traits is not apparent.
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