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THE ASSESSMENT OF STUDENT ACCOMPLISHMENT IN COLLEGE

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Summary

A questionnaire was designed to assess the non-academic accomplishments of college students. The questionnaire consists of twelve scales to measure notable extra-classroom accomplishment and one scale to assess recognition for academic accomplishment.

To determine the statistical characteristics of the scales, they were administered as part of a larger survey to different groups of college students--3147 freshmen, 5127 sophomores, and 1566 seniors--in a variety of colleges. The results suggest that the non-academic scales possess some construct validity and that they are relatively independent of academic grades and recognition.

The Assessment of Student Accomplishment in College

James M. Richards, Jr., John L. Holland, and Sandra W. Lutz

How does undergraduate instruction influence student accomplishment? To answer this continuing problem in higher education, we must first find ways to determine a high school student's potential for a broad range of achievements in college and adult life. And second, we need to determine both the student potentials for accomplishment which go unrealized during the college years as well as the social-educational influences which foster these potentials.

Difficulties in concept and method beset investigating the effects of colleges on student accomplishment (Holland, 1957; Astin, 1961, 1963; Richards, 1966a). Adding to these difficulties is the relative independence of classroom accomplishment from other socially relevant achievement (MacKinnon, 1960; Price, Taylor, Richards, & Jacobsen, 1964; Holland & Nichols, 1964; Holland & Richards, 1965; Hoyt, 1965). Because research on the prediction of college grades concentrates on only one of several dimensions of talent, it provides little or no information about other equally important dimensions. Consequently, we need measuring devices to assess the accomplishments of college students more broadly than do grades if we are to understand how student potentials are realized in college. Such scales will provide colleges and researchers additional help in assessing the broad goals of liberal and general education. The present report describes only one set of such measuring devices.

The Questionnaire

We developed a checklist of non-academic accomplishments for the college years to measure achievement in the following areas: leadership, social participation, art, social service, science, business, humanities, religious service, music, writing, social science, and speech and drama. We also developed a simple scale to determine public recognition for academic attainment. Each scale is, in a sense, a criterion or standard of accomplishment in an important area of human endeavor. Students with high scores on one or more scales are assumed to have attained a high level of accomplishment which required complex skills, long term persistence, or originality, and which generally received public recogntion.

This questionnaire grew out of earlier checklists developed by Holland and others (Holland, 1961; Holland & Astin, 1962; Nichols & Holland, 1965; Holland & Nichols, 1964) and was influenced by the questionnaire developed by Skager (Schultz & Skager, 1963; Skager, Schultz, & Klein, 1964). Scales in these earlier checklists were extended and revised, and new scales were developed for additional areas of accomplishment. Each item in a scale is a behavior or event which was judged to be a sign of notable accomplishment in a special area. Each behavior or event is also observable, so at least, in principle, the accomplishments are verifiable.

A large number of items were written for each area of accomplishment. Items were submitted to experts in various areas for review.[1] On

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[1]The authors would like to thank the following people for their constructive advice: Theodore R. Anderson, Edwin Gordon, Donald P. Hoyt, John Huntley, Richard C. Lutz, Dee W. Norton, Frank Seiberling, and Rodney Skager.

the basis of this review, scale items were sifted and revised to yield the final scales. Each scale includes ten items, except the Recognition for Academic Accomplishment Scale, which has five items. In responding to a scale, the student marks "yes" for those accomplishments which he has achieved during college, and "no" for those which he has not achieved. The score on each scale is simply the number of "yes" responses.

Items range from common and less important accomplishments to rare and more important items. Sample items from each of the areas follow:

Leadership--elected to one or more student offices, active member of four or more student groups, served on a student-faculty committee.

Social Participation--organized a college political group or campaign, worked actively in an off-campus political campaign, participated in one or more demonstrations for for some political or social goal.

Art--entered an artistic competition of any kind, exhibited or published not at my college one or more works of art, won a prize or award in art competition.

Social Service--worked actively in a student service group or organization, worked actively on a charity drive, received an award or recognition of any kind for community service.

Science--built scientific equipment on my own, author or co-author of scientific or scholarly paper published in a scientific journal, invented a patentable device.

Business--initiated a business enterprise of any kind, served as

business manager of a student publication, served as campus representative for a national company.

Humanities--read one or more classic literary works on my own (not a course assignment), author or joint author of an original paper published in a scholarly journal in the humanities, won a prize or award for work in the humanities.

Religious Service--active member of a student religious group, did voluntary work for a religious institution or group, worked to raise money for a religious institution or group.

Music--composed or arranged music which was publicly performed, publicly performed on two or more music instruments (including voice) which do not belong to the same family of instruments, attained a first division rating in a state or regional solo music contest.

Writing--had poems, stories, essays, or articles published in a public (not college) newspaper, anthology, etc; wrote an original, but unpublished, piece of creative writing on my own; won a literary prize or award for creative writing.

Social Science--was hired to work on a research project in the social sciences, carried out an original research project in the social sciences on my own, won a prize or award for work in the social sciences.

Speech and Drama--won one or more contests in speech, debate, extemporaneous speaking, etc; had one or more leads in plays produced by my college; was regular performer on radio or TV program.

Recognition for Academic Accomplishment--took part in an

independent study program for outstanding students, won a prize or award for scholarship.

Statistical Characteristics

To determine the statistical characteristics of the various scales, we administered the non-academic accomplishments questionnaire to three groups of college students--freshmen, sophomores, and seniors--in the spring of 1965, as part of a more comprehensive survey of college students' achievements, satisfactions, aspirations, attitudes, and values. Certain other data from this more comprehensive survey were used in the analysis of the non-academic accomplishment scales. These additional data are:

Self-Reported College Grades. Students reported their grade average for their last college term by checking the appropriate alternative from among the following: D or lower, D+, C, C+, B, B+, A or A+.

Life Goals. Students also indicated the extent to which eight different life goals were "essential, very important, somewhat important, or of little importance." The specific goals were chosen from a larger list on the basis of a factor analysis (Richards, 1966b). Because goals have been hypothesized to be a basic determinant of achievement (Astin & Nichols, 1964; Richards, 1966b), and because goals have been shown to be important in predicting the achievement of high-aptitude college students (Holland & Nichols, 1964), relationships with life goals help establish the validity of the college achievement scales.

The freshman and sophomore data were collected in connection with

a follow-up of the American College Survey (Abe, Holland, Lutz, & Richards, 1965). The senior data were collected specifically to provide information about the characteristics of the non-academic accomplishment questionnaire.

The freshman group consisted of 1576 men and 1571 women enrolled in 6 colleges; the sophomore group of 2293 men and 2834 women was enrolled in 31 colleges; and the senior group of 981 men and 585 women was enrolled in 12 colleges. (The colleges represented in the various groups are shown in Table A of the Appendix.) Each college was responsible for the administration of the questionnaire. Several techniques were used to contact students: some colleges had students fill out the questionnaire in English classes, convocations, or other group sessions; other colleges polled their students by mail.

Because the colleges used such diverse means of contacting students, it cannot be claimed that the various groups are completely representative samples of the colleges included. The groups are, however, reasonably broad cross-sections of students at fairly diverse institutions. Moreover, it appears that a full range of accomplishment is present in the various groups.

Table 1 shows the mean and standard deviation of each of the scales for each of the groups of college students.[2] In general, seniors have accomplished more than sophomores, and sophomores more than freshmen.

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[2]Computations for this study were carried out by the Measurement Research Center, University of Iowa, and by the University of Utah Computer Center.

Table 1

Means and Standard Deviations on College Achievement Scales for Various Groups of College Students

Scale	Men					
	Freshmen		Sophomores		Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Leadership Achievement	.52	1.20	.94	1.58	1.76	2.24
Social Participation	.70	1.30	.95	1.43	1.34	1.75
Artistic Achievement	.39	.96	.56	1.16	.59	1.25
Social Service Achievement	.47	1.03	.74	1.24	1.06	1.52
Scientific Achievement	.18	.65	.30	.83	.69	1.32
Business Achievement	.46	.83	.71	1.00	1.08	1.28
Humanistic-Cultural Ach.	.94	1.27	1.08	1.37	1.35	1.63
Religious Service	.69	1.47	1.28	2.14	1.49	2.26
Musical Achievement	.18	.67	.24	.80	.22	.81
Writing Achievement	.29	.70	.33	.81	.44	1.07
Social Science Achievement	.26	.63	.37	.72	.63	1.11
Speech & Dramatic Ach.	.27	.80	.33	.91	.47	1.11
Recognition for Academic Accomplishment	.17	.49	.32	.65	.64	.92

	Women					
	Freshmen		Sophomores		Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Leadership Achievement	.61	1.18	1.24	1.74	2.22	2.21
Social Participation	.67	1.20	.99	1.35	1.34	1.54
Artistic Achievement	.61	1.16	.90	1.40	1.22	1.73
Social Service Achievement	.63	1.08	1.13	1.36	1.64	1.73
Scientific Achievement	.07	.35	.10	.39	.18	.63
Business Achievement	.20	.51	.35	.68	.45	.74
Humanistic-Cultural Ach.	1.26	1.40	1.49	1.46	2.00	1.69
Religious Service	1.05	1.78	1.87	2.34	2.34	2.49
Musical Achievement	.11	.49	.25	.70	.35	.98
Writing Achievement	.37	.72	.49	.95	.62	1.26
Social Science Achievement	.25	.53	.34	.65	.48	.86
Speech & Dramatic Ach.	.20	.66	.35	.89	.50	1.17
Recognition for Academic Accomplishment	.16	.48	.37	.73	.60	.88

(The sole exception is the Musical Achievement of males, where the mean for sophomores is slightly higher than the mean for seniors.) This trend, of course, supports the validity of the achievement scales; that is, students with more experience and training should have accomplished more than students with less experience and training.

Table 2 summarizes the reliability--or internal consistency--coefficients (Kuder-Richardson Formula 20) for all achievement scales and groups. Generally, the scales possess moderate to high internal consistency. The rather low coefficients for the Recognition for Academic Accomplishment Scale are probably due to the scale's brevity. An explanation for the low coefficients for Business Achievement is not readily apparent, but they may be due to marked heterogeneity of content in the scale.

Table 2

Reliabilities (K-R 20) of College Achievement Scales for Various Groups

Scale	Men			Women		
	Fresh.	Soph.	Sr.	Fresh.	Soph.	Sr.
Leadership Achievement	.77	.74	.80	.67	.73	.76
Social Participation	.72	.66	.71	.64	.60	.61
Artistic Achievement	.58	.69	.73	.67	.69	.75
Social Service Achievement	.68	.64	.69	.58	.56	.67
Scientific Achievement	.68	.65	.71	.45	.40	.60
Business Achievement	.57	.44	.52	.30	.33	.25
Humanistic-Cultural Ach.	.56	.61	.71	.62	.61	.65
Religious Service	.79	.85	.85	.79	.82	.81
Musical Achievement	.59	.70	.75	.61	.58	.73
Writing Achievement	.48	.60	.71	.44	.58	.73
Social Science Achievement	.33	.46	.64	.25	.37	.52
Speech & Dramatic Ach.	.68	.68	.72	.62	.65	.73
Recognition for Academic Accomplishment	.31	.41	.51	.41	.50	.50

For some scales there is a tendency for reliability to increase from the freshman to the sophomore to the senior year. For other scales, the reliability is about as high for freshmen as for other classes. The present data provide no explication for these differences. A possible explanation, however, is that different colleges provide different opportunity for students to achieve during the first two years.

The intercorrelations of the achievement scales are presented in the Appendix. Table B shows the intercorrelations for freshmen, Table C for sophomores, and Table D for seniors. In general, the correlations are high enough to suggest that if a student achieves at all he is likely to achieve in more than one area, but low enough to suggest that response bias did not have a strong effect. The pattern of intercorrelations, for the most part, supports the construct validity of the various scales.

A wide variety of studies has indicated that academic accomplishment as measured by grades is largely independent of many accomplishments outside the classroom (MacKinnon, 1960; Price et al., 1964; Holland & Nichols, 1964; Holland & Richards, 1965; Hoyt, 1965). Consequently, we examined the relationship between the college achievement scales and grades in college by computing correlations between each of the achievement scales and college grades.

The results shown in Table 3 conform to our expectations--namely, that all of these correlations would be low except for those involving the Recognition for Academic Accomplishment Scale. (Since this scale primarily involves honors which are given for high grades, it should be

correlated with grades.) The correlations for this scale, while substantial, are not outstandingly high, a result, to some extent, of the low reliability of this scale.

Table 3

Correlations Between College Grades and College Achievement Scales for Various Groups

Scale	Men			Women		
	Fresh.	Soph.	Sr.	Fresh.	Soph.	Sr.
Leadership Achievement	.12	.16	.14	.14	.22	.21
Social Participation	.09	.05	.00	.02	.04	.09
Artistic Achievement	.07	.00	-.04	-.02	-.01	.04
Social Service Achievement	.07	.03	-.05	.03	.10	.15
Scientific Achievement	.06	.08	.12	.04	.07	.11
Business Achievement	-.03	-.03	-.10	-.01	.06	.10
Humanistic-Cultural Ach.	.12	.08	.05	.09	.14	.16
Religious Service	.01	.04	-.03	.00	.03	.01
Musical Achievement	.00	-.03	-.03	.00	.04	.02
Writing Achievement	.12	.10	.02	.06	.10	.10
Social Science Achievement	.09	.04	.02	.01	.05	.07
Speech & Dramatic Ach.	.03	.02	-.06	.01	.04	.09
Recognition for Academic Accomplishment	.30	.42	.42	.34	.46	.45

Because the Recognition for Academic Accomplishment Scale correlates with grades, the results provide convergent, as well as discriminant validity, and make it less plausible that response bias, dissimulation, or similar occurences invalidate student responses to these scales. In other words, the results imply that the average student gave a frank account of his accomplishment in college.

The correlations between the college achievement scales and the life goals of college freshmen are shown in Table E of the Appendix. Similar

data for sophomores are shown in Table F and for seniors in Table G. All of these correlations, of course, involve concurrent, rather than predictive relationships. The absolute size of these correlations is not large (but there is no particular reason to expect that it would be). Once again, however, the pattern of correlations generally supports the meaning of the various scales.

Discussion

The distributions of the non-academic accomplishments are highly skewed. This skewness occurs because each scale contains accomplishments that college students attain only infrequently (the modal number of accomplishments on most scales is zero). Differences among the areas of accomplishment probably reflect differences both in the level of accomplishment represented by the various items and in the opportunity for various kinds of achievement in college.

The non-academic accomplishment scales have useful reliability. Since these new measures have a relatively brief history of development, their reliability is generally lower than the reliability of typical tests of academic potential. On the other hand, typical tests of academic potential are usually three to seven times longer than these ten-item scales. Certainly one could increase the reliability of any one of the non-academic scales to a relatively high level by making that scale much longer. Whether such an effort would be worthwhile is doubtful. In assessing the non-classroom accomplishment of college students, it is likely that "bandwidth" is generally more important than "fidelity" (Cronbach & Gleser, 1957) to

educators and researchers. In other words, one should be more interested in getting some information about many kinds of achievement than in getting highly precise information about one kind of achievement.

The validity of the scales of non-academic accomplishment rests upon several kinds of evidence. By definition, the content of the scales represents outstanding achievement to the judges and experts who have either contributed or reviewed the items in each scale. Indeed, one can make a strong case for the proposition that this is the only criterion by which the "validity" of these scales can be evaluated (Astin, 1964). For example, if the scales should fail to predict post-college accomplishment, it would mean that achievement in college is unrelated to adult achievement, not that the scales lacked "validity."

Because our criteria of socially relevant accomplishment rest on students' self-reports, the scales could possibly be "invalid" in the sense that some students may give distorted reports of their accomplishments or simply forget some achievements. While a goal in developing the lists of accomplishments was that each achievement, in principle, be verifiable, in practice, it would be difficult to determine the accuracy with which students report their accomplishments. The evidence that students gave frank responses is so far indirect. The relationships among the achievement scales, and the pattern of relationships between the achievement scales and grades and life goals provide some such indirect evidence for the accuracy of student reports of their accomplishment. The relationships are internally meaningful and have both convergent and discriminant

validity. If the reader traces each achievement scale through the various tables, he can see that the students for the most part must have been making rational discriminations among accomplishments and appropriate responses in order to produce these meaningful patterns.

To summarize, the college achievement scales appear to have useful reliability and validity. They provide a brief set of socially relevant measures which can serve as comprehensive criteria of college success. Coupled with grades, they can be used in studying such problems as the effects of various kinds of colleges upon a variety of student outcomes, the conservation of talent, and the relationship between college and adult achievement. Using the scales as guides, similar scales can be developed to increase our ability to assess the goals of a college education.

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APPENDIX

Table A

Colleges Included in the Three Samples

Freshmen	Sophomores
Amherst College (Mass.)	Arkansas Polytechnic College
Baldwin-Wallace College (Ohio)	Baylor University (Texas)
Cuyahoga Community Col. (Ohio)	Black Hills State College (S. Dak.)
California State College at Hayward	Burlington Community College (Iowa)
Chico State College (Calif.)	California State College at Hayward
University of Massachusetts	Carthage College (Wisconsin)
	Colorado State College
	Fairmont State College (W. Va.)
	Glassboro State College (N. J.)
	Indiana State College (Indiana)
	Jamestown Comm. College (N. Y.)
	Kansas State University
	Lyons Township Junior College (Ill.)
	Mount Mercy College (Pennsylvania)
	New Mexico State University
	Plymouth State College (N. H.)
Seniors	Snow College (Utah)
	Southeastern State College (Okla.)
Baylor University (Texas)	Southern Connecticut State College
Calif. State College at Long Beach	Southern Illinois University
Central College (Iowa)	Springfield College (Mass.)
Creighton University (Nebraska)	Swarthmore College (Pennsylvania)
Keene State College (N. H.)	University of Alabama
Millsaps College (Miss.)	University of Kentucky
Ohio State University	University of North Dakota
S. Dak. School of Mines & Tech.	University of Tennessee
University of Nevada	Wesleyan University (Conn.)
University of West Virginia	Westbrook Junior College (Maine)
Villa Madonna College (Ky.)	William Carey College (Mississippi)
Wis. State Univ. at River Falls	William Jewell College (Missouri)

Table B

Intercorrelations of the College Achievement Scales for College Freshmen

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Leadership Achievement	--	53	30	45	08	16	21	26	17	24	13	34	27
2. Social Participation	34	--	19	38	08	14	24	21	10	19	17	34	18
3. Artistic Achievement	14	35	--	29	14	16	24	13	17	26	28	28	18
4. Social Service Ach.	38	54	29	--	09	23	18	40	19	20	19	33	18
5. Scientific Achievement	12	21	26	22	--	29	17	04	13	12	24	07	33
6. Business Achievement	19	20	14	25	32	--	15	21	09	08	20	20	18
7. Humanistic-Cultural Ach.	20	39	31	33	26	17	--	16	09	44	40	22	24
8. Religious Service	15	18	11	39	13	22	18	--	11	05	10	17	13
9. Musical Achievement	17	15	23	20	22	19	23	22	--	10	17	21	11
10. Writing Achievement	17	31	28	26	10	08	39	17	16	--	31	28	13
11. Social Science Ach.	13	34	20	29	12	10	43	15	06	28	--	22	11
12. Speech & Dramatic Ach.	24	35	19	33	09	13	24	23	28	27	22	--	08
13. Recognition for Academic Accomplishment	23	16	12	22	18	15	21	10	14	14	16	14	--

Note--Correlations for males are shown above the diagonal and for females below the diagonal. Decimal points have been omitted.

Table C

Intercorrelations of College Achievement Scales for College Sophomores

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Leadership Achievement	--	44	22	51	22	27	23	21	17	27	28	29	23
2. Social Participation	37	--	31	45	22	29	38	16	21	31	37	27	11
3. Artistic Achievement	19	31	--	26	24	25	33	07	18	30	23	29	04
4. Social Service Ach.	46	40	27	--	21	37	22	32	20	25	22	30	12
5. Scientific Achievement	07	17	12	14	--	30	25	14	11	23	24	17	24
6. Business Achievement	24	20	12	27	22	--	23	18	23	23	24	23	08
7. Humanistic-Cultural Ach.	17	33	26	25	18	15	--	14	19	46	49	29	15
8. Religious Service	13	15	13	34	14	16	10	--	18	12	14	23	11
9. Musical Achievement	14	15	15	21	13	14	21	19	--	19	18	29	07
10. Writing Achievement	25	27	20	21	16	23	37	11	17	--	28	41	15
11. Social Science Ach.	11	28	18	19	18	20	44	14	10	27	--	21	11
12. Speech & Dramatic Ach.	20	26	25	23	15	17	29	18	30	27	14	--	09
13. Recognition for Academic Accomplishment	38	11	05	18	18	11	18	09	10	16	11	07	--

Note--Correlations for males are shown above the diagonal and for females below the diagonal. Decimal points have been omitted.

Table D

Intercorrelations of College Achievement Scales
for College Seniors

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Leadership Achievement	--	41	22	46	12	19	20	22	18	27	25	25	30
2. Social Participation	39	--	29	44	07	28	38	22	10	42	44	30	13
3. Artistic Achievement	16	25	--	31	22	27	35	17	17	37	23	26	02
4. Social Service Ach.	45	35	22	--	05	30	30	40	20	30	27	30	08
5. Scientific Achievement	05	07	05	05	--	10	09	02	12	14	06	05	31
6. Business Achievement	19	24	17	22	08	--	21	12	15	22	25	26	01
7. Humanistic-Cultural Ach.	22	31	23	21	15	15	--	17	19	41	40	35	09
8. Religious Service	23	19	12	47	01	08	20	--	23	18	17	27	04
9. Musical Achievement	10	03	09	09	02	10	11	20	--	23	14	27	10
10. Writing Achievement	22	34	23	15	03	19	38	16	09	--	32	39	10
11. Social Science Ach.	12	30	08	19	10	14	34	12	00	22	--	31	15
12. Speech & Dramatic Ach.	21	27	13	13	03	10	32	13	13	28	10	--	08
13. Recognition for Academic Accomplishment	35	11	02	20	20	17	26	12	04	13	09	09	--

Note--Correlations for males are shown above the diagonal and for females below the diagonal. Decimal points have been omitted.

Table E

Correlations Between College Achievement Scales and Life Goals of College Freshmen

	Scale	Good Husband or Wife	Accomplished in Performing Arts	Influential in Public Affairs	Theoretical Contribution to Science	Following Formal Religious Code	Being Well Read	Good Physical Condition	Never Obligated to People
MEN	Leadership Ach.	02	05	19	-04	-03	05	-01	02
	Social Participation	-03	03	20	-05	-05	09	-05	05
	Artistic Achievement	-01	17	02	02	-08	08	-02	00
	Social Service Ach.	04	06	10	-02	04	07	01	02
	Scientific Achievement	01	-01	-04	15	00	01	00	03
	Business Achievement	03	-02	02	-02	05	00	00	08
	Humanistic-Cul. Ach.	-04	11	13	02	-08	23	-05	04
	Religious Service	05	-01	06	00	21	06	01	00
	Musical Achievement	-03	23	01	10	02	07	-01	00
	Writing Achievement	-05	15	11	00	-09	14	-08	01
	Social Science Ach.	-05	00	10	01	-05	09	-02	04
	Speech & Dramatic Ach.	-01	13	09	-03	-04	07	-01	06
	Recognition for Academic Accomplishment	-02	-03	01	06	02	03	-01	03
WOMEN	Leadership Ach.	-03	07	13	01	-01	10	03	-05
	Social Participation	-07	05	15	01	-05	10	-10	02
	Artistic Achievement	02	13	07	03	-08	04	-02	02
	Social Service Ach.	-01	02	12	05	02	03	-03	-02
	Scientific Ach.	-03	03	00	14	02	04	00	03
	Business Achievement	03	00	02	05	01	02	-02	00
	Humanistic-Cul. Ach.	-05	09	12	03	-05	22	-05	04
	Religious Service	02	09	06	05	19	-01	00	-02
	Musical Achievement	-02	16	05	02	00	06	-03	-01
	Writing Achievement	-03	08	09	01	-02	12	-07	06
	Social Science Ach.	-01	02	11	00	-02	08	-02	01
	Speech & Dramatic Ach.	00	12	11	00	00	05	-05	-01
	Recognition for Academic Accomplishment	-02	02	03	03	-07	07	-01	01

Table F

Correlations Between College Achievement Scales and Life Goals of College Sophomores

	Scale	Good Husband or Wife	Accomplished in Performing Arts	Influential in Public Affairs	Theoretical Contribution to Science	Following Formal Religious Code	Being Well Read	Good Physical Condition	Never Obligated to People
	Leadership Ach.	03	08	21	04	00	12	-02	-02
	Social Participation	02	08	27	03	-02	16	-06	00
	Artistic Achievement	-02	14	03	05	-04	11	-03	-01
	Social Service Ach.	04	09	17	01	03	09	-03	-04
	Scientific Achievement	-01	01	-01	28	-06	03	00	02
M	Business Achievement	00	03	08	05	-03	03	03	-01
E	Humanistic-Cul. Ach.	-02	13	11	05	-08	29	-05	01
N	Religious Service	10	08	12	-01	23	07	04	-02
	Musical Achievement	-03	25	04	-01	04	03	-06	-05
	Writing Achievement	-04	13	08	01	-08	17	-05	-02
	Social Science Ach.	-01	06	17	00	-03	17	-04	-01
	Speech & Dramatic Ach.	-03	22	09	00	-02	08	-04	00
	Recognition for Academic Accomplishment	-04	00	04	13	-05	08	-04	-03
	Leadership Ach.	01	11	21	04	04	06	00	-04
	Social Participation	00	15	20	05	00	15	-03	02
	Artistic Achievement	-07	15	05	04	-05	09	04	02
	Social Service Ach.	02	09	14	03	06	03	01	01
W	Scientific Achievement	-09	04	02	21	-05	06	-05	01
O	Business Achievement	00	02	09	03	02	04	03	03
M	Humanistic-Cul. Ach.	-05	15	09	05	-04	29	-06	03
E	Religious Service	03	05	03	03	17	-01	-01	01
N	Musical Achievement	-02	25	07	03	01	01	-02	00
	Writing Achievement	-04	14	11	03	-03	17	-05	04
	Social Science Ach.	-01	04	10	03	-05	17	-02	03
	Speech & Dramatic Ach.	-02	20	12	03	-01	06	-03	00
	Recognition for Academic Accomplishment	00	05	05	08	-02	07	-05	-06

Table G

Correlations Between College Achievement Scales and Life Goals of College Seniors

	Scale	Good Husband or Wife	Accomplished in Performing Arts	Influential in Public Affairs	Theoretical Contribution to Science	Following Formal Religious Code	Being Well Read	Good Physical Condition	Never Obligated to People
	Leadership Ach.	03	12	25	00	-02	06	03	-06
	Social Participation	-02	10	30	-02	-05	16	-01	01
	Artistic Achievement	-06	25	12	06	-03	06	-03	04
	Social Service Ach.	03	11	24	01	06	05	-01	-01
	Scientific Achievement	-11	00	-09	40	-05	00	-03	-02
M	Business Achievement	-05	02	11	-04	-08	01	01	04
E	Humanistic-Cul. Ach.	-17	16	08	-02	-08	29	-03	01
N	Religious Service	08	11	12	-02	28	09	04	-06
	Musical Achievement	-02	23	-02	-03	01	-02	-03	-07
	Writing Achievement	-08	15	13	-04	-07	09	-01	05
	Social Science Ach.	-08	04	21	-01	-10	13	00	00
	Speech & Dramatic Ach.	-08	15	12	-10	-01	09	-02	03
	Recognition for Academic Accomplishment	01	01	06	17	-03	06	-03	-09
	Leadership Ach.	04	07	10	02	-02	05	04	-07
	Social Participation	-01	09	24	02	-01	17	03	-03
	Artistic Achievement	-01	27	04	-02	-05	09	04	02
	Social Service Ach.	08	08	09	-03	10	03	05	-09
W	Scientific Achievement	01	01	01	42	03	04	-04	06
O	Business Achievement	-02	04	07	08	-03	05	01	02
M	Humanistic-Cul. Ach.	-12	17	05	07	-08	26	-03	-04
E	Religious Service	-03	05	06	-08	31	04	03	-10
N	Musical Achievement	04	35	01	00	13	-07	05	01
	Writing Achievement	-02	09	03	01	-06	14	-02	-08
	Social Science Ach.	-08	02	13	06	00	13	-04	00
	Speech & Dramatic Ach.	-01	21	06	03	07	02	-03	-03
	Recognition for Academic Accomplishment	-04	-07	-02	16	-06	08	-06	-07

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