Journal of Counseling Psychology
Vol. 13, No. 1, 1966

Life Goals of American College Freshmen

James M. Richards, Jr.[1]
American College Testing Program

In samples of 6,289 male and 6,143 female college freshmen, 35 items pertaining to life goals were intercorrelated. With unity in the diagonal, a principal components analysis was carried out, extracting all factors with an eigenvalue greater than 1.00. Final solutions were derived through the varimax procedure, and the similarity of the two rotated matrices assessed. Seven factors common to the two sexes were titled: Prestige, Personal Happiness, Humanistic-Cultural, Religious, Scientific, Artistic, and Hedonistic. An Altruistic factor was obtained for females only, and an Athletic Success factor for males only. Implications for predicting vocational success and for counseling are considered.

Recently, increasing attention has been paid to differences in life goals and aspirations as a factor in vocational choice (Astin & Nichols, 1964) and in high-level achievement in culturally significant areas of behavior (Holland, 1963; Holland & Nichols, 1964). Indeed it is possible to conceive of both choosing a vocation and performing at a high level in any area of endeavor as the means by which an individual tries to attain the goals which are important to him. Therefore, information about goals which are most relevant for various occupations and for various types of achievement may be of practical value in vocational counseling, in the identification and conservation of talent, and in the specification of criteria of occupational success.

Before studies of the relationship between goals and vocational choice and achievement can be carried out successfully, it is first necessary to specify the ways in which people differ in their life goals. While some information is available, most earlier studies of this problem have been limited by use of samples highly selected on aptitude, of students at a small number of colleges (often only one), or of a small number of life goals. The purpose of this study, therefore, is to organize some common life goals into a relatively small number of categories by using a broad cross-section of American college freshmen in diverse colleges. The technique was to factor analyze 35 items pertaining to student goals and aspirations. A primary goal in using this technique was to develop a clear and sound basis for organizing these goals into a brief profile of the ambitions of college freshmen. This brief profile can then be used in subsequent research to study student goals more efficiently.

Method

The present study grew out of the American College Survey (Abe, Holland, Lutz, & Richards, 1965) a project conducted by the American College Testing Program in an attempt to obtain a more complete account of the typical American college student and the variation among students from college to college. To accomplish this task, a comprehensive assessment was administered in the months of April or May, 1964, to 12,432 college freshmen in 31 institutions of higher education including selective liberal arts colleges, state universities, and two-year community col-

[1]The author would like to thank John Holland, Sandra Lutz and Clifford Abe for their many contributions to this project.

leges. This group of freshmen, of whom 6,289 were men and 6,143 were women, provided the sample for this study.

In this student sample, 7 per cent were enrolled in junior colleges, 12 per cent in four year undergraduate colleges, and 81 per cent in universities offering graduate work. Approximately 15 per cent were students in private colleges, while 85 per cent were students in public colleges. About 95 per cent attended coeducational colleges. Finally, 20 per cent were enrolled in colleges in the Northeast, 31 per cent in colleges in the South, 20 per cent in colleges in the Midwest, 26 per cent in colleges in the Mountains and Plains states, but only 3 per cent in colleges on the West Coast. From these figures it would appear that students in coeducational colleges are somewhat over-represented and students in West Coast colleges are considerably under-represented in the sample. Nevertheless, the over-all impression given by this information is that it represents a reasonable cross-section of American college freshmen in 1964.

Scores on a nationally administered test of academic potential (the ACT test battery) were available for 7,262 of these freshmen. A comparison was made between the distribution of test scores in this subsample and the corresponding distribution in a national norm group (Holland & Richards, 1965). The results revealed that on all ACT subtests the sample includes fewer persons with low scores than does the national norm group. This difference probably occurred because the norm group consisted of potentially college-bound high school seniors while the sample consisted of college freshmen who had already survived more than one half of the academic year. However, a full range of talent is represented in the sample, and it does not depart markedly from the national score distribution. Again the sample appears to be reasonably representative of American college freshmen.

The assessment device used to collect data was the American College Survey (Abe et al., 1965), a booklet which contains a letter explaining the purpose of the survey and a series of sections planned to elicit information about each student's achievement, aspirations, attitudes, interests, potentials, values and background. The American College Survey was administered at each college by appropriate personnel at that college. The survey was filled out by students, who recorded their 1,004 responses on two special answer sheets, in English classes, chapels, and convocations or in dormitories and their homes. College officials were polled to learn if the administration of the survey produced any difficulties. Generally they reported that no special problems resulted from the administration of the survey.

For the present study, 35 items pertaining to the student's goals and aspirations were used. A complete list of these goals, together with the means and standard deviations for each sex is presented in Table 1. These specific life goals fall into three broad areas:

Vocational—such goals include: making a theoretical contribution to science, becoming an expert in finance and commerce, writing good fiction, etc.

Social—helping others who are in difficulty, being a good parent, becoming a community leader, etc.

Personal—becoming happy and content, being well liked, following a formal religious code, etc.

Each of the 35 specific life goal items was rated by the subject on a four-point scale ("Of little or no importance," "Somewhat important," "Very important," and "Essential for you"). Scores from 1 to 4 were assigned to these responses so that a high score indicated a high degree of importance.

Product-moment correlations among the 35 life-goal items were computed separately for each sex.[2] The two resulting 35×35 matrices were factor analyzed using the principal components method based on eigenvalues and eigenvectors. Unity was placed in the diagonal and all factors with

[2]Calculations were carried out at the Measurement Research Center, University of Iowa and at the University of Utah Computer Center.

Table 1
Means and Standard Deviations of Goals for Each Sex

	Goal	Males		Females	
		Mean	S D.	Mean	S.D.
1	Becoming happy and content	3.64	.97	3.78	.58
2.	Becoming well-off financially	2.94	.73	2.76	.73
3.	Inventing or developing a useful product or device	1.56	.77	1 23	.56
4.	Helping others who are in difficulty	2.61	.82	2 98	.82
5.	Becoming accomplished in one of the performing arts (acting, dancing, etc.)	1.52	.83	1.72	.91
6	Developing a meaningful philosophy of life	2 93	1.00	3.23	.93
7.	Becoming an authority on a special subject in my field	2.98	.90	2.63	.99
8.	Doing something which will make my parents proud of me	3.06	.85	3 34	.80
9.	Becoming an outstanding athlete	1.92	.97	1 42	.77
10.	Making sacrifices for the sake of the happiness of others	2.55	83	2 90	.86
11.	Becoming a community leader	2.11	.86	1 95	.83
12.	Becoming influential in public affairs	2.04	.89	1.71	.82
13.	Following a formal religious code	2 62	1.11	2 87	1.10
14.	Having the time and means to relax and enjoy life	3.22	.82	3.33	.81
15.	Making a theoretical contribution to science	1.64	.85	1.27	.62
16.	Making a technical contribution to science	1.62	.86	1.22	.58
17.	Writing good fiction (poems, novels, short stories, etc.)	1.44	.78	1.51	.82
18	Being well read	2.66	.90	2 94	.84
19.	Becoming a mature and well-adjusted person	3.68	.72	3.81	.56
20	Obtaining awards or recognition	2.19	.86	1 99	.85
21	Never being obligated to people	2.37	.98	2.32	1.00
22.	Keeping in good physical condition	3.11	.85	3.25	.84
23.	Producing good artistic work (painting, sculpture, decorating, etc)	1.44	.79	1 61	.90
24	Becoming an accomplished musician (performer or composer)	1.39	.77	1.42	.76
25.	Becoming an expert in finance and commerce	1.84	.96	1 40	73
26.	Keeping up to date with political affairs	2.58	.86	2 56	.88
27.	Being well-liked	3.07	.80	3.29	.76
28.	Being a good husband or wife	3.69	.68	3.88	.47
29.	Being a good parent	3.75	.64	3.90	.44
30.	Finding a real purpose in life	3.65	.69	3.83	.51
31.	Being active in religious affairs	2.58	1.03	2.91	.99
32.	Having executive responsibility for the work of others	2 39	.89	1 98	.88
33.	Avoiding hard work	1 44	.78	1 31	.64
34.	Engaging in exciting and stimulating activities	2 86	.80	2.85	.82
35	Being successful in a business of my own	2.68	1.09	2 01	1.08

an eigenvalue greater than 1.00 were extracted. Both factor matrices were rotated to a final solution by the varimax procedure. The rationale for this method of factoring and rotating is presented in detail by Kaiser (1960). An oblique solution was also obtained through use of the Promax procedure (Hendrickson & White, 1964) with $\underline{k} = 4$.

Some further discussion is warranted, however, of the use of unity in the diagonal. In the case of life goals, it seems clear that one is interested in specific variance, since it is clearly possible for a goal to be of considerable significance while having little or nothing in common with other goals. It follows, therefore, that diagonal values which are estimates of

common variance, such as the squared multiple correlation between one goal and all other goals combined, are not appropriate. Under these circumstances, two alternatives are available: to use the total variance or to use estimates of the true score variance. Since no reliabilities were available for use as estimates of true score variance in the present study no choice remained but to use the total variance, or in other words, unity in the diagonal.

Results

The correlations among the 35 life goals were computed separately for each sex. These correlations are shown in Table 2 with correlations for males appearing above the diagonal and correlations for females below the diagonal.

In evaluating the results, the first issue to be considered is whether the orthogonal rotated solutions or the oblique rotated solutions are more adequate. The most

Table 2

Correlations among Goals for Both Sexes

Goal	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.	—	25	-11	08	-08	14	13	24	01	12	06	04	15	34	-10	-08	-15	06
2	18	—	08	-04	06	-02	19	28	14	-02	14	17	05	27	04	04	-04	06
3	-18	07	—	12	19	04	14	02	12	07	17	17	-01	-04	49	50	18	05
4.	07	-02	07	—	14	27	16	18	10	48	27	22	21	05	09	06	13	23
5.	-07	13	24	11	—	15	11	05	11	11	17	19	05	00	13	12	32	15
6.	12	02	00	28	17	—	24	10	-06	25	17	18	12	13	06	04	16	32
7.	03	16	17	18	25	26	—	29	07	17	21	23	12	13	16	16	06	23
8.	20	23	-03	20	06	14	21	—	21	25	23	19	25	21	03	03	-07	10
9.	-09	08	23	04	17	-07	16	00	—	19	20	15	12	05	08	06	08	01
10.	08	-02	02	45	09	25	14	26	05	—	31	21	29	11	06	05	08	19
11	03	15	20	22	21	13	26	21	20	22	—	71	24	09	14	11	14	22
12	-03	15	26	15	24	11	27	13	22	12	66	—	19	07	13	11	20	25
13.	13	04	00	19	04	13	09	25	02	27	19	12	—	18	00	00	-08	05
14.	25	26	-05	10	04	16	09	23	-02	14	15	07	19	—	-02	-02	-06	13
15	-17	00	45	03	17	02	17	-04	21	03	17	24	-01	-05	—	80	22	08
16.	-19	00	45	02	16	01	15	-04	21	03	15	23	00	-09	76	—	21	05
17.	-14	02	24	07	27	15	19	-02	12	03	12	24	-04	-04	20	25	—	30
18	06	10	05	19	17	28	28	13	-01	15	17	20	06	15	06	06	31	—
19	31	11	-18	14	-05	20	09	21	-12	18	04	-04	15	28	-16	-20	-13	14
20	-01	22	20	06	27	08	26	18	22	05	38	38	07	10	18	18	21	14
21.	03	14	05	01	08	04	11	12	06	03	06	06	05	09	03	04	07	09
22.	16	13	-03	14	03	10	12	23	11	19	10	03	17	24	-04	-05	-09	11
23.	-07	06	20	04	32	11	20	01	14	03	10	15	-03	05	16	14	27	17
24.	-11	03	23	06	46	06	15	01	16	05	17	20	05	-02	21	21	21	10
25	-07	13	25	01	15	01	15	07	20	05	22	29	06	01	22	22	14	09
26	06	08	07	17	08	22	21	14	04	15	25	32	13	13	08	06	13	36
27	29	24	-07	16	04	08	08	34	03	19	21	13	20	30	-09	-10	-07	11
28	36	08	-21	09	-08	13	00	22	-11	14	03	-04	16	21	-20	-24	-14	10
29	33	07	-21	09	-08	13	03	21	-09	14	00	-05	14	20	-21	-22	-13	11
30.	28	04	-16	16	-02	29	11	20	-09	16	06	00	19	20	-15	-18	-07	13
31.	11	00	01	23	04	11	09	23	01	27	27	17	56	13	02	02	-07	04
32.	-01	19	21	13	15	05	24	17	19	12	39	39	17	09	19	18	09	10
33.	-12	10	18	-09	10	-09	-01	-03	12	-10	04	10	-02	01	13	15	10	-08
34	09	17	06	16	17	21	23	15	15	12	20	22	04	24	06	06	16	25
35.	01	20	21	02	15	00	20	13	19	06	24	28	07	10	16	14	06	07

Table 2 (Continued)

Goal	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1.	36	06	04	24	-14	-13	-01	08	30	38	35	33	13	08	-11	17	13
2.	17	25	15	15	-02	00	20	12	27	16	14	09	01	25	11	15	30
3.	-11	17	07	-03	22	17	13	06	-02	-12	-12	-07	04	16	13	06	11
4.	15	09	-02	13	09	09	03	16	17	14	14	17	24	13	-05	14	06
5.	-06	20	04	-02	35	51	11	07	04	-11	-11	-05	05	10	14	09	07
6.	23	04	02	10	11	06	01	24	08	13	14	32	09	07	-07	20	-02
7.	22	22	10	13	07	06	14	18	15	17	16	22	10	21	-03	20	13
8.	26	23	11	24	-01	01	11	14	34	28	26	24	25	22	-02	16	23
9.	-02	28	09	28	11	09	12	03	17	03	02	-01	12	15	12	18	14
10.	19	11	00	20	08	08	05	15	21	19	18	19	30	16	-05	14	09
11.	12	33	06	13	10	12	29	36	24	11	09	09	30	39	06	15	23
12.	09	34	07	09	13	13	33	43	22	07	05	08	21	40	10	18	25
13.	17	11	03	17	-04	04	09	13	23	23	21	22	68	21	-03	01	14
14.	28	13	12	28	-02	-03	07	12	27	26	24	22	11	14	03	22	15
15.	-09	15	08	-02	19	15	04	02	-05	-10	-11	-07	04	10	12	07	04
16.	-08	13	07	-02	17	15	03	01	-05	-09	-11	-07	04	10	11	06	04
17.	-11	14	05	-09	40	33	10	11	-09	-19	-18	-12	-06	05	17	11	-04
18.	21	12	07	12	13	10	12	34	10	09	09	17	05	15	-02	21	03
19.	—	09	05	32	-11	-12	02	17	29	44	42	43	18	15	-17	20	13
20.	-01	—	13	12	16	16	21	18	27	04	04	06	13	30	13	22	19
21.	00	11	—	15	07	05	12	08	08	02	02	04	02	11	14	11	10
22.	29	07	14	—	-02	-06	04	16	29	29	28	25	18	13	-09	26	15
23.	-04	22	07	05	—	38	10	04	-04	-18	-17	-10	-03	04	15	10	04
24	-08	23	05	00	30	—	15	03	00	-14	-14	-10	07	08	18	06	02
25.	-12	20	13	02	16	23	—	32	17	00	-01	-02	11	40	15	10	31
26.	08	15	05	15	08	06	25	—	21	14	13	13	15	28	01	20	14
27.	23	23	10	23	-01	00	09	18	—	38	33	26	25	26	03	22	27
28.	39	-05	00	18	-09	-12	-11	06	30	—	81	48	28	15	-19	15	15
29.	37	-04	02	19	-08	-12	-13	06	26	81	—	49	25	14	-20	14	15
30.	38	-01	02	19	-05	-06	-14	07	20	43	42	—	26	13	-19	18	14
31.	15	09	02	17	-05	09	07	12	21	18	16	26	—	28	-01	02	18
32.	02	32	09	13	10	16	30	18	16	-02	-02	06	30	—	08	20	31
33.	-18	14	12	-08	09	13	18	-03	01	-18	-19	-18	-04	11	—	06	08
34.	12	25	10	20	17	11	08	21	20	09	08	15	06	21	05	—	15
35.	00	24	09	12	13	14	28	13	13	-01	00	01	11	37	11	16	—

Note: Correlations for males are shown above the diagonal and for females below the diagonal

pertinent data are the respective .10 hyperplane counts. For males, an identical count of 161 was obtained for the two solutions, but for females the counts for the orthogonal and oblique solutions were 142 and 160 respectively. These results imply that the oblique solution is somewhat "cleaner" than the orthogonal solution for females. However, the improvement is minor, and an orthogonal treatment has many conceptual and computational advantages. It was decided, then, to use only the orthogonal solutions in the further interpretations of the results. The orthogonal rotated factors,[3] together with the communality for each variable are shown in Table 3.

[3]Tables showing for each sex the unrotated factor matrix, the eigenvalue for each unrotated factor, the Promax oblique factor matrix, the correlations among Promax factors, and the transformation matrix for computing the Promax solution from the Varimax solution have been deposited with the American Documentation Institute. Order Document No. 8585 from ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington, D. C., remitting in advance $1.25 for microfilm or $1.25 for photocopies.

The next question was the extent to which the structure of goals is similar for men and women. To provide objective information relevant to this question, the *Coefficient of Congruence* (Tucker, 1951) was computed between each rotated factor for males and each rotated factor for females. Results are shown in Table 4, with male factors rearranged to place highest *Coefficients of Congruence* in the diagonal. It will be seen that a good match is obtained for seven out of eight factors for each sex, with Male G and Female H not matching. Since the factor analyses

Table 3

Varimax Orthogonal Rotated Factor Matrix for Each Sex

Goal	Males								
	A	B	C*	D*	E	F*	G	H*	h^2
1.	60	-10	02	-08	01	03	07	17	41
2.	35	05	40	07	-23	-21	11	32	50
3.	-10	16	17	69	00	-01	07	-01	55
4.	10	11	03	08	34	41	35	-26	51
5.	-01	77	11	05	04	06	05	-03	62
6.	**24**	15	-03	05	08	65	-05	00	52
7.	32	07	24	26	-06	27	08	02	32
8.	41	02	23	06	16	-04	36	06	38
9.	-06	09	13	04	04	-14	75	07	63
10.	13	08	04	04	42	33	46	-19	56
11.	-01	04	65	10	23	27	23	-15	64
12.	-04	07	72	08	12	31	14	-10	68
13.	20	00	14	-02	82	00	04	13	75
14.	42	00	05	-04	05	10	10	49	45
15.	-08	08	03	89	02	06	02	06	82
16.	-05	07	01	90	03	03	00	06	83
17.	-22	53	05	15	-10	37	02	04	50
18.	11	14	16	02	-06	68	01	10	53
19.	62	-11	05	-07	04	26	06	07	49
20.	09	22	44	14	-08	-03	37	07	43
21.	-01	-01	06	08	04	09	08	66	46
22.	34	-13	-01	-04	08	14	51	27	50
23.	-14	65	01	14	-05	13	10	07	49
24.	-08	78	08	06	10	-01	-02	02	64
25.	-05	10	67	-02	02	02	-08	16	50
26.	06	-08	52	-05	04	49	-02	08	54
27.	47	03	33	-09	11	-06	29	09	45
28.	79	-11	07	-05	13	00	03	-13	69
29.	78	-10	05	-06	12	02	02	-15	67
30.	67	-06	00	-02	15	24	-02	-04	53
31.	21	02	20	04	82	-02	05	03	77
32.	14	02	65	10	15	04	05	07	49
33.	-27	24	-16	06	03	-13	04	44	38
34.	23	08	13	04	-21	30	39	22	42
35.	**25**	06	50	05	04	-21	09	11	39

Table 3 (Continued)

Goal	Females								
	A	B	C	D	E	F	G*	H*	h^2
1.	00	50	02	03	–14	–12	28	01	37
2.	28	09	01	–14	–03	04	56	–13	44
3.	22	–18	01	01	60	22	00	00	49
4.	09	02	18	20	00	05	–02	67	54
5.	18	–04	06	02	05	75	03	08	60
6.	–07	20	49	05	00	19	03	37	46
7.	31	08	27	–11	14	24	12	27	36
8.	18	20	05	22	–06	–02	42	26	37
9.	41	–11	–30	–21	23	20	04	20	44
10.	06	07	10	30	03	02	06	65	54
11.	74	01	17	17	01	05	–03	17	64
12.	75	–05	29	08	10	08	–08	03	68
13.	08	13	01	74	01	01	15	19	63
14.	05	24	10	04	–05	–02	55	15	40
15.	14	–12	06	–01	87	07	–04	02	80
16.	11	–16	07	02	87	08	–04	00	80
17.	07	–14	48	–09	19	41	–07	–05	47
18.	08	13	71	–07	03	14	12	13	58
19.	05	55	03	–01	–11	06	21	27	44
20.	55	–02	06	–04	04	31	19	–01	45
21.	–07	–11	12	10	07	11	53	–07	35
22.	07	21	–13	–04	04	03	44	44	46
23.	07	–04	12	–13	10	62	10	03	45
24.	14	–08	–02	17	12	71	–03	–03	58
25.	38	–20	18	19	23	09	20	–20	39
26.	30	02	62	08	03	–13	13	08	52
27.	26	30	01	16	–14	–05	46	09	42
28.	00	86	02	11	–08	–05	05	–05	77
29.	–01	86	02	07	–07	–04	03	–04	75
30.	–01	63	10	13	–10	03	02	19	47
31.	22	19	–05	74	01	01	02	21	68
32.	64	00	–01	19	14	05	12	05	49
33.	07	–32	–06	15	12	19	32	–32	39
34.	27	11	21	–23	00	19	31	27	39
35.	51	04	–09	–01	17	19	21	–04	36

*Reflected factor.

Table 4

Similarity between Male and Female Rotated Orthogonal Factors

Males	Females							
	A	B	C	D	E	F	G*	H*
C*	93	09	40	29	22	25	40	16
A	20	94	15	25	–21	–06	54	41
F*	25	23	89	10	07	25	11	62
E	24	27	03	94	03	02	10	50
D*	30	–23	17	01	95	33	01	08
B	30	–24	28	03	30	95	07	05
H*	14	–06	10	02	14	18	81	–13
G	54	16	02	08	12	27	50	65

*Reflected factor.

and rotations were completely independent, the results are good evidence for the consistency of the factor pattern from sample to sample, an important consideration in determining the adequacy of representation of the domain by the rotated factor solution (Harman, 1960).

Discussion

The rotated factors are briefly described and interpreted below:

Female A-Male C. For both sexes there are high loadings on the goals: becoming a community leader, becoming influential in the community, obtaining awards or recognition, being expert in finance and commerce, keeping up to date with political affairs, being responsible for others, work, and being successful in business of own. The best title might be *Prestige Goals.*

Female B-Male A has high loadings for both sexes on the goals: being happy and content, becoming mature and well-adjusted, being a good husband or wife, being a good parent, and finding a real purpose in life. The best title for this factor might be *Personal Happiness Goals.*

Female C-Male F has high loadings on the goals: developing a meaningful philosophy, writing good fiction, being well read, and keeping up to date with political affairs. An appropriate title would be *Humanistic-Cultural Goals.*

Female D-Male E has high loadings for both sexes on the goals: making sacrifices for others, following a formal religious code, and being active in religious life. An obvious title would be *Religious Goals.*

Female E-Male D has high loadings on the goals: inventing a useful product, making a theoretical contribution to science, and making a technical contribution to science. A good title for this factor would be *Scientific Goals.*

Female F-Male B has high loadings on the goals: becoming accomplished in the performing arts, writing good fiction, producing good artistic work, and becoming an accomplished musician. The best title might be *Artistic Goals.*

Female G-Male H has high loadings on the goals: being well-off financially, having the time and means to enjoy life, and avoiding hard work. A suitable title might be *Hedonistic Goals.*

Female H has high loadings on the goals: helping others in difficulty, making sacrifices for others, and keeping in good physical condition. A good title might be *Altruistic Goals* although "keeping in good physical condition" does not seem to belong in this rubric. The explanation of this seeming discrepancy may be that an individual cannot help others very much when she herself is sick.

Male G has high loadings on the goals: becoming an outstanding athlete, making sacrifices for others, and keeping in good physical condition. A useful label would be *Athletic Success Goals.* Again, "making sacrifices for others" seems incongruent with this categorization, unless perhaps "others" refers to an athletic team.

Since a primary aim in this study was to provide a brief profile which would adequately describe some common ambitions of American college freshmen, the study appears successful, since the number of variables was reduced from 35 to 8 for each sex. The obtained factors are easily interpreted, and the use of large, diverse samples lends strong support to our confidence in the factor pattern. The reduction of life goals to eight representative factors provides a simple set of items for assessing goals and values in questionnaire and other research studies where more expensive and time consuming devices would be difficult to use. The present factors appear to assess many of the same dimensions assessed by the Allport-Vernon-Lindzey *Study of Values.*

The goals factors should also make it possible to design better controlled studies of vocational choice, vocational counseling and the prediction of vocational success. The goals are particularly pertinent to studies of predicting vocational success, since if goals were not considered, the variables identified as predicting success might instead be variables which were merely correlates of original intentions. In such instances, clearer results could be obtained by measuring student intentions, or goals directly rather than assessing other variables which may indirectly reflect such ambitions. Similarly, in counseling the consideration of the implications of ambitions might be more helpful than focusing on many other variables.

A most important observation is the similarity between the results of this study and the results obtained by Astin and Nichols (1964) in a sample highly restricted on aptitude. These congruencies strongly imply that students having high academic

potential, such as scholarship winners, are not different from students in general on all characteristics, nor perhaps on very many characteristics, and that conclusions drawn from samples highly selected on aptitude may often also be valid for populations unselected on aptitude. Finally, the similarity of results is further evidence for the accuracy of the obtained factorial description of life goals.

Received April 5, 1965.

References

Abe, C., Holland, J. L., Lutz, Sandra W., & Richards, J M., Jr. *A description of American college freshmen.* Iowa City: American College Testing Program, 1965.

Astin, A. W., & Nichols, R. C. Life goals and vocational choice. *J. appl. Psychol.,* 1964, **48**, 50-58.

Harman, H. H. *Modern factor analysis.* Chicago: Univer. of Chicago Press, 1960.

Hendrickson, A. E., & White, P. O. Promax: a quick method for rotation to oblique simple structure. *British J. Stat. Psychol.,* 1964, **17**, 65-70.

Holland, J. L. The prediction of achievement in different college environments. Paper read at American Psychological Assoc., Philadelphia, 1963.

Holland, J. L, & Nichols, R. C. Prediction of academic and extracurricular achievement in college. *J. educ. Psychol.,* 1964, **55**, 55-65.

Holland, J. L., & Richards, J. M., Jr. *Academic and non-academic accomplishment: correlated or uncorrelated?* Iowa City: American College Testing Program, 1965.

Kaiser, H. F. The application of electronic computers to factor analysis. *Educ. psychol. Measmt,* 1960, **20**, 141-151.

Tucker, L. R. A method of synthesis of factor analysis studies. *Personnel Research Section Report,* No. 984. Washington, D.C.: Department of the Army, 1951.