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College student role orientations and background factors as related to dropouts and over and under achievers.

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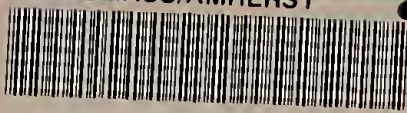
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COLLEGE STUDENT ROLE ORIENTATIONS AND
BACKGROUND FACTORS
AS RELATED TO
DROPOUTS AND OVER AND UNDER ACHIEVERS

A Thesis Presented

By

Victor Savicki

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In recent years an increasing amount of research has been done investigating the effects of "non-intellective" factors on achievement of college students. This type of research attempts to identify the variance not accounted for by ability alone (some 40-50% unaccounted variance, Marsh 1966). Although much of this research has focused on personality variables, the present paper will be more concerned with that body of investigation dealing with environmental, both pre-college and on-campus, influences on college students. Of special interest will be influences on those students labeled Dropouts, Overachievers and Underachievers.

Practical justification for the present research stems from the waste of potential found in the dropout and underachievement phenomena. An attempt to discover on-campus environmental correlates of these phenomena should aid individuals with some vested interest in and some control over that environment to reduce these phenomena through appropriate intervention.

An early effort to find meaning in the college environment grew out of the work of Stern (1956) and Stern and Pace (1957). Two instruments developed by these investigators, the Activities Index (AI) and the College Characteristics Index (CCI), contained items based on Murray's need-pressure conceptions. Although Stern envisioned a relationship between needs and press, the AI, which measured individual needs, and the CCI, which measured individually perceived

college press, were found to correlate near zero. Alone the CCI did provide differential descriptions of the press of different colleges.

Following up this latter development, Pace (1963) factor analyzed the 300 CCI items to form the College and University Environment Scales (CUES). This new instrument contained 150 items which yielded institutional rather than individual scores on five factors in the environment. Later Pace and others examined the possibility that different sub-groups of students within the total environment perceived different press. For example, in a study with high achievers and low achievers, Pace found no significant differences between the sub-groups on CUES factors (similar results were found for most other sub-groups) (cf. Pace 1967).

The reason that sub-groups within the whole environment did not differ on CUES scales seems to be that the environment was not represented meaningfully for this purpose. Perhaps institutions can be differentiated by means of CUES, but the instrument does not seem to tap sub-group differentiating characteristics, i.e. it is too gross a measure.

Another attempt to find meaning in the college environment grew out of the work of Astin and Holland (1961) who created the Environmental Assessment Technique (EAT). Based on the principle that "a major portion of environmental forces is transmitted through other people," Astin and Holland described six student orientations which supposedly contained personality differences as mediated through choice of occupation or choice of major. The press of a college,

then, consisted of the product of 1) total number of students, 2) average IQ, 3) personal characteristics of the student body as reflected by the influence of each of the six orientations. Because the EAT took into account the press of differing student types, this measure promised to be more sensitive to sub-group differentiating variables in the environment.

Using the EAT as one of several measures in a study concerning "Personal and Environmental Factors Associated with College Dropout among High Aptitude Subject," Astin (1964) found that the characteristics of the college attended showed no significant effects on male Ss, and only one significant effect on female Ss. However, certain background data did differentiate dropouts from persisters (e.g. socio-economic level and plans for graduate education). This finding seems to indicate that, although on-campus environmental forces may be pertinent, pre-college background may be as potent if not more potent in the lives of college students. The results also imply that characterizing students by means of their choice of occupation or major does not appear to yield as meaningful a typology as some other method of differentiation might.

In attempting to define a meaningful student typology which could be a reflection of environmental influences, both background and on-campus, Trow (1960) conceptualized four distinct types of norms within a student culture: Academic, Vocational, Collegiate and Non-conformist (see Table 1 for complete descriptions of the types). He saw

Table 1

Trow Types*

VOCATIONAL: This philosophy emphasizes education essentially as preparation for an occupational future. Social or purely intellectual phases of campus life are relatively less important although certainly not ignored. Concern with extracurricular activities and college traditions is relatively small. Persons holding this philosophy are usually quite committed to particular fields of study and are in college primarily to obtain training for careers in their chosen fields.

ACADEMIC: This philosophy, while it does not ignore career preparation, assigns greatest importance to scholarly pursuit of knowledge and understanding wherever the pursuit may lead. This philosophy entails serious involvement in course work or independent study beyond the minimum required. Social life and organized extra-curricular activities are relatively unimportant. Thus, while other aspects of college life are not to be forsaken, this philosophy attaches greatest importance to interest in ideas, pursuit of knowledge, and cultivation of the intellect.

COLLEGIATE: This philosophy holds that besides occupational training and/or scholarly endeavor an important part of college life exists outside the classroom, laboratory, and library. Extracurricular activities, living-group functions, athletics, social life, rewarding friendships, and loyalty to college traditions are important elements in one's college experience and necessary to the cultivation of the well-rounded person. Thus, while not excluding academic activities, this philosophy emphasizes the importance of the extracurricular side of college life.

NONCONFORMIST: This is a philosophy held by the student who either consciously rejects commonly held value orientations in favor of his own, or who has not really decided what is to be valued and is in a sense searching for meaning in life. There is often deep involvement with ideas and art forms both in the classroom and in sources (often highly original and individualistic) in the wider society. There is little interest in business or professional careers; in fact, there may be a definite rejection of this kind of aspiration. Many facets of the college -- organized extracurricular activities, athletics, traditions, the college administration -- are ignored or viewed with disdain. In short, this philosophy may emphasize individualistic interests and styles, concern for personal identity and, often, contempt for many aspects of organized society.

* as interpreted by Peterson, SQ 1, 1965.

that very specific types of behavior and attitudes described the people who held these norms. Thus, the term sub-culture seemed appropriate to define these separate normative divisions within the total student culture. To Trow a college student sub-culture was "a broad pattern of orientation toward college which gives content and meaning to the informal relations of students;" it defined patterns of behavior, of sentiments, and of relationships.

At first the concept of college student sub-culture was more intuitive than empirical, but the work of Gottlieb and Hodgkins (1963) gave it some empirical backing. These investigators asked students to identify themselves with a description of one of the four Trow types. Even with such a gross means of differentiation, hypothesized relations to various demographic variables (e.g. religion, socio-economic status) and attitudes (e.g. toward "rules and regulations") were confirmed.

In a similar manner Peterson (1965) found that on his College Student Questionnaire (CSQ) Ss' self-evaluation of sub-cultural membership based on the Trow typology was significantly correlated in a predictable manner with other CSQ scales, such as extra-curricular involvement, family independence, peer independence, and satisfaction with faculty. This evidence along with Gottlieb and Hodgkins' indicates that the concept of student sub-culture can be valuable to aid understanding college students.

Through factor analysis of "intellectual, motivational, temperamental and environmental" variables obtained from tests,

questionnaires and school records, Pemberton (1963) found nine factors relevant to explaining student types. Some of these factors were similar to the Trow types (e.g. Vocational-technical, and Non-conformity), but some were new (e.g. Social Service Orientation, and Academic Conformity). Since one of the basic purposes of Pemberton's work was identifying students' value configurations, his study was similar to studies using sub-cultures alone.

In order to relate a college student typology directly to actual behaviors, Warren (1966) developed a Student Type Indicator Scale by factor analysis of reported student behaviors. He found dimensions of orientation (e.g. independent self-directed intellectual concern vs. conformity; and orientation toward vocational preparation vs. social concern). Relating these dimensions to Trow's typology, Warren concluded that behaviorally the four types did exist. Furthermore, he stated that students' behaviors yield additional orientations (e.g. intellectual, interpersonal).

The present study will use a student typology developed by Schumer and Stanfield (1966). These researchers attempted to discover meaningful configurations of behavior preferences within the college student environment and to discover pre-college antecedents significant to these configurations. They said

It is hoped that, with a measure of student role orientations, we will be able to determine the factors in the precollege environment associated with an anticipated student role and also determine the interpersonal experiences in the college environment that confirm or change the initial orientation (1966, p. 235).

Building on the theoretical work of Trow, Parsons and others, these investigators sought preferences for behaviors representative of various theoretically defined student sub-cultures, i.e. Role Orientations (cf. Stanfield 1966). In developing their measure of Role Orientations, the Student Preference Schedule (SPS) (see Appendix I for a copy of this instrument), Schumer and Stanfield collected from students and the college calendar behavior statements which included "any form of activity or inactivity" of college students. After two of three judges had classified these statements as belonging to one of a set of seven types, the scale was administered to a representative population (n=423) of college students. Ss' responses indicated their evaluation on a six-point scale for the 192 behavior statements on the initial scale. When these responses were factor analyzed they finally yielded eight Role Orientations. Table 2 gives a brief description of each Role Orientation. See Appendix II for the behavior statements which loaded highest for each factor.

Student background information was elicited by the Student Background Schedule (SBS) (see Appendix I for a copy of this instrument). Several relationships between the scores on the SPS and SBS show significance (e.g. socio-economic class is lower for Vocational, plans for graduate school is low for Consummatory Collegiate) (Stanfield and Schumer 1968).

There are several important advantages to the Schumer and Stanfield typology. First, they used individual behavior preferences in an attempt to get as close to the event level

Table 2

Role Orientations *

1. Academic, either humanistic or scientific, with concern for acquiring the formal knowledge of courses taken in the college.
2. Intellectual, stressing art and ideas outside the context of formal course instruction; in one instance or more, following the nonconformist pattern that may be called "beat."
3. Vocationalist, emphasizing skills and knowledge from course instruction that will be directly applicable in future employment, seeking successful completion of a course of study in a college so that one may be qualified for certain jobs requiring a college degree.
4. Social development, learning to get along with people, to help people.
5. Instrumental collegiate, active work or leadership in the social and collegiate life of the campus, stressing enjoyment in the experience of doing things in college.
6. Consummatory collegiate, participation as a consumer in the social and collegiate life of the campus, stressing enjoyment in the experience of being in college.
7. Ritualistic, fulfilling personal, parental or social expectations regarding education in pursuit of diffuse goals; going to college because it's the thing to do --- the ritual of education.
8. Greek, participation in a fraternity or sorority.

* Stanfield 1966.

as possible, rather than using higher order abstractions, i.e. descriptions of the types. Secondly, these behavior preferences, elicited from normal college students and classified according to a role theory, were put to an empirical test in which modifications were made according to empirical demands. Lastly, the SRS yields a profile of virtually independent Role Orientations for each individual. As Trow (1960) has said, college students play several different roles at different times in the college culture. Thus it seems that a profile of Role Orientations for each individual conforms to a veridical state of affairs better than a single score.

Why should Role Orientations explain non-intellective phenomena of dropping out or over and under achieving any better than existing attitude and value measures? The difference between studies by Ikenberry (1961) and Brown and Holtzman (1955) indicate some reasons. In a dropout study using multiple discriminate analysis of socio-economic status, intellective, attitude and value scales, Ikenberry showed that scales such as Rokeach Dogmatism Scale, Inventory of Beliefs, and Differential Values Inventory contributed very little to any of the three discriminate functions found. Brown and Holtzman, on the other hand, asking specific questions about academic attitudes, found that these attitudes did contribute significantly toward explanation of students' academic performance. This added contribution was independent of scholastic ability and thus could be called non-intellective.

Similarly, Role Orientations tap attitudes and values

of normal college students about specific on-campus activities. However, the range of attitudes and values encompasses academic as well as all other behaviors. In this respect the SPS fulfills qualifications for dropout studies set forth by Marsh (1966), who said that such studies should be multi-dimensional and use variables which differentiate among normals rather than separating out abnormals. That is, since dropouts seem to become dropouts for more than one reason, measures should tap multiple dimensions. Because few students exhibit psychotic symptoms, scales which were constructed to tap clinical variables are not as applicable to a college student population. Such advice seems applicable to over and underachiever studies as well.

Although the SPS has not been used before to study either dropouts or over and underachievers, some previous studies generate tentative hypotheses concerning the effects of Role Orientations. Often conflicting explanations are offered for the same variable. Hopefully this study will clarify such conflicts.

Before an attempt is made to state hypotheses and define issues, further explanation of the make up of experimental groups seems necessary. Over and underachievement groups differ from their predicted achievement based on a regression equation which includes a test of ability (SAT) and a measure of previous performance (high school rank). Levin (1965) recommended this procedure to avoid an artifactual discrepancy between overachievers' and underachievers' ability level. Although some over and underachiever studies

directly compare over and underachiever groups, the present study contains a control group because of Rust and Ryan's (1954) warning that the differences between overachievers and underachievers may not be linear.

Many previous studies of dropouts have defined dropouts as those students who do not graduate in four years. However, the present study follows the lead of Rose and Elton (1966), who defined dropouts more precisely. Using personality variables these investigators tried to determine the psychological make up to two dropout groups: Dropouts and Defaulters. Both types of withdrawals left school voluntarily, Dropouts at the end of a semester with a GPA greater than 2.00 and Defaulters during a semester. In addition to these two groups, the present study will include a third non-persister group called Dismissals, students dismissed for scholastic deficiencies. Rose and Elton's hypothesis that students who withdraw for different reasons differ psychologically was confirmed with personality variables; i.e. Dropouts were significantly higher in anxiety than Defaulters, Defaulters were less dependent than Dropouts. Similarly, these groups should possess different Role Orientation profiles.

Although each Role Orientation will be treated separately in the following section, the reader should bear in mind that the purpose of the present investigation is to determine a profile of Role Orientations and PGPA that describe and discriminate dropout groups and Over and Underachievers.

For the Vocational Role Orientation (VOC) conflicting hypotheses exist. Slater (1957) in a non-empirical report

theorized that students with strong "vocational ambition" would persist or achieve better than students without such strivings, because they would not become "satiated" with scholastic tasks. Pemberton (1963), on the other hand, hypothesized that students who fit in his "Vocational-technical" factor are scholastically inflexible since they are receptive only to courses immediately touching on their occupational choice. Thus responding poorly to other course work, required or otherwise, they drop out or under achieve. Because the VOC Role Orientation also seems to indicate a vocational ambition but does not necessarily limit this ambition to technical programs, the hypothesis of this study is that high VOC Role Orientation will indicate high achievement or overachievement.

About behaviors similar to the Intellectual Role Orientation (IN), Pemberton comments that ability and desire to deal with verbal-abstract symbols on a theoretical level will aid a student to achieve well. Although such behaviors would enable students to perform well in an environment that valued such behaviors highly, the description of a pure Intellectual (Table 2 and Appendix II) indicates that these students do not direct their behaviors toward scholastic goals but rather expend their talents elsewhere. Thus it seems that a student with high IN Role Orientation would more often be an Underachiever than a high achiever. However, it may be that high IN combined with some other Role Orientation (e.g. Academic) would lead to high achievement. A student with a low score, however, would

probably do poorly or not persist at all.

Results of behaviors following the Academic Role Orientation (AC) seem quite clear. The Brown and Holtzman (1955) survey of Study Habits and Attitudes indicated that behaviors and attitudes such as those in the AC factor yield high achievement. Both empirically, from Brown and Holtzman, and intuitively, from the most highly loaded behaviors in the scale, the hypothesis generated must be that high AC Role Orientation leads to high achievement, and vice versa.

Studies by Rust and Ryan (1954) and Pemberton (1963) and Astin (1964) help to clarify the action of Social Development Role Orientation (SD). Rust and Ryan found that students who scored higher on Group V on the Strong Vocational Interest Blank (SVIB), the "goodness group," tended to achieve well. Interests of people in this group coincided with SD behaviors (e.g. interest in people and desire to help them). Pemberton found that students who fit his Social Orientation factor tended to over achieve. Astin found that dropouts tended to be more self-centered than persisters. Although it is difficult to relate a personality factor to Role Orientations, it seems that a high SD score would indicate low self-centeredness. Combining this evidence it may be hypothesized that a high SD Role Orientation score will aid achievement and over achievement while a low score will indicate a tendency to drop out.

For the Ritualism Role Orientation (RF) conflicting evidence exists. The Rust and Ryan (1954) Overachiever Scale derived from the SVIB contains interests that differentiate Overachievers from Normal and Underachievers. The overall

impression of Overachievers' interests yields a picture of passive, non-creative persons, similar to the impression gathered from highly loaded behavior preferences of RT (cf. Appendix II). Pemberton's Academic Conformity factor also describes a non-creative, dependent person who has mastered the art of "grade getting." These studies tend to indicate that a student with a high RT score would overachieve. However, after an inspection of the behaviors most highly loaded on the RT factor, it seems that these students waste time and are not committed to scholastic goals (Peterson 1968). Therefore, intuitively, they should not achieve well. Slater (1957) also stated that students with no commitment to college would become satiated with scholastic tasks and thus drop out. These hypotheses indicate that a person with a high RT Role Orientation would achieve poorly or drop out. The RT behaviors seem to justify both hypotheses. Hopefully the results of the present study will clarify such conflicting hypotheses. Because Rust and Ryan's and Pemberton's studies were empirical, while Peterson and Slater did not do empirical tests, the present hypothesis is that students high on RT will achieve well or over achieve.

Although there are differences among Instrumental Collegiate (IC), Consummatory Collegiate (CC), and Greek (GK) Role Orientations, these will be treated together here. Pemberton found that students fitting his Social Group orientation were less deferent to authority, more dependent on peer support, and thus let adult academic standards slide in favor of peer social activities. The behaviors most highly

in the comparable Role Orientations indicate a similar result should be expected. However, Slater (1957) theorized that students who came to college without vocational or intellectual goals would persist if they received peer support. Thus it may be hypothesized that a high rank in these Role Orientations leads to persistence either as a low achiever or an Under-achiever.

The overall hypothesis to be tested by the present study is that different dropout groups and Overachiever and Under-achiever groups will differ on some combination of factors of student Role Orientation and of background data. To paraphrase Rose and Elton, if students withdraw from college for different psychological reasons, it follows that the on-campus and background environmental factors of students may vary according to their method of departure from college. This reasoning can be extended to Overachievers and Underachievers also.

METHOD

Subjects

Ss were selected members of the class of 1969 at the University of Massachusetts who completed the SPS and SBS immediately prior to entering as freshmen.

Instruments

Both the SPS and SBS (previously explained) generated data. The eight Role Orientations with a brief description of each appear in Table 2. Appendix III lists all 34 variables used (including the 25 SBS items) along with the abbreviations used in tables. Copies of the SPS and SBS may be found in Appendix I.

Procedure

A sub-sample of 597 Ss were selected from 1000 Ss for whom data was complete. Chosen Ss belong to one of the following groups, which are defined on the basis of a) persistence, b) actual GPA, and c) scholastic aptitude, which is represented by the University of Massachusetts admissions regression predicted GPA (both high school rank and SAT scores are weighted in the regression equation).

1. Successful Persisters (n=70 males, 70 females, randomly selected from 53.3% of the sample) - Ss who complete 2 semesters with a C or better average and whose actual GPA fall within $\pm .5$ point of their predicted GPA.

2. Probation Persisters (n=70 males, 46 females, 11.6% of the sample) - Ss who complete 2 semesters with less than a

C average and whose actual GPA falls within $\pm .5$ point of their predicted GPA.

3. Dropouts (n=10 males, 20 females, 3.0% of the sample) - Ss who withdraw at the end of the first or second semester whose actual GPA is C or better.

4. Dismissals (n=52 males, 21 females, 7.3% of the sample) - Ss who are asked to leave at the end of the first or second semester because of scholastic deficiencies.

5. Defaulters (n=17 males, 16 females, 3.3% of the sample) - Ss who withdraw during the first or second semester regardless of actual GPA.

6. Overachievers (n=80 males, 66 females, 14.6% of the sample) - Ss who complete 2 semesters with an actual GPA that is greater than .5 point above their predicted GPA.

7. Underachievers (n=28 males, 41 females, 6.9% of the sample) - Ss who complete 2 semesters with an actual GPA that is greater than .5 point below their predicted GPA.

8. An eighth group, Normal Achievers, was formed by combining Successful Persisters and Probation Persisters. In other words, the same Ss serve as controls to the dropout and Over and Underachiever groups.

Group 1 was selected randomly from the total number of persisters in the sample. Other groups included all available Ss fitting the respective qualifications.

Statistical Analysis

Multiple discriminate analysis provided the means of comparing these groups. A computer program by Veldman (1967) yielded discriminate functions that indicated which

combination of Role Orientations discriminated between the several groups. This program also yielded means, univariate F 's and centroids. A total of 18 discriminate analyses were run:

- I. PGPA plus Role Orientations
 - A. Dropout groups
 1. All Ss
 2. Males
 3. Females
 - B. Over and Underachiever groups
 1. All Ss
 2. Males
 3. Females
- II. Role Orientations alone
 - A. Dropout groups
 1. All Ss
 2. Males
 3. Females
 - B. Over and Underachiever groups
 1. All Ss
 2. Males
 3. Females

Multiple range tests were computed for all significant discriminate functions to determine which groups differed at significant levels.

RESULTS AND DISCUSSION

In this section results and discussion concerning dropout groups will be separate from that concerning Over and Underachievers. Aside from increasing the clarity of psychological factors at work in processes of dropping out or achieving abnormally, this format necessarily follows from the methodology used to construct the respective control groups. The Successful Persisters (SP) and Probation Persisters (PP) were not only the control groups for the dropout comparison but were also combined and used as a single control group for the over and underachievement analysis. In other words, while SP and PP were separated with reference to actual GPA as were Dropouts (DR) and Dismissals (DIS), Overachievers (O) and Underachievers (U) contained no restrictions concerning range of actual GPA. For this reason a Normal Achiever (NA) group composed of SP plus PP was formed as a control group for the over and underachievement analysis. Appendix IV presents in tabular form the comparisons just described.

One purpose of the present investigation was to relate pre-college background data (socio-economic status, choice of major, etc.) to dropping out and achieving abnormally. However, during analysis of the data it was found that SES data added very little to the power of the discriminate analysis (see Appendix V). Since previous studies have found that such variables do discriminate in these phenomena, non-significance in this case may possibly indicate that freshman

students in the Class of 1969 at the University of Massachusetts were quite homogeneous as far as the particular SES variables on which they were compared. A future study could test whether or not other background information would contribute more. Univariate F's on some of the present variables will be presented for clarification of results. However, these should be interpreted cautiously since a) only 5 of 25 univariate F's were significant at $<.05$ level, and b) there was large inequity of n's among some of the groups.

Dropouts

PGPA plus Role Orientations

The overall dropout analysis of males plus females using PGPA and Role Orientations was highly significant ($P .001$). Table 3* shows that Function I was highly significant ($X^2=P=<.001$) and accounted for 81.43% of the variance. The original variables correlating most with this function were PGPA (.98), SD (.32), AC (.22), and IN (.21). A multiple range test on group centroids of Function I indicated that PP and DIS were significantly lower on this function than Defaulters (DF), DR, and SP, but that they were undifferentiated from each other. Among the three groups higher on Function I, SP were significantly higher than DF, but neither SP nor DF were different from DR (see multiple range results, Table 3). This function seems to describe a student who is primarily high on ability based on past high school performance, who has some interest in people, who is moderately studious, who shows some interest in ideas and issues but little

*The tables throughout read from top to bottom in descending order of correlations to Function I and from left to right in descending order of group centroids on Function I.

Table 3

DROPOUT ANALYSIS

PGPA + ROLE ORIENTATIONS FOR MALES + FEMALES

MEANS, UNIVARIATE F'S, CORRELATIONS TO SIGNIFICANT

FUNCTIONS, FUNCTION CENTROIDS, AND MULTIPLE RANGE RESULTS

	SP	DR	DF	DIS	PP	Univariate Correlations		
						F's	I	II
PGPA	2.31	2.22	2.13	2.01	1.99	29.50***	.98	-.14
SD	50.89	49.94	49.66	46.53	49.07	4.08**	.32	.19
AC	50.83	48.89	50.88	49.58	48.79	1.74	.22	.13
IN	50.57	50.48	50.21	48.87	48.67	1.11	.21	.07
RT	50.65	49.22	51.12	49.09	49.44	.86	.15	.23
VOC	50.11	49.70	53.93	48.72	49.87	2.55*	.08	.83
IC	49.61	46.92	47.43	49.08	50.45	1.48	-.07	-.34
GK	49.83	49.80	50.35	51.63	50.49	.50	-.11	-.07
CC	49.76	50.26	48.87	50.06	51.19	.77	-.12	-.19
Function Centroids								
I	2.35	2.27	2.19	2.04	2.01			
II	4.22	4.35	5.03	4.14	4.31			

Multiple Range Results

I	.01	SP	DR	DF	DIS	PP
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Overall analysis: Wilk's lambda=.70, df=36/1422, F=3.90, P< .001

Function I: 81.43% of variance, $X^2 = 107.81$, df=12, P< .001

Function II: 8.77% of variance, $X^2 = 13.18$, df=10, P< .21

Univariate F's > 1.48 = P's < .20 for df=4/387

*P < .05

**P < .01

***P < .001

interest in "collegiate" behaviors.

With a correlation of .98 PGPA dominates the discrimination made by Function I. This was expected since four of the five groups were defined in reference to actual GPA and since PGPA was designed to correlate highly with actual GPA. As Table 3 illustrates, PGPA alone has a very high univariate F probability ($P < .001$) while, except for SD, no single Role Orientation approached such significance. It is easy to explain PGPA's power on the basis of scholastic ability alone. It seems that the ability input explains most of the variance of this function.

Although Role Orientation loadings on Function I are low to moderate, they do suggest that some of these non-intellective variables also contribute to the explanation of group differences. Support from previous literature can be found for this interpretation. For SD (loading .32) the findings of Rust and Ryan showed a trend toward high achievement from students scoring high in Group V of the SVIB. Interests of these people were similar to SD statements, i.e. finding out about and helping people. Such a trend toward high achievement would aid in successful persistence. Brown and Holtzman (1955) indicated that attitudes such as those indicated by the AC scale were important for achievement (e.g. "putting in a full evening of serious study," "getting work done on time"). In relation to IN (loading .21) Pemberton (1963) stated that some orientation to theoretical-verbal/abstract behaviors is vital for the scholastic flexibility necessary for high achievement. Therefore the moderate loadings of these Role

Orientations on Function I seem well supported.

It is evident that attitudes toward scholastic tasks also influence pre-college achievement and thus prediction of ability to perform academically in college. That is, acting in the pre-college environment these Role Orientations may have helped those who held them to achieve well in high school. Thus it may be that such attitudes indirectly contributed to PGPA, since PGPA is largely based on high school rank.

Some sex differences did occur on Function I. For males alone and for females alone overall discriminate analyses of PGPA and Role Orientations yielded functions (X^2 's= $P < .001$) similar but not identical to Function I for males plus females. For males alone the function accounted for 71.32% of the variance (Table 4); for females it accounted for 62.51% (Table 5). For both sexes PGPA loaded above .90 and discriminated well alone ($P < .001$); thus it again dominated the function. However, separate sex analyses revealed several differences between the sexes on Role Orientation loadings. For males the SD loading dropped to .18, AC to -.02, but IN remained at .21. For females the SD loading dropped to .26, AC rose to .33, IN dropped to .14 and two others gained moderate loadings: VOC at .20 and RT at .18. Thus on separate sex analyses AC loadings increased for females, IN remained constant for males, SD decreased for both and was more important for females, and VOC and RT increased for females.

The order of groups along these functions differed only by placement of DP, which for males fell to lowest while for

Table 4

DROPOUT ANALYSIS

PGPA + ROLE ORIENTATIONS FOR MALES

MEANS, UNIVARIATE F's, CORRELATIONS TO SIGNIFICANT
FUNCTIONS, FUNCTION CENTROIDS, AND MULTIPLE RANGE RESULTS

	SP	DR	DIS	PP	DF	Univariate F's	Correlations	
							I	II
PGPA	2.19	2.18	1.95	1.94	1.92	16.03***	.97	.08
IN	48.59	47.53	46.63	47.15	46.18	.68	.21	-.01
SD	47.79	46.45	44.45	47.26	46.46	1.66	.18	.33
RT	48.36	50.61	48.83	47.89	49.29	.35	.02	.09
AG	49.22	45.70	48.65	48.53	50.64	.86	-.02	-.01
IC	47.74	44.47	47.63	48.52	45.77	.96	-.04	-.28
VOC	49.54	52.71	47.65	50.43	54.49	2.70*	-.04	.84
GK	50.86	50.86	51.59	51.48	50.54	.10	-.05	-.09
CC	49.38	51.19	49.83	51.94	48.52	1.10	-.12	.07

Function centroids

I	2.58	2.56	2.33	2.32	2.27
II	14.89	19.07	12.85	15.70	18.85

Multiple Range Results

.05	SP	DR	DIS	PP	DF	
I	.01	SP	DR	DIS	PP	DF

Overall analysis: Wilk's lambda=.66, df=36/774, F=2.48, P<.001

Function I: 71.32% of variance, $\chi^2=59.66$, df=12, P<.001

Function II: 15.27% of variance, $\chi^2=14.25$, df=10, P<.16

Univariate F's > 1.66 = P's < .20 for df=4/214

*P < .05

***P < .001

Table 5

DROPOUT ANALYSIS

PGPA + ROLE ORIENTATIONS FOR FEMALES

MEANS, UNIVARIATE F's, CORRELATIONS TO SIGNIFICANT
FUNCTIONS, FUNCTION CENTROIDS, AND MULTIPLE RANGE RESULTS

	SP	DF	DR	DIS	PP	Univariate F's	Correlations I
PGPA	2.43	2.35	2.24	2.18	2.05	15.57***	.92
AC	52.43	51.13	50.48	51.86	49.19	1.86	.33
SD	54.00	53.05	51.68	51.69	51.83	1.17	.26
VOC	50.68	53.32	48.20	51.32	49.02	1.58	.20
RT	52.94	53.05	48.53	49.75	51.80	1.95	.18
IN	52.55	54.49	51.95	54.43	50.97	.94	.14
CC	50.14	49.24	49.80	50.63	50.04	.08	-.01
GK	48.80	50.15	49.27	51.73	48.97	.43	-.03
IC	51.48	49.19	48.15	52.67	53.39	1.32	-.15

Function Centroids

4.01 4.96 3.77 3.73 3.55

Multiple Range Results

.05 SP DF DR DIS PP

.01 SP DF DR DIS PP

Overall analysis: Wilk's lambda = .60, df = 36/601, F = 2.45, P = .001

Function I: 76.54% of variance, $\chi^2 = 62.51$, df = 12, P = .001

Univariate F's > 1.58 = P's < .20 for df 4/168

*** .001

females rose to second highest. Tables 4 and 5 give multiple range results, showing for males a clear separation between high SP and DR and low DIS, PP and DF ($P > .01$). For females there is less clear separation between high SP and DF and low DIS and PP, with DR in the middle being undifferentiated from DIS below and DF above ($P > .01$).

Because of the overwhelming power of PGPA on this function and because separate male and female n's were small for DR and DF groups, the following interpretation of sex differences on these Role Orientations should be viewed as trends only. More Role Orientations discriminated on Function I for females than did for males because females may have had more varied attitudes toward college. Some evidence for this can be found in the higher mean and wider standard deviation of socioeconomic status and PGPA for females (mean SE for males = 51.6 σ = 21.5, for females mean = 54.2 σ = 23.6; mean PGPA for males = 2.03 σ = .21, for females mean = 2.25 σ = .27). Higher SD and RT correlations for females on Function I may indicate a tendency for females with preferences for less societally defined feminine roles to drop out, since DIS and DR scored low on these orientations. The high significance of AC for females may fit in with these two Role Orientations because of females' greater acceptance of conventional norms which include working hard to achieve. Again, DIS and DR score low on this Role Orientation. Such an interpretation seems justified by generally higher scores for females on these three scales and by Jones' (1962) and Gurin, Newcomb and Cope's (1968) similar findings.

IN may load more on Function I for males than for females because it may tend to be more highly correlated with PGPA for males. This higher correlation may arise from a combination of factors: a) these males being more intellectually curious and thus more academically flexible, and b) IN being largely a female role (e.g. "attending poetry recitations and analyses," writing poetry") which may be more discriminating among males. Evidence for this interpretation can be found in Pemberton's (1963) statement of the necessity of an intellectual interest for achievement and in the scores of males (T scores all below 50) versus females (all above 50) on IN (Tables 4 and 5).

The higher VOC loading on Function I for females may mean that females' occupational strivings fall in line with their PGPA while males' do not. Impressionistically this makes sense, since more high PGPA females would seek to enter a career than low PGPA females. Males, on the other hand, would probably seek some vocational goal regardless of their PGPA.

Looking at the discrepancy between VOC loadings for males alone (-.04) and for males plus females (.08) on Function I and the scales' univariate F probabilities (males $> .03$, males plus females $> .05$), a question arises concerning VOC Role Orientation's influence. Slater (1957) proposed that a vocational orientation would be a very strong factor in distinguishing dropouts. Some evidence for the above hypothesis comes from a second function approaching

significance for males ($X^2=P > .16$) and for males plus females ($X^2=P > .21$), which indicates that the VOC Role Orientation as well as some others can be accounted for by looking at Role Orientations alone. On this second function VOC loaded highest (males .84, males plus females .83) while PGPA did not load significantly for either analysis. Although these functions were not significant they seem to suggest that the influence of Role Orientations alone may account for more variance.

Role Orientations Alone

With Role Orientations alone the total dropout analysis for males plus females was significant ($P > .03$). Table 6 shows that Function I ($X^2=P > .006$) accounted for 54.69% of the variance. On this function SD was highest (.70), followed by VOC (.41), IN (.38), AG (.38), RT (.33), IC (-.16), CC (-.22), and Gk (-.24). This function defines an outlook toward college that is instrumental and goal oriented rather than consummatory and hedonistic. Multiple range results on this function ($P > .05$) indicate that DIS (ranking lowest) and FP(second lowest) were undifferentiated, but were clearly separate from the undifferentiated high pair of DF and SP. DR were differentiated only from DIS (Table 6). This function describes a student who is very interested in learning about people, who sees college as a means to an occupational goal, who is studious and likes ideas, who is moderately tied to the home, and who dislikes any collegiate behaviors.

Table 6

DROPOUT ANALYSIS

ROLE ORIENTATIONS ALONE FOR MALES + FEMALES
 MEANS, UNIVARIATE F's, CORRELATIONS TO SIGNIFICANT
 FUNCTIONS, FUNCTION CENTROIDS, AND MULTIPLE RANGE RESULTS

	DF	SP	DR	PP	DIS	Univariate F's	Correlations I
SD	49.66	50.89	49.94	49.07	46.54	4.08**	.70
VOC	53.93	50.11	49.70	49.87	48.72	2.55*	.41
AC	50.88	50.83	48.89	48.79	49.58	1.74	.38
IN	50.21	50.57	50.48	48.67	48.87	1.11	.38
RT	51.12	50.65	49.23	49.44	49.09	0.86	.33
IC	47.43	49.61	46.92	50.45	49.08	1.48	-.16
CC	48.87	49.76	50.26	51.19	50.06	0.77	-.22
GK	50.35	49.83	49.80	50.49	51.63	0.50	-.24

Function Centroids

69.36 68.51 67.56 65.12 63.44

Multiple Range Results

.05

DF	SP	DR	PP	DIS
----	----	----	----	-----

.01

DF	SP	DR	PP	DIS
----	----	----	----	-----

Over all Analysis: Wilk's lambda=0.88, df= 32/1403, F= 1.53, P=.03

Function I: 54.69% of variance, $\chi^2=26.45$, df=11, P=.01

Univariate F's $> 1.74 = P's < .14$ for df= 4/387

* .05

** .01

The meanings of Role Orientation loadings on this function for the most part seem clear, yet raise some questions. SD, which loaded highest of all on this function (.70) was also significant for Function I with PGPA plus Role Orientations, but with the much lower loading of .32. Hypothetically, this additional variance might be explained by the SD orientation's tapping of "social adjustment," a factor found by Johnson (1954) to differentiate dropouts and persisters. Present SD scores support such a hypothesis, since SP are higher than DR and PP are higher than DIS. It seems consistent with previous theories of adolescence that college students who were more interested in and curious about people would be more adjusted since they would be seeking to fulfill a developmental task of defining their own identities through comparison to and differentiation from other people. (Erikson, 1959).

As expected the VOC Role Orientation (loading .41) emerged as important. To some extent the ascending order of group scores on this Role Orientation (DIS, DR, PP, SP, DF) confirms Slater's (1957) hypothesis that students with more vocational ambition would become less satiated by school work and therefore would persist. DF' score as the highest on this Role Orientation does not fit with Slater's hypothesis and will be taken up when DF as a group are discussed.

The IN loadings (.38) and AC loadings (.38) can be explained, for the most part, as they were for Function I with PGPA and Role Orientations. Yet some slight increase of their present loadings over their previous ones indicates

that some significant variance of these Role Orientations not correlated to PGPA may be correlated to an instrumental attitude toward college.

The RT Role Orientation originally envisaged as preferences for solitary and passive-dependent behaviors loaded .33 on Function I, which is goal oriented and highly SD loaded. Information from two sources aids in understanding this Role Orientation's loading. First, Pemberton (1963) found an Academic Conformity factor to which RT behaviors could apply, thus aiding achievement. Secondly, since RT seems to indicate passivity and dependency, Astin's (1964) finding that dropouts tended to be more assertive than persisters seems to fit the results, since except for DF non-persisters were less ritualistic than persisters.

Although IC, CC and GK each have only moderately negative loadings on this function (-.16, -.22, and -.24, respectively), together they indicate a tendency for low achievement oriented DIS and PP to view college as an end in itself, while SP and DF see college as a means to a goal, i.e. they are too involved with grade getting to partake of collegiate activities. The negative relationship between achievement and these extracurricular preferences supports Peterson's (1968) hypothesis that students with such preferences receive peer support for anti-intellectual, anti-scholastic attitudes. In an extremely tentative manner Gekoski and Schwartz' (1961) findings that persisters held slightly more favorable attitudes toward extracurricular activities than did withdrawals was confirmed since SP were

higher than DR, and PP higher than DIS on a composite of the three Role Orientations.

Since overall discriminate analyses for males alone and for females alone were not significant, the only sex difference of note was derived from a univariate F for males on VOC ($P > .03$). This result seems to support the hypothesis offered previously that a Role Orientation toward an occupation would be more important for males than for females regardless of PGPA.

Dropout Group Descriptions

With all the information at hand, some of the processes of dropping out or persisting may be understood most clearly by considering group differences on functions previously described.

Defaulters. On most functions DF were most like SP, with different explanations for non-persistence emerging for each sex. For the male a reason for defaulting may lie in the discrepancy between his score on Function I with Role Orientations alone (highest of all groups) and his PGPA (lowest of all). This discrepancy may indicate that male DF withdraw from school because they cannot live up to their own or others' expectations. Their mode of withdrawal before receiving grades seems to show reluctance to face up to scholastic inability after having been committed to, or at least passively accepting, the value of a college education. It may be that instead of using "personal" or "health" reasons as a thinly veiled excuse to withdraw prematurely,

these students actually do become "sick" as an unrecognized means of avoiding failure or as a result of over-work toward unrealistic goals. Rose's (1965) findings that DF at the time of withdrawal scored high on the "Maladjustment" scale of the Rotter Incomplete Sentence Blank supports this idea. Female DF, on the other hand, exhibit no such ability versus attitude gap. Likely causes of their withdrawal lie more in "family reasons" cited by Astin (1966) for high ability females, i.e. marriage, pregnancy. For both male and female DF high VOC and RT scores seem to combine to indicate dependency upon parental support for occupational strivings.

Dismissals and Probation Persisters. Not much need be said about PP and DIS. They are not different from each other on either the Role Orientations alone or the PGPA plus Role Orientations functions. Both groups are significantly lower than SP on both functions. PP' and DIS' low achievement may have continued from pre-college days, as they attained lower high school ranks than SP, partly because of their lower dedication to scholastic achievement. This lower achievement has continued into college, since all PP have actual GPA's of < 2.00 and all DIS have been dismissed for scholastic reasons.

Even though DIS and PP are undifferentiated in terms of low rank on both functions, one group does not achieve even the minimum GPA to remain in school while the other somehow manages to "get by." Two Role Orientations give a hint about the reasons behind DIS' withdrawal and PP' continuance. Univariate F's for the two groups show PP higher on VOC

($P < .04$) for males and SD ($P < .05$) for males plus females. Relatively speaking, PP are low on both IN and AC but high on IC and CC. Thus it may be that PP persist in spite of scholastic tasks and because of their stronger attraction to non-scholastic behaviors and, for males, an instrumental use for college. Seemingly they make grades at near the minimum required by the college in order to get a diploma and to partake of an extracurricular environment.

DIS, besides not liking to deal with ideas, have less instrumental use for college (as a means to a job), partake less of CC behaviors, and are less involved socially with others on campus. In other words, both PP and DIS may not respond well to the scholastic chores of college life, but while PP find their own reasons for surviving in the college environment, DIS have fewer self-justified reasons for persisting. Support for this interpretation of differences between persisters and non-persisters comes from two previous studies: Slater (1957) who stated that vocational ambition aided persistence, and Gekoski and Schwartz (1961) who found that liking of extracurricular activities aided persistence. Astin (1964) found that dropouts were more self-centered, i.e. less interested in others, a result consistent with the present interpretation of SD.

In terms of SES data (Table 7) it is easy to see that DIS respond little to parents' or teachers' influence, while PP respond more. A previous hypothesis that students with higher socio-economic background achieve better (Lavin 1965, Astin 1964) does not hold for this study (PP, DIS and

Table 7

DROPOUT ANALYSIS

SBS DATA FOR MALES, FOR FEMALES, AND FOR MALES + FEMALES
 MEANS AND UNIVARIATE F'S WITH PROBABILITIES LESS THAN .20

		SP	PP	DIS	DR	DF	Univariate F's	P's
MALES	ST	.58	.51	.33	.00	.47	3.13	.01*
	FA	.26	.40	.15	.50	.35	2.81	.02
	CO	.21	.27	.11	.00	.23	1.83	.12
	AR	.30	.30	.10	.20	.29	1.71	.15
FEMALES	MO	.21	.17	.09	.15	.50	2.75	.03**
	CO	.07	.09	.09	.30	.19	2.37	.05
	FR	.14	.09	.24	.25	.37	2.26	.06
	SE	47.46	51.91	59.90	61.55	51.37	2.13	.08
	FA	.08	.06	.19	.20	.25	1.71	.15
	PS	.17	.09	.28	.25	.06	1.67	.16
MALES + FEMALES	SE	47.63	50.74	49.19	61.17	53.39	2.37	.05***
	SS	.26	.14	.18	.23	.12	1.87	.11
	FA	.17	.27	.16	.30	.30	1.76	.13
	BA	.05	.11	.15	.10	.06	1.75	.14
	ST	.56	.52	.36	.47	.45	1.68	.15
	MO	.21	.21	.12	.13	.30	1.50	.20

*df= 4/214

**df= 4/168

***df= 4/387

SP were not different) because the University student body is very homogeneous.

Successful Persisters. The only thing that need be said about SP is that they have both the motivation (high rank on Function I of Role Orientations alone) and the ability (high PGPA) to achieve. On Function I derived from the analysis of PGPA plus Role Orientations, SP scored highest of all groups.

Dropouts. DR, on the other hand, present an interesting problem. They are undifferentiated from SP on both of the discriminate functions and on PGPA. However, looking at Role Orientations for leads it can be seen that DR were lower than SP on AC and IC (both P 's $< .15$). Combining these differences with the significantly higher DR socio-economic status ($P < .05$), a picture emerges of a higher status student who, not liking academic tasks or organized extracurricular events and finding himself in an environment filled with striving lower status peers (Riesman and Jenks, 1962), chooses to extricate himself in order to seek more congenial surroundings. Rose and Elton's (1966) finding that DR rank significantly higher on hostility seems to jibe with this interpretation.

Univariate F 's show male DR lowest on AC ($P < .08$) (Table 4). These results coincide with Astin's (1964) findings that high ability males withdraw because of discontent with academic surroundings.

Only two other studies have looked at dropout and persister groups in a manner similar to that presently employed. First, Rose and Elton (1966) using personality scales found

differences among SP, PP, DR, and DF groups. They did not use a DIS group. On the whole their results fit quite well with the present study: a) PP less anxious than other groups; b) DR more hostile and less repressive than SP; c) PP lowest in social introversion. Some results and conclusions, however, do not coincide. For example, they found DF less dependent than SP and DR. The high RT scores of DF and the low FA, MO and ST (SES data, Table 7) scores for DR seem directly opposed to this conclusion. Also, the prediction that their PP would eventually flunk out of school was based on a comparison without a DIS group. With this group included their conclusions might have been different.

The second study breaking up dropout and persister groups similarly was Ikenberry (1961). This investigator used discriminate analysis to determine differences between groups pre-differentiated by persistence, sex, and achievement. His groups and those used in this study are identical except for his DIS, which included Ss who may have withdrawn voluntarily rather than being dismissed. Using scales of scholastic aptitude, attitudes, values, and social status, he found that three significant functions emerged. As was found in the present study, when measures of scholastic aptitude were combined with other less discriminating measures in a discriminate analysis, the scholastic aptitude measures tended to determine the first function while other factors determined other functions. The group rankings on Ikenberry's "Intellective Function" and the present Function I for PGPA plus Role Orientations are identical except that PP and DIS

groups are reversed. This latter difference may have occurred because the present PP group contains no overachievers to raise the ability level.

Functions II and III for Ikenberry were also highly loaded on scholastic aptitude variables, as well as social status. On no function did attitude or value scales contribute significantly. Apparently the Role Orientations which also to some extent measure attitudes and values tap constructs more pertinent to differentiating groups of normal college students.

When trying to relate the meaning of Function I for Role Orientations alone to previous findings, most scale loadings make sense. Slater (1957) explained that students with high occupational goals (VOC) and/or self-enlightenment goals (IN) would not become satiated with course work. Then too, students who enjoyed academic tasks (AC) would achieve well. However, students who put their extracurricular enjoyments (IC, CC, GK) before school work would not achieve well. The two Role Orientations that require further explanation are RT and SD. Previous studies (Grace 1957) found dropouts to be more dependent than persisters. However, if RT is interpreted as an indicator of parental dependency, the relationship to dropping out is seemingly reversed since on the RT scale DIS are lowest and SP are second highest. This reversal can be explained, to some extent, if RT is interpreted as passivity and parental support as well as dependency. In light of this interpretation, students who receive more parental support for their vocational strivings (e.g. "discussing the future

with my parents") and who can less afford to endanger this support, may find a meaning for college by passive acceptance of parental expectations. In the present study DF seem to be overly dependent and DIS the opposite, while DR also exhibit less passivity. In other words, DIS and DR may voluntarily break with approved patterns while DF withdraw to avoid failure, which they perceive as more deviant.

The SD scale increases with ability and may reflect social sensitivity. Or, since SP are higher than DR, and DF and PP are higher than DIS, it may reflect a trend found by Johnson (1954) for dropouts to score lower on a social adjustment scale. A third explanation ties this scale to the adolescent task of identity seeking. In this interpretation students high on SD would be expressing a healthy adolescent need, while students low on SD would be less adjusted and therefore more prone to drop out.

Over and Underachievers

Although the present study arbitrarily used a greater than $\pm .5$ deviation of actual GPA from PGPA as a criterion for over or underachievement, this criterion produced quite pure groups. Assuming normality, Over and Underachievers' actual GPA differed from their PGPA more than 1.73 standard deviations. Such a difference was larger than that cited by most previous researchers (e.g. McQuary, 1954, and Rust and Ryan, 1954). Table 8 shows means and standard deviations for Overachiever, Underachiever, and Normal Achieving groups on PGPA and on actual GPA. The significantly higher scholastic ability of Underachievers in this study was not an artifact, as it may be when Over and Underachiever groups are formed on the basis of discrepancy between test scores and actual performance. The use of PGPA, which is based largely on previous performance, insured that whatever differences did occur were real differences, since theoretically Underachievers could have had PGPA's as low as 1.7 and Overachievers as high as 3.5 (Lavin, 1965).

When PGPA and Role Orientations were considered, the differentiating effects of both were brought into play to yield a two dimensional discriminate space, accounting for 100% of the variance in which complete separation of groups was possible (Table 9). On Function I ($P < .001$), Underachievers were distinguished from Normal Achievers and Overachievers at $< .01$ level. This function accounted for 66.16% of the variance. PGPA correlated highest with Function I (.62), GK (.47) and IN (.38) were also high. Loadings for

Table 8

MEANS AND STANDARD DEVIATIONS OF PGPA AND OF ACTUAL GPA
FOR MALE AND FOR FEMALE OVER-, UNDER-, AND NORMALACHIEVERS

		PGPA		Actual GPA	
		Mean	Standard deviation	Mean	Standard deviation
MALES	NA	2.06	.21	2.10	.40
	O	2.11	.25	2.98	.32
	U	2.22	.17	1.46	.23
FEMALES	NA	2.28	.22	2.16	.48
	O	2.28	.33	3.06	.37
	U	2.35	.24	1.61	.25

Table 2

OVER AND UNDERACHIEVER ANALYSES

PGPA + ROLE ORIENTATIONS FOR MALES + FEMALES

MEANS, UNIVARIATE F'S, CORRELATIONS TO SIGNIFICANT
FUNCTIONS, FUNCTION CENTROIDS, AND MULTIPLE RANGE RESULTS

	U	NA	O	Univariate F's	Correlations I	II
PGPA	2.29	2.16	2.19	5.97**	.62	.41
GK	52.02	50.13	48.71	3.52*	.47	-.34
IN	51.81	49.71	49.98	1.98	.38	.17
IC	50.86	49.99	50.46	0.34	.11	.17
CC	50.53	50.41	49.73	0.36	.09	-.20
AC	50.53	49.91	51.55	2.59	-.06	.62
SD	49.73	50.07	51.19	1.58	-.21	.39
VOC	49.73	50.00	51.65	2.33	-.22	.51
BT	48.07	50.10	49.99	2.08	-.40	-.13

Function Centroids

I	1.89	1.65	1.62
II	7.56	7.34	7.74

Multiple Range Results

I	.05	U	NA	O	II	.05	U	NA
	.01	U	NA	O		.01	U	NA

Overall Analysis: Wilk's lambda=0.92, df=18/900, F=2.14, P=.004
 Function I: 66.16% of variance, $X^2=25.13$, df=10, P=.006
 Function II: 33.84% of variance, $X^2=13.02$, df=8, P=.11
 Univariate F's > 1.98 = P's < .14 for df 2/458

* .05
 ** .01

IC (.11), CC (.09), and AC (-.06) were low, while SD (-.21) and VOC (-.22) had moderately negative loadings and RT (-.40) correlated most negatively.

It seems that more than one pattern of Underachievement exists. One group may be predominantly IN, one GK, and one small group composed of female physical science majors, but all Underachievers seem to be scholastically promising, vocationally uncertain, and parentally independent, with little concern for or interest in people.

The SBS data yields some evidence for a specifically female pattern of Underachievement (Table 10). This interpretation should be read cautiously, since n's for some SBS variables were very small. Female Underachievers majored less often than other groups in education but significantly more often in physical sciences. Correspondingly, their SD score was lower than any of the other groups'. The predominant influence on female Underachievers' choice of a major was a school teacher. These data seem to describe a fairly bright female who was encouraged by a high school teacher to major in a physical science, but who did not achieve as well as predicted because she had no compelling vocational or intellectual goal in mind (VOC n.s., IN n.s.) and because she did not conform to parental expectations (RT lowest at $\leq .02$ level). Other contributors to her Underachievement might have been the difficulty of physical science curriculum and the predominantly male environment in which she had to compete.

Table 10

OVER AND UNDERACHIEVER ANALYSIS

SES DATA FOR MALES, FOR FEMALES, AND FOR MALES + FEMALES
 MEANS AND UNIVARIATE F'S WITH PROBABILITIES LESS THAN .20

		NA	U	O	Univariate F's	P's
MALES *	EG	0.26	0.07	0.18	2.89	0.06
	GS	2.46	2.39	2.04	2.00	0.13
FEMALES **	ES	0.07	0.15	0.15	1.89	0.15
	PS	0.14	0.36	0.07	8.91	0.001
	ED	0.12	0.02	0.24	5.56	0.005
	ST	0.52	0.66	0.44	2.46	0.09
	GS	2.83	2.46	3.17	3.24	0.04
MALES + FEMALES ***	ES	0.20	0.22	0.18	2.23	0.11
	PS	0.14	0.20	0.22	6.03	0.003
	ED	0.09	0.03	0.15	4.38	0.01
	EG	0.16	0.04	0.11	3.62	0.03

*df=2/235

**df=2/220

***df=2/458

For males and females the GK Role Orientation accounted for much Underachievement. One explanation for this might be that a person with such a Role Orientation as a freshman might neglect academic tasks to seek Greek social life and activities. Persons who in high school could achieve at a superior level with minimal effort would be Underachievers in college if they continued such behavior. Previous evidence coinciding with a GK pattern of Underachievement comes from Diener (1957) who found that Underachievers tended to live in fraternity houses and from Kerns (1957) who found that Underachievers' college objectives centered around fun, help and friendship from social organizations rather than scholastic tasks.

Although the IN Role Orientation was not significantly different for males or for females alone, it did approach significance (.15) for combined sexes with Underachievers scoring highest. Such a result may lend support to the idea of an "intellectual" Underachiever who has better than average scholastic ability but follows his own curiosity rather than formal course work or programs. Evidence fitting this conception is that of Diener (1957) previously cited, concerning Underachievers' artistic interest, and the SB3 information (Table 9) that significantly fewer male Underachievers majored in engineering and a high number planned to go to graduate school. One reason such an Underachiever group would emerge in a combined sex analysis but not in separate sex analyses is that separate n's would be too small to differentiate between these

Underachievers within their own sex group. However, hypothetically, it seems logical that this type of Underachievement, emphasizing theoretical and artistic behaviors, is identical for both sexes. Therefore, sex combination would increase statistical significance where combination of other separate sex Underachievement patterns might reduce it. An impressionistic observation of the small number of such a "pure type" at the University fits with the marginal significance of the IN Role Orientation for Underachieving.

Since Function II (Table 9) is significant at only .01 level, it must be interpreted with caution. It is included here because of its large contribution to understanding differences between Overachievers and Normal Achievers with the variance of Underachievers removed. This function is similar to a function found for Role Orientations alone (Table 11) that discriminated Normal Achievers and Underachievers from Overachievers. The present function seems more accurate since Underachievers; variance has been removed.

Some differences between Function I for Role Orientations alone and Function II for PGPA plus Role Orientations may clarify the effects of non-intellective variables. AC Role Orientation became much more discriminating when Underachiever variance was accounted for, because Over and Underachievers were more similar on this scale than were Over and Normal Achievers. This tends to indicate that Underachievers do not fail to achieve as predicted because

Table 11

OVER AND UNDERACHIEVER ANALYSIS

ROLE ORIENTATIONS ALONE FOR MALES + FEMALES

MEANS, UNIVARIATE F'S, CORRELATIONS TO SIGNIFICANT
FUNCTIONS, FUNCTION CENTROIDS, AND MULTIPLE RANGE RESULTS

	O	NA	U	Univariate F's	Correlations I
VOC	51.65	50.00	49.73	2.33	.51
SD	51.19	50.07	49.73	1.58	.43
AC	51.55	49.91	50.53	2.59	.41
RT	49.99	50.10	48.07	2.08	.31
IC	50.46	49.99	50.87	0.34	-.01
CC	49.73	50.41	50.53	0.36	-.20
IN	49.98	49.71	51.81	1.99	-.26
GK	48.71	50.13	52.03	3.52*	-.64

Function Centroids

24.78 22.13 20.16

Multiple Range Results

.05 O NA U

.01 O NA U

Overall Analysis: Wilk's lambda=.94, df=16/902, F=1.60, P=.06

Function I: 63.15% of variance, $X^2=16.09$, df=9, P=.06

Univariate F's >1.99 = P's < .14 for df=2/458

*.05

I

of adverse attitudes toward studying but for other reasons. The drop in the RT loading seen on Function II points out that Normal Achievers were more RT than Overachievers. Thus more Overachievers seem to have internalized their reasons for achieving, while Normal Achievers must still try to fulfill parental expectations. The high negative loading on IN for Overachievers on Function I disappeared when Underachiever's variance was removed. In fact, Overachievers were slightly more interested in the arts and ideas than Normal Achievers. Finally, the GK negative loading on Function I for Overachievers became less negative after the Underachievers' variance was removed, since Overachievers' and Underachievers' preferences were opposed on this scale. Since both of these functions, with the above qualifications, seem to describe Overachievers, only Function II (Table 9) will be discussed further.

On Function II a multiple range test shows that Normal Achievers were different than Overachievers at $< .01$ level, but neither was different from Underachievers. Function II accounted for the remaining 33.84% of the variance in this analysis. With the variance accounted for by the Underachievers removed, the variables which best discriminated Normal Achievers from Overachievers were AC (.62), VOC (.51), PGPA (.41), SD (.39), CC (-.20), and GK (-.34). The image of the Overachiever produced by this pattern is that of a student who is very serious about an occupational goal, who is interested in people, and who sees scholastic tasks as a means to that goal, or perhaps as ends in

themselves. His attitude toward school allows no time for social activities (CC, GK).

The AC Role Orientation best differentiated Over-achievers from Normal Achievers. It seems that Over-achievers enjoy behaviors that help them Overachieve (e.g. "putting in a full evening of serious studying").

Work by Rosen (1956) and Brown and Helmholtz (1955) found differences between scholastic aptitude and values or attitudes toward study, concluding that they seem to be independent. Furthermore, such attitudes, according to Brown and Helmholtz, "can be objectively measured" and do "play a substantial role in subsequent academic achievement." It seems that Role Orientations effectively tap such attitudes. Several studies (Diener 1957, Lum 1960, Kern 1957) attest to Overachievers' greater acceptance of scholastic tasks. The consistence of their study habits, their non-criticism of educational methodology and philosophy, and their preference for friendly relations with faculty are consistent with a high AC score.

Support for Overachievers' high VOC Role Orientation comes from McQuary (1954) who found Overachievers more likely than Underachievers to have made vocational choices at least one year prior to college entrance, and from Kerns (1957) who found Overachievers more specific about career goals. The VOC Role Orientation differentiated levels of achievement for males but not for females (Table 11). These results are similar to those of Weitz, Clark and Jones (1955) who found occupational goals unimportant for females; and of

Marshall and Simpson (1943) who found that such goals were important in differentiating levels of achievement for males. An SES variable that seems to support this interpretation of the VOC score as more important for male Overachievers than for females is decision to go to graduate school (GS, Table 10). As freshmen, male Overachievers seem to desire a terminal education at the University, from which they will step into jobs (male Overachievers high in Business Administration majors), while more female Overachievers see the University as a transition to further education. Female Overachievers, mostly majoring in education, may plan to be guidance counselors or in some other way advance educationally.

The third highest correlation to Function II was PGPA. In the present sample Overachievers had a PGPA only slightly above that of Normal Achievers. Since PGPA was based largely on high school rank, such a finding suggests that Overachievers' higher PGPA was proportional to the degree to which previously held attitudes aided achievement. Because these Overachievers held this pattern of attitudes in their pre-college environment, their high school ranks would probably show the effects of such attitudes.

Overachievers' higher SD Role Orientation score corresponds with findings of Rust and Ryan (1954) and of Pemberton (1963). Using the SVIB, Rust and Ryan found a tendency toward high achievement or Over-

achievement from those students who scored high on Group V, the "goodness group." This group had interests similar to behaviors on the SD scale, i.e. interest in meeting and serving people. These researchers hypothesized that such students had better internalized conventional norms and values and thus would apply themselves more to educational achievement than students who had not internalized such values. Pemberton similarly found that students with his Social Service Orientation tended to Overachieve. Univariate F on SD was significant for females ($>.06$) but not for males (Table 11). It seems that the female significance on SD stems largely from Overachievers in Education (Table 10). That is, most female Overachievers prefer behaviors which suit them for becoming teachers. Also, if Rust and Ryan's hypothesis was correct, these females transmit conventional norms and values to their pupils.

The negative loadings for Overachievers on GK ($-.34$), and CC ($-.20$) seemed to show that Overachievers view as a waste of time such behaviors as "killing time in a college hangout" and "belonging to a fraternity or sorority." It seems that these students partake little of present peer activities in favor of future activities. That is, they tend to stress a no-nonsense academic achievement approach on campus in order to become well prepared for some future goal, usually an occupation.

SUMMARY AND CONCLUSIONS

The purpose of the present study was to determine profiles of Role Orientations, scholastic ability and background data that best describe and discriminate among dropout groups and Over and Underachiever groups. In order to do this, multiple discriminate analyses were run to determine which variables in combination discriminated among the groups. The present study appeared to be the first dropout or over and underachievement study to use a sub-cultural student typology as a variable.

Results showed that this approach was quite fruitful. Even though student background data did not aid discrimination as expected, the relative importance of the eight Role Orientations and of scholastic ability to the several dropout groups and to the over and underachievement groups helped to clarify their respective processes.

Differences among the several dropout groups were clear on a discriminate function which described an ideal student: highly interested in and curious about people, whose goal in college seemed to be to prepare for a future occupation, who was studious and had some interest in ideas, who was moderately tied to the home, and who did not like to participate in collegiate type extracurricular activities. Two dropout groups fell at either end of this function: Defaulters were closest to the ideal student while Dismissals

were almost completely opposite. The third non-persister group, Dropouts, fell in the middle between the other two groups as well as between the two persisting control groups.

When PGPA was also considered, it seemed clear that Dismissals did not persist because of a combination of low scholastic ability and negative attitudes toward achievement. Probation Persisters, however, did persist with a lower PGPA, probably because of their higher rank on the Role Orientation previously described.

Male Defaulters had the lowest scholastic ability yet ranked highest in behavior preferences which would aid achievement. This discrepancy seems to have destined them to frustration and failure through unrealistic striving. Thus they tended to withdraw before finishing a semester as a conscious or unconscious means of avoiding failure.

Female Defaulters also had high preferences for behaviors described on the Role Orientation function, but had high PGPA also. It seems that their reasons for withdrawal during an on-going semester related to family circumstances rather than scholastic factors.

Dropouts and Successful Persisters were undifferentiated on scholastic ability and on attitudes toward achievement, but they did differ on socio-economic status. It seems that Dropouts may have left the University to seek out more congenial surroundings because the environment transmitted through the majority of lower socio-economic status peers was not congruent with their pre-college environment.

Both Dismissal and Probation Persister groups were less

scholastically talented, disliked academic tasks, had little interest in ideas as such, were not closely dependent on their families, and liked most collegiate behaviors. However, these two groups were different in that male Probation Persisters had more interest in school as a means to an occupational goal than did Dismissals. For both males and females Probation Persisters had greater interest in and concern for people than did Dismissals.

For the analysis of Over and Underachievers two significant discriminate functions described the differences between the Overachiever, Underachiever and Normal Achiever groups. The function describing Underachievers indicated that such a student had above average scholastic ability, liked fraternity and sorority activities, had artistic and theoretical interests, was not particularly interested in people, did not view college as a means to some future occupational goal, and was quite independent of his family.

There seem to be several types of underachievement processes in this function. One seems to be a fraternity-sorority type in which a student devotes his talents to peer-supported activities rather than to adult and/or faculty condoned achievement. A second type seems to be an intellectual Underachiever who used his scholastic ability to pursue his own interests rather than to achieve in a conventional manner. Although weak, a third type seems to be a female who, being bright, was encouraged by a high school teacher to major in physical science but did not achieve as predicted because of the difficulty of the course.

the strong male competition, and weak occupational ambition. Further investigation of these types seems called for in order to clarify the underachievement phenomenon.

A second discriminate function containing PGPA plus Role Orientations and a single function with Role Orientations alone described Overachievers as having very strong preferences for academic behaviors, a strong view that college would help them prepare for an occupation, moderately high scholastic ability, an interest in meeting and serving people, and dislike for hedonistic collegiate behaviors. These students achieve well not primarily because of very high scholastic ability, but rather because they enjoy those behaviors that increase achievement and dislike those that reduce it.

The results of the present study show why a multi-dimensional approach to studying such phenomena as dropping out and achieving abnormally is advantageous. Each of these phenomena is not unitary and has more than a single cause. That is, people drop out or achieve differently than predicted for different reasons and usually for more than one reason.

Multivariate discriminate analysis seems to be a powerful means of analysis when this type of approach is used. Aside from statistical requirements, the approach to such research must be multi-dimensional for theoretical reasons as well.

The measure of Role Orientations provides an instrument based on a theory that roles of college students are indeed multi-dimensional. It yields a profile of independent factors

which tap the contents of the environment which are transmitted through college students themselves. Since such environmental forces seem to be quite potent, an instrument which accurately measures them should be very useful in clarifying college student phenomena.

In the present study only input into the college student culture was measured. However, since membership in such a culture is of an extremely transient nature, input would seem to determine the make up of the culture more than most other factors. It seems that the measured input of Role Orientations are able to predict effectively a profile of non-intellective factors that affect achievement and dropout phenomena.

Results of the present study may generalize to most large state universities, since the environments of these institutions seem to be very similar. However, a similar study done at a small liberal arts college or an elite private university would probably yield different results. Such comparisons are yet to be made and seem to be an obvious next step.

To a degree the present study has answered Knoell's challenge:

The study of the interaction of students and institutions which respect to non-intellective characteristics remains a major challenge in any program of research on attrition (Knoell, 1966, p. 72).

Much more of this type of research must be done on dropouts and on Over and Underachievers. The most logical follow up to the present study would be longitudinal studies to

determine whether and how respective freshman dropout and achiever groups change during their first year and, for persisters, during subsequent years. Also, since discriminate functions that emerged in the separate dropout and achievement portions of this study bear some resemblance to each other, a comparison including all groups might aid understanding.

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APPENDIX I

UNIVERSITY STUDIES
STUDENT PREFERENCE SCHEDULE 4--65

Skip the first four places on the answer sheet. These will be used for other purposes later. Begin with 5.

5. Attending lectures by controversial figures.
6. Being active in a club related to my vocational interest.
7. Dating regularly.
8. Attending folk music concerts.
9. Exploring all the aspects and implications of a problem, not necessarily for a course.
10. Reading course schedules and college bulletins on requirements for graduation.
11. Keeping on the move, because I get tired of one place.
12. Being alone to think.
13. Meeting students for the first time and seeing what I have in common with them.
14. Discussing ideas from a course with a professor and a small group of students.
15. Being prepared for class.
16. Participating in intramural sports.
17. Doing volunteer work at a hospital with mental patients.
18. Working on the business staff of the college newspaper.
19. Going to informal gatherings where there is music and lots of talking.
20. Studying alone in my room.
21. Attending college mixers or informal dances.
22. Studying in the library.
23. Leisurely walking around between classes.
24. Discussing ideas with students in my major field of study.
25. Playing bridge with people who enjoy getting the most out of a hand.

26. Being a member of a service organization on campus.
27. Writing a scholarly essay that requires much study and thought.
28. Working on a committee, concerned with improving the social life of students.
29. Choosing courses that I am certain to pass and get credit for.
30. Being on a committee that arranges college-wide events.
31. Looking through the college bulletin.
32. Sleeping through classes.
33. Helping people with problems.
34. Participating in campus organizations.
35. Traveling and seeing different places.
36. Meeting people I don't know so that I can gain new points of view.
37. Going to the library to see who's there.
38. Going to an entertaining movie.
39. Every so often just observing and listening to people.
40. Attending meetings held by the employment referral and placement office and reading their notices.
41. Thinking about graduating.
42. Striving for membership in an academic honor society.
43. Taking courses that will help maximize income in my future occupation.
44. Participating in serious discussions in class.
45. Discussing and solving mathematical problems that require a lot of thinking.
46. Crossing days off the calendar as they go by.
47. Sleeping whenever I can.
48. Attending plays that voice social protest.
49. Going on field trips to break the monotony of school.
50. Improving a technique or skill that will benefit me in my career field.

51. Sitting outside on campus.
52. Going to a party and discussing art and literature.
53. Working as an assistant in a professor's research project.
54. Taking courses in fields such as religion and philosophy.
55. Talking with faculty guests at dinner.
56. Finding summer employment in a job related to my future occupation.
57. Hearing visiting scholars in my major field of study.
58. Participating in seminars in my major field of study.
59. Talking with my friends about job opportunities.
60. Doing research on a thought-provoking topic, not necessarily for a course.
61. Attending open forums on contemporary social issues.
62. Thinking and talking about the future.
63. Being active in a religious group on campus.
64. Exploring new artistic experiences.
65. Talking to professionals about the skills necessary in my future career.
66. Participating in the activities of a club related to my future profession.
67. Discussing an idea that I expect to employ in later life.
68. Pursuing my academic interests in depth.
69. Talking in the local college hang-out about social life on campus.
70. Reading sensational magazines such as True Confessions, Pageant, and Saga.
71. Loafing around campus.
72. Learning to get along with people.
73. Drinking and talking with friends in a cocktail lounge.
74. Going to parties which are not wild.
75. Meeting different kinds of people.

76. Going to fraternity or sorority parties.
77. Listening to new forms in orchestral music.
78. Reading philosophical novels.
79. Reading magazines such as Life, Reader's Digest, and Look.
80. Taking a course that gives me a chance to hear ideas I would not otherwise hear and to do some unusual reading.
81. Getting to know well someone who is working in my chosen career field.
82. Working on displays for special weekends on campus.
83. Discussing with my parents the value of a college diploma in later life.
84. Reading periodicals devoted to social and political commentary.
85. Killing time in a college hangout.
86. Thinking.
87. Meeting people from other parts of the world.
88. Listening to authorities discuss problems in my career field.
89. Studying.
90. Talking with people I consider to be intellectual.
91. Attending football rallies.
92. Working part time during the school year to increase skills and knowledge in my chosen field.
93. Taking an active part in sorority or fraternity life.
94. Working on the college literary magazine.
95. Discussing with friends the easiest combination of courses that fulfill requirements for the degree.
96. Drinking at a fraternity party.
97. Reading periodicals of contemporary writing and poetry.
98. Participating in college theatrical productions.
99. Working with retarded or underprivileged children.
100. Socializing with people in the local college hangout.

101. Working on the editorial staff of the college newspaper.
102. Studying to keep my cumulative average just high enough for graduation.
103. Being alone and daydreaming.
104. Holding office in student government.
105. Attending voluntary functions in my major field of study.
106. Going to parties which are wild.
107. Cutting classes.
108. Spending lots of time watching television.
109. Getting a degree in order to maximize my status in society.
110. Going to other colleges for weekend social events.
111. Getting to know professors who can write letters of recommendation for future employment.
112. Taking courses that are directly applicable to my future occupation.
113. Collecting material for a research paper.
114. Being a member of the college band.
115. Playing poker for hours.
116. Attending lectures concerning national crises.
117. Attending college football games.
118. Being different.
119. Thinking about what a college diploma can do for me.
120. Attending poetry recitations and analyses.
121. Belonging to a sorority or fraternity.
122. Working on the college yearbook.
123. Talking with friendly professors.
124. Playing solitaire.
125. Rather than theoretical courses, taking skill and technique courses that will be directly applicable in my future occupation.

126. Sitting with friends near the jukebox in the local college hangout.
127. Reading periodicals that are primarily concerned with practical aspects on problems in my career field.
128. Seeing revivals of silent movies.
129. Being active in dormitory life.
130. Accumulating enough credits for graduation.
131. Attending lectures on controversial subjects.
132. Reading folklore.
133. Spending Sunday morning reading The New York Times.
134. Belonging to a group that promotes college spirit.
135. Studying the history of ideas.
136. Seeing a good movie dealing with current social problems.
137. Relieving tensions on campus through "spontaneous student demonstrations".
138. Browsing in a paperback book store.
139. Going on a date, especially to parties and dances.
140. Participating in a social action movement - one concerned with improving social or political conditions.
141. Gaining practical and direct experience for my chosen occupation.
142. Getting together with a bunch of kids and doing crazy things.
143. Participating in traditional events on campus.
144. Working on cross word puzzles.
145. Performing interesting experiments in a laboratory course.
146. Studying, but not at the expense of social activities.
147. Discussing with friends my feelings about life.
148. Seeing foreign films that explore meaning in life.
149. Rounding up a group of people to play a casual game of cards.
150. Going to professional meetings on campus in my career field.

151. Playing chess.
152. Riding around with no particular destination in mind.
153. Talking with professors about job opportunities. .
154. Reading books relevant to my future occupation.
155. Talking to a professor in his office about his scholarly activities.
156. Puttering around the place where I stay at college.
157. Organizing activities on campus.
158. Going to foreign student parties.
159. Having an occasional drink.
160. Planning for graduate school.
161. Going to lectures on job opportunities.
162. Sitting around in a coffeeshop and watching people.
163. Putting in a full evening of serious studying.
164. Talking in a lounge on campus about social events.
165. Working on problems in courses that prepare me for my career.
166. Doing creative writing.
167. Reading poetry in a student hangout near the college.
168. Going home on weekends.
169. Doing things where I can meet people.
170. Attending informal discussions on job opportunities.
171. Discussing the future with my parents.
172. Working with a faculty member on a project that is applicable to my career.
173. Planning social events for big weekends on campus.
174. Taking courses in various subjects to increase my chances of employment.
175. Reading academic periodicals.
176. Reading a well-organized and interesting work of scholarship.

177. Hearing visiting experts speak on a subject that will be useful in my profession.
178. Writing poems.
179. Loafing and doing nothing.
180. Fulfilling responsibilities.
181. Getting work done on time.
182. Taking practical courses over a wide range of areas to prepare me for later life.
183. Talking informally with professors over coffee.
184. Discussing with friends the kinds of occupations available to college graduates.
185. Working to get high grades in certain courses so that employers will be interested in me.
186. Going to basketball games.
187. Attending a modern dance recital.
188. Finishing assignments early so that I can do some independent study in the course.
189. Playing pool for several hours at a stretch.
190. Going to fraternity and sorority exchange suppers.
191. Being a member of a political action group.
192. Collecting leaves and flowers and classifying them.
193. Being active in interfraternity or intersorority competitions.
194. Working on the news staff of the college newspaper.
195. Reading textbooks that present facts and principles that will be useful in my profession.
196. Reading novels that involve criticism of contemporary society.

This completes this questionnaire.

Thank you for your cooperation.

UNIVERSITY STUDIES
STUDENT BACKGROUND SCHEDULE 6-65

In this part of the questionnaire, we ask you to provide some information that will help us understand the pattern of responses given in the first part.

Remember that this information will be used for research only. It will not become part of your college record. Answer, then, as fully and as sincerely as you can.

Student Number _____

Name _____

1. What is your sex?

- _____ 1 Male
- _____ 2 Female

2. Which of the following would best indicate your religious background?

- _____ 1 Catholic
- _____ 2 Protestant
- _____ 3 Jewish
- _____ 4 Other or None

3. What is the highest level of education attained by your father?

- _____ 1 No formal education
- _____ 2 Some elementary school education
- _____ 3 Some secondary school education
- _____ 4 Graduation from high school
- _____ 5 Technical training without college
- _____ 6 Some college
- _____ 7 Graduation from college
- _____ 8 Professional training after college

-2-

4. What is the highest level of education attained by your mother?

- 1 No formal education
- 2 Some elementary school education
- 3 Some secondary school education
- 4 Graduation from high school
- 5 Technical training without college
- 6 Some college
- 7 Graduation from college
- 8 Professional training after college

5. How many older brothers have you?

6. How many older brothers have been or are in college?

7. How many older sisters have you?

8. How many older sisters have been or are in college?

9. Write below the first names of your three closest friends or acquaintances who were graduated with you from high school or preparatory school. Tell briefly what you think they will be doing in the fall this year.

1.

2.

3.

10. Describe as precisely as you can the nature of your father's occupation. If he is no longer employed, describe the position that he last held. If he has more than one job, describe that which is most important. Avoid general terms like "engineer" or "factory worker"; be as specific as possible.

11. If your mother is employed part-time or full-time, describe as precisely as you can the nature of her occupation.

12. Which of the following magazines are delivered on subscription to your family? Check those appropriate.

- _____ Life
 _____ Time
 _____ Newsweek
 _____ U. S. News and World Report

13. Which of the following magazines are delivered on subscription to your family? Check those appropriate.

- _____ Atlantic
 _____ Harper's
 _____ Saturday Review
 _____ New York Review of Books

14. Which of the following magazines are delivered on subscription to your family? Check those appropriate.

- _____ New Republic
 _____ The Nation
 _____ The Reporter
 _____ National Review

15. Which of the following magazines are delivered on subscription to your family? Check those appropriate.

- _____ Partisan Review
 _____ Dissent
 _____ Encounter
 _____ American Scholar

16. On every college or university campus students hold a variety of attitudes about their own purposes and goals while at college. Such an attitude might be thought of as a personal philosophy of higher education. Below are descriptive statements of four such "personal philosophies" which there is reason to believe are quite prevalent on American college campuses. As you read the four statements, attempt to determine how close each comes to your own philosophy of higher education.

PHILOSOPHY A: This philosophy emphasizes education essentially as preparation for an occupational future. Social or purely intellectual phases of campus life are relatively less important, although certainly not ignored. Concern with extracurricular activities and college traditions is relatively

-4-

small. Persons holding this philosophy are usually quite committed to particular fields of study and are in college primarily to obtain training for careers in their chosen fields.

PHILOSOPHY B: This philosophy, while it does not ignore career preparation, assigns greatest importance to scholarly pursuit of knowledge and understanding wherever the pursuit may lead. This philosophy entails serious involvement in course work or independent study beyond the minimum required. Social life and organized extracurricular activities are relatively unimportant. Thus, while other aspects of college life are not to be forsaken, this philosophy attaches greatest importance to interest in ideas, pursuit of knowledge, and cultivation of the intellect.

PHILOSOPHY C: This philosophy holds that besides occupational training and/or scholarly endeavor an important part of college life exists outside the classroom, laboratory, and library. Extracurricular activities, living-group functions, athletics, social life, rewarding friendships, and loyalty to college traditions are important elements in one's college experience and necessary to the cultivation of the well-rounded person. Thus, while not excluding academic activities, this philosophy emphasizes the importance of the extracurricular side of college life.

PHILOSOPHY D: This is a philosophy held by the student who either consciously rejects commonly held value orientations in favor of his own, or who has not really decided what is to be valued and is in a sense searching for meaning in life. There is often deep involvement with ideas and art forms both in the classroom and in sources (often highly original and individualistic) in the wider society. There is little interest in business or professional careers; in fact, there may be a definite rejection of this kind of aspiration. Many facets of the college -- organized extracurricular activities, athletics, traditions, the college administration -- are ignored or viewed with disdain. In short, this philosophy may emphasize individualistic interests and styles, concern for personal identity and, often, contempt for many aspects of organized society.

Rank order the four statements above according to the accuracy with which each portrays your own point of view. Be sure to assign a different rank to each "philosophy."

1. Most accurate (i.e., of the four statements, this one is the best description of my point of view.)
2. Second most accurate
3. Third most accurate
4. Least accurate

_____ Philosophy A

_____ Philosophy C

_____ Philosophy B

_____ Philosophy D

17. What will be your major field in college?

18. How long ago did you decide on this field?

- 1 In the past six months
- 2 Between six months and a year ago
- 3 One or two years ago
- 4 More than two years ago

19. Of the following, who would you say influenced you the most in your choice of major field? Check only one.

- 1 Father
- 2 Mother
- 3 Other adult relative
- 4 School teacher
- 5 School counselor, dean, or principal
- 6 College teacher
- 7 College counselor, dean, or other non-teacher
- 8 Close friend

20. After obtaining your bachelor's degree, do you expect to continue your education in a graduate or professional school?

- 1 Definitely yes
- 2 Probably yes
- 3 Probably no (skip to question 22)
- 4 Definitely no (skip to question 22)
- 5 Have not thought/ about it to say (skip to question 22)
enough

21. When did you first consider the question of pursuing graduate or professional training?

- 1 In the past six months
- 2 Between six months and a year ago
- 3 One or two years ago
- 4 More than two years ago

22. Have you decided, even tentatively, what occupation or vocation you want to go into after college?

- 1 Yes
- 2 No

23. In thinking about your occupational future, do you feel in the long run you will have a preference for:

- 1 An academic life
- 2 A business life
- 3 A professional life
- 4 A life of a trained technician or craftsman
- 5 A life centering around some aspect of the creative arts
- 6 A life centering upon a home and family
- 7 Some other kind of life not listed here
- 8 Have not thought enough about it to say

24. Among the subjects listed below, check the one you liked most in secondary school, and the one you liked least.

Liked most

Liked least

_____	Art	_____
_____	English	_____
_____	Foreign language	_____
_____	Mathematics	_____
_____	Music	_____
_____	Physical education	_____
_____	Sciences	_____
_____	Shop or commercial	_____
_____	Social Sciences	_____

25. Were you personally friendly with any of your high school teachers, that is, well enough acquainted to talk about matters not necessarily related to school or course work?

- _____ 1 No, none
 _____ 2 One or two
 _____ 3 Three or four
 _____ 4 Five or six
 _____ 5 More than six

26. How important was it to your parents that you received good grades in secondary school?

- _____ 1 Not very important
 _____ 2 Fairly important
 _____ 3 Quite important
 _____ 4 Extremely important

27. How important is it to your parents that you go to college?

- _____ 1 Not very important
 _____ 2 Fairly important
 _____ 3 Quite important
 _____ 4 Extremely important

28. Of the three purposefully extreme statements which follow, which one comes closest to describing your parents' policy in regard to your upbringing?

- _____ 1 All policy in the hands of parents; parents only source of control; parents domineering and authoritarian.
 _____ 2 Great permissiveness; few controls on behavior; complete freedom for children.
 _____ 3 Parents suggest without coercing; parents hope that children will understand reasons for regulations; parents ready and willing to explain and interpret.

29. Who in your parental family really has had the final say about things concerning the children (discipline, staying out late, special privileges, and things like that)?

- _____ 1 Almost entirely up to father
 _____ 2 Usually up to father
 _____ 3 Usually up to mother
 _____ 4 Almost entirely up to mother

30. During your secondary school years, how many honors or awards for scholarly achievement did you receive?

31. During your secondary school years, how many honors or awards (e.g., letters) did you receive for athletic achievements?

32. During your secondary school years, how many important offices did you hold in your school's student government (e.g., student president, commissioner of athletics, class president)?

33. Beside each of the activities listed below, write the number that best represents the extent of your participation in that activity in secondary school.

- 1 Did not participate
- 2 Participated but not very actively
- 3 Participated very actively

- _____ Science activities
- _____ Journalism and publication activities
- _____ Literary, debate, speech or dramatic activities
- _____ Hobby groups
- _____ Music activities
- _____ School spirit activities (e.g., rally committee)
- _____ Public affairs groups

This concludes the questionnaire. Thank you for your cooperation.

APPENDIX II

Highest Items on Eight Factors *

Factor 1: Vocational

- .81 Going to professional meetings on campus in my career field.
- .80 Listening to authorities discuss problems in my career field.
- .79 Talking with professors about job opportunities.
- .79 Gaining practical and direct experience for my chosen occupation.
- .76 Talking to professionals about the skills necessary in my future career.
- .76 Reading books relevant to my future occupation.
- .71 Taking courses that are directly applicable to my future occupation.
- .71 Reading periodicals that are primarily concerned with practical aspects on problems in my career field.
- .69 Improving a technique or skill that will benefit me in my career field.
- .68 Attending informal discussions on job opportunities.
- .67 Participating in the activities of a club related to my future occupation.
- .66 Reading textbooks that present facts and principles that will be useful in my profession.

Factor 2: Instrumental Collegiate

- .84 Being on a committee that arranges college-wide events.
- .81 Planning social events for big weekends on campus.
- .79 Organizing activities on campus.
- .75 Belonging to a group that promotes college spirit.
- .74 Working on the college yearbook.
- .74 Working on displays for special weekends on campus.
- .72 Holding office in student government.
- .68 Participating in campus organizations.
- .65 Working on a committee concerned with improving the social life on campus.
- .64 Working on the news staff of the college newspaper.
- .61 Participating in traditional events on campus.
- .57 Being a member of a service organization on campus.

* from Stanfield and Schumer(1968)

Factor 3: Intellectual

- .82 Attending poetry recitations and analyses.
- .76 Reading philosophical novels.
- .75 Studying the history of ideas.
- .74 Going to a party and discussing art and literature.
- .73 Writing poems.
- .72 Attending open forums on contemporary social issues.
- .70 Reading poetry in a student hangout near the college.
- .67 Reading novels that involve criticism of contemporary society.
- .66 Exploring new artistic experiences.
- .66 Attending plays that voice social protest.
- .64 Attending lectures on controversial subjects.
- .56 Writing a scholarly essay that requires much study and thought.

Factor 4: Consummatory Collegiate

- .82 Killing time in a college hangout.
- .74 Socializing with people in the local college hangout.
- .72 Loafing around campus.
- .72 Sitting with friends near the jukebox in the local college hangout.
- .68 Talking in the local college hangout about social life on campus.
- .60 Talking in a lounge on campus about social events.
- .59 Loafing and doing nothing.
- .56 Drinking at a fraternity party.
- .56 Going to parties that are wild.
- .53 Getting together with a bunch of kids and doing crazy things.
- .49 Going to fraternity and sorority parties.
- .47 Discussing with friends the easiest combination of courses that fulfill requirements for the degree.

Factor 5: Social Development

- .72 Meeting different kinds of people.
- .62 Meeting people from other parts of the world.
- .59 Traveling and seeing different places.
- .59 Doing things where I can meet people.
- .55 Every so often just observing and listening to people.
- .51 Sitting outside on campus.
- .44 Helping people with problems.
- .43 Talking with friendly professors.
- .38 Getting work done on time.
- .34 Being prepared for class
- .32 Participating in campus organizations.
- .31 Being a member of a service organization on campus.

Factor 6: Ritualistic

- .56 Discussing the future with my parents.
- .52 Discussing with my parents the value of a college diploma
in later life.'
- .52 Crossing days off the calendar as they go by.
- .51 Going home on weekends.
- .40 Playing solitaire.
- .40 Participating in serious discussion in class.
- .38 Collecting leaves and flowers and classifying them.
- .36 Working on crossword puzzles.
- .25 Loafing and doing nothing.
- .24 Going to parties that are wild.
- .24 Talking with my friends about job opportunities.
- .23 Belonging to a group that promotes college spirit.

Factor 7: Academic

- .68 Putting in a full evening of serious studying.
- .61 Studying.
- .49 Getting work done on time.
- .48 Being prepared for class.
- .46 Finishing assignments early so that I can do some independent study in the course.
- .45 Striving for membership in an academic honor society.
- .43 Cutting classes.
- .40 Studying to keep my cumulative average just high enough for graduation.
- .30 Planning for graduate school.
- .28 Discussing with friends the easiest combination of courses that fulfil requirements for the degree.
- .27 Reading academic periodicals.
- .26 Participating in serious discussions in class.

Factor 8: Fraternity and Sorority

- .79 Taking an active part in fraternity or sorority life.
- .74 Belonging to a sorority or a fraternity.
- .64 Being active in interfraternity or intersorority competitions.
- .54 Going to fraternity or sorority parties.
- .44 Drinking at a fraternity party.
- .32 Working on the editorial staff of the college newspaper.
- .25 Planning social events for big weekends on campus.
- .25 Reading academic periodicals.
- .24 Going to parties that are wild.
- .23 Sitting with friends near the jukebox in the local college hangout.
- .23 Working on the news staff of the college newspaper.
- .22 Belonging to a group that promotes college spirit.

APPENDIX III

List of Variables

1. PGPA Predicted Grade Point Average

Role Orientations

2. VOC Vocational

3. IC Instrumental Collegiate

4. IN Intellectual

5. CC Consummatory Collegiate

6. SD Social Development

7. RT Ritualism

8. AC Academic

9. GK Greek

10. FC Number of high school friends going to college

11. SE Socio-economic status based on father's occupational prestige

School and Major Area of Study

12. AG Agriculture

13. HM Arts and Sciences (Humanities)

14. SS **Arts** and Sciences (Social Sciences)

15. BS Arts and Sciences (Biological Sciences)

16. PS Arts and Sciences (Physical Sciences)

17. BA Business Administration

18. ED Education

19. EG Engineering

20. HE Home Economics

21. NS Nursing

22. PE Physical Education

23. PH Public Health

24. TM Time when decision was made on major field

Major Influence on Choice of Major Field

25. FA Father

26. MO Mother

27. AR Other adult relative

28. ST School Teacher

29. SC School counselor, dean or principal

30. CT College teacher

31. CC College counselor, dean or non-teacher

32. FR Close friend

33. GS expectation of graduate study

34. TG Time when decision on graduate study was made

APPENDIX IV

Discriminate Analysis Formats

Title of Analysis	Groups Compared
Dropout Analysis	Successful Persisters Probation Persisters Dismissals Dropouts Defaulters
Over and Underachiever Analysis	Overachievers Underachievers Normal Achievers (Probation Persisters + Successful Persisters)

APPENDIX V

-DROPOUT ANALYSIS

PGPA + ROLE ORIENTATIONS + SBS DATA FOR MALES AND FEMALES
 MEANS, UNIVARIATE F PROBABILITIES, AND VARIABLE

CORRELATIONS TO SIGNIFICANT FUNCTIONS,

PLUS FUNCTION CENTROIDS

	SP	PP	DIS	DR	DF	p's	Correlations I
PGPA	2.31	1.99	2.16	2.22	2.15	0.001	0.89
VOC	50.11	49.37	48.72	49.70	53.93	0.04	0.06
IC	49.61	50.43	49.08	46.92	47.92	0.20	-0.05
IN	50.57	48.67	48.37	50.48	50.21	n.s.	0.19
CC	49.76	51.19	50.36	50.27	48.37	n.s.	-0.11
SD	50.89	49.07	46.54	49.94	49.65	0.003	0.29
RE	50.55	49.42	49.09	49.22	51.12	n.s.	0.14
AO	50.33	48.79	49.53	48.39	50.33	0.15	0.21
GA	49.33	50.43	51.63	49.50	50.35	n.s.	-0.10
FC	2.71	2.53	2.56	2.50	2.51	n.s.	0.13
SF	47.53	50.74	49.19	51.15	53.39	0.05	-0.03
AG	0.05	0.05	0.05	0.07	0.09	n.s.	-0.04
EM	0.13	0.23	0.19	0.23	0.13	n.s.	-0.07
SS	0.25	0.14	0.18	0.23	0.12	0.15	0.23
BS	0.12	0.15	0.16	0.17	0.12	n.s.	-0.07
FS	0.23	0.15	0.22	0.27	0.15	n.s.	0.13
JA	0.05	0.11	0.15	0.10	0.06	0.15	-0.22
ED	0.09	0.09	0.07	0.17	0.06	n.s.	0.05
EG	0.14	0.13	0.14	0.13	0.06	n.s.	-0.06
HE	0.05	0.07	0.05	0.01	0.06	n.s.	-0.04
NS	0.13	0.07	0.04	0.07	0.03	n.s.	0.13
FE	0.11	0.10	0.12	0.15	0.06	n.s.	0.01

	SP	PP	DIS	DR	DF	p's	Correlations I
PH	0.04	0.03	0.04	0.07	0.00	n.s.	0.03
IM	2.47	2.52	2.33	2.53	2.45	n.s.	0.01
PA	0.17	0.27	0.16	0.30	0.30	0.15	-0.11
MO	0.21	0.21	0.12	0.12	0.30	0.20	0.06
AR	0.20	0.24	0.12	0.17	0.24	n.s.	-0.01
ST	0.55	0.52	0.36	0.47	0.45	0.15	0.14
SO	0.27	0.23	0.20	0.13	0.15	n.s.	0.07
CP	0.21	0.15	0.07	0.10	0.15	n.s.	0.11
CO	0.13	0.21	0.11	0.20	0.21	n.s.	-0.03
FR	0.24	0.19	0.23	0.20	0.24	n.s.	0.06
GS	2.55	2.71	2.51	3.03	2.51	n.s.	-0.05
TG	2.01	1.87	1.82	1.97	2.06	n.s.	0.12

Function Centroids

I	2.33	1.97	1.99	2.17	2.13
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OVER- AND UNDERACHIEVER ANALYSIS

PGPA + ROLE ORIENTATIONS + SBS DATA FOR MALES + FEMALES

MEANS, UNIVARIATE F PROBABILITIES, AND VARIABLE

CORRELATIONS TO SIGNIFICANT FUNCTIONS,

PLUS FUNCTION CENTROIDS

	CP	U	O	p's	Correlations I
PGPA	2.16	2.29	2.19	0.003	0.36
VOC	50.00	49.73	51.55	0.10	-0.21
IC	49.99	50.37	50.46	n.s.	0.05
IN	49.71	51.81	49.98	0.04	0.23
CC	50.41	50.53	49.73	n.s.	0.08
SD	50.07	49.73	51.19	0.20	-0.13
RT	50.10	48.07	49.99	0.12	-0.25
AC	49.91	50.53	51.55	0.07	-0.11
GK	50.13	52.03	48.71	0.03	0.35
FC	2.67	2.77	2.72	n.s.	0.08
SE	49.04	50.49	48.87	n.s.	0.08
AI	0.05	0.03	0.06	n.s.	-0.13
IA	0.21	0.20	0.23	n.s.	-0.05
SS	0.20	0.22	0.18	n.s.	0.07
BS	0.14	0.20	0.22	0.10	-0.01
PS	0.19	0.33	0.13	0.003	0.47
BA	0.08	0.07	0.12	n.s.	-0.15
ED	0.09	0.03	0.15	0.01	-0.37
EG	0.16	0.04	0.11	0.03	-0.21
HE	0.06	0.04	0.07	n.s.	-0.09
NS	0.10	0.07	0.11	n.s.	-0.08
PE	0.11	0.04	0.10	n.s.	-0.16

	CP	U	O	p's	Correlations I
PH	0.04	0.04	0.03	n.s.	-0.07
TM	2.49	2.53	2.56	n.s.	0.03
FA	0.21	0.22	0.23	n.s.	-0.02
MO	0.21	0.23	0.23	n.s.	0.01
AR	0.22	0.22	0.19	n.s.	0.05
ST	0.54	0.59	0.49	n.s.	0.15
SC	0.25	0.22	0.13	n.s.	0.06
CF	0.19	0.14	0.13	n.s.	-0.04
CO	0.17	0.17	0.13	n.s.	0.09
FR	0.22	0.21	0.18	n.s.	0.06
GS	2.62	2.43	2.59	n.s.	-0.11
EG	1.95	2.00	1.95	n.s.	0.03
Function Centroids					
I	1.05	1.34	0.95		

