DCCUMENT RESUME

ED 036 475 SP 003 561

AUTHOR	SOKOL, ALVIN P.; MARSHALL, JON C.
TITLE	THE INDEPENDENT STUDENT: EDUCATIONAL AND SOCIAL-PSYCHOLOGICAL CHARACTERISTICS; INQUIRY INTO INNOVATIONS SERIES, RESEARCH REPORT 3.
INSTITUTION	UNIVERSITY CITY SCHOOL DISTRICT, MO.
PUB DATE	OCT 69
NOTE	45P.
EDRS PRICE	EDRS PRICE MF-$0.25 HC-$2.35
DESCRIPTORS	ACADEMIC ACHIEVEMENT, EDUCATIONAL ENVIRONMENT, HIGH SCHOOL STUDENTS, *LEARNING CHARACTERISTICS, *PSYCHOLOGICAL CHARACTERISTICS, SECONDARY SCHOOL TEACHERS, STUDENT ABILITY, STUDENT ADJUSTMENT, STUDENT ATTITUDES, STUDENT BEHAVIOR, *STUDENT CHARACTERISTICS, STUDENT PROBLEMS
IDENTIFIERS	HENMAN NEISON INTELLIGENCE QUOTIENT, MINNESOTA COUNSELING INVENTORY, MOONEY PROBLEM CHECK LIST, STUDY OF VALUES

ABSTRACT

AN INVESTIGATION WAS CONDUCTED TO DETERMINE THE CHARACTERISTICS OF INDEPENDENT (SELF-DIRECTING) STUDENTS AND THOSE CHARACTERISTICS WHICH DIFFERENTIATE INDEPENDENT FROM NON-INDEPENDENT STUDENTS. EACH OF THE 35 TEACHERS WHO HAD CLASSROOM CONTACT WITH AN 11TH GRADE CLASS OF 525 WAS ASKED TO NAME FIVE STUDENTS HE FELT BEST CHARACTERIZED NON-INDEPENDENT STUDENTS. EDUCATIONAL CHARACTERISTICS WERE DETERMINED THROUGH ANALYSIS OF GRADE-POINT AVERAGES AND CLASS RANK; IQ TESTS; STUDENT ACTIVITY SELECTION; PROGRAM ORIENTATION (COLLEGE BOUND OR NOT); SCHOOL PROBLEMS (ABSENCES, DISCIPLINE); AND SEX. SOCIAL-PSYCHOLOGICAL CHARACTERISTICS WERE EXAMINED THROUGH SCORES ON INVENTORY SCALES MEASURING PERSONAL PROBLEMS, PSYCHOLOGICAL TRAITS, AND VALUES. OF THE 35 CHARACTERISTICS STUDIED, 17 WERE FOUND TO DIFFERENTIATE SIGNIFICANTLY (.05 LEVEL OF CONFIDENCE) BETWEEN THE TWO GROUPS. MAJOR FINDINGS: INDEPENDENT STUDENTS ARE NOT ONLY ACADEMICALLY TALENTED, BUT HAVE STABLE FAMILY RELATIONSHIPS, EMOTIONAL STABILITY, ADJUSTMENT TO REALITY, COMPREHENSION AND ACCEPTANCE OF THE RULES AND NORMS OF "THEIR" SOCIETY. A CLOSE ASSOCIATION EXISTS BETWEEN SCHOOL-RELATED DIFFICULTIES AND PROBLEMS IN SOCIAL-PSYCHOLOGICAL ADJUSTMENT. NOT-INDEPENDENT STUDENTS HAVE LITTLE SUCCESS IN THEIR INTERACTION WITH THEIR EXTERNAL ENVIRONMENT, INCLUDING THE SCHOOL SITUATION. (INCLUDED ARE COMPLETE FINDINGS AND DISCUSSION OF IMPLICATIONS FOR SCHOOLS.) (JS)

THE INDEPENDENT STUDENT

OCTOBER, 1969

RESEARCH REPORT III

TITLE III, ESEA (PUBLIC LAW 89-10)
UNIVERSITY CITY SCHOOL DISTRICT
Ronald M. Compton, Director

Inquiry Into Innovations Series

Report Prepared By

Jon P. Sokol

Jon C. Marshall

THE INDEPENDENT STUDENT:

EDUCATIONAL AND SOCIAL-PSYCHOLOGICAL CHARACTERISTICS

ALVIN P. SOKOL
Research Coordinator
Special Projects Office
University City School District
University City, Missouri 63130

JON C. MARSHALL
Consultant, School of Education
University of Missouri-St. Louis
St. Louis, Missouri 63121

Manuscript typed by Mrs. Kathryn Schragin
Special Projects Office
University City School District
University City, Missouri

TABLE OF CONTENTS

LIST OF TABLES

TABLE OF FIGURES

THE INDEPENDENT STUDENT: EDUCATIONAL AND SOCIAL-PSYCHOLOGICAL CHARACTERISTICS

Background

> The schools of University City exist primarily to serve the youth of this community, and the society in which they live through aiding them to become responsible, self-directing individuals who are capable of making decisions and value judgments (Boyer, *et al*, 1966).

It is generally acknowledged by educators that qualities such as originality, initiative, and self-direction are essential in a democratic society (Ragan, 1966). It is axiomatic, therefore, that the school has a major responsibility for fostering these attributes if the school is to contribute to the functioning of such a society.

Many school districts in the nation, including the School District of University City, have attempted to modify the school environment in order to increase the opportunities for students to develop these essential attributes. With these changes has emerged a new construct: independent, self-directing students (termed here, *independent students*). Within the educational community the term *independent student* has been used increasingly to connote an ultimate goal toward which an educational system should strive.

However, this construct has not been operationally defined. The term *independence* has been theoretically defined in the psychological literature. It is quite clear from that literature, however, that this construct of independence is currently used in a different sense by educators. Inasmuch as the newly coined term *independent student* is unrelated to its counterpart in the psychological sense, this newer construct must be clarified for it to have any educational utility.

Therefore, this series of studies was undertaken in order to clarify the construct of the *independent student*. The definition of this construct seems to exist conceptually in the sense that teachers and the publications of school districts speak of *the independent student* and of *developing independence in students*. The attempt was made in this study, therefore, to arrive at behavioral and operational definitions by examining attributes of students to whom the presence or lack of the quality of the *independent student* has been ascribed by their teachers.

Logically, the investigation was divided into two phases: Phase I, the general educational characteristics of *independent* and *not-independent* students and Phase II, the social-psychological characteristics of these two groups. It was anticipated that the collation of the results of these investigations would provide descriptions of the typical habitudes of these two groups of students leading toward refinement of the construct.

Theoretical Orientation

A body of investigations from at least four disciplines impinges upon this study. All of those described in this section start from divergent frames of reference and pursue different avenues of approach. Interestingly, the data from this study are applicable to each of the subareas within the disciplines to be described below. The general areas of the investigations are subsumed under the headings: (1) sociological-anthropological; (2) psychology of adolescence; (3) educational psychological; and (4) social-psychological.

The view of sociological investigators applying anthropological techniques of observation to the study of American education has been that the school operates as an institution for perpetuating the social class structure of the larger society. The literature suggests that the school operates as one of

the chief agents for socialization of the child. Furthermore, it operates selectively -- as a sorting device -- rewarding some students and withholding rewards from others with the result that the social class values of the community are upheld (Hollingshead, 1949). As early as 1944, Warner, Havighurst and Loeb pointed out that, as a social system, the school categorizes children according to intellectual ability and other criteria such as "economic status, social class, and social personality (p. 50)."

Early investigations of adolescence viewed that period of life as one filled with "turbulence, storm and strife (Hall, 1905)." In subsequent studies the same general orientation has been evident (Havighurst and Taba, 1949). Recently, attention has been turned toward teen-agers identified as constituting a "normal, well-adjusted group" in contrast with former works concerned with "disturbed" adolescents (Offer, 1969). The findings from this survey of suburban, middle-class boys indicated that the subjects were satisfied with their environment and that they shared the same general orientation as their parents toward education, work, and social and family relations.

Numerous researchers have attempted to isolate teacher attributes which contribute to "successful" teaching performance. These have focused upon teacher-pupil relations (Bush, 1954), the affective domain (Stern, 1963), students' perceptions of teachers (Davidson and Lang, 1960), teachers' expectations of pupil achievement (Rosenthal, 1966), and upon the classroom learning environment (Fox, Lippet, and Schmuck, 1964). These studies, along with many others, have contributed to a growing body of knowledge concerning the manner in which teachers' attitudes, perceptions, and behavior exert an influence upon pupil attitudes, perceptions, behavior, achievement, and satisfaction. In general, these studies seem to indicate that: (1) empathetic teaching is associated with positive classroom results; (2) pupil performance is dependent, in

part, upon the student's perception of the teacher's view of him; (3) pupil performance is a direct function of the teachers' expectations of ability; and (4) teachers' expectations of pupils are derived from personal-psychological characteristics in addition to academic ones. A study analyzing the differences between high-, average-, and low-achievers suggested that the students' success in dealing with their external and internal environments was associated with school achievement (Marshall, 1967).

Investigations into the nature of group membership point out that an individual's attitudes and values are affected by the membership group to which he belongs (Sherif and Sherif, 1953). Furthermore, it seems that the "character" of any group evolves from the personal characteristics of its individual members.

It is clear from the introductory statement to this report that the staff of the University City Schools sees its role in the education of the community's youth as being quite different from the school role described by the sociologists, *i.e.*, a sorting device to re-enforce a social class system. A concomitant of the newer role envisioned for the schools is a differing emphasis in terms of the types of experiences a student in the school setting should have in order to aid him in becoming "responsible, perceiving, self-directed."

The *independent* and *not-independent* groups under consideration herein were grouped on the basis of teacher nominations. The extent to which they were or were not real social entities was not of concern in this study. However, teachers were able to categorize students into groups which were clearly discriminable insofar as the educational characteristics of the groups were concerned (Sokol and Marshall, 1968; Marshall and Sokol, 1969). The body of investigations of reference-group orientation suggest that (1) student

reference-groups function within the social context of any group of students, and (2) membership in the groups is implicit in the actions of teachers and peers toward members of the various groups. If the characteristics which separate the members of the *independent student* group from the *not-independent student* group can be described, it should be possible for the educational staff to develop means of reaching those students who display the characteristics of *not-independent students*.

By investigating the characteristics of students from both of these extremes, this study can yield data concerning the way teachers view students. In this respect, the study adds additional information to the body of literature concerning teacher behavior toward and perceptions of students.

Purpose

The purpose of this investigation was to determine the general characteristics of *independent students* and to determine those characteristics which differentiate *independent students* from *not-independent students* as teachers perceive them in a genuine school setting. Toward this end, both educational and social-psychological characteristics were examined.

Procedure

The general method of this series of studies was to identify those high school students who could be considered *independent students* and those who could be considered *not-independent students*, and then to analyze selected variables for their relation to the *independent-not-independent* classifications. The sample of students was taken from the eleventh grade class at University City High School. The eleventh grade class was used because (1) the majority

of this class would have been attending the school for more than one year and (2) this would allow for study over a two-year period.

Sample

Each of the 35 teachers who had classroom contact with grade eleven students were requested to submit the names of the five students whom they felt best characterized *independent, self-directed students* and the names of five students whom they felt least characterized *independent, self-directed students* (or best characterized *not-independent students).* The teachers submitted the names of 60 *independent* and 58 *not-independent students.*

It is interesting that of the 118 names submitted (from a total of 525 students in the eleventh grade class), there were no students whose names appeared in both groups. Furthermore, about one-fourth of the students received two or more nominations. This consistency in the selection of *independent* and *not-independent students* indicates the likelihood of homogeneity among teachers in their perceptions of the construct.

The teachers were not provided guidelines for their selection of students. They were to select students who fit with their perceptions of *independent* and *not-independent.* The lack of structure was necessary in order to analyze this construct from the practical orientation of the classroom teacher. The degree of consistency in the selection of students previously noted takes on even greater significance in light of the lack of guidelines for making nominations.

Phase I

This series of investigations was divided into two phases. The initial phase was concerned with the educational attributes of the two groups which had been identified. The areas selected for study were: (1) achievement level, (2) ability level, (3) selection of activities, (4) program orientation, (5)

school problems, and (6) sex of the student. These six areas were operationally defined as follows:

1. Achievement level -- student's accumulative average and his rank in class.
2. Ability level -- student's Henman-Nelson Intelligence Quotient as obtained in grade nine (or a reasonable substitute).
3. Selection of activities -- number of modules (15-minute periods) of unscheduled time per week selected by a student and the number of classes a student enrolled in during the spring semester of the 1967-1968 school year.
4. Program orientation -- whether a student is identified by his counselor as appearing to be college bound or not being college bound.
5. School problems -- whether or not a student is known as a disciplinary problem to the disciplinary officer for the school and the number of absences during the fall semester of the 1967-1968 school year.
6. Sex of the student -- whether the student is a male or a female.

These variables were analyzed using appropriate mean comparisons and frequency comparisons. The .05 level of confidence was used for all statistical analyses. These data were originally reported in Part II, Inquiry Into Innovations, Research Report I (Sokol and Marshall, 1968) and "General Educational Characteristics of Independent Students" (Marshall and Sokol, 1969). The results of this phase are included in this report.

Phase II

The second phase of this investigation was concerned with the social-psychological attributes of the *independent* and *not-independent students*.

The areas selected for study were: (1) personal problems, (2) psychological traits, and (3) values.

These three areas were operationally defined as follows:

1. Personal Problems -- students' responses to the 330 items and the eleven scales comprising the Mooney Problem Check List:

   HPD -- Health and Physical Development
   FLE -- Finances, Living Conditions, and Employment
   SRA -- Social and Recreational Activities
   CSM -- Courtship, Sex and Marriage
   SPR -- Social-Psychological Relations
   PPR -- Personal-Psychological Relations
   MR -- Morals and Religion
   HF -- Home and Family
   FVE -- The Future: Vocational and Educational
   ASW -- Adjustment to School Work
   CTP -- Curriculum and Teaching Procedures
   TOT -- A twelfth scale consisting of the total number of problems checked by each student

2. Psychological Traits -- students' responses to the eight scales comprising the Minnesota Counseling Inventory:

   V -- Validity
   FR -- Family Relations
   SR -- Social Relations
   ES -- Emotional Stability
   C -- Conformity
   R -- Reality
   M -- Mood
   L -- Leadership

3. Values -- students' responses to the six scales comprising the Study of Values:

   Theoretical
   Economic
   Aesthetic
   Social
   Political
   Religious

Upon analysis of the data in Phase I, it became evident to the researchers that the *not-independent* group contained two subgroups: those students classified as discipline problems and those not classified as discipline problems. There were no members of the *independent* group who were known as discipline problems. Therefore, in this Phase the subjects were placed in the following three groups for analyzing the scale scores on the three inventories: I -- *independent students;* NI --*not-independent students*, not known as discipline problems; and NIX -- *not-independent students*, known as discipline problems. These analyses were performed using analysis of variance, simple randomized designs, with significance defined as the .05 level of confidence.

Because of the small number of students in the NIX category, the original two group classification -- *independent* and *not-independent* -- was used for the item analysis of the Mooney Problem Check List. The Chi-Square Test of Independence was utilized to test the significance of the relation between group classification and mode of responding to the individual items. Again, the .05 level of confidence was used as the criterion for significance.

Data Collection

The data for Phase I were collected during the late Spring, 1968. These consisted primarily of information obtainable from school records, or from school personnel. For Phase II, the data were gathered late Fall, 1968. The inventories were administered to the students on two occasions, approximately one week apart. All three inventories were administered to approximately half the sample on each occasion. The sample for Phase I was 118; for Phase II, 99. This represents a loss of 19 students due to some students having left the District over the summer and some having been absent during the testing periods.

Results: Phase I

The results of this Phase of the investigation indicate that all of the variables selected for study were significantly related to the *independent-not-independent* dichotomy. The results of the nine analyses are presented in Table 1.

TABLE 1

General Educational Characteristics of *Independent* and *Not-Independent Students*

Variable	n I	n NI	M I	M NI	SE	Statistic	Significance of Difference
GPA	60	58	2.79	1.49	.095	t = +13.71	P < .001
Class Rank	60	58	119.52	458.38	22.485	t = -15.07	P < .001
I.Q.	60	56	126.83	107.55	3.240	t = + 5.95	P < .001
Modules Unscheduled Time	60	58	20.65	27.36	1.886	t = - 3.56	P < .001
Class Load	60	58	2.64	2.38	.060	t = + 4.30	P < .001
Absences	60	58	4.38	10.76	1.122	t = - 5.69	P < .001
College Bound (Yes	57	35	-	-	-	x^2 = 18.65	P < .001
College Bound (No	3	23					
Disciplinary Problems (Yes	0	21	-	-	-	x^2 = 25.02	P < .001
Disciplinary Problems (No	60	37					
Sex (Male	23	45	-	-	-	x^2 = 17.02	P < .001
Sex (Female	37	13					

I = *Independent Students* NI = *Not-Independent Students*

Those students classified as *independent* were significantly higher achievers than were the *not-independent students*. This can be noted from Table 1 in terms of both the mean accumulative averages and mean rank in class for these groups. The mean and standard deviation of the accumulative average for the *independent students* were 2.79 and .50, respectively, and for the *not-independent students* were 1.49 and .52, respectively. The accumulative average is based on a 3-point system ranging from 0 for non-passing achievement to 3 for superior or honors achievement. The two groups tend to be about equally variable. However, the *independent students* tend to be evaluated by their teachers as superior students while the *not-independent* tend to be evaluated by their teachers as having met the minimum passing requirements. This same basic information was obtained from the class ranks. The mean and standard deviation of the class ranks for the *independent students* were 119.52 and 111.28, respectively, and for the *not-independent students* were 458.38 and 129.83, respectively. The class ranks are based on a total class enrollment of 525 students. As previously noted, the two groups tend to be about equally variable. However, the *independent students* tend to be assigned grades which place them in the upper one-fourth of the class while the *not-independent students* tend to be assigned grades which place them in the lower one-fourth of the class.

As could be surmised from the achievement data, *independent students* obtained significantly higher ability scores than did *not-independent students* (see Table 1). The ability scores were obtained for most of the students from the Henman-Nelson Intelligence Test in grade nine. In a few cases, the test was administered at a later date and in two cases no ability information was available. The mean and standard deviation of the I.Q.'s for the *independent students* were 126.83 and 16.46, respectively, and for the *not-independent student* were 107.55 and 18.02, respectively. Again, the two groups tend to be

about equally variable. However, the *independent students* tend to obtain I.Q. scores which would indicate superior ability while the *not-independent students* tend to obtain I.Q. scores which would indicate average ability.

Independent students tended to select more courses and less unscheduled time than did the *not-independent students*. The unscheduled time was figured in modules per week. This time included the students' lunch periods as well as other time not otherwise accounted for on the students' schedule cards. The mean and standard deviation of the modules of unscheduled time for *independent students* were 20.65 and 9.63, respectively, and for *not-independent students* were 27.36 and 11.23, respectively. The variability of unscheduled time with the groups were about the same, but the means were considerably different. After routinely subtracting 10 modules per week for lunch periods (only 30 minutes per day) per student, the means would be 10.65 and 17.36, respectively. Thus, the *not-independent students* tended to select nearly twice as much unscheduled time (without considering the lunch period) as did the *independent students*. This same tendency can be noted by examining the class loads. The mean and standard deviation of the class load for *independent students* were 2.64 and .28, respectively, and for *not-independent students* were 2.38 and .37, respectively. The difference between the means (significant at the .001 level) indicates that the *independent students* tended to enroll in slightly more courses than did *not-independent students*.

The analysis of the data indicated that there was a significant relation between those students identified as being apparently college bound and those not college bound and the *independent-not-independent* dichotomy.

A significantly higher proportion of *independent students* than *not-independent students* appeared to be college bound. It can be noted that the majority of both groups exhibited this characteristic. However, 95 per cent of the

independent students appeared to be college bound while only 62 per cent of the *not-independent students* appeared to have this same orientation.

The data analysis also indicated that there was a significant relation between disciplinary problems and the *independent-not-independent* dichotomy. For this study, a student was denoted as a disciplinary problem if he was known as a disciplinary problem to the school official who normally handles disciplinary cases. None of the 60 *independent students* had been brought to his attention for disciplinary action. However, 21 of the 58 *not-independent students* were known to him as disciplinary problems. The percentages of students from the groups who were denoted as discipline problems were 0% and 36%, respectively.

The number of absences somewhat parallels discipline problems in that chronic absenteeism and discipline problems often go hand-in-hand. Consequently, it is not surprising that the *not-independent students* were absent from school significantly more often than were the *independent students*. The typical *independent student* was absent from school about 4 days during the first semester, while the typical *not-independent student* was absent from school almost 11 days during the same period. The *not-independent students* had a rate of absenteeism which was about 2.5 times as great as that of *independent students*.

The relation of the independence construct to achievement and classroom procedure can again be noted in the sex distribution. It has been noted in previous studies that girls tend to achieve better than boys and that they tend to be closer than boys to the accepted mode of classroom behavior. Similarly, in this study, a significant relation was found between sex and the *independent-not-independent* dichotomy. Twenty-three of the *independent students* were males and 37 were females, while 45 of the *not-independent students* were males and

13 were females. The percentages within *independent* and *not-independent* categories were 39% *independent* males, 61% *independent* females, 78% *not-independent* males, and 22% *not-independent females*.

Results: Phase II

Having noted the educational characteristics which differentiated students who were nominated by their teachers as *independent* or *not-independent*, this section relates those social-psychological areas which differentiate them. The first aspect to be considered is the personal problems which related significantly to the dichotomy. Of particular interest were the types of scales and the individual problems which distinguished one group from the other. Using Chi-Square, 24 of the items on the Mooney Problems Check List were found to be significantly related to the *independent-not-independent* dichotomy. These 24 items are presented in Table 2.

Of these, the 52 students in the *independent* group responded more frequently than those in the *not-independent* group to only three items:

(30) Worrying
(68) Too little chance to read what I like
(142) Confused on some moral question

Twenty-one of the items on eight of the scales were responded to more frequently by the 47 students in the *not-independent* group. These items were by scale:

Courtship, Sex and Marriage - 2 items

(71) No suitable places to go on dates
(127) Girlfriend

Personal-Psychological Relations - 3 items

(81) Daydreaming
(82) Being Careless
(85) Not taking some things seriously enough

TABLE 2

Items on Mooney Problem Check List
Significantly Related to the I-NI Dichotomy

	Item	Highest Response Group	χ^2	Significance
30.	Worrying	I	3.962	P < .05
50.	Not spending enough time in study	NI	25.082	P < .01
68.	Too little chance to read what I like	I	4.470	P < .05
71.	No suitable places to go on dates	NI	9.437	P < .01
81.	Daydreaming	NI	6.805	P < .01
82.	Being careless	NI	4.030	P < .05
85.	Not taking some things seriously enough	NI	11.185	P < .01
100.	Want to be on my own	NI	6.426	P < .05
108.	So often feel restless in classes	NI	4.216	P < .05
109.	Too little freedom in classes	NI	5.587	P < .05
127.	Girl friend	NI	8.395	P < .01
142.	Confused on some moral questions	I	4.907	P < .05
146.	Being critized by my parents	NI	5.500	P < .05
157.	Not liking school	NI	17.219	P < .01
158.	Not interested in some subjects	NI	4.974	P < .05
159.	Can't keep my mind on my studies	NI	12.183	P < .01

TABLE 2 (con't.)

	Item	Highest Response Group	χ^2	Significance
160.	Don't know how to study effectively	NI	8.263	P< .01
211.	Trouble with mathematics	NI	5.750	P< .05
215.	Trouble in organizing papers and reports	NI	14.609	P< .01
266.	Don't like to study	NI	18.746	P< .01
269.	Worrying about grades	NI	15.158	P< .01
270.	Worrying about examinations	NI	8.618	P< .01
314.	Wanting to leave home	NI	4.556	P< .05

Home and Family - 2 items

(146) Being criticized by parents
(314) Wanting to leave home

The Future: Vocational and Educational - 1 item

(100) Want to be on my own

Adjustment to School Work - 11 items

(50) Not spending enough time in study
(157) Not liking school
(158) Not interested in some subjects
(159) Can't keep my mind on my studies
(160) Don't know how to study effectively
(211) Trouble with mathematics
(215) Trouble in organizing papers and reports
(266) Don't like to study
(269) Worrying about grades
(270) Worrying about examinations
(324) Afraid of failing in school work

Curriculum and Teaching Procedures - 2 items

(108) So often feel restless in classes
(109) Too little freedom in classes

At this juncture, the *not-independent* group was subdivided into those not known as discipline problems (NI) and those known as discipline problems (NIX). These two subcategories represented 33 and 14 students, respectively. The mean number of problems for each scale on the Mooney Problem Check List are presented in Table 3 for all three groups.

These differences between these means on each scale were analyzed using analysis of variance, simple randomized design. A summary of the results is presented in Table 4. Significant differences between the means were found on four of the eleven scales. They were: "Finances, Living Conditions and Employment", "The Future: Vocational and Educational", "Adjustment to School Work", and "Curriculum and Teaching Procedures." In each case, the largest mean (indicating the largest number of problems checked) was attained by the *not-independent*, discipline problem (NIX) group, and the smallest mean was attained by the *independent* (I) group. The mean scores for the *not-independent*, non-discipline (NI) group in all cases fell between the scores for the other two groups, and it was consistently closer to the scores for the NIX group than to the I group.

This trend of NIX mean, NI mean, I mean can be noted from Figure 1. It can be noted from the Figure that the lowest mean value was obtained by the I group on 8 of the 11 scales. Similarly, the NIX group obtained the highest means on 7 of the 11 scales. In only one case did the I group obtain the highest mean. The NIX group obtained the lowest mean in only one case, also.

TABLE 3

Mean Numbers of Problems: Mooney Problem Check List

Problem Area	Group		
	Independent	Not-Independent	Not-Independent Disp. Problem
HPD	2.904	3.333	4.286
FLE	2.462	4.182	5.000
SRA	4.500	3.818	4.428
CSM	3.385	4.273	3.143
SPR	4.712	4.424	5.857
PPR	5.000	5.879	5.714
MR	4.500	4.606	5.857
HF	3.115	4.970	4.214
FVE	3.385	5.818	5.857
ASW	4.346	7.303	9.571
CTP	3.442	5.667	6.500
Total	41.750	54.273	60.428
Number of Subjects	52	33	14

HPD: Health & Physical Development
FLE: Finances, Living Conditions, Employment
SRA: Social and Recreational Activities
CSM: Courtship, Sex and Marriage
SPR: Social-Psychological Relations
PPR: Personal-Psychological Relations
MR: Morals and Religion
HF: Home and Family
FVE: Future: Vocational and Educational
ASW: Adjustment to School Work
CTP: Curriculum and Teaching Procedures

TABLE 4

Analysis of Variance: Mooney Problem Check List

Problem Area	Source of Variance	SS	df	MS	F
HPD	Between	21.472	2	10.736	1.579
	Within	652.710	96	6.799	
FLE	Between	101.804	2	50.902	5.961**
	Within	819.832	96	8.540	
SRA	Between	9.834	2	4.917	---
	Within	1275.338	96	13.285	
CSM	Between	20.059	2	10.029	---
	Within	1160.568	96	12.089	
SPR	Between	20.663	2	10.332	---
	Within	1782.448	96	18.567	
PPR	Between	17.264	2	8.632	---
	Within	1760.372	96	18.337	
MR	Between	21.043	2	10.522	---
	Within	1378.593	96	14.360	
HF	Between	71.143	2	35.572	2.547
	Within	1340.6346	96	13.965	
FVE	Between	147.614	2	73.807	3.759*
	Within	1884.931	96	19.635	
ASW	Between	376.338	2	188.169	10.803**
	Within	1672.168	96	17.418	
CTP	Between	157.754	2	78.877	5.076**
	Within	1491.660	96	15.538	
Total	Between	5460.599	2	2730.300	3.022
	Within	86731.724	96	903.455	

* Significant at the .05 level of confidence
** Significant at the .01 level of confidence

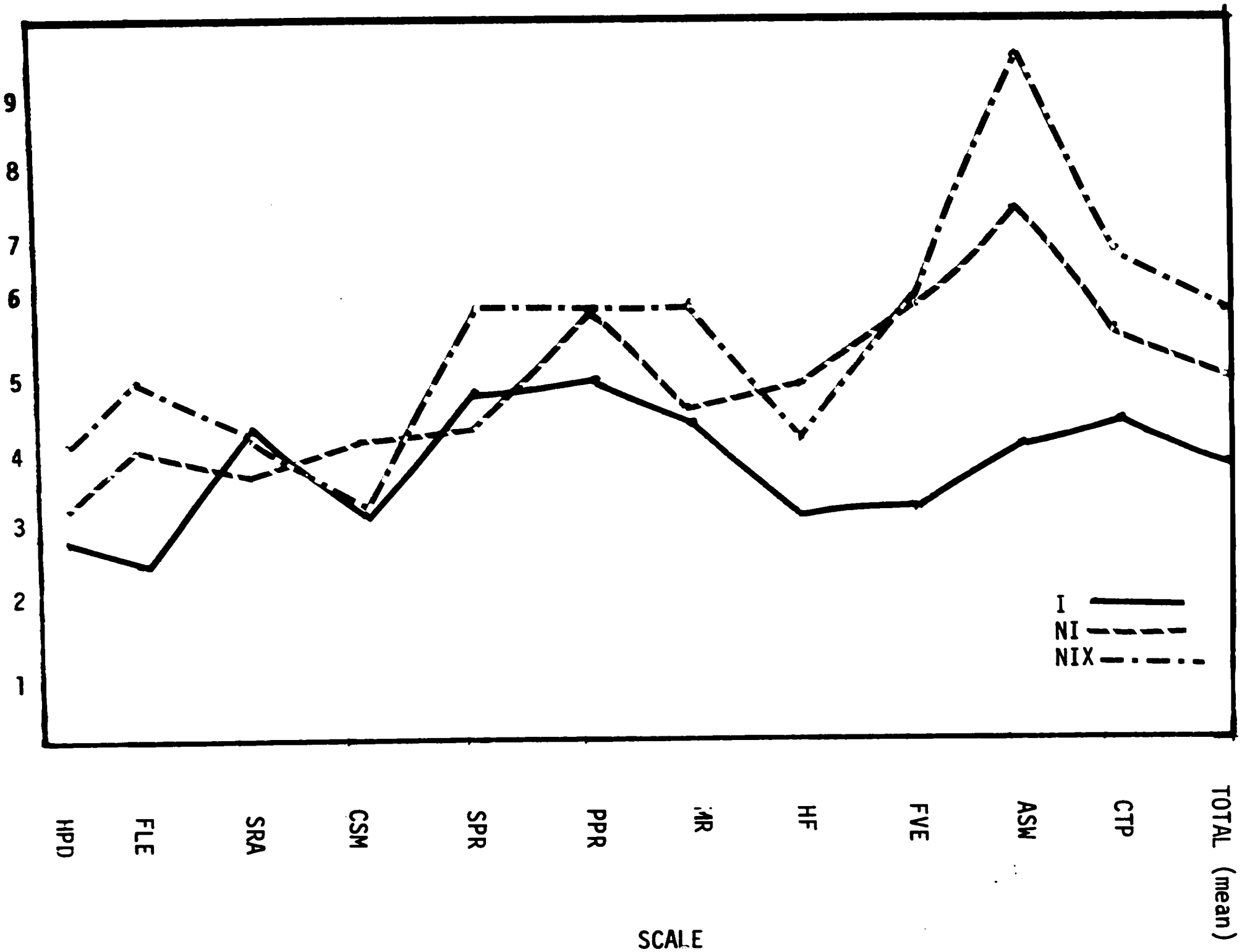

Figure 1. Density of Problems for I, NI, NIX Groups

It is noteworthy that the general trend for the NI and NIX groups tends to reflect the greater number of problems in each scale when viewing them from left to right in Figure 1. This trend does not seem to be the case for the I group. Of particular interest in the Figure are the four scales in which significant differences were noted. The significance of the differences on the FLE scale may well be attributable to the extremely low number of problems indicated by the I group rather than to a great number of problems indicated by either of the other two groups. On the other hand, the extreme number of problems responded to by the NIX and NI groups on the other three significant scales, as can be noted from Figure 1, contributes to the significance of these scales. In these latter cases, the similarity in trend should be noted.

The second aspect to be considered is the psychological traits as measured by the Minnesota Counseling Inventory. Four of the eight traits measured on this inventory were found to relate significantly to the I, NI, and NIX subgroups. The mean scores on each of these traits for the three groups are presented in Table 5. A summary of the statistical analyses is presented in Table 6.

The four scales that were found to be significant were: (1) Family Relations, (2) Emotional Stability, (3) Conformity, and (4) Adjustment to Reality. In all four cases, the highest score (indicating the more deviant, or non-adjustive behavior) was recorded for the NIX group; followed by the NI group and the I group, respectively. Even though significant differences were not found in all scales, the general trend was consistent across the eight scales. The only exceptions were the scales for (1) Validity and (2) Social Relations, wherein the lower score was attained by the NI group. However, on these two scales no significant differences were found among the three groups. This trend can be noted in Figure 2.

TABLE 5

Mean Scale Values: Minnesota Counseling Inventory

Scale	Group I	NI	NIX
Validity	48.404	47.303	48.50
Family Relations	49.788	58.818	59.000
Social Relations	50.3269	50.091	53.857
Emotional Stability	49.827	55.545	56.214
Conformity	48.519	55.818	59.500
Adjustment to Reality	51.538	58.970	61.143
Mood	53.596	55.570	60.714
Leadership	50.231	50.152	53.928
Number of Subjects	52	33	14

TABLE 6

Analysis of Variance: Minnesota Counseling Inventory

Scale	Source of Variance	SS	df	MS	F
Validity	Between	27.758	2	13.879	---
	Within	7871.989	96	82.00	
Family Relations	Between	2037.408	2	1018.704	15.482**
	Within	6316.5822	96	65.798	
Social Relations	Between	158.803	2	79.401	---
	Within	9855.884	96	102.665	
Emotional Stability	Between	868.928	2	434.464	4.215*
	Within	9895.982	96	103.083	
Conformity	Between	1872.354	2	936.679	8.678**
	Within	10361.390	96	107.931	
Adjustment to Reality	Between	1657.565	2	828.782	6.242**
	Within	12745.607	96	132.767	
Mood	Between	575.290	2	287.645	1.704
	Within	16206.346	96	168.816	
Leadership	Between	167.234	2	83.617	---
	Within	10778.402	96	112.275	

* Significant at the .05 level of confidence
** Significant at the .01 level of confidence

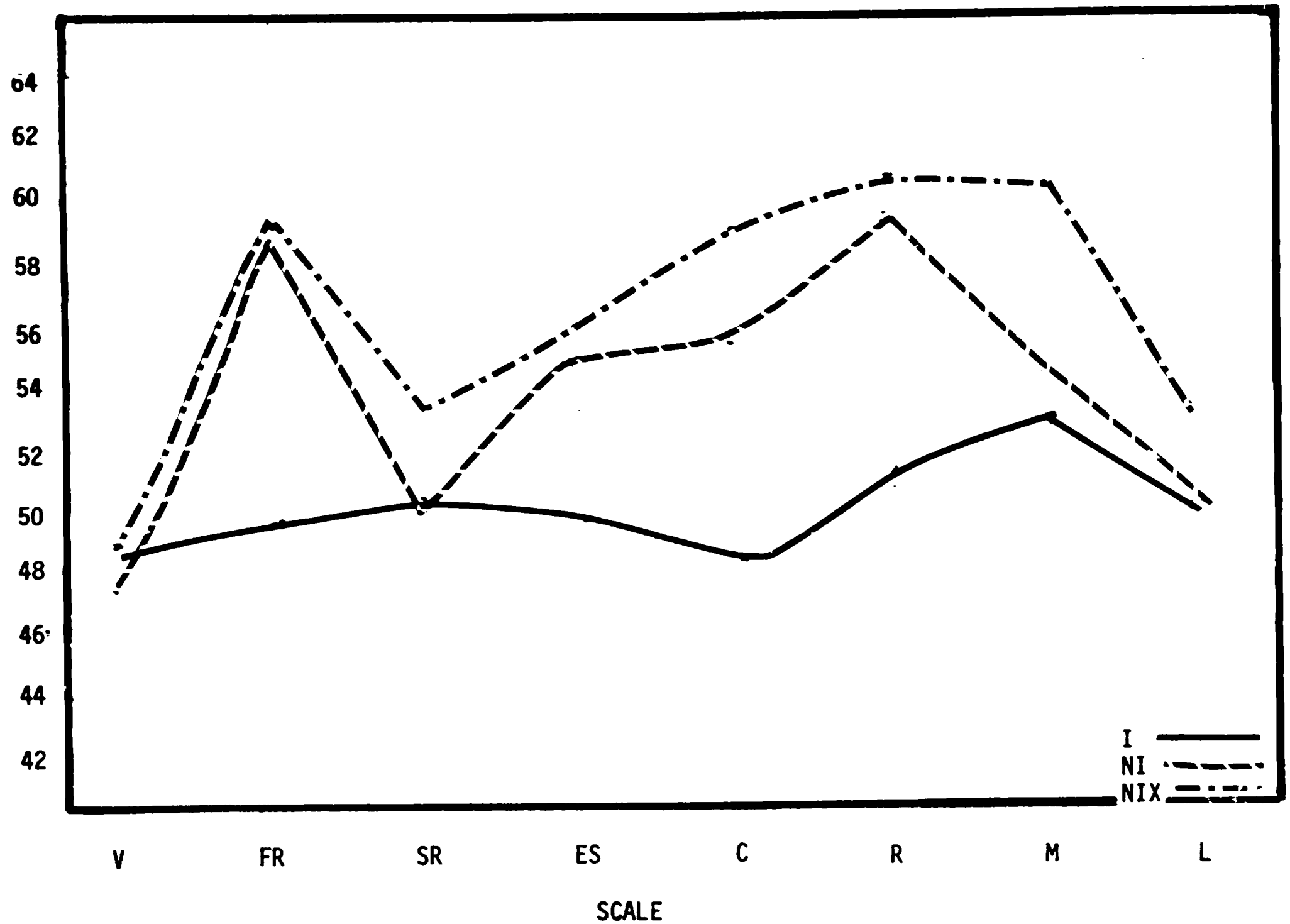

Figure 2. Personality Scale-Scores for the I, NI, NIX Groups

Examination of Figure 2 will indicate the extreme similarity between the profiles of the NIX and the NI group. The means for the NIX group, although exhibiting the same profile pattern, consistently deviated from the norm to a greater extent than the NI group. In contrast, the profile for the I group formed a nearly straight-line pattern at the mean for the norm group. The congruence of the means for all three groups on the first scale, Validity, should be noted. This indicates that the responses to the inventory are equally valid for all three groups in that none of the groups displayed defensiveness in responding to the items. This indicates that the "social acceptability" of responses to items was not of great concern to the students (Berdie and Layton, 1957).

The following scale descriptions (Berdie and Layton, 1957) are provided to aid interpretation of the presentation of data. These scales reflect behaviors and relationships as *perceived* by the respondent as they apply to him.

Family Relationships (FR) -- Low scores reflect generally warm, closely knit family relationships; reasonable demands made by parents, with reasonable amounts of independence; participation in family activities.
High scores suggest conflicts or malajustment in family relationships; unreasonably strict and demanding parents; avoidence of participation in family activities.

Social Relationships (SR) -- Low scores characterize friendly, socially mature, happy students, comfortable with others; socially skilled and at ease in group situations.
High scores are typical of socially inept or undersocialized persons; often unhappy and uncomfortable in group situations; school-related behavior may include lack of attendance at school functions and unresponsiveness in classes.

Emotional Stability (ES) -- Low scores characterize students who seldom worry; are self-confident, calm, and relaxed; capable of making decisions.
High scores characterize students who are unhappy and appear to be emotionally unstable; tend to

overreact emotionally to trivial situations; lose tempers easily; often moody and irritable; tend to exhibit anxiety; behaviors in new situations may take the form of either extreme timidity or aggressiveness

Conformity (C) -- Low scores reflect behavior usually reliable and responsible, abide by rules and behavior codes; changes sought through orderly procedures; understand the need for social organization; school related behavior includes acceptable behavior, little or no absence, and completion of assignments. High scores indicate irresponsible behavior, impulsiveness, and rebelliousness; repeatedly commit the same offenses; tendency to not learn from past experience; individualistic; self-centered; school-related behavior includes frequent visits to the disciplinary officer, unexcused absences; failure to complete assignments.

Adjustment to Reality (R) -- Low scores characterize students who attempt to master threatening situations; deal effectively with reality; make friends; establish satisfactory group relationships; can communicate and express feelings; welcome competition; predictable. High scores characterize those attempting to avoid threatening situations; secretive; withdrawn; shy; sensitive; reluctant to display emotion; daydream of "success", but shun competition. School related behaviors include writing "odd" themes, withdrawing behavior which is inconspicuous and causes little trouble to others.

Mood (M) -- Low scores reflect cheerfulness, quick recovery from temporary depressions or setbacks; enthusiastic and optimistic about subjects, friends and activities; optimistic about the future; make long range plans.
High scores characterize those students who seem to be generally depressed; lack self-confidence; frequently feel useless; lack hope in the future; easily discouraged and distracted, may not follow through with scholastic tasks.

Leadership (L) -- Low scores reflect outstanding leadership skills; working well with others; assume responsibilities in groups; initiative in developing and carrying out ideas; often nominated for positions of leadership by other students.
High scores reflect inept behavior in social situations; avoidance of participation in groups; general lack of leadership qualities (high scores do not indicate successful "followership").

The third aspect to be presented is the values of the three groups as measured by the Study of Values. This inventory purports to measure the relative value orientations of respondents in the following six areas: (1) Theoretical, (2) Economic, (3) Aesthetic, (4) Social, (5) Political, and (6) Religious. The mean values for the three groups on each of these scales and the summary of the statistical analyses are presented in Tables 7 and 8, respectively.

TABLE 7

Mean Scale Scores: Study of Values

Scales	Group I	Group NI	Group NIX
Theoretical	40.33	39.35	41.00
Economic	38.79	38.65	43.65
Aesthetic	44.00	43.97	44.29
Social	41.98	40.39	36.64
Political	40.50	42.61	42.71
Religious	34.67	34.83	31.71
Number of Subjects	52	31	14

TABLE 8

Analysis of Variance: Study of Values

Scale	Source of Variance	SS	df	MS	F
Theoretical	Between	31.213	2	15.607	---
	Within	6998.539	94	74.453	
Economic	Between	288.954	2	144.477	1.908
	Within	7118.984	94	75.734	
Aesthetic	Between	1.082	2	.541	---
	Within	7679.825	94	81.700	
Social	Between	318.780	2	159.390	1.834
	Within	8169.550	94	86.910	
Political	Between	111.035	2	55.518	---
	Within	5313.212	94	56.524	
Religious	Between	109.837	2	54.918	---
	Within	9164.493	94	97.495	

As can be noted from these Tables, no significant differences were found to exist in this aspect of the investigation. Furthermore, as can be noted from Figure 3, the scale means for the three groups tended to fall within the average range as defined by the authors of the instrument.

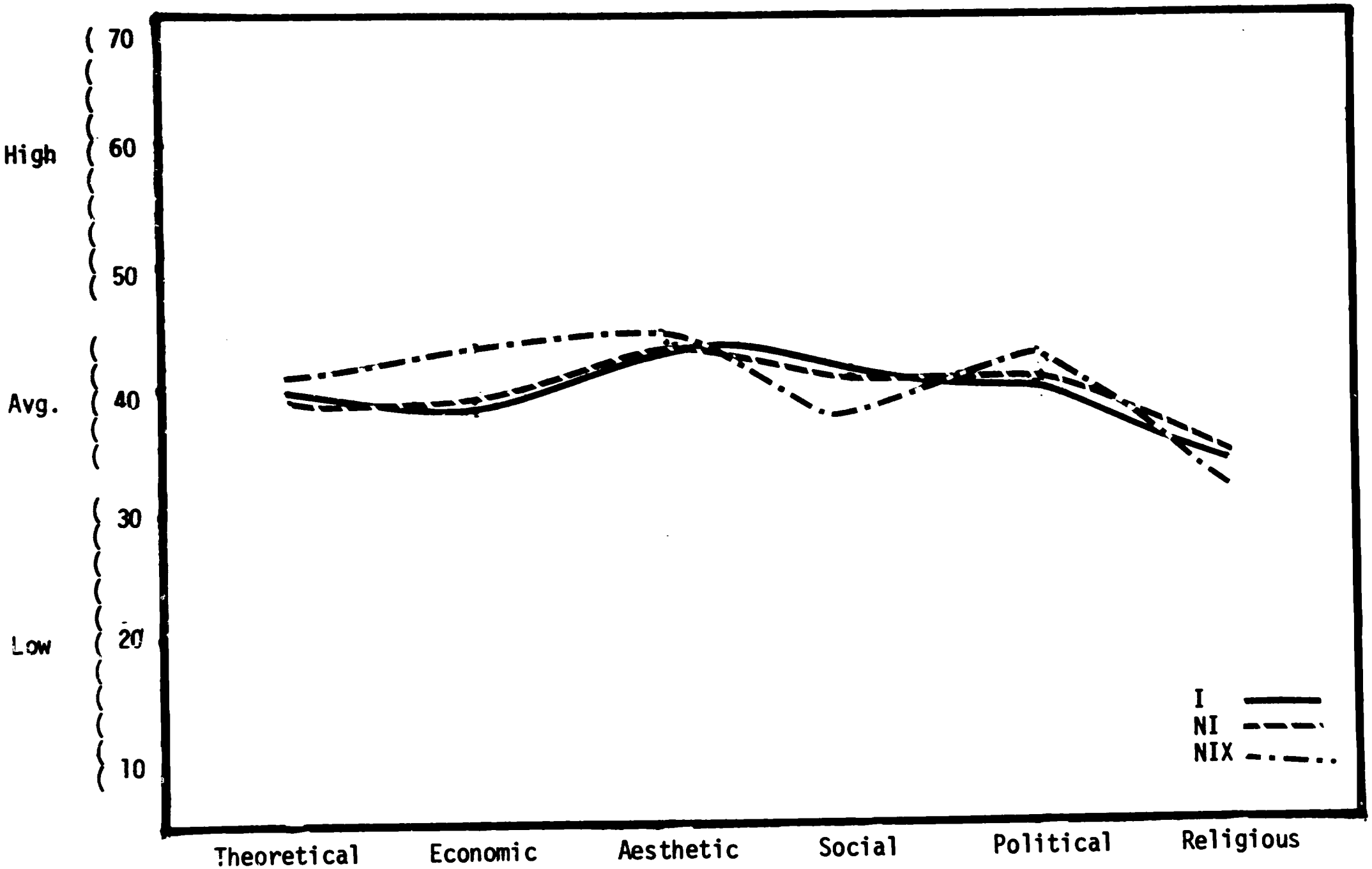

Figure 3. Value Scale-Scores for the I, NI, NIX Groups

Discussion

The data from both phases of this project, when viewed together, provide a basis for describing general characteristics of those students nominated by their teachers as being *independent* or *not-independent students*. Of the 35 educational and social-psychological characteristics selected for study, 17 of them were found to differentiate significantly between the *independent-not-independent students*. These were:

(1) Grade-point average
(2) Rank in class
(3) Intelligence quotient
(4) Modules of unscheduled time
(5) Class load
(6) Number of absences
(7) Known or not known as a discipline problem
(8) Presumed to be college-bound or not college-bound
(9) Sex
(10) Number of problems related to finances, living conditions and employment
(11) Number of problems related to the future: vocational and educational
(12) Number of problems related to adjustment to school work
(13) Number of problems related to curriculum and teaching procedures
(14) Psychological dimension associated with family relations
(15) Psychological dimension associated with emotional stability
(16) Psychological dimension associated with conformity
(17) Psychological dimension associated with adjustment to reality

Furthermore, 24 of the 330 items on the Mooney Problem Check List were found to differentiate between the two groups significantly. The largest constellation of these items reflected problems which were associated with adjustment to school. These were consistently selected by the *not-independent* group more often than by the *independent* group. These problems were listed in Table 2.

Examination of these characteristics suggest a close association between school-related difficulties and problems in social-psychological adjustment.

Generally speaking, it seems that students nominated by teachers as *independent students* are educationally successful and they display "normal" psychological balance. Conversely, those students nominated by teachers as being *not-independent* achieve relatively little success in their school endeavors and display some relatively extreme psychological traits. Furthermore, both subgroups within the *not-independent* category displayed similar profiles of psychological traits. The profile for those *not-independent students* who were known as discipline problems, however, consistently displayed greater deviation from the norm than did those who were not known as discipline problems.

Examination of specific problems - and constellations of problems - associated with these groups can yield insight into the nature of the make-up of the groups. More frequently than the *independent students*, the *not-independent students* responded to items which suggested greater difficulty coping with the external demands placed upon them. These students exhibited greater stress and anxiety toward the pressures and demands required by the school situation. They worried about examinations and grades; they expressed a fear of failing; they indicated trouble with studying and completing required work. In general, they expressed a dislike for school. In terms of their family life, they felt they were being overly criticized by their parents, and they wanted to be on their own. Furthermore, they saw daydreaming, carelessness and lack of seriousness as problems.

Conversely, those subjects categorized as *independent students* seldom expressed problems in the above areas. This relative absence of problems coupled with the few specific problems that they did express suggests that the *independent students* tended to be more aware of their internal needs and that they had

been more successful in coping with external demands and pressures of family and school life. They expressed worrying, too little opportunity to read what they like, and confusion on some moral issues as problems.

These general characteristics associated with the two groups were also apparent from the remainder of the educational and psychological characteristics which were analyzed. When examining the general educational information, the data for the *not-independent students* consistently reflected greater problems than the *independent students* in coping with the school situation in which they functioned. When examining social-psychological information, the same general pattern emerged. Within these groups, "success" in school was highly related to "good" social-psychological adjustment and vice versa. That group of students which was found to have a low grade point average, to rank in the lower quarter of their class, to accumulate a larger number of absences, and who had been known as discipline problems were the same group who were found to exhibit the greatest difficulty in relating to parents and participating in family activities. They displayed rebellious and irresponsible behavior, less emotional control with greater unhappiness, modiness, and irritability; tended to be secretive, and avoided threatening situations and competition by withdrawal. Furthermore, they indicated problems related to personal and family finances, to their future plans, and to the general school situation. The general difficulties in educational-social-psychological adjustment for this group -- *not-independent students*, known as discipline problems -- can be noted from this profile description.

The profile description for the group of students who were classified as *not-independent students*, not known as discipline problems, roughly paralleled that presented above. They exhibited the same basic trend of deviant social-

psychological traits except that their difficulties in adjustment tended to be not as extreme in all but the following: conflicts or maladjustments in family relationships, lack of emotional stability, and problems in future planning. In these three traits, there were no appreciable differences between these two groups.

Conversely, that group of students which was found to have a high grade point average, to rank in the upper quarter of their class, were more often presumed to be college-bound, who took the largest number of courses, who accumulated few absences, and who were not known as discipline problems were found to exhibit the least difficulty in social-psychological adjustment. Comparatively, they did not indicate as much difficulty with conflicts or maladjustments in family relationships. They displayed more responsible behavior and conformity to social organization; greater emotional control as well as happiness, ease in group situations, and social maturity;and greater effectiveness in coping with reality, welcomed competition, and exhibited predictability. Furthermore, they indicated fewer problems related to personal and family finances, to their future plans, and to the school situation. The general "balance" in educational-social-psychological adjustment for this group -- *independent students* -- was evidenced in these data.

As previously noted, the differences between the three groups -- I, NI, and NIX -- seemed to reflect differences in their relative success in coping with the external environment and satisfying basic needs and conflicts. It is generally accepted by social scientists that successful interaction with the external environment is prerequisite to higher-order internal concerns. It would seem, then, that the *independent students* are relatively free from external conflict enabling them to turn their attention to more internal concerns. This is not true for the *not-independent* groups.

This conjecture is supported by the profiles presented in Figures 1 and 2. From these, it is noteworthy that the lowest number of problems registered by the *independent* group was in reference to "Finances, Living Conditions, and Employment," followed by "Home and Family;" and the lowest score on the personality profile was the "Conformity" scale. Their highest number of problems were found in the areas of "Personal-Psychological Relations" and "Social-Psychological Relations," and their highest personality scale-score was on the "Mood" scale. The consistency with which scales reflecting external problems and concerns emerged as the lowest ones for this group and, conversely, the consistency with which scales reflecting internal problems and concerns emerged as the highest ones, would seem to offer support for the contention that the *independent students* have had relatively high success in their interaction with their external environment.

It is apparent from the examination of the two Figures that the opposite configuration of scales reflecting internal and external concerns merged for the two *not-independent* groups. Again, this seems to offer support for the contention that the *not-independent students* have had relatively little success in their interaction with their external environment, including the schcol situation.

From these data, it is evident that the connotation associated with *independent students* reflects much more than the academically talented person. Included in the constellation of characteristics are the dimensions of stable family relationship, emotional stability, adjustment to reality, comprehension and acceptance of the rules and norms of "his" society. The point at which students having characteristics which diverge from these can no longer be classified as *independent students* is not known. However, when this constellation of

characteristics is reversed, teachers seem to be able to readily identify the students as *non-independent*.

Implications

The basic purpose of this study was to determine the characteristics of those students who would form the teachers' priority group as compared to those students who would form the teachers' group of least preference. Previous research suggests that teachers tend to categorize students into groups according t personality, as well as academic characteristics. This series of studies indicates that these characteristics can be identified by examining teacher-determined groups. The consistency of research results from both the vantage point of pre-selected pupil characteristics and the vantage point of predetermined groups points up the primacy that these educational-social-psychological characteristics assume in the development of subgroups within the interactional field of the school system.

As the statement which introduced this report sets forth, the staff of the University City Senior High School subscribes to the view of education within the District that the schools accept the responsibility of serving the community and the larger society by structuring the educational experiences for the maximum enhancement of the individual as a contributing member of society. The rest of the statements which embody the document from which it was taken also reflect this philosophy. This implies a total commitment on the part of the schools and its staff to the total development of every individual student.

Data from these investigations suggest that both academic and social-psychological barriers exist in the development of this ideal product. If the school is to seek to maximize the growth of each student, it would seem, then,

that they should concentrate on providing a psychological climate which could foster such ideal development. The constellation of psychological difficulties which were identified here provide a point-of-departure for working with the students with whom the school has had the least success. The consistency of the relation between variables reflecting educational and psychological adjustment and the seeming inability of academic education to reach *not-independent students* suggest that the educational environment should include more systematic involvement of the school into the personal-psychological development of students.

The sample of students selected for study in these investigations consisted of 20% of the school population in grade eleven. Of these, about 10% were considered by the teachers to be nearest to the ideal development of students. The other 10% were considered to be the furthest from this development. Since these percentages reflect nominations of students by teachers rather than predetermined sample sizes, it might be inferred that the school is approaching the ideal development for about 10% (likely somewhat less than this figure) of its students, according to teachers. This would imply that about 90% of the students fall noticeably short, again, in the perceptions of teachers, of realizing the ultimate goal set forth by the District. The upper 10% of the students seem to have enjoyed success in high school and have achieved a "normal" psychological balance. Conversely, the lower 10% have found little success in school and exhibit deviant social-psychological characteristics. The middle 80% would probably fall between these extremes. However, the parameters of their habitude have not been determined. (Being the middle group, their characteristics may be so variable as to inhibit group study.)

These figures underscore the importance of considering the total student. It seems reasonable to the writers that for the lower students, their social-psychological difficulties may have to be dealt with before any change in school adjustment may be expected. The same may be true for many of the middle 80% of the students.

These results indicate that the commitment of University City Senior High School to the maximum development of each student should be reflected in a concerted effort on the part of the total staff -- Teachers, Counselors, and Administrators -- toward a school climate fostering personal-psychological change in most students.

In order to advance the attainment of this climate for fostering growth toward that of the *independent, self-directed student*, a close working relationship between the guidance and counseling staff and the teaching staff would seem to be indicated. Of high priority in this relationship would be the involvement of guidance personnel in individual and group personal counseling, with teachers performing the auxiliary services of aiding in the identification of "troubled" students and in the integration of these students into the education programs. Of prime importance would be the intensification and coordination of these services for providing the climate necessary for the optimum development of *independent, self-directed students*. Implementation of this (or some similar) type of program would seem to be called for if the school is going to work with the "whole" student in the enrichment of his educational-social-psychological experiences.

References:

1. Allport, Gordon W.; Vernon, Philip E.; and Lindzey, Gardner. Study of Values. Houghton Mifflin Company, Geneva, Illinois, 1960.

2. Berdie, Ralph F. and Layton, Wilbur L. Minnesota Counseling Inventory. The Psychological Corporation, New York, 1953.

3. Berdie, Ralph F. and Layton, Wilbur L. Minnesota Counseling Inventory Manual. The Psychological Corporation, New York, 1957.

4. Boyer, Mark A. *et al.* The Process of Change at the Senior High School, (University City, Missouri). A Publication of the National Demonstration Schools Project, Title III of ESEA, 1966, pp. 20-22.

5. Bush, R. N. The Teacher-Pupil Relationship. Prentice-Hall, Inc., New York, 1954.

6. Davidson, H. H. and Lang, C. "Children's Perceptions of Teachers' Feelings Toward Them Related to Self-Perception, School Achievement and Behavior." Journal of Experimental Education, 29: 107-118, 1960.

7. Fox, R. S.; Lippit, R.; and Schmuck, R. A. Pupil-Teacher Adjustment and Mutual Adaptation in Creating Classroom Learning Environments. U. S. Department of Health, Education, and Welfare, Washington, D.C., January, 1964.

8. Hall, G. Stanley. Adolescence: Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion, and Education. D. Appleton and Company, New York, 1905.

9. Havighurst, R. J. and Taba, Hilda. Adolescent Character and Personality. John Wiley & Sons, Inc., New York, 1949.

10. Hollingshead, August B. Elmtown's Youth: The Impact of Social Classes on Adolescents. John Wiley & Sons, Inc., New York, 1949.

11. Marshall, Jon C. "Problems of High School Youth in Relation to Grade Achievement." School and Society. 95: 237-238, April 1, 1967.

12. Marshall, Jon C. and Sokol, Alvin, P. "General Educational Characteristics of Independent Students." Paper presented at the Annual Meeting of the American Personnel and Guidance Association, Las Vegas, Nevada, April, 1969.

13. Mooney, Ross L. Mooney Problem Check List. The Psychological Corporation, New York, 1950.

14. Offer, Daniel. The Psychological World of the Teenager. Basic Books, Inc., New York, 1969.

15. Ragan, William B. Modern Elementary Curriculum (3rd ed.). Holt, Rinehart and Winston, New York, 1966.

16. Rosenthal, R. Experimental Effects in Behavioral Research. Appleton-Century-Crofts, New York, 1966.

17. Sherif, M. and Sherif, C. Groups in Harmony and Tension. Harper & Row, Publishers, New York, 1953.

18. Sokol, Alvin P. and Marshall, Jon C. "The Independent Student," in Inquiry Into Innovations, Research Report I. Demonstration Schools Project (ESEA, Title III), University City (Missouri) Public Schools, 1968.

19. Stern, G. "Measuring Non-Cognitive Variables in Research on Teaching," in N. L. Gage, Handbook on Research in Teaching. Rand McNally, Chicago, 1963.

20. Warner, W. Lloyd; Havighurst, R. J.; and Loeb, Martin. Who Shall Be Educated? The Challenge of Unequal Opportunities. Harper and Brothers, New York, 1944.