FACTOR CORRELATES OF ACADEMIC PERFORMANCE AND RESIDENTIAL ARRANGEMENT AMONG COLLEGE STUDENTS IN ILIGAN CITY*

Remedios B. Grageda, Ph.D.

Introduction

Observations indicate that an increasing number of college students have come to live in lodging and/or boarding houses out of necessity. In Iligan City, for example, 52 percent of the college students reside in lodging/boarding houses. This situation has emerged because of the desire of families to allow their children to pursue college education. Hence, college education has undeniably become more and more expensive today as it has become a necessary investment for the family and the society. Despite the realities of rising school fees and mounting prices of school supplies and materials, still a good number of college students are in schools.

In places where there are no colleges or universities, students who plan to pursue higher education are faced with problems. They need to go to urban centers to obtain a degree and must stay and pay for their board and lodging if they do not have relatives in the place where they are to stay. In addition, there is a decrease in parental guidance on the part of these students. Although far from their children, parents, however, are still expected to exert their influence on the children. As a result, acquisition of a college education in this physical atmosphere has become more expensive, economically, physically and psychologically.

Statement of the Problem

It was the purpose of this study to investigate the extent of the influence of residential arrangement on the academic performance of students. It further attempted to find out other salient factors that influenced this academic performance aside from residential arrangement.

Specifically, this study sought to answer the following questions:

1. Is there a difference in academic performance among students living at home and those living in lodging/ boarding houses?
2. What effects on the relationship between academic performance and residential arrangement has each of the following socio-demographic variables?
   - 2.1 sex
   - 2.2 age
   - 2.3 birth order
   - 2.4 year level
   - 2.5 intelligence
   - 2.6 socio-economic status
   - 2.7 parental discipline
   - 2.8 family relationship
   - 2.9 school

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3. Which specific variable has the most influence on academic performance in both types of residential arrangement?
4. What combination of variables predict academic performance better?

Significance of the Study

This study is significant for several reasons. First, this is the first research of its kind conducted in Iligan City comparing the academic performance of college students living at home with their parents and those in lodging and/or boarding (L/B) houses. In Dumaguete City, however, a study was made on students living in dormitories (Lagrimas, 1976) and their academic achievement, but it did not include students living with their parents.

Second, the findings of this study are useful to teachers because their major responsibility through their teaching is to help students realize and develop their potentials to the fullest and miximize the students' use of their time in school. This may be facilitated if they have crucial information about their students. Information about the "life space" of students, for example, can guide teachers so that they may not unnecessarily expect too much from their students but rather make them less frustrated but more motivated to study.

Third, this study benefits counselors. Wren (1973) has commented that counselors need to keep up with the contemporary world and the changing demands on youth and their problems, domestic and social, psychological and educational. Information like how parental discipline, intelligence, socio-economic status, family relationship and the H and the L/B arrangements affect students' academic behavior in school may provide the counselors with some insights into the planning and improvement of their educational and informational guidance services. Moreover, their counseling service may prove more meaningful and fruitful.

Fourth, school administrators may gain useful insights from the realization that dormitories staffed with trained and qualified matrons who can provide the necessary home atmosphere for out-of-town students may be very much better than leaving them to crowded though less expensive lodging and boarding houses which are not conducive to learning.

Definition of Terms

For clarificatory purposes, some terms used in this investigation need to be defined here:

Residential Arrangement. It refers to the type or place or residence. This study used two types of residential arrangements. Home (H) and the Lodging/Boarding house (L/B). Student respondents were either living at home with their parents or paying a landlady or landlord for their board and lodging.

Academic Performance. Refers to knowledge attained or skills developed in the school subjects usually designated by grades assigned by teachers. In this study, it referred to the Grade Point Average (GPA) earned by a student for all subjects he took, except in Citizens Military Training (CMT) and in basic Physical Education (P.E.) courses during the school year 1984-1985

Vector. Good (1973) defined it as a line segment having both length and

direction useful in representing physical situations. Kurt Lewin (1966) used it in his Field Theory to refer to a line representing a force that acts upon an individual to effect a behavior. As used in this study, the size, thickness and the direction of the arrowhead of a vector indicated the degree of importance and influence a variable or factor had to the manifestation of a behavior.

Valence. This was a term used by Kurt Lewin (1966) to signify the attracting (positive) or repelling (negative) value of an object or activity. In this study, the variables that had positive valences toward good school performance were high I.Q., harmonious family relationship, female students, the home, the upper socio-economic status and the fourth year curriculum year level.

Life Space. It refers to a person's psychological representation of his immediate environment. The environment referred to this study were forces which consisted of the person himself, the people and facilities that impinged upon him to effect a behavior.

Theoretical Framework

Kurt Lewin's Field Theory served as the theoretical framework of this research. The Field Theory had its origin in the physical sciences where it was employed to refer to the conceptualization of electromagnetic phenomena in terms of fields of electromagnetic forces. The Field Theory in psychology, however, as Kurt Lewin popularized it, is not an attempt to explain psychological events in terms of the physical rather it refers to a method of analyzing causal relations and of building constructs which could be applied in psychology, specifically in educational psychology.

According to Goldenson (1975), Lewin's Field Theory holds that the only way we can understand and predict what a person will think and do is to see him in the context of a "field" of his experience. Lewin called this field the person's "life space." It is the person's psychological representation of his immediate environment and in it are forces or vectors that act upon the person.

Lewin (Bischoff,1970) claims that one fact alone cannot cause a behavioral event. In like manner, a student's academic performance can be explained or predicted by knowing some facts that surround the student in his life space. Bischof (1970) further claims that a behavioral event can be explained much better if supported by two or more facts related to each other and to the eventual behavioral pattern.

Lewin used the term "valence" to refer to events or objects that can satisfy or repel the individual, i.e. move him toward or away from his goal(Goldenson, 1975 Bischoff, 1970). Objects, events, forces or vectors in the person's life space that are capable of satisfying his needs are said to have a positive valence; while those that repel have a negative valence. These valences differ in degree as well as in kind, since a vector may vary in the strength of its attraction or repulsion (Goldenson,1975).

Lewin's concept is shown in the diagrammatic scheme in Figure 1 which pictures the individual's situation at any one moment as his "life space". The diagram is a psychological representation of his immediate environment and the alternative situations which are open to him. Figure 1 illustrates that the personal, social, physical, psychological and alternative forces interact with each other while they interact with the individual in the production of a behavior.

In education, compensating, gratifying personal traits and characteristics and a

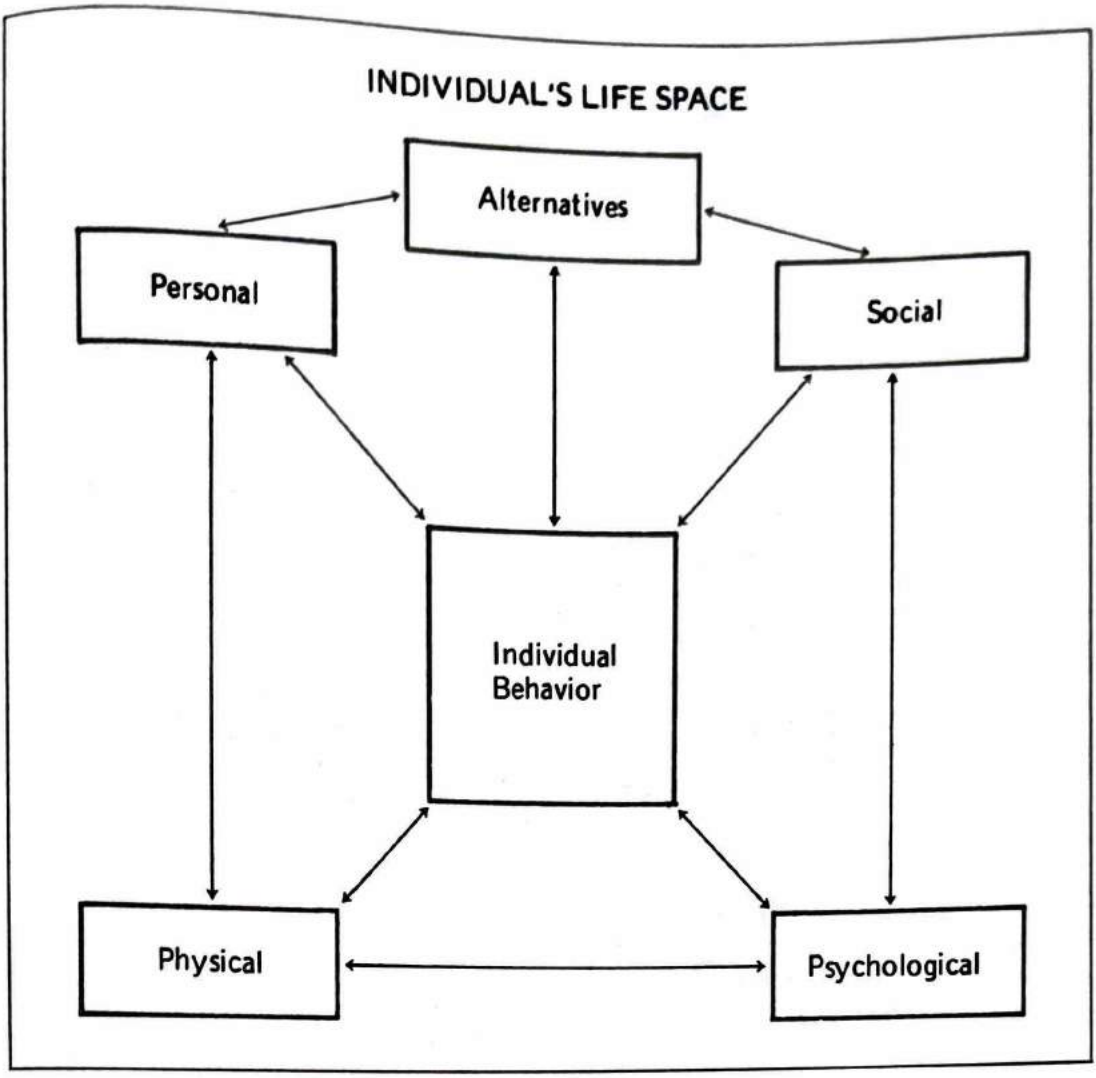

Fig. 1 Theoretical model using Kurt Lewin's concept of man's "life space" for the analysis of an individual's behavior. Personal, social, physical, psychological and alternative forces interact with the individual in the production of a behavior.

favorable social atmosphere may motivate and drive one to achieve; i.e., to realize a good and satisfactory academic performance. For the purpose of this study, however, the influencing forces were delimited to only two: the personal and the social forces hypothesized to affect academic performance. Learning, which is one behavior, apparently takes place under varied and intricate circumstances where the student finds himself at the center of the spectrum interacting with forces that inevitably surround him. The degree of social, psychological and physical influences on him are not readily discernible unless some of the individual's own personal characteristics are recognized and ascertained. Working along this line of thought, Kurt Lewin's Field Theory, by and large, can in all probability be applied to the realm of education.

Lewin's representation of life's reality is better depicted by the following formulation:

$$B = F(PE) = F(LSp)$$

where:

B = Behavior
F = Function or Law
P = Person
E = Environment
F(LSp) = Life Space

This representation of life's reality is a non-mathematical depiction. To Lewin, they are simply symbols to represent a shorthand method of anticipating or predicting human behavior which includes the person, his environment and the interaction between them.

Conceptual Framework

Figure 2 shows the theoretical delimitation of the study -to only the personal and social forces. It illustrates the personal characteristics in terms of the person's sex, age, birth order, curriculum year level and intelligence. The social forces are residential arrangement, socio-economic status, parental discipline, family relationship and school.

The conceptual model for this research is shown in Figure 3. Specifically, the author's conceptualization was that the place of residence of a student basically affects his performance in school. However, any influence this place of residence has on performance may be affected in turn by other variables; hence, the other nine moderating variables were studied in both types of residences.

The rationale for the inclusion of the moderating variables is the hypothesized possibility of their influence on the relationship that may be established between the place of residence and performance. Hence, the nine personal and social factors among the student respondents living in the H and those in the L/ B houses needed to be examined.

An individual's intelligence, for example, has been identified to set limits to a person's ability and capability to achieve as revealed in the studies conducted by Annastasi (1969), Archer (1980), Lewin (1966), Kolesnik (1963) and Boocock (1969). For this reason, it was used as one of the moderator variables. In this investigation, the intelligence of the subject was categorized as high average, average and low average. The IPAT Culture Fair Test, scale 2, Form A was used to determine the respondent's I.Q. level.

The researches made by Boocock, Conopio (1980), Miller (1963) and Delfin (1976) confirmed a proposition that a person's SES has something to do with success in school work.

Herriott in 1963, Coville et al. In 1971, Bernard and Fullmer in 1977 did their independent and separate studies about the effects of parental discipline on a child's school performance. Jencks in 1972 and Watkins in 1984 conducted researches on the children's behavior and achievement in school.

On the basis of the findings made by the foregoing authors, this researcher decided to utilize those social factors as moderator variables to determine the degree of influence they share to whatever relationship are established between academic performance of students and residential arrangement in this present study.

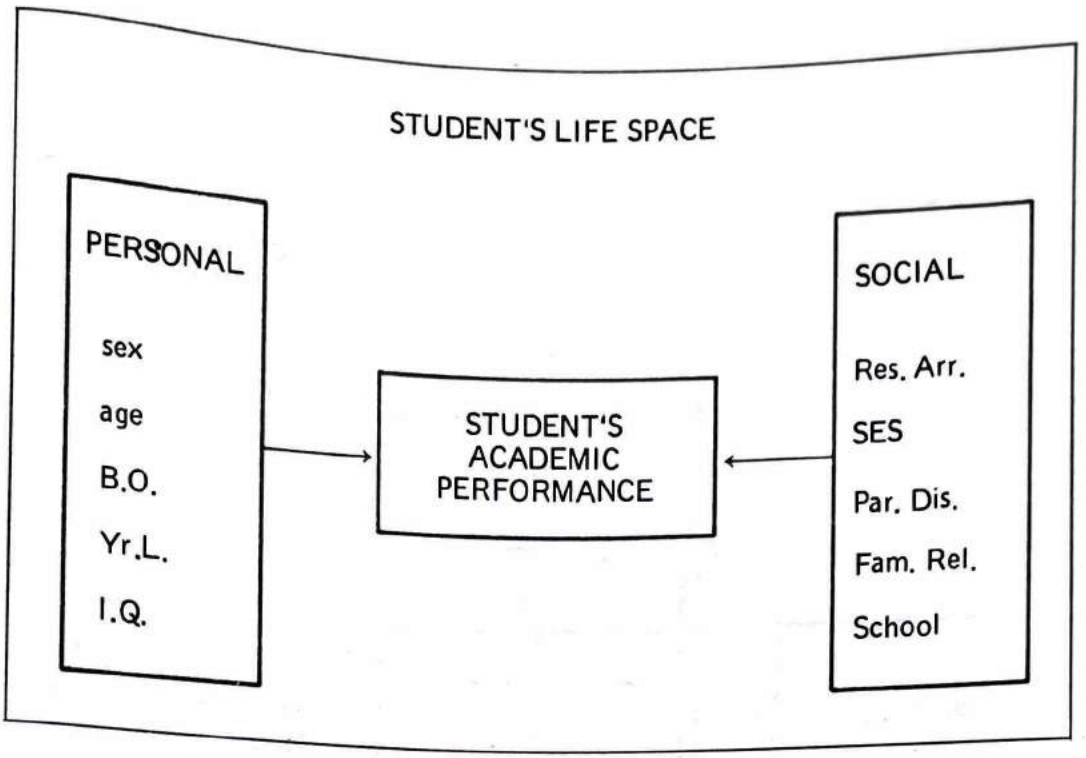

Fig. 2. Schematic illustration of the theoretical delimitation of the study. Shown are the personal and social forces with their corresponding variables studied for the analysis of a student's behavior in terms of his academic performance.

The instrument used here to determine socio-economic status was Fr. Francis C. Madigan's "Method of Rating Socio-economic Status by Weighted Average Score on the Basis of Indicators," and the levels were High, Middle and Low.

Four types of parental discipline were conceptualized: the passive libertarian, the active libertarian, the submissive authoritarian and the aggressive authoritarian. A modified "F-Scale Clusters: Forms 45 and 40" by Adorno et al. (1950) was used to gather present discipline data from the respondents.

Statement of Hypothesis

On the bases of the theoretical and conceptual frameworks presented, the following research hypotheses were advanced:

Hypothesis 1. There is a difference in the academic performance of students living at home with parents from those students living in lodging/boarding houses. More specifically, students living in the H perform better academically than those living in L/B houses.

Hypothesis 2. The relationship between academic performance and residential arrangement is maintained even when the nine socio-demographic variables are controlled in each type of residential arrangement.

Hypothesis 3. The combination of variables: residential arrangement, sex, age, birth order, year level, intelligence, SES, parental discipline, family relationship and school are efficient predictors of academic performance.

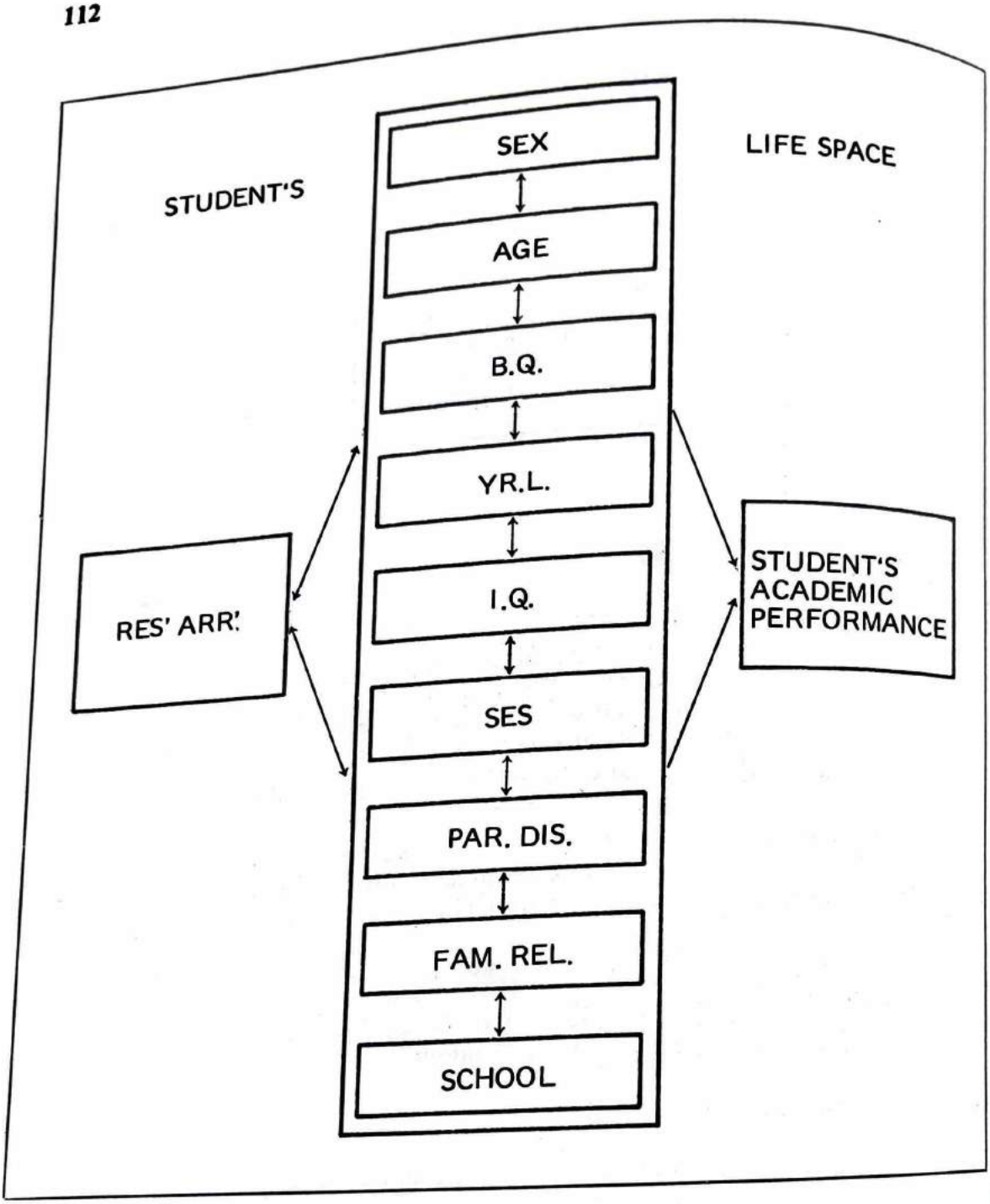

Fig. 3. A closer look at the conceptual model for this research. The model shows the psychological field or life space of a student considered in this study, within which are found the student himself being impinged upon by sex, age, birth order, year level and intelligence (personal forces); and by socio-economic status, parental discipline, family relationship, school and residential arrangement (social forces). While all factors interact with each other, they also interact with and influence the student's academic performance.

Sampling Population and Sample

The 10,800 college students enrolled for at least two semesters in the four institutions of higher learning in Iligan City, namely. St. Michael's College, Iligan Capitol College, St. Peter's College, and MSU-Iligan Institute of Technology for the school year 1984-1985 were the potential subjects of this research.

In order to delimit the parameters of this study, the following categories of students were excluded as subjects: graduate students, fifth-year students, part-time students, those on practice-teaching, on office practice and those on in-plant training.

Table 1 shows the total sampling population by school and by residential arrangement. St. Michael's College had 1,200 prospective respondents, 59 percent stayed in their own homes and 41 percent in L/B houses. Iligan Capitol College had 2,000 prospective student respondents. Of the 2,000, 48 percent lived at home and 52 percent in L/B houses. St. Peter's College had 3,000 qualified students: 50 percent were at H and 57 percent were in L/B houses.

The two stage stratified proportionate random sampling method was used to obtain the samples. However, for the purpose of this research, the samples were determined based on the total sampling population and not on the size of the stratum because the difference in percentage between students living in the H and in L/B was relatively small. Thus an equal number of samples from each residential arrangement (Table 2) was employed for this study.

Table 1

Distribution of Students According to School and Size of Stratum in Each Residential Arrangement

SCHOOL	HOME		L/B House		TOTAL	
	No.	%	No.	%	No.	%
SMC	708	59.0	492	41.0	1,200	100.0
ICC	960	48.0	1,040	52.0	2,000	100.0
SPC	1,500	50.0	1,500	50.0	3,000	100.0
MSU-IIT	1,978	43.0	2,622	57.0	4,600	100.0
TOTAL	5,146		5,654		10,800	
Percent	48	48	52		52	

Table 2
Distribution of Respondents by School and Type of Residence, School Year 1984-1985

School	Total Respondents	Sampling Fraction	Sample Size H	Sample Size L/B	Sample Size Total
SMC	1,200	11.11	22	22	44
ICC	2,000	18.51	37	37	74
SPC	3,000	27.78	56	56	112
MSU-IIT	4,600	42.59	85	85	170
Total	10,800	100.0	200	200	400

From the Table of Sample Sizes for Random Selection of Finite Population(de Jesus, et al. 1984:153), the appropriate sample for a sampling population of 10,800 was pegged at 374 for a .05 level of significance and a standard deviation of .10. For convenience, the writer rounded off the figure to 400 so that an equal number of samples for each of the residential arrangement was used.

Data Collection

Data for this study came from a survey questionnaire, intelligence test and the scholastic performance of 400 randomly selected students enrolled in the four colleges in Iligan City.

The academic records from the Registrar's Office were the main source of the data on the Grade Point Averages of students. The averages for two semesters' academic performance for school year 1984-1985 were the grades used in this study. The achievement levels were 1.0-1.99(High). 2.0-2.9 (Average); and 3.0-5.0 (Low).

The research instruments were the intelligence test and the self-administering questionnaire. The Culture Fair Test, Scale 2, Form A was used to measure the I.Q. level of the respondents. The self-administering questionnaire was to gather data on the personal, family, social and economic characteristics of the subjects.

The questionnaire was divided into four parts: The first part required the subjects to provide information on their personal background like sex, age, year level, course presently taking, school where enrolled, order of birth in their family, and information as to whether they were living with their parents or living in a lodging/boarding house in Iligan City.

The second part allowed this writer to compute for the socio-economic level of the student respondents. This part of the questionnaire required the students to tell about their parents, their educational attainment and occupation, their ownership of household furnishings, home appliances and conveniences and their level of living considering the make of materials used in the building of their homes. All the weighted scores of the ten socio-economic indicators were combined to form one socio-economic score. The following were the cut-off scores used to determine the

socio-economic status of a household: 1.74 and below, lower-SES; 178-2.69, middle-SES; and 2.70-3.0, upper-SES.

The third part extracted from the students the kind of home atmosphere and the kind of discipline their parents imposed at home and the nature of the relationship that pervaded in the home.

Part IV of the questionnaire was given only to subjects who were lodging and/or boarding.

This self-administering questionnaire was pre-tested on some college students of the four schools involved before the actual fieldwork commenced to determine the comprehensiveness of the instrument and the facility in understanding the questions. Questions that seemed vague to the respondents were rehashed in order to make them more understandable. These students were not, however, included among the final respondents.

Findings

Data gathered strongly suggested that the academic performance of students living in L/B houses was lower than that of the students living at home with their parents. The significant F-value of 21.03 in the ANOVA shown in Table 3 was further reinforced by the Duncan's Range Test presented in Table 4. The computed Least Significant Standardized Difference (LSSD) required between these two variables examined to be significant was found to be only .14 but the mean difference between H (2.31)1 and the L/B residents (2.48) was .17. Therefore this figure was significant at even p∠.001 level of confidence.

The zero-order coefficient correlation between the dependent variable (academic performance) and the independent variable (residential arrangement) shown in Table 5 also indicated a very high significant difference between the two types of residents. However, a behavior like academic performance may be dramatically affected by many other influences. It was assumed that this degree of correlation (.16) included in its explanation all the other probable effects and influences of variables that surrounded the student.

To cancel out the individual effect of each of the nine moderator variables to the relationship between academic performance and residential arrangement, a partial correlation coefficient, shown in Table 5, was computed and all variables, individually and wholly, revealed values that did not make the I V and the D V relationship insignificant. Sex (.15), for example, accounted for only .01 influence to the original relationshp between residential arrangement and academic performance. This means that eliminating or removing the effect of the third variable -sex-, the zero-order coefficient of correlation of .16 may be reduced by only .01. Hence, the partial coefficient correlation between residence and academic performance was reduced to .15 with the variable sex controlled. This value, however, was still significant at p ∠.001 level. This phenomenon explained that while sex influenced the relationship between academic performance and residential arrangement, it appeared that its influence did not so much alter the relationship as to make it insignificant.

[1]Grades in the four schools involved in this study are categorically described as follows: 1.0 represents the highest grade, and 5.0, the lowest grade.

Table 3

Analysis of Variance Table Showing Effects of Type of Residence on Academic Performance

Source of Variation	Sum of Square	df	Mean Square	F-Value
Between Residence	6.10	1	6.10	21.03***
Within Groups	116.32	398	0.29	
Total	122.42	399		

***Significant at p/.001 level

Table 4

Duncan's Range Test Conducted to Test Difference of Mean Academic Performance Between Home and Lodging/Boarding House Residents

Residential Arrangement	Academic Performance	Academic Difference	LSSD	Sig.
Home	2.31	.17	.14	p/ .001
L/B	2.48			

Table 5

Zero-Order and Partial Correlations of the Dependent, Independent and Moderator Variables, N= 400

I.V.	D.V.	Zero-Order r	Controlling for	Partial	df
Res. Arr.	Acad Perf.	.16***	Sex	.15***	397
			Age	.16***	397
			Birth Order	.16***	397
			Yr. Level	.15***	397
			I.Q.	.13***	397
			SES	.12***	397
			Par. Disc.	.15***	397
			Fam. Rel.	.15***	397
			School	.16***	397
			All 9 variables together	.11**	389

In effect, all the nine moderator variables contributed to the significant relationship established between academic performance and residential arrangement. Though minimal, summarily, the figures revealed that SES had the highest influence on the indicated relationship between the I V and the D V with the variable SES controlled, the partial r was reduced to .12 implying that the SES phenomenon possibly contributed the difference of .04 points to the .16 zero-order r between residential arrangement and academic performance.

Intelligence provided the next higher influence to the relationship between the I V and the D V . The partial r when I.Q. was controlled was .13, thus contributing .03 points to the relationship. This I V - D V relationship seemed to be strong because with all variables controlled, the coefficient correlation of .11 was still significant.

This writer, however, proceeded to compute for the Pearson Product-Moment r's for each of the variates including residential arrangement to find the individual variable's influence to academic performance. Problems 3 and 4 of this investigation were answered using this procedure.

Figure 4 shows the over-all intercorrelation findings of this survey. It shows the interplay of the forces that impinge on the student to effect a behavior. The paths, breadths and the depths of the relationship of each predictor variable to academic performance are indicated by the varied lengths and thicknesses of the lines pointing to the student's performance.

Figure 4 also presents intelligence to be the strongest predictor of academic performance as pictured by the longest and thickest vector.[2] The length and the thickness of the line were derived from the Pearson Product-Moment r's computed (see Table 6). Intelligence and performance were highly correlated. The next strongest predictor of performance revealed by this study was the family relationship. The strength of this relationship is represented by the length and thickness of the vector, only next in length and thickness to that of intelligence.

Next in strength in predicting performance was sex. Its coefficient correlation with the criterion variable was - .18, still significant at p $<$ .001 level. Being the third of the six variable predictors, it had the third longest and thickest line.

**Significant at p $<$ .01 level
***Significant at p $<$ .001 level

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2 Lewin (1966) used the term vector to refer to a line representing the force that acts upon an individual to effect a behavior. The longer and thicker the line is, the more important and influential the variable is to the manifestation of a behavior.

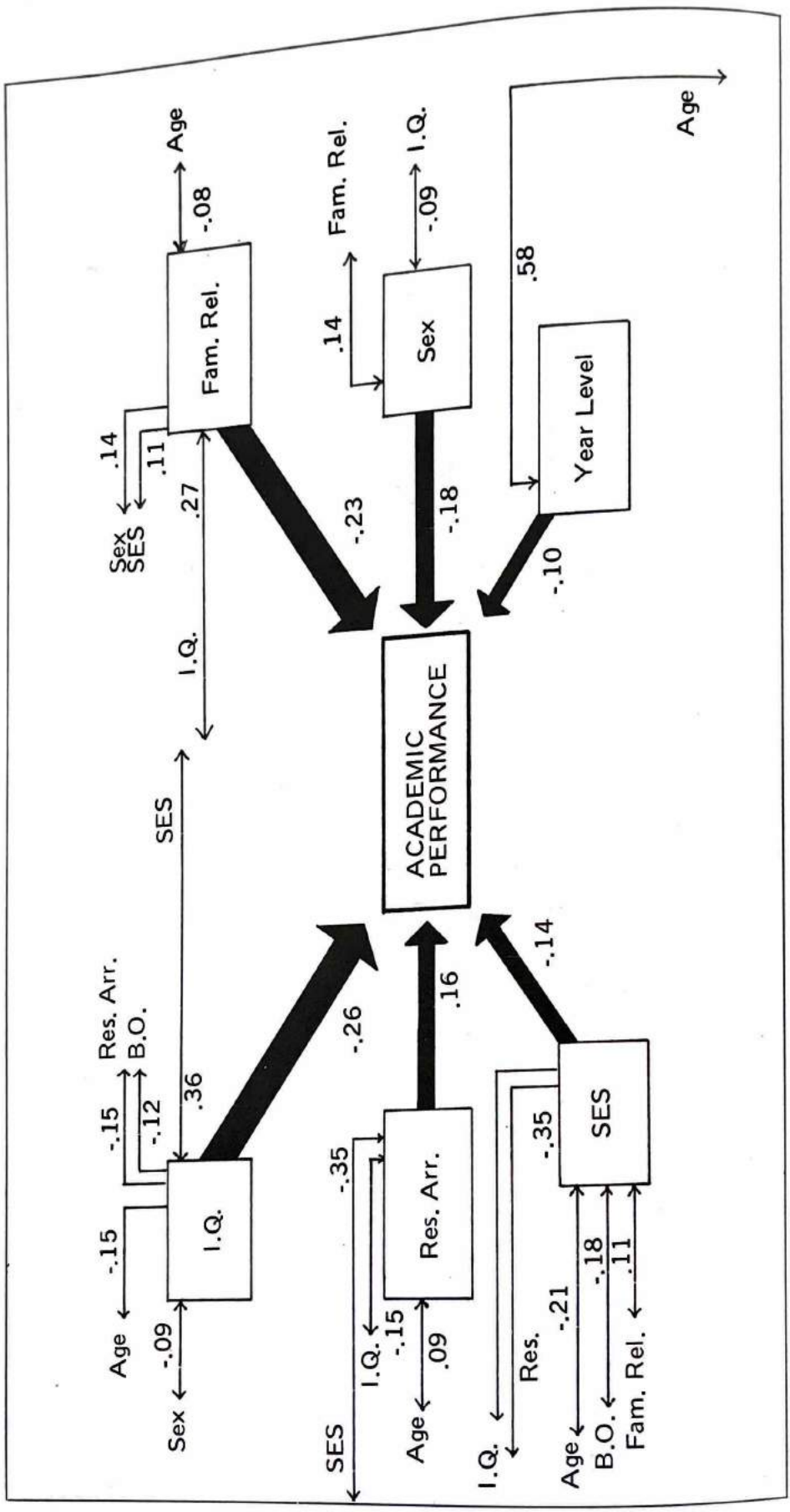

Fig. 4 This is the writer's representation of the interplay of forces or vectors in a student's "life space" showing the paths and depths of the forces that are the strong predictors of academic performance.

Table 6

Zero-Order Correlation Matrix of 11 Variable, N = 400

	1	2	3	4	5	6	7	8	9	10	11
1	CPA	.16***	-.18***	.05	-.10*	.06	-.26***	-.14**	.04	-.23***	.06
2	RES.		-.05	.09*	.01	-.02	-.15***	-.35***	-.02	-.04	.01
3	SEX			-.03	.05	.02	-.09*	.01	-.02	.14**	-.06
4	AGE				.58***	.08*	-.15**	-.21***	.06	-.08*	.24***
5	Yr. L.					.12**	-.02	-.03	-.07	-.01	-.01
6	B.O.						-.12**	-.18***	-.01	.02	-.04
7	I.Q.							.36***	-.02	.27***	-.34***
8	SES								.03	.11**	-.11**
9	DISC.									-.06	.02
10	REL.										-.25***
11	SCH.										

Following closely was residential arrangement whose r with performance was .16 and still significant. Its line is less thick and shorter than that of sex.

The last two predictors are socio-economic status and year level, respectively. Year level, being the least predictive of the six more efficient predictors had the shortest and the thinnest line pointing toward academic performance.

It should be noted that most of the correlation values in Table 6 are negative because the grading system in the four schools studied is such that the lower the number, the greater is its grade equivalence.

Interaction between and among the forces is depicted in Figure 4. Intelligence which appeared to be the most efficient predictor of performance was also discovered to have strong correlations with five of the other moderator variables, namely socio-economic status, age, birth of order, residence and sex. This phenomenon inferred that intelligence, in combination with SES ($r = .36$), residence ($r = -.15$), sex ($r = -.09$, age ($r = -.5$), and birth order ($r = -.12$) demonstrated a much higher coefficient correlation with achievement. Age and birth order which were not directly correlated with achievement may help the variable intelligence increase its predictability for student achievement.

The intercorrelations of I.Q. with other variables supported Flannagan et al.'s (1962) declaration that while measured intelligence is the best single predictor of scholastic performance, it does not explain everything. A lot of difference can be explained by other factors.

Among the 10 variates examined, six of them, namely, intelligence (high), family relationship (harmonious), sex (female), type of residence, (home), socio-economic status (high) and year level (fourth year) demonstrated positive valences. These are depicted in Figure 5. On the other hand, Figure 6 pictures the negative valences. The other four variables: age, birth order, parental discipline and school exhibited no definite relationship with academic performance.

Conclusions

On the basis of the foregoing findings, the following conclusions are made:

1. Residential arrangement was related to academic performance; specifically, students living with their parents at home were doing better in school than those living in lodging/boarding houses.

This finding supported the socio-psychological orientation advanced by Philliber (1980), Boocock (1980) and Handel (1965) that the family especially the parents are the primary models for learning and the effective source of motivation for achievement. The finding may further imply that a landlord/landlady in a L/B house may be able to provide these enriching values as envisioned by Pope John Paul II (1982) but not the kind and quality and ease and the enduring self-sacrifice and attention that an individual receives from his own family.

2. The relationship established between residential arrangement and academic performance was maintained even when with the nine moderator variables were controlled singly and collectively. The moderator variables provided a minimal influence to the I V - D V relationship with SES and I.Q. providing some apparent influences. Although the effects were minimal, nevertheless, they simply implied that it may not be safe to study in understanding a behavior.

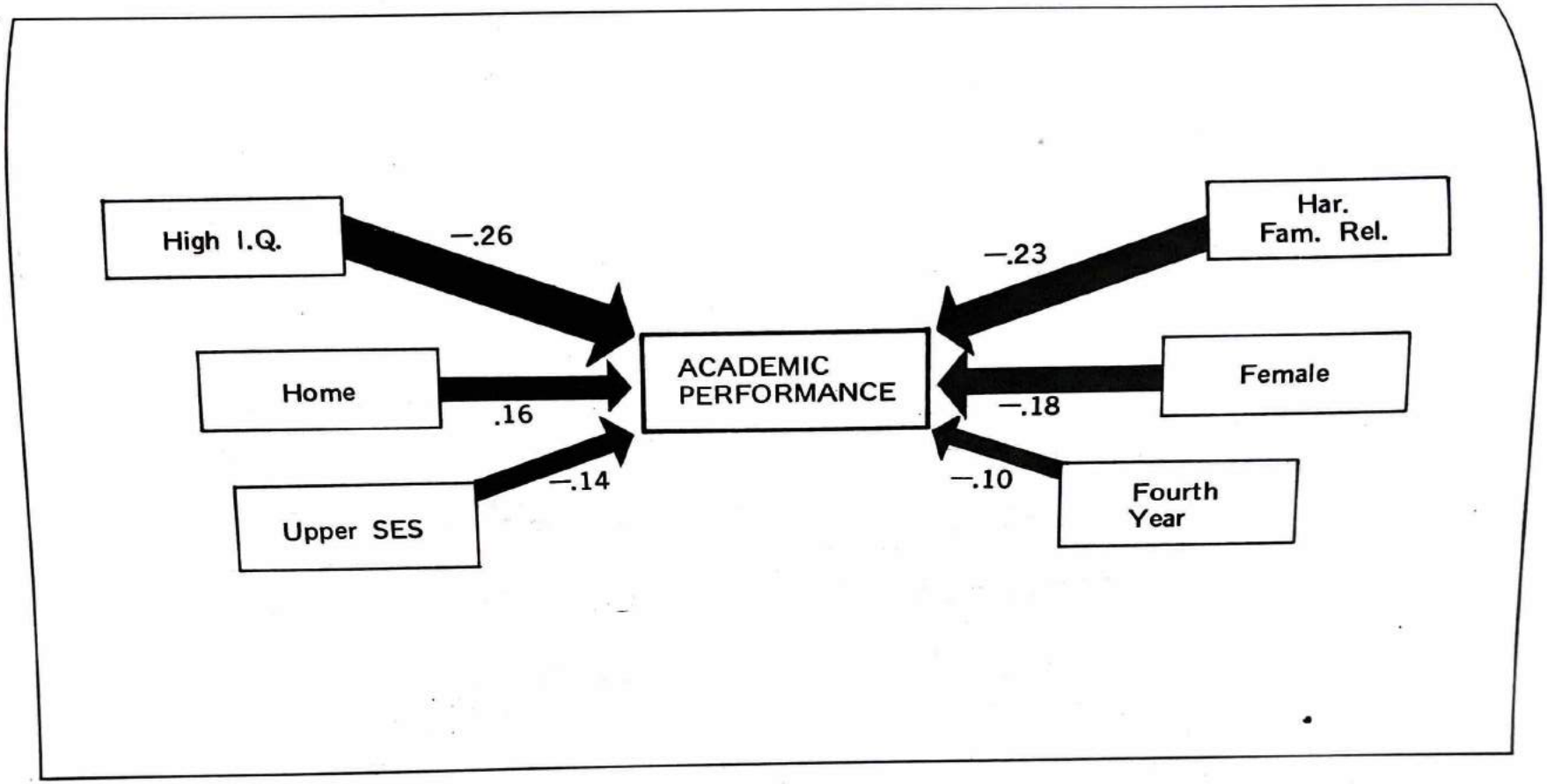

Fig. 5 Diagram showing the relationship of variables with positive valences (in a student's "life space") with academic performance. These are the vectors that appeared to be strong predictors of high academic performance in this study. Note that each vectors shows its correlation coefficient with academic performance.

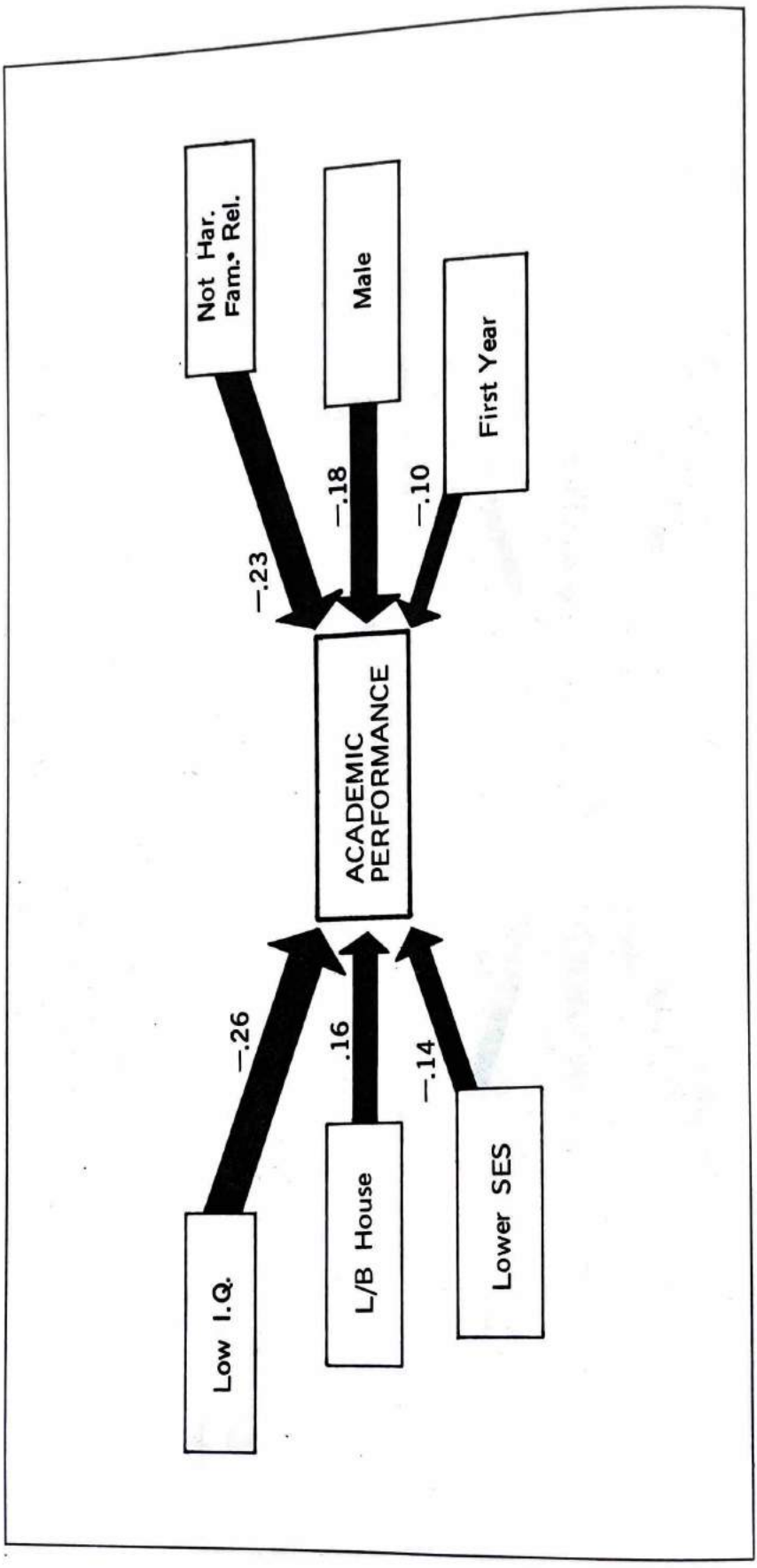

Fig. 6 Diagram showing the relationship of the independent variables with negative valences (in a student's "life space") with academic performance. These are the vectors that appeared to be strong predictors of low academic achievement, in this study. Each vector shows its correlation coefficient with academic performance.

3. In both types of residential arrangement, intelligence appeared to be the most efficient predictor of academic performance.

4. A combination of intelligence, family relationship, sex, residence, SES and year level (in that order) turned out to be the quite substantial predictors of performance. Correspondingly, variables that had positive valences were high I.Q., harmonious family relationship, female, home, upper-SES and fourth curriculum year (see Figure 5). The negative valences were low I.Q., unharmonious family relationship, male, L/B house, lower-SES and first curriculum year (see Figure 6).

On the whole, the study supported Kurt Lewin's Field Theory which asserted that changes in behavior, the movement toward or away from that behavior are due to certain forces or vectors found in the person's life space; and that these vectors may be either positive or negative. The presence or the absence and the strength of the valences spell the difference in behavior among individuals.

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