

The Influence of Home Background Variables on the Achievement of Fijian and Indian Students*

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The Problem

The overall results of the Fiji Junior Certificate (FJC) examination for fourth form students since 1975 have shown that Fijian students perform as well as Indian students at this level. However, results of the higher examinations such as New Zealand School Certificate and New Zealand University Entrance, have shown that Fijian students achieve less well than their Indian counterparts. The Fijians' high rate of underachievement beyond the FJC level has caused much concern for many educators because they believe that, if the rate of achievement for both ethnic groups is similar at the FJC level, then, in theory, it should also be similar, at least, at NZSC level. As it is, the differential in achievement between the two groups is very pronounced.

Purpose of the Study

The purpose of this study was twofold:

1. to investigate the achievement dilemma stated above, and
2. to explore the possible factors that might explain the differences in achievement between the two ethnic groups.

Methods of Investigation

The investigation of students' achievement was made by analysing the results in individual subjects sat for in the 1981 FJC examination — English, Mathematics, Basic Science, Biology, Chemistry, Physics, Social Science, History and Geography. This would show the subject areas in which the ethnic groups performed differently. The student sample for the analysis was taken from 40 secondary schools selected randomly from all education divisions in Fiji.

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Investigation into the factors that explain the differences in achievement was made by studying the home background of the students. This was done by means of a questionnaire survey of the above student sample which comprised 2,736 fourth form students. However, for this project, a sample of 160 Fijian and 240 Indian students was selected randomly in proportion to their ratio in the population sample.

The variables studied are listed in Tables 1 and 2, and these variables were analysed by means of the discriminant and descriptive analyses of the various interrelationships in the data.

Summary of Results

Achievement

The analysis of the achievement tests (FJC, 1981) showed that Indian students performed better than Fijian students in English, Mathematics, Basic Science, Biology, Chemistry, Physics, Social Science and History. Fijians performed better only in Geography.

Table 1
Achievement Analysis for 1981 F.J.C.

Subjects	No. Sat		% of 50% +		Mean		sd		t	p
	F	I	F	I	F	I	F	I		
English	776	1500	26.7	38.7	43.3	48.1	12.5	14.4	8.8	.001
Mathematics	779	1617	33.2	41.3	45.6	48.4	14.0	16.1	4.2	.001
Basic Science	663	973	44.6	39.8	47.0	49.6	13.0	14.0	3.9	.001
Biology	68	375	35.1	48.6	43.5	50.3	13.5	14.9	1.9	.10
Chemistry	43	350	39.5	65.2	48.9	55.4	16.0	15.4	2.1	.05
Physics	48	257	43.8	56.2	48.1	54.6	11.4	16.4	3.4	.001
SCIENCE MEAN			40.9	52.5	46.9	52.5	13.5	15.2	4.1	.001
Social Science	150	53	48.7	62.3	46.9	52.1	10.9	12.0	2.8	.01
Geography	453	371	41.9	25.1	44.7	38.8	13.3	13.0	7.7	.001
History	120	420	43.7	45.4	45.5	48.3	14.0	15.7	1.9	.10
SOC. SCIENCE MEAN			44.8	44.3	45.7	46.4	12.7	13.6		not significant
TOTAL MEAN			39.8	47.2	45.9	49.5	13.2	14.7	3.9	.001

The overall differences in English, Mathematics and all Sciences were significant at the one per cent level. The overall differences in the Social Sciences were not significant. In summary, Indian students performed better in more subjects than their Fijian counterparts.

Home Background

Among the home background variables that were significant in their descriptive interrelationships were: distance of the school from students' homes, time allowed for homework, number of books in the homes, number of books read, fathers'/guardians' level of education, students' job aspirations, availability of textbooks, and the place of students' residences. When these variables were analysed together with three other variables, (help for homework, students' education aspirations, and the importance of passing examinations), by means of discriminant function analysis, the canonical correlation was .51 and the overall relationship was significant at the one per cent level.

Table 2
Standardised Discriminant Function Coefficient

Variables	Coefficient
Place of residence	0.50
Distance of school from home	-0.07
Number of people in household	-0.13
Allowance for homework	0.25
Help for homework	0.24
Number of (story) books at home	0.35
Number of books read	0.18
Father's education level	-0.58
Education level wished to be reached	-0.25
Job aspiration	0.09
Importance of passing examinations	-0.14
Availability of textbooks	-0.41

The discriminant function coefficients (See Table 2) showed that the four home background variables that were most important in discriminating between Fijian and Indian students were: place of students' residences (.50), number of story books in the homes (.35), fathers'/guardians' education level (-.58), and the availability of textbooks to students (-.41).

That most of the Indian students are well distributed among their nuclear family members suggests the value of education to them. Education becomes a joint family venture, and siblings reside with older brothers and sisters, who are often better educated than the parents, in order to be more successful at school. The influence of the family in the socialization process, family interest and support, the psychological stimulation of the child's academic development by parents and other significant persons in the home environment, are important in influences on academic ability, achievement and motivation (Circerelli, 1978; Marjoribanks, 1979; Walberg and Marjoribanks, 1976). This is true for this study; the better achieving Indian students reside with the better educated family members. In contrast, Fijians, who achieve less well in schools, reside mostly with their less well educated parents/guardians.

The importance of the availability of story books and textbooks has been made in the literature review by Steiner (1963), Moegiadi *et al* (1979), Elley and Mangubhai (1979), and Heyneman and Jamison (1980). Indian students have more of these resource materials available to them than their Fijian counterparts, and this may be responsible in part for their better achievement results.

Limitations of the Study

One of the limitations of this study was the unavailability of students' names for the achievement test results so that their scores could be matched with questionnaire responses. This arose for reasons of confidentiality. The two sets of analyses used were those of the t-test of ethnicity made against students' achievement, and a discriminant analysis of ethnicity (dependent variable) and the home background (independent variables).

A factor which may have influenced the results of the study is how students may have interpreted the question of their residence. Some students may have indicated their permanent residence instead of the residence from which they attend school. However, if both groups of students interpreted the question similarly, then the results may not have been affected greatly.

The researcher was not able to personally interview or administer the questionnaire to the subjects as most schools were not easily accessible. The assistance given and the interpretation of the questions were

dependent therefore on the classroom teachers and some school principals. However, this problem is not unique to this study, but is a feature of many surveys by questionnaire.

Implications for Further Research and Policy

Further investigation needs to be carried out on the population sample of 2,736 subjects from which the 400 student sample for this study was selected. Achievement tests for named students and their respect home backgrounds should be interrelated to establish the reliability of this study. The results of an investigation from a larger sample could provide sufficient grounds for the government to plan confidently and make the necessary changes in educational policy.

A variable that needs clarification is that of the home language of students. The literature review suggests that students who use the school language at home achieve better at school than those who use another language (Moegiadi *et al.*, 1979; Cooksey, 1981). English is the medium of instruction in Fiji's secondary schools, but most Fijian and Indian students speak their vernacular language at home although some may speak English. Do those who speak English at home achieve better in school, and if they do, how does the home-school language interrelate with their school achievement?

A dominant feature of this study is that the most significant variables in the discriminant analysis (place of residence, fathers'/guardians' education level, and the availability of reading and text books) are directly or indirectly interrelated with "school" variables. The above can be grouped as resource personnel and resource materials. Translated into the school situation, the resource personnel include the teachers and their quality (in terms of experience and academic qualifications); material resources include both reading and text books, school infra-structure, library, science and general classroom facilities.

The vast differences in physical resources of schools in third world countries has been made in the review of literature (Farrel and Schiefelbein, 1974). A preliminary report by Nabuka (1981:1-12) indicated that Fijian schools have poorer library, science and general school facilities than Indian schools. This needs confirming.

Stressing the importance of the differences in schools, Postlewaite (1975), Coleman (1975), Shaycroft (1967) and Brimer *et al* (1977), indicated that subjects such as Mathematics and Science which are learnt more at school show greater differences than do English, Reading, Literature and Social Science which can be learnt at home (cited by Rutter *et al*, (1979). The present study's findings are consistent with the above. It suggests a need for further investigation into school factors such as the quality of schools and teachers. Do teachers in Indian schools possess better academic qualifications and their Fijian counterparts? The preliminary report by Nabuka (1982) suggests that they do; this needs following up. However, should studies confirm this trend, then the Ministry of Education should look into providing better resource materials and personnel for Fijian schools.

Supplying Fijian schools with reading books would have a short-term effect only, as it would benefit mostly students who already possess healthy reading attitudes and good reading skills. A better long-term program would be to subject the children to vigorous reading programs to develop their reading skills. As their reading skills improve they should develop a more healthy reading attitude, something which is evidently lacking in most Fijian children today. The lack of experience and skills in reading may be largely responsible for the lack of interest in reading which, in turn, affects children's achievement. The program may be seen as an improvement in the interest and attitudes of young Fijian children who will later be sitting for the same examinations which so many of their kin have failed.

The present system whereby schools and students obtain their own textbooks is an expensive exercise, particularly among those rural secondary schools which do not have ready access to resource centres. The Ministry of Education could assist by ordering such books and supplying them to those schools at reduced costs. The government has a moral commitment to fulfill the needs of these schools, especially when one considers that it was the government that initiated the move to establish more secondary schools outside the urban centres (Education Commission, 1969).

The above proposals will prove costly, but improving the quality of education has always been a complex, time-consuming, and costly process. Warner *et al* summarise the situation well.

Too often educators either propose band-aid solutions requiring major surgery, or damage the whole profession by attempting to lay the blame on

another group of educators . . . Taxpayers must be willing to pay the bill — and the bill will be large . . . but it can be no more costly to the teaching profession and the society we serve than the crisis of public confidence which presently faces us. We must stop pretending that there are cheap, fast-order solutions to improving the quality of instruction in our schools (1980:425).

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