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A comparative study of the attainments of children in
Service Schools in Cyprus.

Lesley P. Newhouse.
University of Durham 1971.

Thesis submitted for the degree of Master of Science.



ABSTRACT

This study is concerned with the attainment of 'service-children' in Cyprus. In Cyprus there are both Royal Air Force and Army schools and, because of the political situation, service-children there have been subjected to even more changes of school than is normal for a service-child. Conflicting views, concerning the effect of changes of school on academic achievement, are expressed in much recent research in America.

The age-group, eight years to eight years eight months, was selected as being the most representative sample of service-children. As children become older, increasing numbers of them, particularly children of officers and senior non-commissioned officers, are sent to boarding schools in the United Kingdom. This age group have been of school age for three (plus) years, and are likely to have had, at least, one more change of school, than is normal for children in the United Kingdom, due to the father's posting.

The service-children were tested in Verbal Ability, English Progress and Mechanical Arithmetic. The scores obtained in the Primary Verbal Test I, which is frequently used as a measure of verbal intelligence, were compared with the United Kingdom norm for children of similar age, normally resident in the United Kingdom and without socio-economic bias. There was no significant difference in verbal ability between the two groups, therefore the English Progress and Mechanical Arithmetic scores could be compared. Results showed that, despite changes of school during their period of residence in Cyprus and throughout their school life, the service-children did not obtain lower scores in the attainment tests than children of comparable age in the United Kingdom. There were, in fact, significant differences, in favour of the service-children, in English Progress and Mechanical Arithmetic.

The results suggest that other factors, linked with the administrative and social aspect of service-life have compensated for the lack of continuity in the education of service children in Cyprus. Trends obtained from

evaluating data in this research do indicate that the scores of service-children in Mechanical Arithmetic and of boys in English Progress are depressed by increased length of time spent overseas and with absence from school. Further areas of research are suggested with reference to the trend of results.

<u>Contents</u>	<u>Pages</u>
<u>SECTION I</u>	
Ch. 1. The origin of the Problem.	8
Review of the literature.	8
Statement of the Problem.	12
Ch. 2. Relevant aspects of the Geography and History of Cyprus.	13
A brief history of British Forces in Cyprus and the provision of service schools by the Ministry of Defence (Service Children's Education Authority). The Service Primary Schools, which the sample of service children attended.	18
	21
<u>SECTION II.</u>	
Ch. 3. Description of the Procedure.	25
Experimental Design.	25
Selection of the Sample of service-children.	26
Selection of the attainment and ability tests.	28
Measurement Techniques.	29
Ch. 4. A description of the Cyprus sample in terms of the test scores.	30
Ch. 5. Hypotheses.	60
Ch. 6. Further discussion.	85
<u>SECTION III.</u>	
Bibliography	92-94
Appendices	95-112

LIST OF TABLES.

TABLE I.	Service children's schools in Cyprus	19
TABLE II.	Yearly totals of pupils attending the Primary schools, involved in the study.	22
TABLE III.	Data and results of children of British Servicemen and United Kingdom based civilians in Cyprus.	APPENDIX I
TABLE IV.	Means and standard deviations obtained from standardised scores.	39
TABLE V.	Data for frequency polygons and histograms	APPENDIX II
TABLE VI.	The correlation values, r, obtained from correlating intellectual variables.	41
TABLE VII.	'Summary of Findings'.	
A1.	Analysis by grouping into schools and results of A1.	44 45 46
A2.	Analysis by grouping according to the rank of the father.	
a)	Children of officers, NCOs* and OR's in RAF and Army schools.	48
b)	Children in each school.	49 & 50
	Results of A2 a) and b).	51
A3.	Analysis by grouping according to the sex of the child.	
a)	Boys and Girls in RAF and Army schools.	54
b)	Boys and Girls in each school.	55
	Results of A3 a) and b).	56
A4.	Means and standard deviations of small groups within the individual schools (with results of Mann-Whitney 'U' test).	57

TABLE VIII.	The number of schools attended by(8:0 to 8:8) year old children in Cyprus.	61
TABLE IX.	The number of children affected by changes of school in Cyprus.	62
TABLE X.	Data, from which United Kingdom norms were calculated, supplied by N.F.E.R.	APPENDIX VI.
TABLE XI.	A comparison of the standardised scores of (8:0 to 8:8) year old children in Cyprus with those obtained by children in the United Kingdom of average ability and similar age group.	66
TABLE XII.	"Range of predicted scores on one standardised test from different levels of score on another correlated test." after D.A. Pidgeon.	APPENDIX VII
TABLE XIII.	An analysis of the scores obtained by the service-children in attainment tests, as "Test B".	70
TABLE XIV.	B1. Calculated values of the correlation coefficient 'r'.	74
	B2. Relationship between the social valuables and ability and attainment test scores of children in (i) RAF schools and (ii) all the service schools.	74
	B3. Relationship between the social variables at different levels of ability, for effect on attainments.	75
	B4. Relationship between the social valuables, by the sex of the child, for effects on attainments.	75
TABLE XV.	Correlation Matrix.	APPENDIX VIII

TABLE XVI.	The percentage of children in each service school in Cyprus, reflecting 'pattern of tours'.	79
TABLE XVII.	An analysis of percentage absence.	83
TABLE XVIII.	Average percentage absences of service children in the 8 yrs to 8 year 8 months age group.	86
	Map of Cyprus.	14
	Numbers of children attending Service schools in Cyprus.	24
	Frequency Polygons and Histograms.	31 - 37

APPENDICES

APPENDIX I.	TABLE III - Data and results of children of British Servicemen and United Kingdom - based civilians in Cyprus.	95 - 102
APPENDIX II.	TABLE V - Data for frequency polygons and histograms.	103 + 104
APPENDIX III.	Key to the abbreviations used in the thesis.	105+ 106
APPENDIX IV.	Form A - a questionnaire relating to the background information of each child.	107
APPENDIX V.	Educational provision for children of British (non-service) parents from 1935 to the present day.	108 + 109
APPENDIX VI.	Data, from which United Kingdom norms were calculated, supplied by N.F.E.R.*	110
APPENDIX VII.	TABLE XII. 'Range of predicted scores on one standardised test from different levels of score on another correlated test'. (27).	111
APPENDIX VIII	TABLE XV. Correlation Matrix.	112

SECTION I.

A comparative study of the attainments of children in the eight years to eight years eight months age group in British Service Schools in Cyprus.

Section I Chapter I

Origin of the Problem

The present study developed as a result of discussions with teachers and parents concerning academic achievement of highly mobile children in British Service Schools. In the course of these discussions much naïve criticism was heard of the attainments of these children. Most of this criticism was based on hazy recollections of schooldays and vague ideas of standards in the United Kingdom. None of it was backed by statistical evidence. It was decided by the writer, a teacher, to initiate a research project. Sir Cyril Burt in "The Backward Child" (2) P.684, stressed the 'need for research by teachers who can combine first-hand practical experience with a knowledge of scientific techniques'.

Review of the Literature.

An investigation into the literature on mobility and achievement revealed the fact that much of the research in the field of mobility and achievement has been carried out in the United States of America, notably by, W.T. Snipes (21)(28), Daughtry (6), Bollenbacher (1), Morris, Pestaner and Nelson (19), Cincinnati Public Schools (9), Gilliland (13)., whilst there has been comparatively little research in this field in the United Kingdom. A consideration of this American research, however, can illuminate a study of the relation between mobility and achievement in British school children as there are many common problems and significant comparisons that can be made.

"The population of the United States of America has always been highly mobile and is continuing to exhibit these characteristics in the 1960's" (21). The population of Britain, because of technology and the increasingly sophisticated transport facilities, is becoming increasingly mobile and the



resulting problem of changes of school is inevitably becoming more common. "In America, millions of school-age children are required to change school each year due to change of residence of their parents"(21) and W.T. Snipes (1964) posed the questions "Are these transferring children being "short-changed" as compared with the youngster whose parents stay in one community? What effect does changing from one school to another have upon the achievement of pupils?" (21).

W.T. Snipes considered "research in the area of pupil mobility and achievement to be meagre and inconclusive". He reviewed three studies in his doctorate thesis (28) (21). A study was made by Guy E. Joy (and reviewed by Sackett (1935) (24)) of the effects of moving on the educational status of children in the Panama Canal Zone schools. After administration of the New Stanford Achievement test, the data revealed that the "transient" children in Grade 7 and 8 excelled in all subjects measured except "Arithmetic computation" (28). Daughtry (1958), and Bollenbacher (1962), concluded that mobility did not have a significant effect upon school achievement. Daughtry (6) reviewed by W.T. Snipes (28) studied 434 eleventh grade students in the Southern States of America in relation to achievement and mobility. After administration of the California Achievement Tests, she concluded that pupils who had made a relatively greater number of inter-school moves as compared with pupils who had made relatively fewer such moves, were more likely to have made "higher than average grade placement scores" on the tests.

Bollenbacher (1) administered the Stanford Intermediate Reading and Arithmetic tests to sixth grades in Cincinnati, Ohio. She found that achievement in reading and arithmetic was not affected by the mobility of this group, when I.Q. was observed in relation to achievement and mobility. Rather, she noted that the pupils who moved most often were consistently the least capable.

W.T. Snipes (21) (28) (1966), used a sample of 483 pupils in the sixth grade of six elementary schools, in a single county system, located in Georgia and found no significant relationship between achievement in the areas of reading vocabulary, reading comprehension, arithmetic reasoning, mechanics of English and spelling and the number of times the pupil had moved. The achievement area of arithmetic fundamentals appeared to be related to the number of moves pupils had made; pupils who had moved the greatest number of times did significantly better than those moving five or three times (N.B. Parametric t-tests used). Snipes concluded that "actual differences may exist among pupils enrolled in public schools as a result of mobility". The data also seemed to validate the idea that moving was not necessarily detrimental to achievement. "However, if educators are to be concerned with the whole child this aspect of life cannot be overlooked as unimportant" (28).

Morris, Pestaner and Nelson (19) (1967), published a study on mobility and achievement in reading and arithmetic. They considered that the three major studies of mobility and achievement, in the last decade, to have been conducted by Gilliland (13), Snipes (21)(28) and Cincinnati Public Schools (9).

Gilliland (1958), reviewed 17 studies concerning the relation between mobility and achievement. Some studies showed that achievement deteriorated with mobility whilst others showed an improvement. Additional complications were introduced by those studies in which achievement in some subject areas improved with mobility, while achievement on other subjects deteriorated. Further, Gilliland suggested that variations in intelligence between "transient" and "non-transient" students made interpretation of results difficult. He found that 1800 "transient" fifth and sixth grade pupils were significantly ahead of "non-transients" in mean achievement score for all subject matter except arithmetic. Further, taking "I.Q." into consideration, Gilliland found that

(i) High I.Q. mobile pupils were superior to high I.Q. non-mobile students.

- (ii) The achievement of low I.Q. mobile children was slightly but not significantly lower than that of low I.Q. non-mobile children.
- (iii) The advantage in mean achievement scores which the mobile pupils had over the non-mobile (in subjects other than arithmetic) was found to increase as the number of schools increased.
- (iv) The disadvantage which they had in arithmetic was found to increase as the number of schools attended increased. In addition, Gilliland found that children of professional parents gained far more from mobility than the children of unskilled labourers.(19).

The study made by Snipes has already been reviewed by the writer. A study of 5,901 sixth grade students conducted by the Cincinnati Public Schools (9) (1960), showed that reading and arithmetic were not affected by the number of schools attended. None of the studies reviewed by Morris, Pestaner and Nelson reported sex differences in the relation of mobility and achievement.

Morris, Pestaner and Nelson (19) (1967), used a sample composed of the entire fifth grade of boys and girls in the industrial suburbs of Northern Alameda County, California. The study showed that mobility does have an effect on reading achievement, but not arithmetic. Taking intelligence, race and socio-economic status into account in the statistical analysis, they stated that this finding might be taken as tentative support that for low socio-economic status children, the first move was the most dislocating one and that after the second move, some children recovered and moved into the highest achieving section, whilst others sank to the bottom of the achievement scale. They presumed that some children have learned to cope with the environmental changes and even benefited from them, while others had not (19).

The conflicting results of the research studies reviewed demonstrate the need for further research into the relationship between mobility and achievement.

British Service children in Cyprus represent a school population, which has undergone a large number of changes of school by virtue of the migratory nature of their parents' occupation (11).

Statement of the Problem

The children of Servicemen, who accompany their fathers, on overseas tours, inevitably, have to change schools at the end of each tour.

Tours of duty in Cyprus, normally, last from $2\frac{1}{2}$ to 3 years but transfers, during this period, may take place within Cyprus or within the Near East Command. While families are moving their children's schooling is interrupted.

Imminence of a move has an unsettling affect on the children and they may well not obtain maximum benefit from their last few weeks in the school that they are about to leave. Similarly, they take time to settle down when admitted to their new school and often have to adjust to different teaching methods, different school organisation and differing syllabuses.

The aim of the investigation is to establish whether changes in school have any affect on the academic performance of the children of the servicemen in Cyprus. Findings for this particular area could have some general bearing on comparable changes associated with other areas where service personnel are required to reside.

Chapter 2.BACKGROUND HISTORY OF CYPRUS

In order to establish the background against which the British Service schools in Cyprus operate, the following topics were investigated:-

- i. Relevant aspects of the geography and history of Cyprus.
- ii. A brief history of British Forces in Cyprus and the provision of Service schools by the Ministry of Defence (Service-Children's Education Authority).
- iii. The service primary schools, which the sample of service-children attended.

Information was obtained from Colonial reports (3), from the British High Commission in Nicosia, together with reference books on Cyprus*, listed in the bibliography. A history of each primary school was completed by obtaining information from Headteachers, Education officers and records held in the school. Further information on provisions for overseas education for service children was extracted from "Education of Service-children"(11).

*(4)(10)(15)(17)
 (18)(20)(23)(27)
 (29)

Cyprus "...is the most considerable and famous island in the world anciently abounding with riches and too much addicted to luxury...."

M. Baumgarten 1508 (18).

The island of Cyprus (3) 1958.P.90., is situated at the extreme north-east corner of the Mediterranean Sea, 240 miles north of Egypt, 60 miles west of Syria and 40 miles south of Turkey. The flying distance from London to Nicosia (the capital) is 2,000 miles. Cyprus has an area of 3,572 square miles and is the third largest island in the Mediterranean Sea. (See Map.P.14). The coastline is indented and rocky, with long sandy beaches and a few fairly extensive coastal plains. The North coast is bordered by a steep narrow belt of limestone mountains (Kyrenia Range) rising to more than 3,000 ft. In the South-west an extensive mountain massif, covered with pine, dwarf oak, cypress and cedar culminates in the 6,400 foot peak of Mount Olympus (Troodos Range). Between these ranges lies the broad fertile plain of the Mesaoria. Rivers are muddy torrents in winter and are dry or reduced to still pools in the summer. The island is occasionally subject to earthquakes. One, in 1953, did severe damage in Paphos, and in 1963 and 1967, there were minor earth tremors. The once famous forests of Cyprus, now, only cover 18 per cent of the total area of the island. The whole forest area is government owned; 33 per cent is fully productive, though the remainder is covered with young trees. Most uncultivated places are covered with scrub or maquis, containing bushes or stunted trees or with ~~garrigue~~, consisting of sparse low prickly shrubs. Cyprus is extremely healthy with hot dry summers and short, mild, moist winters (3) '58.P92. The population are renowned for their longevity and school attendance, in service schools, is usually extremely good.

The total population of the island, in the December 1960 Census was 577,639: 160 to the square mile, a high figure for the Middle East. Of the total population 449,043 were Greeks, 104,183 were Turks, 3,628 Armenians, 2,708 Maronites and 24,113 other nationalities. The Greek community, including Maronites and Armenians, represented 81.96% of the population;

The Turkish Community 18.04%.

These ethnic groups maintain their national identities and provide their own schools. These schools perpetuate racial divisions, for example, in 1959 the English language was officially abolished in Greek Cypriot Elementary schools (3). The British Forces, also, provided schools for their own nationals and no significant integration of the school populations has taken place.

There is a long history of intercommunal hostility and conflict and this, too, has militated against any integration into local communities by British Forces families. Because of this, British families have not been, directly, involved in the most recent intercommunal strife, but parents and children alike have been very conscious of the tension that this situation produced.

The economy of the island is based, largely, on agriculture and mining for asbestos and copper ore. It was the deposits of copper ore which were primarily responsible for the invasion and occupation of the island by foreign powers for almost three thousand years. In recent times, the island has become important as a military base for British Forces.

It was in 1925 that a Crown Colony was created in Cyprus, and was administered by a Governor and Executive and Legislative Councils. However, in 1931, the movement among the Greek population, in Cyprus, for union (ENOSIS) with Greece led to widespread disturbances and the Legislative Council was abolished. The year, 1948, might have been important for the Cypriots, for the British Government proposed a new constitution, but it was rejected locally, and the offer lapsed after six years. In 1954, the British Government made fresh proposals for a new constitution introducing self government. In the same year, the Greek Government took the question of self-determination for Cyprus to the United Nations. An armed campaign was launched, in April

1955, by the Greek Cypriot Underground Organisation, E.O.K.A. (National Organisation of Cypriot Combatahts), in support of the demands for ENOSIS. An abortive tripartite conference was held in London between Britain, Greece and Turkey. A "State of Emergency" was proclaimed by the Governor, Sir John Harding, on the 26th November 1955, and security forces greatly increased. Lord Radcliffe's proposals for a new constitution were accepted as a basis of discussion by the British and the Turks, but rejected by the Greeks. In 1959, an agreement on independence for Cyprus providing for continued British Sovereignty over certain bases on the island (see also P.20), was signed in London on the 19th February, by the Prime Ministers of Britain, Greece and Turkey with the accord of Archbishop Makarios, representing the Greek Cypriot Community and Dr. Kutchuk representing the Turkish Cypriot Community. Cyprus became an independent republic on 16th August 1960. A Treaty of Guarantee and a Treaty for the Establishment of the Republic of Cyprus (27) were signed by Cyprus, Britain, Greece and Turkey. Cyprus was admitted to the United Nations on the 21st September 1960; and the House of Representatives voted in favour of remaining in the Commonwealth, for a period of five years, which was approved by Commonwealth Ministers in March 1961.

Intercommunal strife flared up in December 1963 and the Turkish Cypriots lost their powers and remained in enclaves in the main towns and ports. It was the official British policy during the worst days of the crisis to keep the service schools open. This was for the political purpose of trying to maintain calm among Cypriots as well as British people and the attempts seemed to have been justified on political grounds. (29'64) The problem is, still, unresolved and a United Nations peace-keeping force, which took up duties in 1964, still remains on the island. (30'64).

Each of the British Service departments (i.e. Army, Royal Air Force and Navy) has established children's schools overseas, but the policy of administration of the schools is common to all departments. Generally, the control of the schools in an area is the responsibility of the "major user". Children from all the Services may attend the same school (11)(103). The education provision for service children in Cyprus is summarised in Table I. The main concern of the present study is with the Primary schools which "provide a sound primary education for pupils, aged 5 to 11 years, and exist in most overseas family stations and in size and scope are comparable with similar schools maintained by Local Education Authorities in the United Kingdom"(11)109.

In 1948, Army schools, in Nicosia and Famagusta, provided the education for children of service personnel, stationed on the island. In 1951 (3)Ch7, a garrison was retained, much above normal peace-time requirements, due to the changed situation in the Near East. The British Army began work on a military cantonment, in 1953, at Dhekelia (3)P.9, 7 miles west of Larnaca, a £13 million project, which would give employment to ten thousand Cypriots. Preliminary work also began at the Episkopi cantonment on the south coast 15 miles west of Limassol. An Army all-age school was opened, in May 1954, at Berengaria, near Limassol. In December 1954, the first element of the British Army and Royal Air Force withdrew from Suez to Cyprus. The two headquarters were combined in a joint headquarters at Episkopi. The plan was to have part of the Episkopi cantonment ready for occupation by November 1955 and, completely, installed by January 1957. Some 5,000 troops were to be accommodated at Dhekelia, when the cantonment was completed and a large airfield was to be constructed at Akrotiri near Limassol (N.B. now the largest Royal Air Force base outside the United Kingdom). For the various projects, the total expenditure was to be between £40 - 50 million. The economy of the island has derived great benefit from the stationing of British troops

TABLE ISERVICE CHILDREN'S SCHOOLS IN CYPRUS

Administration	Type of School	Name of School
C.E.O.*	(a) There are Army children's schools	
1) H.Q. NEARELF (Dhekelia)	1) Primary	Dhekelia* (Larnaca closed July '67)
	2) Secondary	King Richard School, Dhekelia.
	(b) There are R.A.F. schools	
2) H.Q. NEAF (Episkopi)	1) Primary	Akrotiri*, Limassol*, Berengaria*, Episkopi*, Nicosia*
	2) Secondary	St. John's Episkopi. (Berengaria Secondary School closed July '58 Pupils → St. John's).
	3) All-Age	St. Michael's School, Nicosia.

KEY:

* Appendix III Abbreviations.

⊛ Primary Schools involved in the Research

Reference (11) Annex J. Mediterranean Area 6
Cyprus.

and this income has escalated over the years to the present-day. In 1955, the annual revenue, accruing in Cyprus as a result of British military presence, was not less than £12 million. In 1956, during the "State of Emergency" which persisted until Christmas 1958, attendance at service schools suffered disruptions because of curfews and breakdowns in the transport system. Nevertheless, a primary school was opened by the Royal Air Force in Nicosia, to accommodate children of R.A.F. personnel stationed there. The Army children's Primary school opened in the Dhekelia Cantonment, in January 1957, and an Army all-age school opened at Episkopi.

In 1957, Sir Hugh Foot combined the Royal Navy, Army, Royal Air Force and Police to protect the Colony. The cost of sabotage at Nicosia and Akrotiri amounted to £1,500,000. There followed a dismissal of 2,000 NAAFI* and RAF*(Appendix III) Greek Cypriots, who were replaced by Pakistani and United Kingdom (based) civilians. In 1959 there was an agreement that Cyprus should be independent with continued British sovereignty over certain bases on the island. More troops and their dependents began tours of duty on the island. To meet the added demand for education of "service children" Campbell Junior School was opened in Limassol in 1959 by the Royal Air Force, and, in 1960 a Primary school opened at Akrotiri. The "Treaty of Guarantee"(4), signed in 1960 ensured that the British had sovereign base areas on two sites in Cyprus -

(i) Akrotiri, Episkopi and Paramali

(ii) Dhekelia, Pergamos, Ayios Nicolaus and Xylophagou

also the British continued to use

" - Nicosia Airfield for British Military Aircraft in peace and war and air traffic control" (Cyprus Act 1960 Para. f).

The period 1959 to 1963 was relatively quiet and the only conditions affecting school numbers were the normal service postings and movement of units. In January 1963, the Army moved to new headquarters at Dhekelia; and Episkopi became the Near East Air Force Headquarters. The Christmas of 1963 brought the Greco-Turkish troubles and all British Service families with six months tour of duty to complete or less were immediately repatriated and produced an unanticipated reduction in the number of pupils in service schools, and locally employed staff were also affected. For example, in St. Michael's School, Nicosia, between February and March 1964, the number on roll decreased from 448 to 246.

Subsequent defence changes produced changes in the educational provision for 'service children' in Cyprus. The White Paper of 1965 brought about a reduction in the size of R.A.F. Nicosia and, in 1966, there resulted wholesale movement of families from Nicosia to Akrotiri and Limassol, and changes in the strength of the Army garrison at Dhekelia resulted in fluctuations in the numbers of children attending service schools in that area.

This movement produced changes of school in the sample of children studied in this research. The yearly totals of pupils attending the six Service Primary schools, together with the numbers of staff, are shown in Table II. on Page 22 .

The schools are classified according to the areas which they serve.

- I) Sovereign Base Areas. Primary schools are provided on the bases for children resident in Episkopi and Akrotiri e.g. School E and School A.
- II) Schools outside the Sovereign Base Areas. The dormitory town for the sovereign base areas of Akrotiri and Episkopi is Limassol. Service children, of 7 - 11, living in Limassol, attend the junior school, School C.

TABLE II

SCHOOL YEAR	54-55	55-56	56-57	57-8	58-9	59-60	60-61	61-62	62-63	63-64	64-65	65-66	66-67	67-68	68-69
i) SBA Schools	A PUPILS STAFF				RAF PRIMARY OPENED	SEPT 220	9			SEPT 315 216 JUNIOR	352 APRIL 265 617	373 SEPT 187 560	576 MAY	351	225
	E PUPILS STAFF	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL
ii) Schools outside SBA	C PUPILS STAFF				RAF JUNIOR SCHOOL OPENED	JAN 200	8								
	B PUPILS STAFF	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE	ARMY ALL-AGE
iii) Schools, Serv, Station and demerit areas	M PUPILS STAFF	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL
	D PUPILS STAFF	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL	ARMY SCHOOL

THE YEARLY TOTALS OF PUPILS ATTENDING THE PRIMARY SCHOOLS, involved in the study.

KEY & Drop in numbers.

i) SBA Schools

ii) Schools outside SBA

iii) Schools, Serv, Station and demerit areas

At Berengaria Village, 3 miles north of Limassol, there are R.A.F. married quarters, a shopping centre, a cinema, various sports facilities and two schools. Children of primary age from the married quarters attend school B.

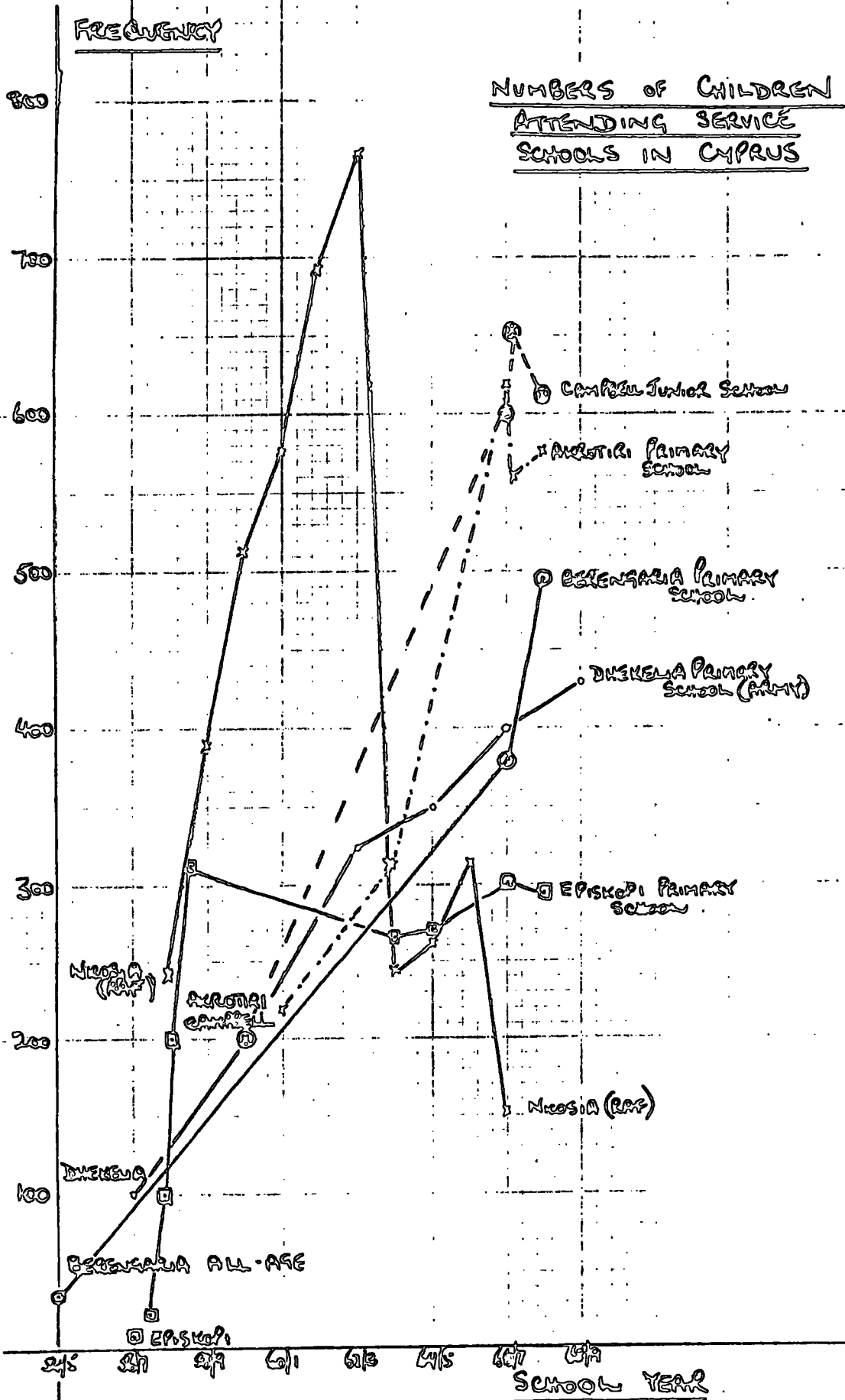
III) Schools where children living on the station and those children living in the dormitory towns attend the same school.

School M, at R.A.F. Nicosia, is attended by children living in Nicosia and in married quarters, there.

Dhekelia Primary School, D, opened in 1957 to provide education for children of servicemen living and serving on the Sovereign base area at Dhekelia. Larnaca is a dormitory town for personnel at Dhekelia and in July 1967, the Army Primary School there closed and pupils, from there, have to travel each day to attend the Army Primary School at Dhekelia.

A graph was plotted from data in Table II. The fluctuation in numbers for the 1966 to 1968 period reflects the mobility of this sample and the service children in general.

Thus, in addition to the normal change of population arising from the pattern of tours of duty overseas, unexpected circumstances such as those instanced, serve to aggravate the situation further and produce additional radical and rapid changes in the school population.



SECTION II.

CHAPTER THREE

PROCEDURE

This research study is in the field of Education of children of servicemen and United Kingdom-based civilians overseas. Permission was obtained to carry out this research from the Service Authorities in the United Kingdom, the Command Education Officers in Cyprus and the Headteachers of the Service Schools concerned.

Experimental Design

A representative sample of British service children in Cyprus was studied. The children were tested in Verbal Ability, Mechanical Arithmetic and English Progress, from which standardised scores were obtained. A comparison of these scores with scores of children of similar age and consistently resident in the United Kingdom indicated whether frequent changes of school adversely affected the academic attainment of the service children.

As the writer was resident in Cyprus, it was not practical to match each service child with a child resident in the United Kingdom. Thus, the standardised scores of the Cyprus group, as a whole, were compared with United Kingdom Norms. The standardised scores obtained by the service children in the Primary Verbal Test I, which is frequently used as a measure of general ability, were, first, compared with the United Kingdom norm, for children of similar age, normally resident in the United Kingdom and without socio-economic bias. Should the result show no significant difference, it would then be legitimate to compare the two groups in attainment. This method was adopted because it was convenient for the purposes of the experiment to separate the ability from the attainment tests, and in no way indicates identification with either Sir Cyril Burt or J. McV Hunt in their differing views on the importance of heredity and environment on determining intelligence.

The standardised scores in English Progress and Mechanical Arithmetic of the service children could, then, be compared with United Kingdom norms.

A questionnaire, Form A, devised by the writer was completed by the parents of each child tested, and together with information from school records (11) 131, provided data from which it was possible to determine the sex and age of the child, the rank of the father, the number of schools attended, the length of time spent in Cyprus, the total number of months spent overseas and absences during the year prior to testing.

The performance of smaller groups of the service children was compared, in order to ascertain any masking effects the smaller groups might have had on the larger groups to which they belong. The scores of service children were grouped according to:- the schools to which the children belong, the rank of the father and the sex of the child.

Finally, it was established whether the social variables, the number of schools attended, the time spent in Cyprus and elsewhere overseas, and absences from school, affected the academic performance of the child.

Five hypotheses were advanced and their validity assessed from an analysis of the data obtained during the investigation.

Selection of the Sample

The services provide education overseas for service children of five to eighteen years. Because generous grants are paid towards the cost of Secondary boarding education in the United Kingdom, which are available for children of all members of the Services (11) Annex A.C. & D., a number of children particularly those of 'Grammar' ability return to the United Kingdom to attend boarding school - Therefore, the secondary school age-group was discarded.

Although no educational grants are available, a number of children leave overseas stations shortly before their ninth birthday to attend preparatory schools in the United Kingdom. Therefore, the sample, again, for nine to eleven years is deficient, this time, in children of higher socio-economic groups.

As normal tours are two and a half to three years, children from the age of five to eight years will have had less likelihood of transfer, during their school careers than older children, over and above their normal transfer from infant to junior school. This, by a process of elimination, leaves the eight to eight years eight months group.

The eight years to eight years eight months age group is most representative as children have not been sent to the United Kingdom to either preparatory or secondary schools. And, by virtue of having been of school age for three plus years, they are likely to have had at least, one more change of school due to the father's posting.

This sample is of particular interest, too, in view of Sir Cyril Burt's remarks. He states that "on the whole, the middle stages of elementary education have not received the same amount of attention as has been bestowed on the infant school or the highest classes of all".(2) P.115.

The total population of children, of eight years to eight years eight months, were tested in all the Royal Air Force Primary schools in Cyprus. The sample numbered one hundred and thirty. This research was extended to the primary school, at Dhekelia, under Army administration, and a further fifty children were involved in the investigation. It was most important to test children in all the service schools in Cyprus, because the schools serve communities with varying percentages of officers, non-commissioned officers and other ranks. For example, in the Sovereign base areas at Akrotiri and Episkopi, there are larger percentages of officers and non-commissioned officers than other ranks. This is because allocation of married quarters on a station depends upon a 'points' system. Points awarded to the serviceman partly depend on rank and years of service, so it would follow that non-commissioned officers, often the longer serving men, would have precedence over 'other ranks'.

SELECTION OF TESTS

The test papers and manuals selected for the experiment were supplied by the National Foundation for Educational Research (12), namely Primary Verbal Test I (8-10.6 years) (12.P.21), English Progress Test A (8-9 years) (12.P.25) and Mechanical Arithmetic 2B. (7-8.8 years) (12.P.31). The standardised tests, produced by the N.F.E.R.* (Appendix III), have all been standardised on large samples of children. Samples are chosen to cover the entire range of ability within the age group and the total sample is as representative as possible of the United Kingdom as a whole.

The Verbal Ability test, Primary Verbal Test I, was selected as the measure of intelligence. ((12) P.15 'What tests measure'.) "This test was given in one school to a group of 92 children who also completed Schonell's Essential Intelligence Test. The correlation between the two sets of scores obtained was .91. In another school 72 children were given the Sleight Non-Verbal Test and also Schonell's Essential Test, together with this test. The intercorrelations of the scores obtained were as follows:-

	Schonell	This test
Sleight ... ..	.71	.67
Schonell	-	.91"

((30)(ii) Page 2).

Primary Verbal Test I was administered, in 1962, to a year group of over 27,000 in the United Kingdom. It is easily administered and can be given satisfactorily in the time allocated to a normal school lesson. A manual provides full information about the test and a conversion table for converting raw scores to standardised scores (30).

Two measures of the children's attainment in school were selected in the field of English and Mechanical Arithmetic. English Progress Test A. "samples some part of all that one understands by that complex subject as a whole". (12)P.25. This test standardised on a representative sample of some 3,000 children in the United Kingdom, in 1952, takes 40-45 minutes

working time to complete. Mechanical Arithmetic Test 2B.(12)P.31, consists of forty items based on four fundamental processes including simple money sums. The layout is most suitable for young children, that is, spacious with large printed numbers. This test was administered to a sample of approximately 4,000 children in the United Kingdom, in 1958, and a conversion table gives standardised scores for the age range 7.0 to 8.8 years.

The tests were chosen so that no extrapolation was required, when converting the raw scores of the service children into standardised scores.

The Administration of the Tests in Cyprus

Meetings were arranged with the headteachers to discuss the administration and selection of appropriate conditions under which the tests were to be carried out. Strict instructions were provided with each test (30). All the tests were administered by the class teachers, who had been carefully drilled in the procedures, in their own classrooms, during normal class periods. The completed papers were returned to the writer for marking and re-checking. The raw scores were standardised, utilising the N.F.E.R.* (Appendix III) conversion tables for each of the three tests (30), and could then be compared.

CHAPTER FOUR.A DESCRIPTION OF THE CYPRUS SAMPLE IN TERMS OF TEST SCORES

The data obtained from the questionnaire, Form A, Appendix IV, and school records was summarised in Table III, Appendix I, together with the standardised scores from the three tests. To preserve anonymity, the one hundred and eighty children tested were allocated numbers, BOYS from 1 to 88 and GIRLS from 101 to 192. The Service Primary schools were also coded by the use of a single letter, A.B.C.D.E and M. The data was columnised to facilitate the evaluation of results and included, the school coding, the number and sex of the child, the age of the child, standardised scores in the three tests, percentage absence*(See Hypothesis 5), the number of months spent on the island up to the time of testing, the rank of the father, the number of schools attended by each child, information concerning the father's previous tours of duty, and the total number of months spent overseas.

To indicate the levels of performance of the children tested the mean and standard deviation were used wherever possible. The means and standard deviations of the standardised scores in Primary Verbal I, English Progress A and Mechanical Arithmetic 2B, of children, in (A) R.A.F. schools, (B) Army Schools and (C) all the schools involved in the research (COMBINED), are shown in Table IV. To help to interpret the situation represented by this data, the scores obtained by the service children in the three tests were set out graphically using the same scale for each set of distributions. The data, for the frequency polygons and histograms, is shown in Table V (Appendix II). Histograms, which were all on the same scale, were produced

HISTOGRAMS showing distribution of scores, in RAF schools, of children aged 8:8 years using

DATA IN TABLE VI

A1. PRIMARY VERBAL I

A2. ENGLISH PROGRESS A

A3. MECHANICAL ARITHMETIC 2B

Frequency

26

25

24

23

22

21

20

19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

M 100.808

M 105.42

M 101

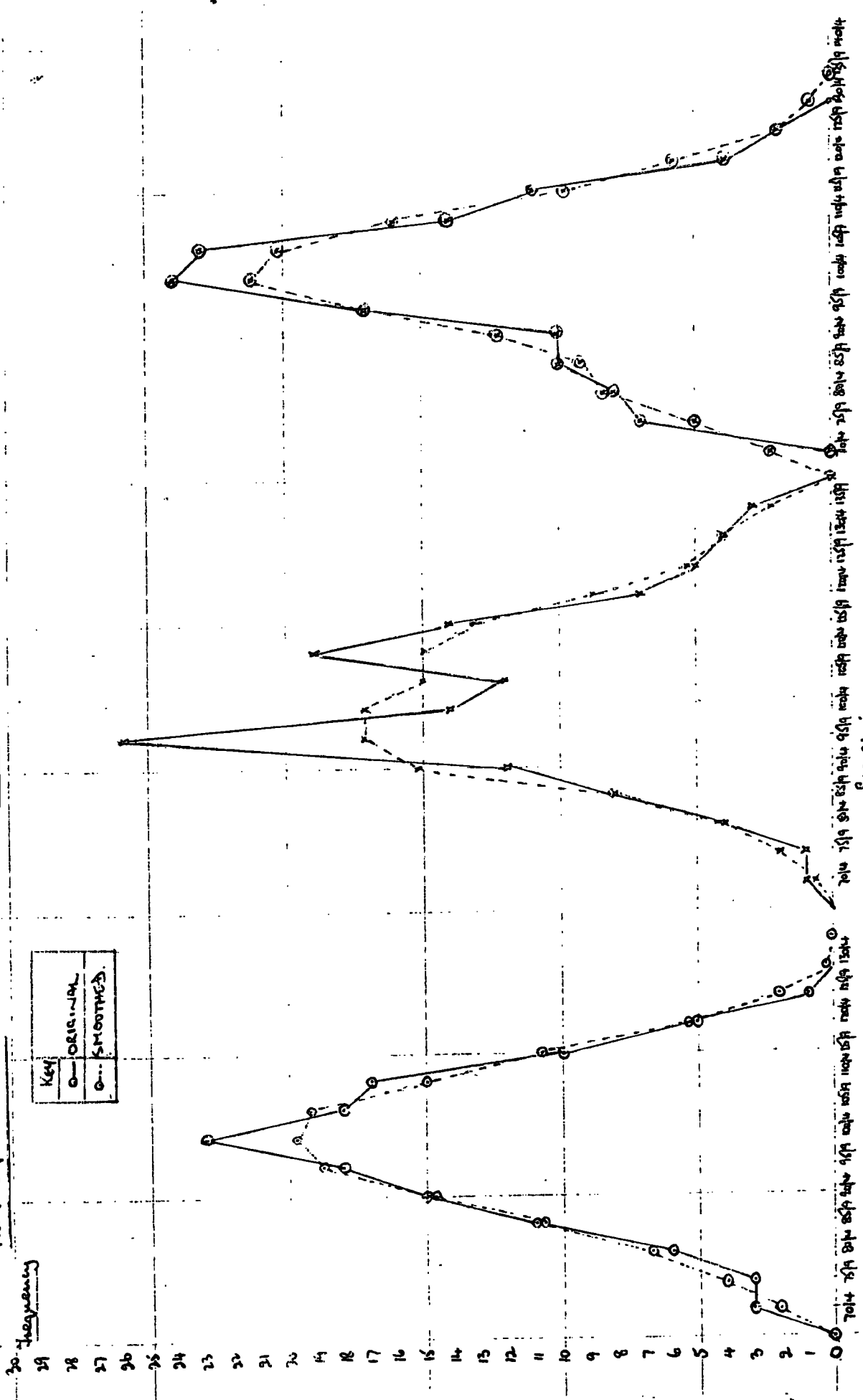
These histograms show the distribution of scores on the three tests, Mechanical Arithmetic 2B, English Progress A, and Primary Verbal I, for a group of children aged 8:8 years. The vertical axis represents the frequency of children in each score range, and the horizontal axis represents the score. The mean scores are indicated by the 'M' values: 100.808 for Primary Verbal I, 105.42 for English Progress A, and 101 for Mechanical Arithmetic 2B.

Frequency Polygons ORIGIN and SMOOTHED, showing distribution of scores of children, aged 8:8 years, in R.A.F. schools in Cyprus

A.6 MECHANICAL ARITHMETIC 2B.

A.5 ENGLISH PROGRESS A.

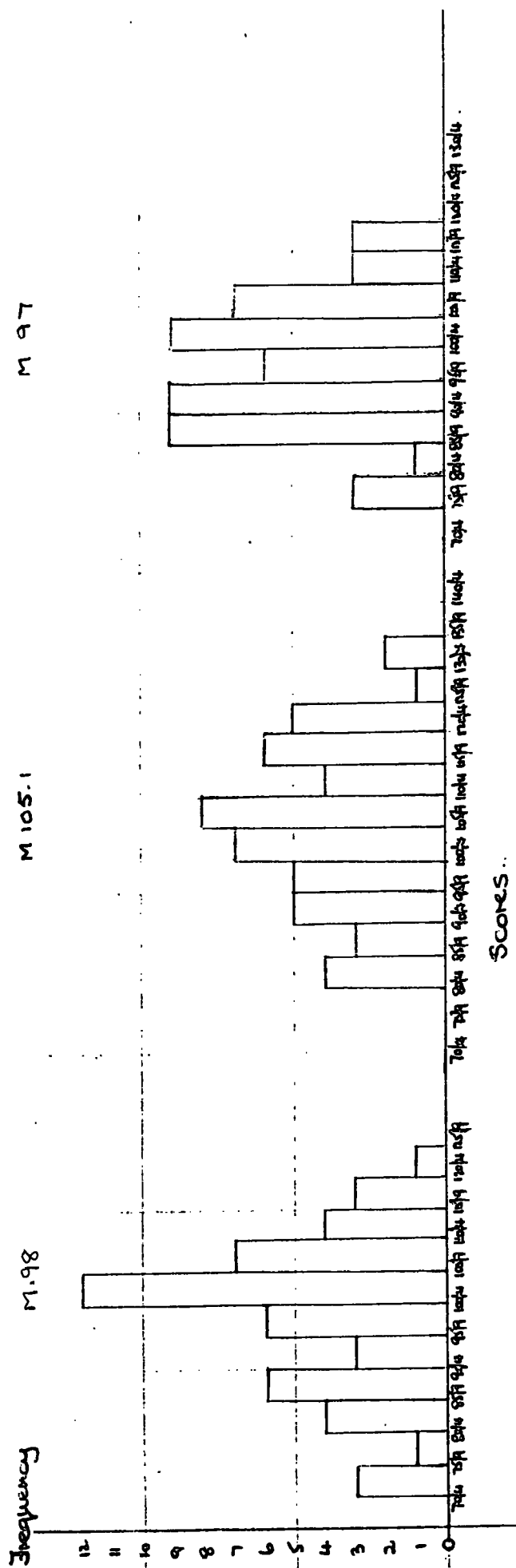
A.4 PRIMARY VERBAL I



Frequency Polygons ORIGIN and SMOOTHED, showing distribution of scores of children, aged 8:8 years, in R.A.F. schools in Cyprus

HISTOGRAMS showing distribution of scores, in the Army School,
of children aged 8: 8.8 years
using
 DATA IN TABLE IV.

B₁ PRIMARY VERBAL - I B₂ ENGLISH PROGRESS A B₃ MECHANICAL ARITHMETIC 2B



Frequency Polygons, Original and Smoothed, showing distribution of scores of children aged 8:8 years, in Army School, in Cyprus.

KEY	
○	ORIGINAL
○---	SMOOTHED

6.4

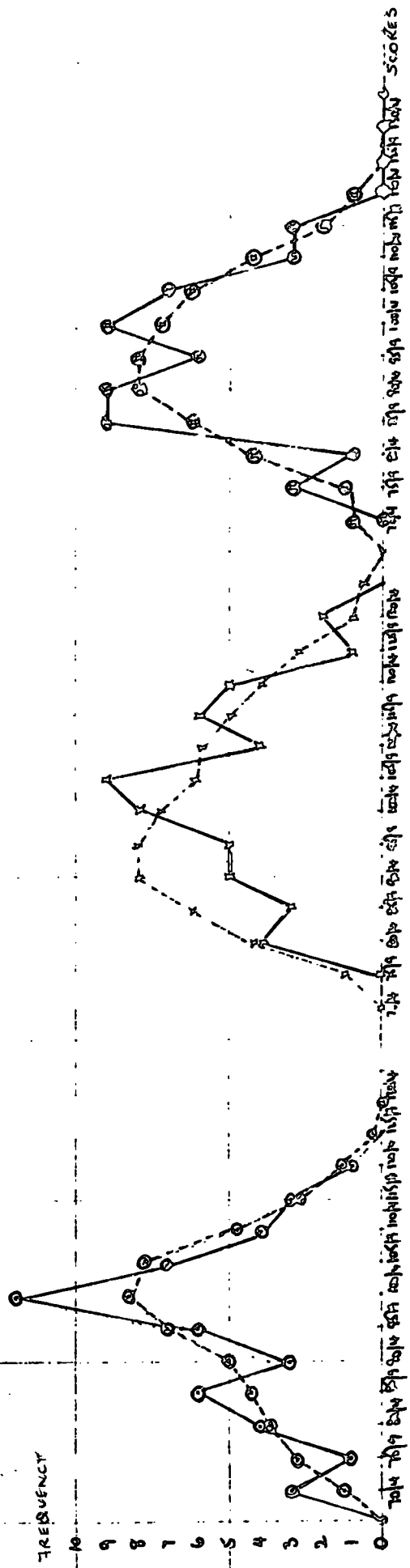
PRIMARY VERBAL I

6.5

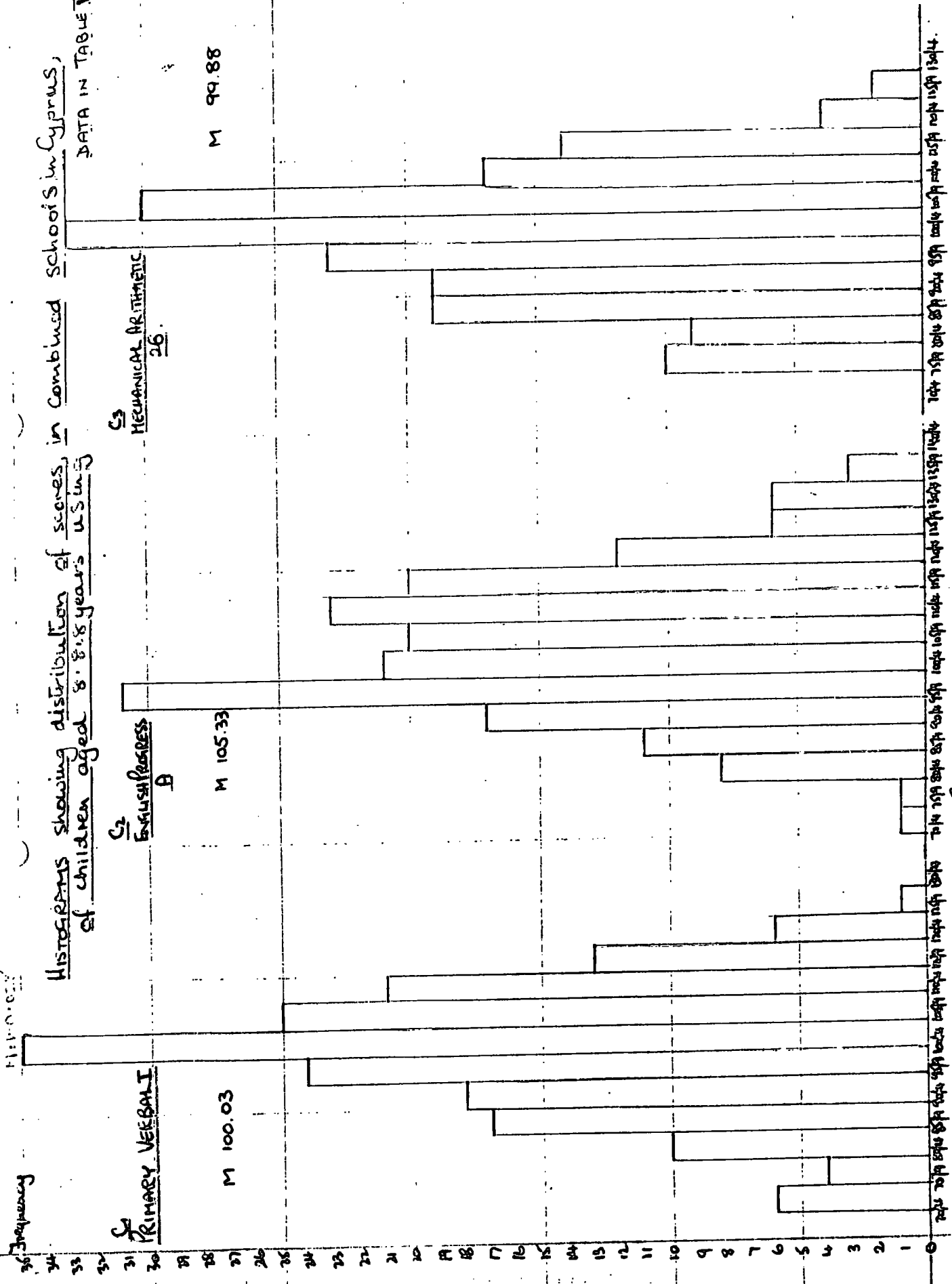
ENGLISH PROSE A

6.6

MECHANICAL ARITHMETIC 203

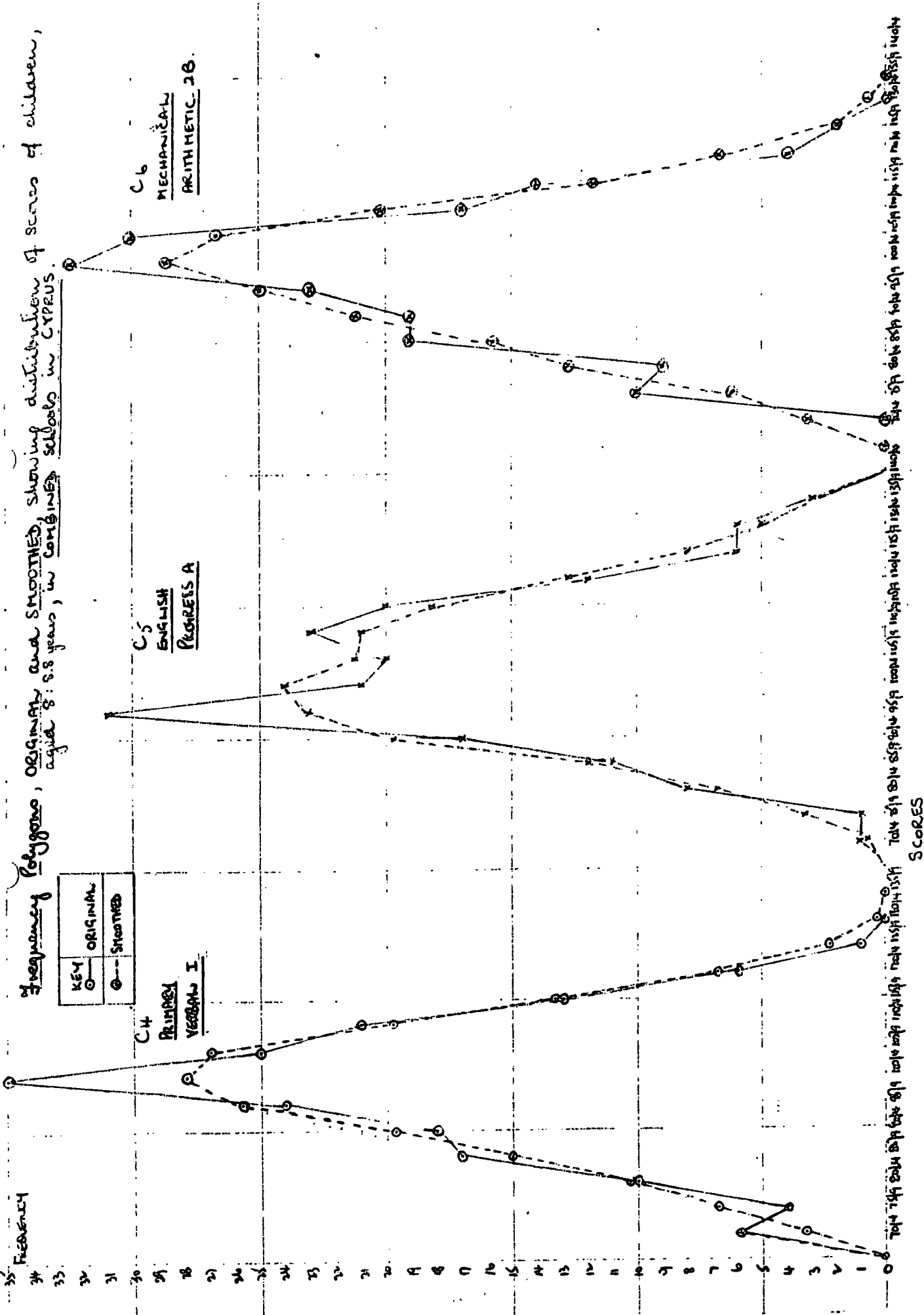


HISTOGRAMS SHOWING DISTRIBUTION OF SCORES IN COMBINED SCHOOLS IN CYPRUS,
OF CHILDREN AGED 8-8.5 YEARS USING DATA IN TABLE V



Frequency Polygons, ORIGINAL and SMOOTHED, showing distribution of scores of children, aged 8:8 years, in COMBINED SCHOOLS in CYPRUS.

KEY	○	ORIGINAL
	⊙	SMOOTHED



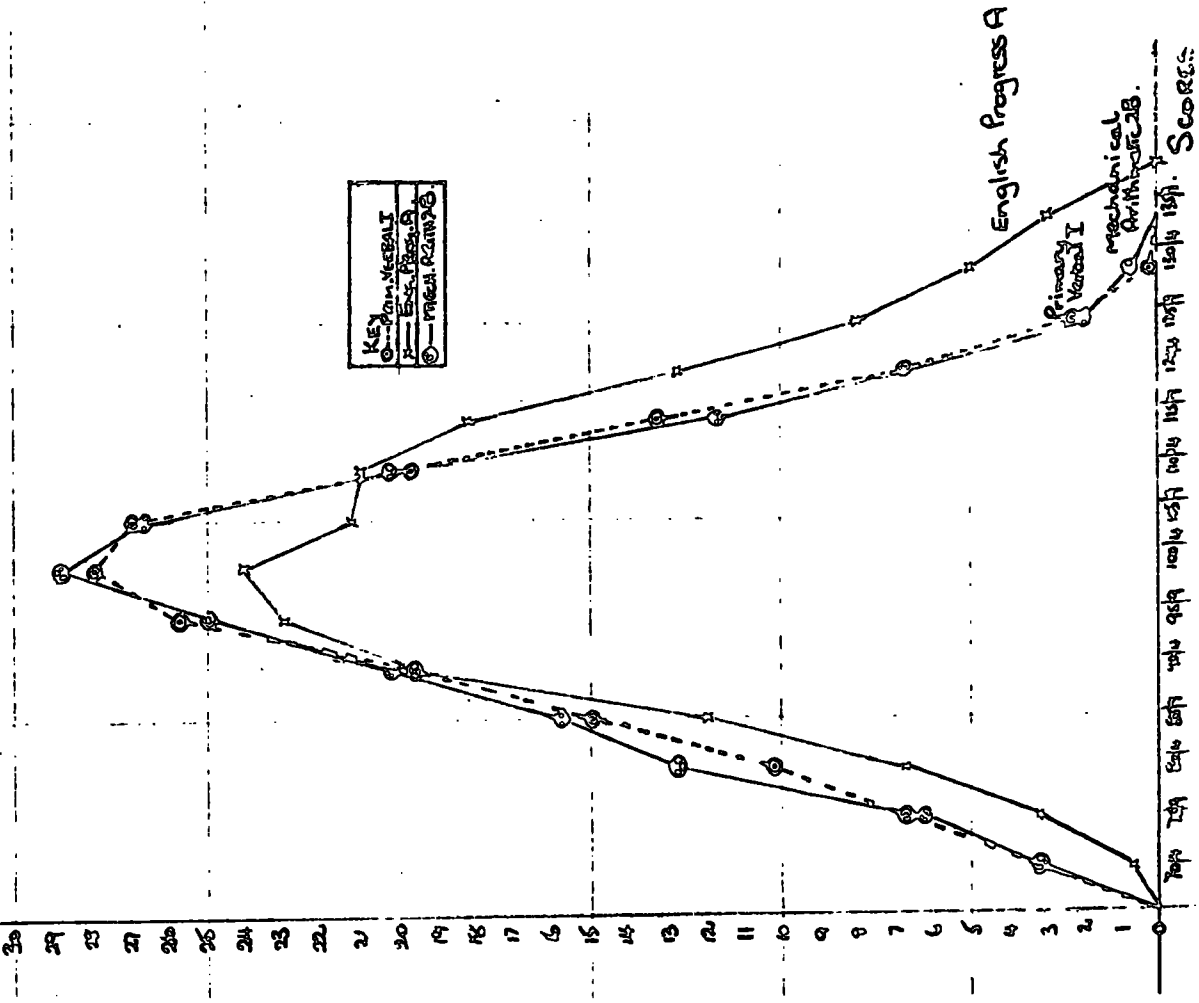
DATA IN TABLE V

FREQUENCY PERCENTS

Smoothed from the original polygons to forecast trend in future population with suitable steady.

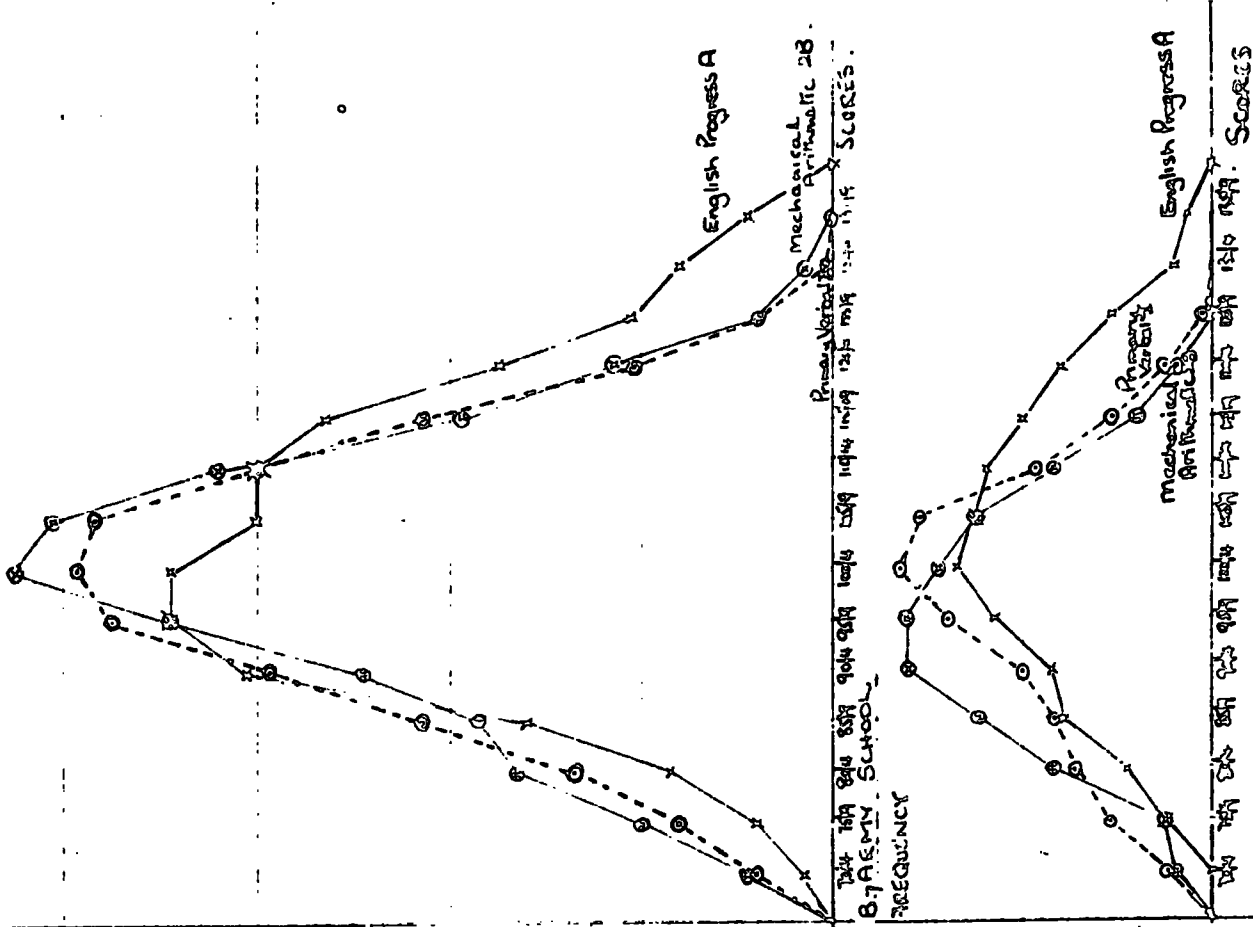
C-1 COMBINED SERVICE SCHOOLS ON THE ISLAND

Frequency

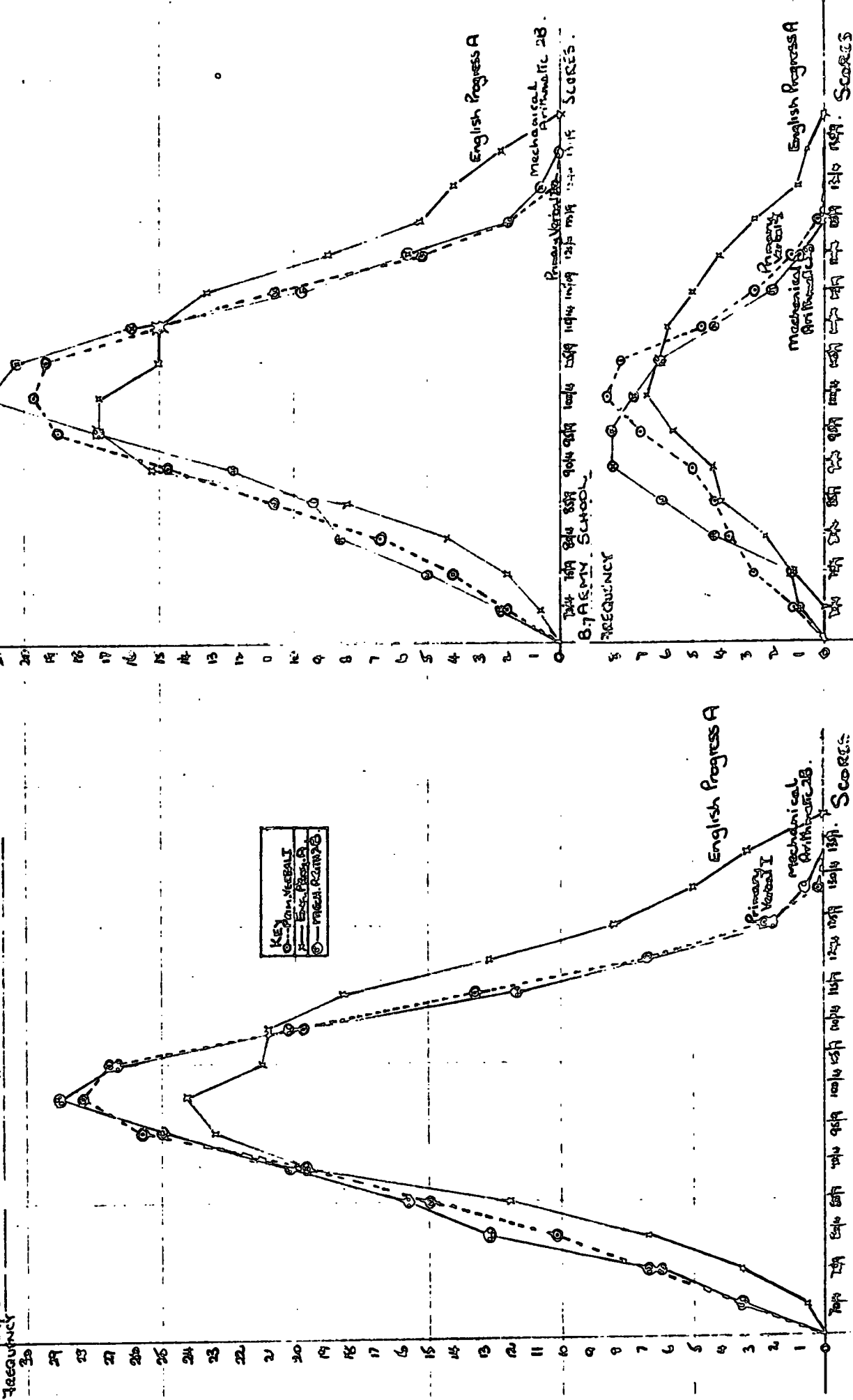


A-7 R.A.F. SCHOOLS

Frequency



Frequency



separately for each of the three tests results. For the frequency polygons the scores obtained in each of the three tests were combined in over-all graphs, for (A)*scores of children in R.A.F. schools (B)* scores of children in the Army school and (C)* scores of all the children involved in the research.

*(See Frequency Polygons & Histograms A(1 to 6), B(1 to 6) and C(1 to 6)).

The smoothed polygons were produced from the original to forecast how a larger population of service children would be likely to distribute itself* The smoothing technique used was according to Connelly & Sluckin (5). *(See A7.B7.C7. On Page 37).

Discussion of Results

The verbal ability scores of the service children are concentrated considerably around the mean. Frequency polygons (A4.B4.C4) and histograms (A1B1C1) show an even, though, truncated dispersion in verbal ability scores (5)Ch1.

The reasons for this are two-fold. The lack of provision for the education of mentally or physically handicapped children (11)112 overseas, accounts in part, for the truncation of the lower end of the distribution of scores. Secondly, heredity provides basic similarities, as well as individual differences and according to Burt and Howard (1956) (16), the correlation of intelligence between parents and children is 0.49. The parents of service children (11) are a specialised sample, by the very nature of their selection on entering the British Forces; and those parents who are United Kingdom-based personnel are, also, specialised, either as teachers or civil servants. The results of their children in the Primary Verbal I test are, therefore, necessarily truncated, that is few brilliant children and no educationally subnormal children.

TABLE IV

MEANS AND STANDARD DEVIATIONS - Obtained from
Standardised Scores.

DATA FROM TABLE III

	N	M	\bar{s}
<u>RAF Schools</u>	130		
A. 1. <u>PRIMARY VERBAL I</u>		100.808	11.85
2. <u>ENGLISH PROGRESS A</u>		105.4235	13.535
3. <u>MECHANICAL ARITHMETIC 2B</u>		101	12.085
<u>Army School</u>	50		
B. 1. <u>PRIMARY VERBAL I</u>		98	11.96
2. <u>ENGLISH PROGRESS A</u>		105.1	13.260
3. <u>MECHANICAL ARITHMETIC 2B</u>		97	10.15
<u>Combined Schools</u> (RAF & Army)	180		
C. 1. <u>PRIMARY VERBAL I</u>		100.028	11.940
2. <u>ENGLISH PROGRESS A</u>		105.334	13.460
3. <u>MECHANICAL ARITHMETIC 2B</u>		99.889	11.715
<u>DATA FROM TABLE X</u>			
(Supplied by N.F.E.R)			
<u>UK Norms</u>			
1. <u>PRIMARY VERBAL I</u>	3115	100.2	20.59
2. <u>ENGLISH PROGRESS A</u>	3199	100	15
3. <u>MECHANICAL ARITHMETIC 2B</u>	7859	97.8	10.28
<u>Schools M.D. & B.*</u>			
<u>MECHANICAL ARITHMETIC</u>	108	96.65	10.33
<u>Schools E. A. & C.</u>			
<u>MECHANICAL ARITHMETIC</u>	72	104.52	10.768
<u>Primary Verbal I*</u>			
<u>Schools M. D. & B.</u>	108	98.76	11.455
<u>Schools E. A. & C.</u>	72	102.07	12.175
*N.B. Comparison of Schools.			

The mean and standard deviations obtained from the English Progress scores were consistently high for children in the R.A.F. schools (M 105.42 δ 13.535), in the Army School (M 105.1 δ 13.260), and in all the schools investigated (M= 105.334 δ 13.460). There was a greater deviation from the mean in the English Progress distribution of scores, (A2A5B2B5C2C5) than the verbal ability distribution, for children in R.A.F., Army, and combined schools, and a greater frequency at the upper end of the distribution.

However, the mean and standard deviation obtained from Mechanical Arithmetic scores varied from (M 97 δ 10.15) for children in the Army school to (M 101 δ 12.085) for children in the R.A.F. schools.

The combined schools result was (M 99.889 and δ 11.715). The distribution of scores in Mechanical Arithmetic was similar to the verbal ability distribution except for a wider central tendency at 102 and 107 in the graphs for children in all the Service schools (C3, C6) and R.A.F. schools. (A3, A6). The scores of children in the Army school (B3, B6) showed a greater frequency at the lower end of the distribution.

A number of inter-correlations were investigated. As the distributions obtained from the test scores have a scatter which is roughly comparable it was possible to use the Product Moment method of correlation (14) Ch.6. Primary Verbal I Standardised scores were correlated with (a) English Progress A Standardised scores and (b) Mechanical Arithmetic 2B scores, using the scores of children in (i) RAF schools, (ii) Army School and (iii) All the schools (combined). These values are shown in Table VI, together with values, supplied by N.F.E.R., for the correlation between the same variables for children in the United Kingdom.

TABLE VI.

	PRIMARY VERBAL I (as a measure of intelligence)			
(a) ENGLISH PROGRESS A	0.7635	0.8470	0.7762	0.7
(b) MECHANICAL ARITHMETIC 2B	0.6353	0.4463	0.5928	0.5 or 0.6
	(1) RAF Schools' Service children	(11) Army School Service children	(111) Combined School (RAF & Army) Service children	United Kingdom Coefficients * of correlation

*supplied by
N.F.E.R.

The correlations between ability and attainment test scores of the Service children are of the same order as those of children of similar age in the United Kingdom.

These correlation values, 0.8 for English Progress and 0.6 for Mechanical Arithmetic for the whole sample, are also used in Hypothesis 2., where it is proposed that children who have changed schools will not achieve as highly as their measured I.Q. would lead one to expect.

COMPARISON OF SCORES OF SERVICE CHILDREN

A comparison of scores of Service children grouped into schools, according to the rank of the father, and into boys and girls, may show significant differences between the scores of service children. The scores of the stronger group may be masking the scores of the weaker group. The scores of the stronger and weaker group would, then, be compared with the United Kingdom norms, in connection with Hypothesis I where it is proposed that service children at school in Cyprus will obtain lower test scores in Arithmetic and English than comparable children in the United Kingdom.

It was, therefore, necessary to select statistical methods that could be used to determine if there was any significant difference between the performance of various groups. For the larger group comparisons the parametric statistical method of significance of difference between means was selected ((14)Ch.9). However, for the comparison of small groups, the most versatile and powerful test selected for this purpose was the non-parametric Mann-Whitney (two-tailed) 'U' test (26) P.116-127. All the groups of children were compared, using the Standardised scores in Primary Verbal I, English Progress A and Mechanical Arithmetic 2B; and only those differences were considered significant, for which P, the probability, was .05 or less for parametric comparisons and for non-parametric comparisons.

When the scores of the Service children were analysed, both parametric and non-parametric tests were used to compare the scores of:- (1)(i) children in R.A.F. schools with those of children in the Army school (14); and (ii) children in different schools (14). (2) children of officers, senior non-commissioned officers and other ranks. (i) the scores of the whole sample were compared (14) (ii) an intra-group comparison of the scores of children of officers, senior NCO's and other ranks, in R.A.F. schools and, then, in the Army school (14). (iii) the scores of the children in the R.A.F. schools and those of children in the Army school were compared (14). (iv) an intra-group comparison of the scores of the children, in each school, according to the rank of the father (26). The Mann-Whitney 'U' test was used, where the

numbers were small. The sub-groups in each school, for example, ranged from one to twenty-four children. (3) Boys and Girls (i) Boys test scores were compared with scores of girls in the whole sample (ii) by separating the scores of the boys and girls in R.A.F. schools and in the Army school, several comparisons were made, namely, intra-group comparisons between Boys and Girls test scores in R.A.F. schools and Boys and Girls scores in the Army school; and, inter-group comparisons between the scores of Boys (R.A.F. schools) and boys (Army school) and between scores of Girls (R.A.F. schools) and Girls (Army school). 3 (iii) the scores of boys and girls in each school were compared. The numbers are small and the Mann-Whitney 'U' test is, again, used (26).

The results are set out in TABLE VII. A1.A2.A3.A4.

N.B. Abbreviations of rank and the Services have been used in the presentation of results and the subsequent discussion, and are shown in full in Appendix III (marked by an asterisk).

TABLE VII

AI ANALYSIS BY GROUPING INTO SCHOOLS

DATA	SCHOOLS		ARMY	C	B	A	E	M	D	EC & A	MD & B
	RAF										
NUMBER OF CHILDREN	130	50	22	25	25	25	25	33	50	72	108
PRIMARY VERBAL I MEAN (M)	100.808	98	99.5	101.4	104.8	101.6	97.909		98	102.07	98.76
STANDARD DEVIATION (S)	11.85	11.96	10.735	12.128	12.575	12.405	12.640		11.960	12.175	11.455
CRITICAL RATIO (CR)	1.81		M 0.51 D 0.5 B 0.58 A 1.57 E 0.63	M 1.05 D 1.09 A 0.95 E 0.06	M 2.03 D 2.13 E 0.89	M 1.09 D 1.14	D 0.03			CR 1.818	
ENGLISH PROGRESS A (M)	105.4235	105.1	106.318	102	105.8	108	103.66		105.1		
(S)	13.535	13.260	13.255	12.165	13.955	11.045	15.505		13.260		
CRITICAL RATIO (CR)	0.15		M 0.67 D 0.35 B 1.13 A 0.13 E 0.46	M 0.45 D 0.99 A 1.00 E 1.79	M 0.54 D 0.21 E 0.61	M 1.22 D 0.99	D 0.43				

continued.....
over

AI ANALYSIS BY GROUPING INTO SCHOOLS

TABLE VII - CONTINUED

DATA	SCHOOLS		ARMY	C	B	A	E	M	D	EC & A	MD & B
	RAF										
<u>MECHANICAL</u> <u>ARITHMETIC</u> <u>2B.</u>	101		97	103.36	96.4	104.8	105.8	96.55	97	104.52	96.65
	12.085		10.15	9.190	12.435	13.345	9.770	11.640	10.150	10.768	10.33
CRITICAL RATIO (CR)	2.224			M 2.37 D 2.57 B 2.151 A 0.43 E 0.72	M 0.05 D 0.21 A 2.26 E 2.79	M 2.42 D 2.84 E 0.18	M 3.09 D 3.40	D 0.18		CR 2.684	

TABLE VII

RESULTS OF A1

SCHOOLS		C*	A* **	E**	E C & A**
<u>MECHANICAL</u> <u>ARITHMETIC</u> 2B	<u>RAF*</u> $.05 > P > .01$ $t = 1.98$ $DF = 178$	$.05 > P > .01$ $t = 2.015$ $DF = 45(B)$	$.05 > P > .01$ $t = 2.015$ $DF = 48(B)$	$P < .01$ $t = 2.015$ & 2.638 $DF = 48(B)$	$P < .01$ $t = 1.98$ & 2.617 $DF = 178 (MDB)$
		$t = 2.0$ $DF = 53(M)$	$t = 2.0$ $DF = 56(M)$	$t = 2.0$ $DF = 56(M)$	
<u>PRIMARY</u> <u>VERBAL</u> I	$t = 1.99$ $DF = 70(D)$	$P < .01$ $t = 1.99$ & 2.647 $DF = 73(D)$	$t = 1.99$ & 2.647 $DF = 73(D)$		
		$.05 > P > .01$ $t = 2.0$ $DF = 56(M)$	$t = 1.99$ $DF = 73(D)$		

ALL OTHER COMPARISONS
N S

KEY	
*	$.05 > P > .01$
**	$P < .01$
NS	p = probability Non-significant

Discussion of Results shown in Table VII A1.

The comparison of small groups within the Cyprus sample showed that there was a significant difference in Mechanical Arithmetic attainment, when the children in R.A.F. schools were compared with children in the Army school ($t = 1.98$ for 178 df $.05 > P > .01$). There were no differences when the two groups were compared in Verbal Ability and English Progress attainment. When scores of children in each school were compared there were significant differences in Mechanical Arithmetic attainment, in favour of School A, School E and School C, when each was compared with School M, School B and School D. (see further comparison of the schools on Page 59).

SCHOOLS

	B	M	D
C**	$t = 2.015$ for df 45. $.05 > P > .01$	$t = 2.011$ for df 53 $.05 > P > .01$	$t = 1.99$ for df 70 $.05 > P > .01$
A**	$t = 2.011$ for df 48 $.05 > P > .01$	$t = 2.011$ for df 56 $.05 > P > .01$	$t = 1.99$ for df 73 $P < .01$
E**	$t = 2.011$ & 2.682 for df 48 $P < .01$	$t = 2.011$ & 2.682 for df 56 $P < .01$	$t = 1.99$ & 2.638 for df 73 $P < .01$

*** from TABLE VII A1.

The only significant differences in Verbal Ability, in favour of School A, was in the comparison with School M ($t=2.011$ for df 56 $.05 > P > .01$) and School D ($t=1.99$ for df 73 $.05 > P > .01$). The mean scores in English Progress were consistently high values for each school, the lowest mean value was in School B (where M = 102) and the highest mean value of 108 in School E; and there were no significant differences between the mean values.

Discussion of Results shown in Table VII A2.

In the intra-group comparisons of the scores of the total number of children, the children in the R.A.F. schools only and of those in the Army school, there were no differences in the test performances of Officers' and NCO's* children. There were differences between officers and OR's* children and between NCO's* and OR's* children, in all three tests when comparing the

TABLE VII

RESULTS A2. a) ANALYSIS, BY GROUPING ACCORDING TO RANK OF FATHER

<u>DATA</u>	<u>CHILDREN OF</u>						<u>ORs</u> <u>TOTAL</u>	<u>RAF</u> <u>SCHOOLS</u>	<u>ARMY</u> <u>SCHOOL</u>
	<u>OFFICERS</u>			<u>NCOs</u>					
	<u>TOTAL</u>	<u>RAF</u> <u>SCHOOLS</u>	<u>ARMY</u> <u>SCHOOL</u>	<u>TOTAL</u>	<u>RAF</u> <u>SCHOOLS</u>	<u>ARMY</u> <u>SCHOOL</u>			
1. <u>PRIMARY</u> <u>VERBAL</u> <u>I</u> <u>MEAN</u> <u>SCORES</u>	N 58	45	13	69	45	24	53	40	13
	M 103.89	103.66	104.69	100.84	102.22	98.25	94.83	96.25	90.46
	♂ 10.74	11.605	7.500	11.80	11.25	12.355	11.180	11.100	10.265
2. <u>ENGLISH</u> <u>PROGRESS A.</u> <u>MEAN</u> <u>SCORES</u>	M 108.12	106.78	112.77	106.348	106.88	105.33	99.924	100.75	97.384
	♂ 12.765	12.775	11.575	13.725	14.700	12.040	12.185	12.130	12.000
3. <u>MECHANICAL</u> <u>ARITHMETIC</u> <u>2B</u>	M 100.793	101.23	99.307	101.928	103.55	98.87	96.245	97.875	91.23
	♂ 12.330	12.950	9.730	11.050	11.195	10.085	11.090	11.395	8.285

RESULTS A2. b) ANALYSIS, BY GROUPING, ACCORDING TO RANK OF FATHER

TABLE VII

SCHOOLS

DATA FOR
COMPARISON
OF SCORES IN

	C	B	E	A	M	D
<u>PRIMARY VERBAL I</u>						
I) Children n ₁ of n ₂ Officers R ₁ and U NCOs	3 (NCO) 6 22 2	12 (Offr) 4 106.5 19.5	13 (Offr) 11 191.5 42.5	15 (NCO) 8 185.5 54.5	6 (Offr) 12 65.5 27.5	13 (Offr) 24 270 133
II) Children n ₁ of n ₂ ORs R ₁ and U Officers	13 (OR) 6 138.5 30.5	12 (Offr) 9 155.5 30.5	13 (Offr) 1 103.5 0.5	2 (OR) 8 11.5 7.5	6 (Offr) 15 88.5 22.5	13 (Offr) 13 239.5 20.5
III) Children n ₁ of n ₂ NCOs R ₁ and U ORs	3 (NCO) 13 41 4	4 (NCO) 9 34 12	11 (NCO) 1 74 3	15 (NCO) 2 137 13	12 (NCO) 15 199.5 58.5	24 (NCO) 13 519 93
<u>IV) ENGLISH PROGRESS A</u>						
Children n ₁ n ₂ Officers R ₁ and U NCOs	3 (NCO) 6 22 2	12 (Offr) 4 106.5 19.5	13 (Offr) 11 172 62	15 (NCO) 8 183 57	6 (Offr) 12 65.5 27.5	13 (Offr) 24 281.5 121.5
V) Children n ₁ of n ₂ ORs R ₁ and U Officers	13 (OR) 6 137.5 31.5	12 (Offr) 9 149.5 36.5	13 (Offr) 1 104 0	8 (Offr) 2 44.5 7.5	6 (Offr) 15 87 24	13 (Offr) 13 229.5 30.5

Continued
Over

TABLE VII - continued

SCHOOLS

DATA FOR
COMPARISON
OF SCORES IN

	C	B	E	A	M	D
ENGLISH PROGRESS A						
VI) Children n_1	3 (NCO)	4 (NCO)	11 (NCO)	15 (NCO)	12 (NCO)	24 (NCO)
of n_2	13	9	1	2	15	13
NCOs R_1	41	29.5	76	137	186	512.5
and U	4	16.5	1	13	72	99.5
MECHANICAL ARITHMETIC 2B						
VII) Children n_1	3 (NCO)	4 (NCO)	13 (Offr)	15 (NCO)	12 (NCO)	13 (Offr)
of n_2	6	12	11	8	6	24
Officers R_1	21.5	35.5	182	183.5	115.5	254.5
and U	2.5	22.5	52	56.5	34.5	148.5
VIII) Children n_1	13 (OR)	12 (OR)	13 (Offr)	2 (OR)	6 (Offr)	13 (Offr)
of n_2	6	9	1	8	15	13
ORs R_1	146.5	149.5	102.5	14	70.5	206.5
and U	22.5	36.5	2.5	5	40.5	53.5
Officers						
IX) Children n_1	3 (NCOs)	4 (NCO)	11 (NCO)	15 (NCO)	12 (NCO)	24 (NCO)
of n_2	13	9	1	2	15	13
ORs R_1	31	35	74.5	137	182.5	509.5
and U	14	11	2.5	13	75.5	102.5
NCOs						
X) Officers n_1	16 (OR &					
and n_2	6 NCOs)					
(ORs &	207					
NCOs) R_1						
Children U	25					

KEY:

Mann Whitney U Test

 n_1, n_2 number of children in group R_1 sum of ranks assigned to group
whose sample size is n_1 U values obtained for two-tailed test.
The probability was .05 or less for
significance.

TABLE VII

RESULTS OF A2 (a) and (b)

KEY: Where P is the probability at .05 or less for significance

COMPARISON of	SCHOOLS TOTAL		RAF		ARMY		RAF/ARMY Comparison of similar rank		C	B	E	A	M	D
	NS	Officer P < .01	NS	Officer P < .01	NS	Officer P < .01	Officers NS	ORs NS						
1) Primary Verbal I Scores	NS		NS		NS		Officers NS		NS	NS	NS	NS	NS	NS
Children of (i) Officers & NCOs									NS	NS	NS	NS	NS	NS
(ii) ORs & Officers	Officer P < .01		Officer P < .01		Officer P < .01		ORs NS		NS	NS	NS	NS	NS	Offr. P < .05
(iii) NCOs & ORs	NCO P < .01		NCO .05 > P > .01		NS (See D)		NCOs NS		NCOs .05 > P	NS	NS	NS	NS	NCOs P < .05
2) English Progress A Scores														
Children of (iv) Officers & NCOs	NS		NS		NS		Officers NS		NS	NS	NS	NS	NS	NS
(v) ORs & Officers	Offr P < .01		Offr .05 > P > .01		Offr P < .01		ORs NS		NS	NS	NS	NS	NS	Offr P < .05
(vi) NCOs & ORs	NCOs P < .01		NCOs .05 > P > .01		NS		NCOs NS		NCOs .05 > P	NS	NS	NS	NS	NS
3) Mechanical Arithmetic 2B Scores														
Children of (vii) Officers & NCOs	NS		NS		NS		Officers NS		NS	NS	NS	NS	NS	NS
(viii) ORs & Officers	Offr .05 > P > .01		NS		Offr .05 > P > .01		ORs(RAF) .05 > P > .01		NS	NS	NS	NS	NS	NS (see Army)
(ix) NCOs & ORs	NCOs P < .01		NCOs .05 > P > .01		NCOs .05 > P > .01		NCOs NS		NS	NS	NS	NS	NS	NS (see Army)
(x) Officers (NCOs/ORs) (combined)														NS

total number of each grouping, where Officers' and O.R.'s children, ($t=1.99$ and 2.641 for $df = 109$, Verbal Ability $P < .01$, English Progress $P < .01$ and Mechanical Arithmetic $.05 > P > .01$), and N.C.O's* and O.R.'s* children ($t=1.980$ and 2.617 for $df = 120$, Verbal Ability $P < .01$, English Progress $P < .01$ and Mechanical Arithmetic $P < .01$), were in favour of Officers' and N.C.O.'s children respectively.

In the R.A.F. schools, there were differences between the scores of Officers' and O.R.'s children in Verbal Ability ($t=1.99$ and 2.638 for $df = 83$, $P < .01$) and in English Progress ($t=1.99$ for $df = 83$, $.05 > P > .01$) in favour of the Officers' children, but there was no difference between the scores of Officers' and O.R.'s children in Mechanical Arithmetic. When the scores of the N.C.O's and the O.R.'s children were compared, there were differences, in favour of the N.C.O.'s children ($t=1.99$ for $df = 83$, Verbal Ability $.05 > P > .01$, English Progress $.05 > P > .01$ and Mechanical Arithmetic $.05 > P > .01$). Intra-group comparisons between the scores of children of Officers', N.C.O.'s and O.R.'s in each of the R.A.F. schools, showed that in Schools A, B, E and M there were no significant differences. The intra-group comparison in School C, differed from the other results in that, the N.C.O's children ($n=3$) showed significant differences in Verbal Ability and English Progress performances, when compared with the O.R.'s children ($n=13$), ($R_1 = 41$, $U = 4$, at $P = .05$, the Critical Value of $U = 4$), in favour of the N.C.O's children.

In the Army School D, there were differences between the Officers' and O.R.'s children, in favour of the Officers' children, ($t=2.064$ and 2.797 for $df = 24$, Verbal Ability $P < .01$ and English Progress $P < .01$). Although the Mechanical Arithmetic comparison was significant by the Parametric Method, where the Critical Ratio was 2.190 , ($t=2.064$ for $df = 24$, $.05 > P > .01$) in favour of the Officers' children, it was not supported by the Mann-Whitney two-tailed 'U' test, where there was no significant difference ($n_1 = 13$, $n_2 = 13$, $U = 53.5$ and the Critical value of U for $P = .05$, for a two-tailed test, is 45). Both estimates of significance are in the same direction. The slight

discrepancy is explicable in view of the surrender of information due to the use of an ordinal ranking method in the non-Parametric, Mann-Whitney 'U' Test. This, also, accounts for the discrepancy when the Verbal Ability and Mechanical Arithmetic scores of the N.C.O's and O.R.'s children were compared by the two methods. The Parametric Method, used in the Verbal Ability comparison, produced no significant difference between means, the Critical Ratio was 1.984 ($t=2.032$ for $df\ 32$, $P > .05$), however, when these scores were compared by the Mann-Whitney two-tailed 'U' Test, H_0 was rejected in favour of H_1 (the two-tailed p of $Z = -2.0$, is $P = 0.0456$, for $n_1 = 24$ (N.C.O's children), $n_2 = 13$ (O.R's children), that is, in favour of the N.C.O's children. The significant difference, in favour of the N.C.O's children, in Mechanical Arithmetic ($t=2.032$, for $df\ 35$, $.05 > P > .01$), when compared by the Parametric Method, was not obtained by the Mann-Whitney 'U' Test, since the two-tailed P for $Z = -1.702$ is $P = 0.0892$. There was no difference in English Progress attainment when the test scores of N.C.O's and O.R.'s were compared.

In the inter-group comparison between the children in the R.A.F. schools and those in the Army school, the only difference in test performance was in Mechanical Arithmetic, between the children of O.R.'s, in favour of those children in R.A.F. schools. ($t=2.010$ for $df = 51$ $.05 > P > .01$).

TABLE VII

A3 ANALYSIS, BY GROUPING ACCORDING TO THE SEX OF THE CHILD.

a.) DATA	BOYS			GIRLS			
		TOTAL	RAF SCHOOLS	ARMY SCHOOL	TOTAL	RAF SCHOOLS	ARMY SCHOOL
1. PRIMARY VERBAL I mean Scores	N	88	57	31	92	73	19
	M	100.808	101.82	98.93	99.337	100.15	96.474
	δ	12.130	12.065	12.025	11.875	11.395	11.685
2. ENGLISH PROGRESS A mean Scores	M	106.205	105.42	107.645	103.902	104.602	101.21
	δ	13.915	14.785	12.03	12.955	12.620	13.885
3. MECHANICAL ARITHMETIC B mean Scores	M	100.012	100.86	98.129	99.772	101.06	94.9
	δ	11.09	11.470	9.915	12.28	12.786	10.170

TABLE VII

A3 b) ANALYSIS BY GROUPING ACCORDING TO THE SEX OF
THE CHILD*

DATA	SCHOOLS					
	C	B	E	A	M	D
1. PRIMARY VERBAL I						
BOYS	n_1 11 R_1 138	n_2 11	n_1 11 R_1 169	n_2 11	n_1 13 R_1 221	n_1 31 R_1 845.5
GIRLS	n_2 11	n_1 14 R_1 207	n_2 14	n_1 14 R_1 190	n_2 20 R_2 340	n_2 19
U	49	52	51	69	130	239.5
2. ENGLISH PROGRESS A.						
BOYS	n_1 11 R_1 137	n_2 11	n_1 11 R_1 159	n_2 11	n_2 13	n_1 31 R_1 878
GIRLS	n_2 11	n_1 14 R_1 214	n_2 14	n_1 14 R_1 190	n_1 20 R_1 353	n_2 19
U	50	45	61	69	117	207
3. MECH. ARITH. 2B						
BOYS	n_2 11	n_2 11	n_1 11 R_1 174.5	n_2 11	n_1 13 R_1 245.5	n_1 31 R_1 833.5
GIRLS	n_1 11 R_1 130.5	n_1 14 R_1 199	n_2 14	n_1 14 R_1 215	n_2 20	n_2 19
U	56.5	60	45.5	44	105.5	251.5

* Mann Whitney 'U' Test (two tailed).

TABLE VII

RESULTS OF A3 a) and b) comparison of the scores of Boys and Girls.

	<u>SCHOOLS</u>			RAF/ ARMY Comparison of same sex	C	B	E	A	M	D
	All the Service Schools	RAF	ARMY							
1) PRIMARY VERBAL I										
BOYS	NS	NS	NS	NS, Boys comparison	NS	NS	NS	NS	NS	NS
GIRLS				NS, Girls comparison						
2) ENGLISH PROGRESS A										
BOYS	NS	NS	NS	NS (Boys')	NS	NS	NS	NS	NS	NS
GIRLS				NS (Girls')						
3) MECHANICAL ARITHMETIC 2B										
BOYS	NS	NS	NS	NS (Boys') <u>0.05787.01</u>	NS	NS	NS	NS	NS	NS
GIRLS				Girls' (RAF)						

KEY	* Significant difference using Mann-Whitney two-tailed 'U' test
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TABLE VII

A.4 Means and Standard Deviations obtained from the Scores of Small Groups within the Cyprus Sample.

i) RAF SCHOOLS	N	PRIMARY VERBAL I		ENGLISH PROGRESS A		MECHANICAL ARITHMETIC 2B	
		M	S	M	S	M	S
<u>C</u> Chldrn of Officers	6	96.17	8.37	101.166	9.32	96.57	7.87
Chldrn of NCOs	3	113 *	7.07	126*		109	
" ORs	13	98.15	10.4	104.3	10.48	105.08	8.89
BOYS	11	101.55	13.4	110.64	17.59	103.81	8.06
GIRLS	11	97.46	6.56	102.46	5.82	102.90	10.29
<u>B</u> Chldrn of Offrs	12	103.5	9.16	104.92	14.64	97.42	13.3
" NCOs	4	102	6.13	99.5	8.29	110	(4 only)
" ORs	9	98.66	5.27	98.66	7.27	92	8.155
BOYS	11	98.82	8.33	98.86	10.88	93.81	11.33
GIRLS	14	103.43	8.45	103.78	10.03	98.43	12.74
<u>E</u> Chldrn of Offrs	13	106.62	9.09	109.70	8.70	107.77	11.29
" NCOs	11	97.45	12.52	106.09	11.84	100.64	8.82
" ORs	1	84	-	86		95	
BOYS	11	106.55	11.38	110.18	7.77	109.27	6.16
GIRLS	14	97.71	11.75	104.86	12.35	102.36	10.93
<u>A</u> Chldrn of Offrs	8	103.88	16.19	102.63	12.98	103.25	14.09
" NCOs	15	105.33	10.105	106.66	14.89	105.66	13.37
" ORs	2	92)		90)		95)	
		115)		119)		114)	
BOYS	11	103.36	13.84	104.72	15.43	99.73	11.74
GIRLS	14	105.93	11.33	106.64	13.09	108.79	13.31
<u>M</u> Chldrn of Offrs	6	106.25	10.57	110.83	14.88	98.66	13.44
" NCOs	12	99.92	10.89	104.92	14.07	98.67	8.5
" ORs	15	93	12.55	99.33	12.87	96.34	12.1
BOYS	13	99.153	10.3	103.54	13.65	100.77	11.55
GIRLS	20	97	13.51	104	16.46	95.5	10.965
ii) <u>ARMY SCHOOL D</u> Chldrn of Offrs	13	104.69*	7.5	112.77*	11.58	99.31	9.73
" NCOs	24	98.25*	12.36	105.33	12.04	98.87	10.09
" ORs	13	90.46	10.27	97.38	12.00	91.23	8.29
BOYS	31	98.93	12.03	107.65	12.03	98.13	9.92
GIRLS	19	96.47	11.69	101.21	13.89	94.9	10.17

Discussion of Results shown in TABLE VII A.3

There were no differences between the performances, in Verbal Ability, Mechanical Arithmetic and English Progress, of boys and girls, in the whole sample, in the R.A.F. schools only, and in the Army school. In the inter-group comparison, there was a difference between the scores of girls (n=73) in R.A.F. schools and girls (n=19) in the Army school, ($t=1.99$ for $df = 90$, $.05 > P > .01$), in Mechanical Arithmetic only, in favour of girls in the R.A.F. schools. There were no differences in the boys' performance. In the intra-group comparisons between the scores of boys and girls, in each school, there were no significant differences, suggesting that conditions within the school have not favoured either the boys or the girls.

Table VII A4 shows the means and standard deviations of the scores obtained by the children grouped, according to the rank of the father, sex and school - and was used in conjunction with Table VII A2 and A3. Where significant differences were obtained by the Mann-Whitney (two-tailed) test, the results are marked with an asterisk. This occurred only where scores of O.R.'s* children were compared with the scores of officers and NCO's children.

SUMMARY - The nature of the Cyprus Sample

The comparison of the larger groups within the Cyprus sample showed that significant differences existed between the scores of children (i) in R.A.F. schools and the Army school (ii) in School E and A and C when each was compared with Schools M and D and B and (iii) grouped according to the rank of the father but (iv) no over all differences when grouped according to the sex of the child. The existence of the Sub-group differences must be taken into account since it may be that certain groups are deficient in relation to the United Kingdom sample, whereas others are not. The comparative analysis is presented in Chapter 5, Hypothesis I. The scores of children, in R.A.F. schools, and the Army school, of officers, N.C.O's and O.R.'s, were compared with the United Kingdom norm (See Page 65). Before comparing

the Mechanical Arithmetic scores obtained by children in individual schools with the United Kingdom norm, the scores of children in Schools, E, A and C were grouped together and mean scores in Verbal Ability and Mechanical Arithmetic attainment calculated. This process was repeated for the school grouping M.D.B. Results showed that there was no difference in Verbal Ability between the two groups, but a significant difference in Mechanical Arithmetic* attainment ($t=1.98$ for $df\ 78$ $.05 > P > .01$).

*See Table VII A1.

Five hypotheses have been advanced, in Chapter Five, to study the effect changes of school, time spent overseas and absence from school, have had on the attainments of this sample.



CHAPTER FIVE.Hypotheses.

It is proposed (that)

1. That service children at school in Cyprus will obtain lower test scores in Arithmetic and English than comparable children in the United Kingdom.
2. That children who have changed schools will not achieve as highly as their measured I.Q. would lead one to expect.
3. That the greater the number of changes of school the greater the depression in Arithmetic and English achievement, when compared with measured I.Q.
4. (i) That the greater the number of months spent in Cyprus and (ii) the greater the total number of months spent overseas, the greater the depression in test scores of achievement in Arithmetic and English when compared with measured I.Q.
5. That the greater the absence over the year prior to testing the greater the depression in test scores of achievement in Arithmetic and English when compared with measured I.Q.

Hypotheses 1, 2 & 3 are concerned with the effect changes of school have on the attainments of the service children in English Progress and Mechanical Arithmetic. It is, therefore, of primary importance to establish that service children tested in Cyprus have changed schools.

Details of the number of schools attended by each child and the countries in which the schools are situated were obtained from Form 'A' and recorded in Table III. This information was used (a) to find the percentage of children who had attended five, four, three or two schools. This is summarised in Table VIII. (b) to discover how many children were affected by change of school during their father's present tour/or tours of duty in Cyprus. The numbers are recorded in Table IX and reasons for these changes are discussed subsequently.

TABLE IX

THE NUMBERS OF CHILDREN AFFECTED BY CHANGE OF
SCHOOL IN CYPRUS

	E	A	C	M	D	B	Totals	
Normal Change Infant to Junior			9	1	8	5	23	
Change of Infant Schl. followed by normal transfer to Junior School	1 (2)	(2)	3			4	12	() Another change of Junior School.
Normal change of Infant to Junior Schl. & change of Junior Schl.		1					1	
Change of Infant followed by change of Junior Schl.		3			3 (1)		7	() 2 changes of Infant School.
Change of Infant School	5	6 (1)				1	13	() Another change of Infant School.
Change of Junior School	4	1		1	20	1	27	
Total No. of children affected by changes of school in Cyprus	12	14	12	2	32	11	83	
TOTAL NUMBER OF CHILDREN	25	25	22	33	50	25	180	

Table VIII shows the number of schools attended by the service children tested in Cyprus. A number of conclusions may be drawn.

1. 89.23% of service children in R.A.F. schools in Cyprus and 68% of those in the Army school (D) have attended 3 or more schools.

Further analysis of the children in the R.A.F. schools, who have attended 3 or more schools, is as follows:

Schools E 92%: A 92%: C 100%: M 78.8%: B 88%

2. There are more changes of school by children in the R.A.F. schools than by those children in the Army school.

R.A.F. Schools		Army School (D)				
4 schools	31.54%	12%				
5 schools	<u>8.46</u>	<u>8%</u>				
	<u>40.00%</u>	<u>20%</u>				
R.A.F. schools	E.	A.	C.	M.	B.	
4 schools	16%	12%	13.6%	3%	-	
5 schools	24%	36%	40.9%	27.3%	32%	
	40%	48%	54.5%	30.3%	32%	

3. A greater percentage of service children in the Army school attended two schools only.

R.A.F. schools

10.77%

Army school (D)

32%

% (E 8: A 8: C 0: M 21.2: B 12)

N.B. School M is an R.A.F. school, where 21.2% attended 2 schools only.

4. A similar percentage of children in the R.A.F. schools and the Army school had attended 3 schools (See Table VIII).

Further research showed the number of service children in the sample who were affected by changes of schools in Cyprus (Table IX). Some changes of infant and junior school were due to the closure of schools in the Nicosia, Limassol and Dhekelia areas and the subsequent transfer to new schools. Some children, at the age of 7, had a normal change from infant to junior school, e.g. St. Peters School and Curium School to Campbell Junior School. Other

changes of school on the island were due to the transfer of the father within the command or movement from houses rented (hirings) in the dormitory areas, e.g. Limassol, to married quarters at Akrotiri, Episkopi or Berengaria.

HYPOTHESIS I

The standardised scores obtained by the service children in Cyprus were compared with the United Kingdom norms. The method of significance of difference between means (14) was used to compare the two groups.

The National Foundation for Educational Research provided data from which the United Kingdom norms were calculated. 3,115 children, in one Local Education Authority, in the United Kingdom were tested in Verbal Ability, using Primary Verbal Test I. The standardised mean was 100.2 and the standard deviation 20.59. Provided that there was no significant difference between the two groups in Verbal Ability, the standardised scores obtained in English Progress and Mechanical Arithmetic could then be compared with the United Kingdom norms.

The United Kingdom norm, in English Progress A, was based on a sample of 3,199 children in the United Kingdom, with a mean standardised score of 100 and standard deviation of 15. 7,859 children in the United Kingdom were tested in Mechanical Arithmetic, and the mean standardised score was 97.8 (mean age 7:11) and the standard deviation 10.28. This data, in Appendix VI, is summarised in Table X, and the results of the comparison of service children with the United Kingdom norms are shown in Table XI.

The scores of children, grouped into schools and, according to the rank of the father, were also compared with the United Kingdom norms (see Page 58).

Discussion of Hypothesis I.

There was no significant difference between means when the Verbal Ability scores of the total number of service children were compared with the United Kingdom norm. When the Mechanical Arithmetic scores of the two groups were compared, there was a significant difference in favour of the service children ($t=1.960$.05 > $P > .01$). There was, also a significant difference between the two groups, in favour of service children, when English Progress scores were compared ($t=1.960$ & 2.576 $P < .01$). The scores of the several 'sub-groups' of service children were compared with the United Kingdom norms to determine whether there was any significant difference between the performance

A COMPARISON OF THE STANDARDISED SCORES OF (8:0 to 8:8) YEAR OLD CHILDREN IN CYPRUS WITH THOSE OBTAINED BY CHILDREN IN THE UNITED KINGDOM OF AVERAGE ABILITY AND SIMILAR AGE-GROUP

TABLE XI.

United Kingdom Norms compared with (i)-(viii)	(i) Total No. Tested in Cyprus N ₁₈₀	(ii) RAF Schools N ₁₃₀	(iii) Army School N ₅₀	(iv) E.C.A. Schools N ₇₂	(v) M.D.B. Schools N ₁₀₈	(vi) Total No. of Officers' Children N ₅₈	(vii) Total No. of NCOs Children N ₆₉	(viii) Total No. of ORs Children N ₅₃
PRIMARY VERBAL I	N 5,115	0.5468 N.S.	1.271 N.S.	1.255 N.S.	1.234 N.S.	t 1.96 2.510 ^o P < .01	0.436 N.S.	t 1.96 & 2.58 3.377 ^{**} P < .01 in favour of UK norms
CRITICAL RATIOS								
ENGLISH PROGRESS A	N 3,199	t 1.96 & 2.58 5.142 ^o P < .01	t 1.96 & 2.58 2.693 ^o P < .01	t 1.96 & 2.58 P < .01		t 1.96 & 2.58 4.743 ^o P < .01	t 1.96 & 2.58 3.766 ^o P < .01	0.044 N.S.
CRITICAL RATIOS								
MECHANICAL ARITHMETIC 2B	N 7,859	t 1.96 2.372 ^o P < .01	t 1.96 2.58 2.999 ^o P < .01	t 1.96 2.58 2.961 ^o P < .01	0.6166 N.S.	1.827 N.S.	2.970 ^o P < .01	0.35 N.S.
CRITICAL RATIOS								

KEY
Where P is the probability
* .05 > P > .01
** P < .01

of these groups and the United Kingdom norm. When the Verbal Ability scores of service children in R.A.F. schools and the Army school were compared with the United Kingdom norm, there were no significant differences.

The scores of the children in the R.A.F. schools and in the Army school were each compared with the United Kingdom norm in Mechanical Arithmetic and English Progress. There was a significant difference in Mechanical Arithmetic scores ($t=1.960$ and 2.576 $P < .01$), in favour of R.A.F. schools.

There was no significant difference between the Mechanical Arithmetic scores of children in the Army school and the United Kingdom norm. However, when the English Progress scores of children in the R.A.F. schools and in the Army school were compared with the United Kingdom norm, there were significant differences in favour of the scores of children in R.A.F. schools ($t=1.960$ & 2.576 $P < .01$), and of the scores of children in the Army school ($t=1.96$ & 2.58 $P < .01$).

There was no significant difference between the Verbal Ability scores of service children in Schools E.C.A. and in Schools M.D.B., and the United Kingdom norm. (See Pages 47 and 59). There was a significant difference, in favour of Schools E.C.A., ($t=1.960$ & 2.576 $P < .01$) when Mechanical Arithmetic scores were compared with the United Kingdom norm, but no significant difference between the scores of children in Schools M.D.B. when compared with the U.K. norm, despite the lower Mechanical Arithmetic mean score of 96.65, for the children in the M.D.B. grouping.

The scores of the children, grouped according to the rank of the father, were compared with the United Kingdom norm. When the Verbal Ability scores were compared with the U.K. norm, there was a significant difference in favour of officers' children, ($t=1.96$ $CR=2.510$, $.05 > P > .01$), no significant difference between the scores of NCOs children and the United Kingdom norm, and a significant difference between the scores of ORs children and the United Kingdom norm, in favour of the United Kingdom norm ($t=1.96$ & 2.58 $CR=3.377$ $P < .01$). The scores of groups of service children in English Progress and

Mechanical Arithmetic were, then, compared with the United Kingdom norm. There were significant differences in English Progress scores when Officers' children ($t=1.96$ 2.58 $CR=4.743$ $P < .01$) and NCOs children ($t=1.96$ & 2.58 $CR=3.766$ $P < .01$) were compared with the United Kingdom norm. There was no significant difference between the English Progress scores and Mechanical Arithmetic scores of the ORs children and the U.K. norm, even though there was a significant difference in Verbal Ability, in favour of the U.K. norm. When the Mechanical Arithmetic scores of the officers' children were compared with the U.K. norm, there was no significant difference between the groups. There was a significant difference in favour of the scores of NCO's children in Mechanical Arithmetic ($t=1.96$ 2.58 $CR=2.970$ $P < .01$), when compared with the United Kingdom norm.

A comparison of the scores of the sub-groups with the United Kingdom norms revealed that there was no masking effect. In particular, although O.R.'s children performed significantly below that of the U.K. sample in Verbal Ability, they did not depart significantly from the United Kingdom norm in either of the attainment tests.

The service children, in spite of changes of school, did not obtain lower scores in the attainment tests than children of comparable age and general Verbal Ability in the United Kingdom. There were, in fact, significant differences in favour of service children in English Progress and Mechanical Arithmetic. Therefore, Hypothesis I cannot be supported for the sample of service children investigated.

HYPOTHESIS 2

The aim was to establish whether the standardised scores obtained by the service children in Mechanical Arithmetic and English Progress corresponded to the scores predicted from their performance in the Verbal Ability Test, which was used as a measure of intelligence.

XII Table III App. VII shows the "Range of Predicted Scores on one standardised test from different levels of score on another Correlated Test" after D.A. Pidgeon (22). The correlation between Primary Verbal I scores and English Progress A scores was found to be 0.8 and between Primary Verbal I and Mechanical Arithmetic 2B 0.6 which are of the same order as those determined by the National Foundation for Educational Research (See Table VI). It was feasible, therefore, to use the predictions produced by D.A. Pidgeon (Table X).^{XII 7}

Reference was made to Table X, where Primary Verbal Test I was equivalent to 'Test A' and attainment tests to 'Test B' (22). The predicted score on the attainment tests was determined as follows:-

The Verbal Ability score of each service child* (Table I) was read off in the 'Test A' column, and the equivalent predicted attainment scores in the 'Test B' column. The English Progress and Mechanical Arithmetic scores obtained by each child* (Table III), were compared with the predicted attainment score, in the Table for Correlation 0.8 and 0.6 respectively.

For example, a score of 110 on the Primary Verbal test, when $r=0.8$, predicts a "most likely" score on the English Progress test of 108, "the lower limit" is 90 and "the upper limit" is 126. The English Progress scores of child No. 1 was 119, a score higher than the measured I.Q., 110, would lead one to expect.

The attainment test scores, in English Progress and Mechanical Arithmetic, were arranged in a table grouped into schools and columnised into below "lower limit", "lower limit", "most likely score", "upper limit" and above "upper limit".

TABLE XIII
AN ANALYSIS OF THE SCORES, OBTAINED BY THE SERVICE
CHILDREN, IN ATTAINMENT TESTS (12)

SCHOOLS	Below Lower Limit	"Lower Limit"	"Most Likely"	"Upper Limit"	Above Upper Limit	TOTAL
<u>C</u> Mech Arith.	0	5	8	9	0	) ) ) 22
<u>Eng Prog.</u>	<u>0</u>	<u>1</u>	5	<u>14</u>	<u>2</u>	
<u>B</u> Mech Arith.	0	17	3	5	0	) ) ) 25
<u>Eng Prog.</u>	<u>0</u>	<u>8</u>	5	<u>12</u>	<u>0</u>	
<u>E</u> Mech Arith.	0	6	3	16	0	) ) ) 25
<u>Eng Prog.</u>	<u>0</u>	<u>3</u>	5	<u>15</u>	<u>2</u>	
<u>A</u> Mech Arith.	0	7	4	14	0	) ) ) 25
<u>Eng Prog.</u>	<u>1</u> (one point below "lower limit"	<u>2</u>	<u>12</u>	<u>10</u>	<u>0</u>	
<u>M</u> Mech Arith.	0	16	2	15	0	) ) ) 33
<u>Eng Prog.</u>	<u>0</u>	<u>5</u>	<u>6</u>	<u>19</u>	<u>3</u>	
<u>D</u> Mech Arith.	0	23	4	23		) ) ) 50
<u>Eng Prog.</u>	<u>0</u>	<u>5</u>	<u>2</u>	<u>41</u>	<u>2</u>	
<u>TOTALS</u> Mech Arith.	0	74	24	82	0	) ) ) 180
<u>Eng Prog.</u>	<u>1</u>	<u>24</u>	<u>35</u>	<u>111</u>	<u>9</u>	

of
Discussion/Results, with reference to Table XIII.

The Mechanical Arithmetic test 2B scores obtained by the service children were all within the 'range of predicted scores' (22), determined by their scores in Primary Verbal test I, of which 24 scores were the 'most likely' scores, 82 scores were within the 'upper limit'(22) range and 74 scores were within the 'lower limit'(22) range.

Further analysis of the 'lower limit', where the range is 24 points below the 'most likely' score (when $r = 0.60$), showed how the 74 scores were grouped.

26 scores were	(1 - 5))	
20 " "	(6 - 10))	
15 " "	(11 - 15)	)	points below the 'most likely' score
11 " "	(16 - 20))	
2 " "	(21 - 23))	

However, in the English Progress test A scores, 170 out of the 180 service children tested were within the 'range of predicted scores', of which 35 scores were 'most likely' scores, 111 were within the 'upper limit' range and 24 scores were within the range of the 'lower limit'. 9 scores were beyond the 'upper limit' shown in Table XIII (correlation 0.80) and are indicated by a tick in Table III. One score only was one point below the 'lower limit' range.

The 'lower limit' of the English Progress test scores ($r = 0.80$) ranges 18 points below the 'most likely' score. 24 scores out of 180 scores showed that, of these,

10 were	1 - 5 points)	
10 "	6 - 10 points)	
3 "	11 - 15 points	)	below the 'most likely' score
1	16 - 18 points)	

The one score 'below the lower limit' was one point below, the score obtained by the child was 81 (and the lower limit was "82").

The service children investigated achieved as highly as their measured I.Q. would lead one to expect, in Mechanical Arithmetic and English Progress, in spite of changes of school (see Tables VIII & IX). Therefore Hypothesis 2 cannot be supported.

Hypotheses 3, 4 and 5. are concerned with the relationship between the social variables, the number of schools attended, the number of months spent in Cyprus, the total number of months spent overseas and absence from school over the year prior to testing and the standardised scores of the service children, for effect on attainment.

The standardised scores, in ability and attainments, of the service children in the R.A.F. schools were grouped together and correlated with the social variables listed above, to indicate whether there were significant correlations between standardised scores and the social variables. The same process was repeated for the sample as a whole. Secondly, verbal ability scores, as a measure of intelligence, were divided above and below the mean standardised value of 100.03 (See Table IV). The scores obtained in the attainment tests, English Progress and Mechanical Arithmetic were, then, arranged with reference to the verbal ability scores into above and below average ability levels. The attainment scores, thus arranged, were correlated with the social variables to discover whether children in the different ability levels, were affected differently by the number of schools attended, time spent overseas and absences. Finally, the sample was divided according to the sex of the child and the social variables correlated with the Mechanical Arithmetic and English Progress scores, to ascertain whether boys and girls were affected differently by the number of schools attended, time spent overseas and absence from school. All the correlation values are summarised in Table XIV B2 B3 B4 and the correlation matrix (Table XV).

If a positive or a negative value was evident throughout a series of correlations, it suggested, even if the values of 'r', the correlation coefficients, were non-significant, that there might be a trend.

Using various values of 'n', the number of children in the sample, and 't', at .05 and .01 levels of confidence, correlation values, r, were calculated from the formula

$$t = \frac{r \sqrt{n-2}}{\sqrt{1-r^2}}$$

These values are shown in Table XIV B1, and were used to check whether correlations between the social variables and scores obtained by service children in ability and attainment tests were significant.

TABLE XIV CORRELATION RESULTS

B1. Calculated values of the Correlation Coefficient significant for various values of N.

N	r	t
180	± 0.1459	1.97 (.05)
130	± 0.1724	1.98
90	± 0.2075	1.99
50	± 0.2786	2.011
180	± 0.1913	2.60 (.01)
130	± 0.2254	2.617
90	± 0.2708	2.639
50	± 0.3610	2.682

B2. Relationship between the Social Variables and Ability and Attainment

Test Scores of Children in (i) RAF Schools and (ii) All the Service Schools

	1.	2.	3	4
	*Tables III & VIII Column 9	*Table III Column 7	*Table III Column 12	*Table III Column 6
	No. of schools attended.	No. of months spent in Cyprus	Total no. of months spent overseas	% Absences
<u>Primary</u>				
<u>Verbal I</u>				
(i) RAF Schools N = 130	0.0095	(-0.1086)	(-0.1169)	(-0.1165)
(ii) Combined (RAF & Army) Schools N = 180	0.07114	(-0.0846)	(-0.0843)	(-0.1004)
<u>English Progress A</u>				
(i) RAF Schools	(-0.016)	(-0.1040)	(-0.0916)	(-0.1203)
(ii) Combined Schools	0.0360	(-0.0632)	(-0.0503)	(-0.0786)
<u>Mechanical Arithmetic 2B.</u>				
(i) RAF Schools	0.0857	(-0.099)	(-0.1294)	(-0.1724) *
(ii) Combined Schools	0.1255	(-0.1322)	(-0.1600)*	(-0.07652)

Key * Sig .05

TABLE XIV (cont).

B3. Relationship between the Social Variables at different levels of Ability, for effect on attainments.

	1.	2.	3.	4.
	No. of schools attended.	No. of months spent in Cyprus.	Total No. of months spent overseas.	% absences
(a) <u>English Progress</u> (Below Av.Ability) N=89	(-0.0470)	0.04216	0.1683	(-0.1445)
(b) <u>Eng.Prog.</u> (above Av.Ability) N=91	(-0.0357)	0.03835	0.0737	(-0.1244)
(c) <u>Mech. Arith.</u> (Below Av. Ability) N=89	0.0313	(-0.0245)	(-0.06343)	(-0.1309)
(d) <u>Mech.Arith.</u> (Above Av. Ability) N=91	0.1597	(-0.002415)	(-0.04524)	(-0.0544)

B4. Relationship between the Social Variables, by the sex of the child, for effects on Attainment.

	1.	2.	3.	4.
	No.of schools attended.	No. of months spent in Cyprus.	Total No. of months spent overseas.	% Absences
(a) <u>Boys</u> <u>Eng.Prog.</u> N= 88	0.0450	(-0.0490)	(-0.1286)	(-0.2160)*
(b) <u>Girls</u> <u>Eng.Prog.</u> N=92	(-0.0076)	(-0.1158)	0.0169	0.0297
(c) <u>Boys</u> <u>Mech.Arith.</u> N= 88	0.2352*	(-0.2327)*	(-0.2592)*	(-0.0255)
(d) <u>Girls</u> <u>Mech.Arith.</u> N = 92	0.0525	0.0221	(-0.0302)	(-0.1067)

Hypothesis 3.

The number of schools attended (see Table III) was correlated with the standardised scores, in ability and attainment tests, of children in R.A.F. schools and in all the service schools, then with attainments, in English Progress and Mechanical Arithmetic at different levels of ability and attainment scores of the boys and girls*.

(See P. 72 for arrangement of scores).

These results are recorded in Table XIV, B2 B3 B4 Column 1, and were used to investigate whether the number of schools attended by the service children affected their performance in the ability and attainment tests.

Discussion of Results

The correlations between the number of schools attended and verbal ability scores of children in R.A.F. schools and all the service schools, were positive and non-significant. The correlations were positive between the number of schools attended and Mechanical Arithmetic scores of children in R.A.F. schools, in all the Service schools, at above and below average ability and, of girls and boys. The correlation between the boys' scores and the number of schools attended was significant, tending to suggest that changes of school did not adversely affect the attainment of the boys in Mechanical Arithmetic.

The four negative correlation values between the number of schools attended and English Progress scores of children in R.A.F. schools (-0.016), of children at above (-0.035) and below (-0.04) average levels of ability and of girls only (-0.007) did not approach significance. The correlations between the number of schools attended and English Progress scores of children in all the service schools, and of the boys were positive and non-significant.

The number of schools attended did not adversely affect the attainment of service children in Mechanical Arithmetic. When considering the correlation between the number of schools attended and the English Progress scores, the negative values did not approach significance and therefore the hypothesis was not supported.

Hypothesis 4

The names and location of all the schools attended by each child were given in Form A. The dates on which the children joined and left their schools were, also, recorded. From this, the time spent in each school was calculated. Data concerning tours in the United Kingdom and overseas was recorded in Form A and set out in Table XVI as a 'pattern of tours'. It was found that 75% of the total number of children tested had resided in the United Kingdom prior to the Cyprus tour. The first set of correlations was between the social variable, the number of months spent in Cyprus (See Table III) and the scores* obtained by service children in Cyprus. However, 25% of all the service children tested had additional overseas tours, indicating longer periods away from the United Kingdom. A further series of correlations were calculated between 'the total number of months spent overseas' and the scores* obtained by the service children' in Cyprus.

*See P. 72 for the section concerning the arrangement of ability and attainment scores.

The results are shown in Table XIV B2 B3 B4 Columns 2 and 3. and were used to investigate whether the time spent away from the United Kingdom affected the scores of the Service children in the ability and attainment tests.

TABLE XVI

PATTERN OF TOURS OF THE SAMPLE OF SERVICE CHILDREN

	Schools RAF	A(N25)	C(N22)	M(N33)	B(N25)	Army	RAF	All the Service Schools N180
	E(N25)					D(N50)	Schls. N130	
1. Percentage of children who had UK Tours before Cyprus	84	92	95.45	94	84	60	90	81.66
2. Percentage of children who had overseas trs prior to UK	4		13.45	12.18		8	6.15	6.66
3. % UK only	80	92	82	81.82	84	52	83.85	75
3. % children Overseas trs prior to Cyprus Tour	16	4	[3] ^a	6		24	5.38	10.51
(I) Germany	(12)*	(4)*		(6)* [1] ^c		(20)* [3] ^a [2] ^b	(4.65)*	(8.88)*
(II) Singapore	(4)*						(0.77)*	(0.55)*
(III) France						(4)*		(1.11)*
(IV) Malta			[2]* ^d					
(V) Aden			[1]* ^d					
4. Total % of children who had overseas tours, in addition to present tour in Cyprus (inc. % who started schl. in Cyprus)	20 UK (before school started)	8 i.e. began school (4)	18 school in Cyprus (4.5)	18.18	16 (16)	48 (16)	16.15 (4.65)	25 (7.77)

KEY.

()* % of children who had tours in other overseas commands

[] NUMBER of children who had atypical overseas tours

a. few months UK, after tour in Germany, then Cyprus

b. some months in Germany - not a full tour

c. tours in Libya and Germany

d. overseas tour prior to UK and Cyprus

Discussion of Results

4. (i) The correlation between the number of months spent in Cyprus and Verbal Ability, English Progress and Mechanical Arithmetic scores of children in R.A.F. schools and all the service schools, were negative and not significant.

The number of months spent in Cyprus were correlated with the scores in English Progress and Mechanical Arithmetic at different levels of ability. The values obtained for the English Progress correlations were positive and those for the Mechanical Arithmetic correlations were negative, but none of the values were significant.

When English Progress scores of boys and girls and the Mechanical Arithmetic scores of boys were each correlated with the number of months spent in Cyprus, the correlations were negative, though not significant. The girls' Mechanical Arithmetic scores were unaffected by the length of time spent in Cyprus, for the correlation was positive and not significant.

Hypothesis 4 (i) cannot be completely supported because correlations, between the number of months spent in Cyprus and (1) English Progress scores at different levels of ability, and (2) Mechanical Arithmetic scores of the girls, were positive and not significant.

4. (ii) The correlations between the total number of months spent overseas and Verbal Ability, English Progress and Mechanical Arithmetic scores of children in R.A.F. schools and all the service schools, were all negative and one correlation was significant; the correlation between Mechanical Arithmetic scores of the total number of children and the total number of months spent overseas was $r(-0.1600)$ and $(t=1.97 \ .05 > P > .01)$.

The values for the correlation between English Progress scores at different levels of ability and the total number of months spent overseas were positive and not significant. The correlations between the Mechanical

Arithmetic scores at different levels of ability, and the total number of months spent overseas, were negative and not significant.

When the 'total number of months spent overseas' was correlated with the boys' English Progress scores, the result was negative and not-significant, and with the girls' English scores, positive and non-significant. A negative significant correlation was obtained when the boys' Mechanical Arithmetic scores were correlated with the total number of months spent overseas, and the correlation with the girls' Mechanical Arithmetic scores was also negative, but not-significant.

Hypothesis 4 (ii) may be supported in as far as there was a trend in the correlations between Mechanical Arithmetic scores and 'the total number of months spent overseas', that is, the greater the length of time spent overseas, the greater the depression in Mechanical Arithmetic scores. The hypothesis can be partially supported for the English Progress scores of all the boys.

Hypothesis 5.

Each school provided information about the absences of each child over the year prior to testing, together with the maximum number of days or sessions (2 sessions = 1 day) any one child could have attended over that period of time. The two values were presented as a percentage absence.

$$\% \text{ Absence} = \frac{\text{Number of days (or sessions) absent}}{\text{Number of days (or sessions) possible for a child to attend in that year.}} \times 100$$

For example, child No. 45 in School M had been absent three times, and the maximum number of days possible for this child to attend the present school during the year was 185 days, that is, a percentage absence of 1.62%.

(N.B. The maximum number of days in the school year was 197.)

The percentage absences were listed in Table III., and an analysis of the absences in each school, and according to the rank of the father, was set out in Table XVII. The values, obtained from the correlation between percentage absences and standardised scores* are recorded in Table XIV
B2 B3 B4 Column 4.

*See Page 72 for the arrangement of scores.

The correlation values were used to investigate whether absence from school affected the performance of the service children in the ability and attainment tests.

TABLE XVII

AN ANALYSIS OF PERCENTAGE ABSENCES

DAYS ABSENT	% ABS.	*SCHOOLS					OFFICERS					NCOs					ORs					TOTAL NO. CHILDREN						
		Army		RAF			CHILDREN					CHILDREN					CHILDREN											
		D	A	B	C	E	M	D	A	B	C	E	M	D	A	B	C	E	M	D	A	B	C	E	M			
1	0/0.9	18	7	1	5	3		5	2	1			1	7	5				1	6					4	2	34	
2	1/1.9	11	4	3	3	6	6	3	1	3	1	3		7	3		1	3	4	1					1	2	33	
5	2/2.9	7	5	2	1	5	4	2	2		1	3	1	3	3			1	2	2	2			1	1	1	24	
	3/3.9	4	2	3	6	3	2	1	1	1	1	1	1	2	1	1			2	1				1	5	1	20	
	4/4.9				2	1	4	2				1	3							1					1	1	2	9
10	5/5.9	1		5	3	2	3				2	1	1		1	1	1	1	2					2	1	1	14	
	6/6.9	4	6	1		2	4		2			2	1	3	3				1	1	1	1				2	17	
15	7/7.9	2	1	1		1	2	1		1			1						1	1	1						7	
	8/8.9	2		3	1		1	1		1	1			1		1									1	1	7	
	9/9.9	1		1	1	1	2				1	1		1		1	1	1		1							6	
20	10/10.9			1	1	1	1				1								1						1		4	
	11/11.9																										0	
25	12/12.9						1																			1	1	
	13/13.9						1																			1	1	
	14/14.9						1																			1	1	
30	15/15.9			2							1													1			2	
				25	3	22	3	33		8	12	6	13	6		15	4	3	11	12		2	9	13	1	15		
		50						13						24						13								
				180					58						69									53			180	

* 1 School Year = 197 days

Discussion of Results

The correlations between percentage absences and verbal ability, Mechanical Arithmetic, and English Progress scores of children in R.A.F. schools and, all the service schools, were negative. The only negative significant correlation of (-0.1724) $t=1.98$ $.05 > P > .01$, was between percentage absences and Mechanical Arithmetic scores in the R.A.F. schools ($n=130$).

The correlations between percentage absences and (1) English Progress, and Mechanical Arithmetic scores, at different levels of ability, (2) Mechanical Arithmetic scores of boys and girls, were all negative, but not significant. Further correlations between percentage absences and English Progress scores of boys ($n=88$) and girls ($n=92$) were negative and significant ($r=-0.2160$ $t=1.99$ $.05 > P > .01$) for the boys; but positive and non-significant for the girls.

Hypothesis 5 may be supported in the Mechanical Arithmetic correlations with percentage absences, where all the correlations were negative, and one value was significant, suggesting that the greater the absence from school, the greater the depression in Mechanical Arithmetic scores. The English Progress scores of the girls were unaffected by absence. All other correlations were negative and one value, that of the boys correlation, was significant - therefore, the Hypothesis can be partially supported for the English Progress scores.

CHAPTER SIXFurther Discussion of the Results

Despite the lack of continuity during the period of residence in Cyprus and throughout their school life, revealed in the preliminary investigations and in the correlation results, the scores of service children, represented by the 8:0 to 8:8 year old age group, when compared with the United Kingdom norms show:- (i) no significant differences between the two groups in verbal ability, using Primary Verbal Test I, as a measure of verbal intelligence, (ii) a significant difference, in favour of service children, between the Mechanical Arithmetic performances ($t=1.960$ $.05 > P > .01$) and (iii) a significant difference in English Progress attainments, in favour of the service children ($t=1.960$ and 2.576 $P < .01$).

The results of the comparisons with the United Kingdom norms suggest that other factors have compensated for the lack of continuity in the education of service children in Cyprus, though, trends, found in this research, do indicate that the scores of service children in Mechanical Arithmetic and, of boys in English Progress tend to be depressed with increased length of time spent overseas and with absence from school.

Some contributing factors, linked with the administration and the social aspects of service life, should be considered and may be summarised under the following headings. "The good health and good attendance of both pupils and teachers". "The parents and the school", "The commanding officer and his relationship with the school", and "The teachers and the service schools".

The Good Health and Good Attendance of both Pupils and Teachers.

Cyprus, as expressed in Chapter II, is renowned for its healthy climate and, as a result of this, school attendance for staff and pupils is good. The average number of weeks that the total number of service children, of eight years to eight years eight months, were absent, in Cyprus, over the year prior to testing, was 1.1* weeks (See Table XVIII)

TABLE XVIII

1. Average Percentage Absences of Service Children
in the 8:0 to 8:8 age group.

<u>CHILDREN</u>		<u>TOTAL</u>	<u>RAF</u>	<u>ARMY</u>	<u>A</u>	<u>SCHOOLS</u>			
<u>OF</u>				(D)		<u>E</u>	<u>B</u>	<u>C</u>	<u>M</u>
Officers		4	4.4	2.5	3	3.7	5.5	5.16	5
NCOs		3.5	4	2.6	2.5	4.7	6.8	2.5	4
ORs		4.5	4.5	2.8	7	2.5	6	3.35	5.83
		3.9*	4.3	2.6	$\frac{A}{3}$	4.06	$\frac{B}{6}$	3.6	5.23

Numbers of Children

<u>CHILDREN</u>		<u>TOTAL</u>	<u>RAF</u>	<u>ARMY</u>	<u>A</u>	<u>E</u>	<u>B</u>	<u>C</u>	<u>M</u>
<u>OF</u>				(D)					
Officers		58	45	13	8	13	12	6	6
NCOs		69	45	24	15	11	4	3	12
ORs		53	40	13	2	1	9	13	15
		180	130	50	25	25	25	22	33

2. Average percentage absences of boys and girls

	<u>TOTAL</u>	<u>RAF</u>	<u>ARMY</u>	<u>A</u>	<u>E</u>	<u>B</u>	<u>C</u>	<u>M</u>
<u>BOYS</u>								
NUMBER	88	57	31	11	11	11	11	13
% ABSENCE	4.15	4.94	2.72	3.04	4.41	6.59	3.22	7.0
<u>GIRLS</u>								
NUMBER	92	73	19	14	14	14	11	20
% ABSENCE	3.55	4.05	2.35	3	3.78	5.3	4.04	4.05

*Av. % Absence 3.9% = 7.8 days = 1.1 weeks. J.W.B. Douglas and J.M. Ross (8) P.88 (1965), showed the average number of weeks absent at the ages $7\frac{1}{2}$ years and $8\frac{1}{2}$ years, relevant to the present study, to be 2.5 to 2.9 weeks per year ((8) Table I) for children in the United Kingdom.

The proportion of children attending school whilst suffering from minor complaints (e.g. respiratory), which are likely to impair their efficiency in the learning situation, is lower than in the United Kingdom. The good weather in Cyprus also provides greater opportunity for out-of-door activities, which are valuable aids to good health.

Another factor in maintaining the good health of the service children are the school buildings, mainly, built between 1954 and 1959 (Chapter 2 P.21), they are well designed to suit the climate, that is, spacious, light, airy and well-equipped.

Parents and the School.

F.J. Schonell (1942) (25) P.48, stated that "Home and School are so bound up together that it is imperative for teachers and parents to have a real understanding one with the other".

There is an awareness amongst the parents of the Ministry of Defence's moral, though not legal, responsibility to provide education for service children overseas (11), 102. This may well account, in part, for the deep interest in the schooling of their children. It was stated in one report (29) '64, that "parents, half guilty at the effect of constant change of their children, give unusual support" to the teachers.

The proximity of the schools to the married quarters or "hirings" (i.e. rented accommodation in dormitory areas) creates an interest in the school. Parents may be involved in the school in an official capacity; as school orderlies (corporals and sergeants), servicemen in the "stores" supplying equipment to the school, teachers and M.P.B.W* civilians (*Appendix III); involved in the maintenance of the school. All are involved in the smooth running of the

school and are, therefore, interested.

The service community overseas is small and teachers and parents meet frequently at messes, sports clubs and societies. Teachers tend to take the lead in cultural activities such as light opera, drama, choral societies, poetry reading circles and the like. This close contact between parents and teachers contrasts most markedly with the rare, formal contact which is, unfortunately, the norm in the United Kingdom.

"Children and parents share each others' activities far more than in the United Kingdom" (29)'64. This is because, in Cyprus, school hours and working hours during the summer months are such that parents and children are free to spend leisure time together. Opportunities for recreation are infinitely greater than in the United Kingdom, and are available to all members of the community and many families take full advantage of these facilities.

Close family ties between children and parents and the social links between parents and teachers are of considerable benefit to the educational processes.

The Commanding Officer and his Relationship with the School.

The commanding officer of each station or sovereign base area takes a great personal interest in the schools within his command; and officiates at sports days, speech days and other extra curricular activities. This interest in a service school is of great benefit to the children.

The service is particularly concerned about the conditions under which service families live and, consequently, as stated in the Times Educational Supplement of June 28th, 1968, the service children escape one drawback of the homeland, no child has a background of social deprivation.

Teachers and the Service Schools

Teachers are one of the compensatory factors for the disturbed years of schooling.

The Ministry of Defence (S.C.E.A) receives a large number of applications for overseas posts and can be highly selective in the teachers it chooses. There are five genuine applications for every vacancy and the Mediterranean, with schools in Gibraltar, Malta, Cyprus, Naples and Libya, is most popular. An average of 1,500 applicants are interviewed each year. This means that for every vacancy about 3 are eventually interviewed (29)'69.

An observer in Germany stated that "the lavishness and quality of the staff astonish the visitor from England. He is confronted with an ideal from which the home country is many times removed" (29)'68.

The teachers are mainly young, enterprising and adventurous and bring these attitudes to bear on the classes they teach. One of the characteristics of service schools is "the constant comings and goings of pupils, it is not uncommon for a class to change completely during a year". This means that teachers have to be "even more adaptable than usual". "Their ingenuity and skill can be fully taxed in trying to unify very diversified groups" (29)'69.

The smallness of the classes provides the opportunity to give individual attention to the children. "This is one way to help children to progress in spite of interruptions and change" (29) '61. "In Primary schools the rule is classes should not exceed 30, and in England the regulation size is 40, too many times exceeded" (29) '68.

The financial scale is good and, therefore, this is one less "worry" factor to affect the teachers' performance in the classroom.

The fact that they are above-average teachers is brought about "quite simply by the terms of service. They are selected in London and the second term of engagement is on merit, particularly on their willingness to enter extra-curricular activities" (29)'68.

An observer in Cyprus stated that "the great majority of teachers take the job for the excellent money, fine weather and a chance to travel in the holidays and they do a professional job in return" (29)'64.

There are "visits from H.M.I's, subject specialists and quite a number of in-service training courses are held. There is thus no real danger of losing touch with educational developments" (29)'69.

Teachers resent the fact that service abroad counts for little when they return to the United Kingdom (the usual maximum stay in Cyprus is 6 years). "Many senior teachers would like to see a careers structure for at least some staff to encourage continuity both in individual schools and in the service as a whole". (29)'64.

Service teachers and their views on achievement

"Most teachers seem to agree that above-average and average children suffer little or nothing from changeability of service life, particularly at the Primary level. Below-average children can build up resistances to academic subjects if they never have time in any one school to make progress, but the special attentions that can be given them and the care which the 3 R's are taught can offset these disadvantages" (1964) (29).

The writer has formed the following impressions. The service children tend to mature quickly, enjoy good health, are lively, well behaved interesting young people. In the classroom they are alert and their general knowledge, as a result of overseas travel, tends to be good.

Other observers of service schools overseas state that "service life makes children forthcoming and self possessed" (1969) (29), that they are "bright and often more sophisticated than counterparts at home" (1969)(29), "they are amenable to discipline" (1969) (29), "they seem to read more than in the United Kingdom" (1961) (29), and "they absorb a great deal of fragmentary knowledge" from local inhabitants and servants (1961) (29);

It would seem from the above that travel is an education in itself.

The present study has indicated possible areas for further research, assuming that research grants are available and there is the continued co-operation and patience, already shown by staff in service schools.

Further study could involve investigation of the educational attainments of older age levels. For example:- The whole of the eleven year old age group in the overseas commands (11) Annex J. This group normally undergo a battery of N.F.E.R. and Murray House tests at 11+ and the modest further research required into the educational history of each child would enable a parallel research to be carried out.

This would, then, provide a comparison between the effects of school change on eight year olds and eleven year olds, who are entering the stage of formal operations.

Each study could provide new information which will help to build up a picture of the effects of service life on children's attainment.

SECTION III.

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Chapter IX (131) Educational & Medical Records (P.26)
Annex A Boarding Facilities offered by Local Education
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(i) Verbal Ability Pages 7 & 8
(ii) English Progress Page 6
(iii) Mechanical Arithmetic Page 7

APPENDICES.

TABLE III

APPENDIX I

DATA AND RESULTS OF CHILDREN OF BRITISH SERVICEMEN AND UNITED KINGDOM-
BASED CIVILIANS IN CYPRUS.

	1	2	3	4	5	6	7	8	9	10	11	12
Schl. C.	No. of child	Age	Mech. Arith.	Eng. Prog.	P.V.	% Abs.	Mon. on Ild.	Rank of F.	No. of ScIs.	Prev. tours	Other ScI. Cyp.	Total No. of mths.
	1	8.1	105	119	110	0.76	7	Cpl	3	UK		7
101	8.2	111	112	113	3.04	23	Cpl	4	UK	St.P		23
	2	8.3	106	119	112	2.53	12	F.O	4	UK	St.P	12
102	8.4	98	110	104	9.61	13	Mr.	3	UK			13
	3	8.3	90	91	72	3.55	32	Cpl	4	UK	A.N. St.P	32
	4	8.4	111	95	91	4.56	13	Cpl	5	UK		13
103	8.0	109	96	94	3.50	5	S.Ldr	3	UK			5
104	8.2	94	98	92	1.77	6	Mr.	4	Malta 62-64 UK Sep.64- Jul.65			27
105	8.2	113	105	100	3.3	9	Cpl	4	Malta 62-63 UK Nov.63- May 64			23
	5	8.4	93	94	94	0.65	4	Sac	4	UK		4
106	8.3	98	101	99	10.91	6	Cpl	3	UK			6
	6	8.2	95	86	91	8.08	31	Mr.	3	UK	Pol. before Schl. started	31
	7	8.2	97	99	95	0.76	26	Cpl	4	UK	Ky. Nic. St.P	26
	8	8.2	101	115	112	3.04	28	O.R.	3	UK	Cur.	28
	9	8.2	119	129 [✓]	104	5.07	29	Cpl	3	UK	Cur.	29
107	8.2	97	103	97	3.55	29	Cpl	4	UK	Cur.		29
108	8.1	82	98	89	5.07	17	Mr.	5	Aden Nov.63 UK May- Aug 64	Cur.		31
109	8.3	106	107	102	1.01	13	Sgt	5	UK	Cur.		13
110	8.1	116	98	96	1.01	30	Cpl	3	UK	Cur.		30
	10	8.1	114	137 [✓]	118	0	3	C.T. NCO	4	UK		3
111	8.0	112	98	91	0	11	Sac	3	UK	Cur.		11
	11	8.0	107	135	119	5.97	3	Sgt	3	UK		3

Schl. B.	1 No. of child	2 Age	3 Mech Arith	4 Eng Prog	5 V.A.	6 % Abs.	7 Mon. on Ild.	8 Rank of F.	9 No. of ScIs	10 Prev. tours	11 Other ScI. Cyp.	12 Total No. of mths
Indian	12	8.5	93	86	105	3.3	19	NCO	2	UK		19
	112	8.2	100	110	105	3.55	4	Ch/T Cpl	3	UK		4
	13	8.3	115	134	118	1.01	20	Mr	4	UK	St.P Camp.	20
	113	8.4	80	86	98	15.47	30	Sac	3	UK		30
	114	8.1	77	93	101	0.09	6	Mr	3	UK		6
	14	8.5	100	93	103	10.2	4	F.O	4	UK		4
	15	8.8	99	96	94	9.64	13	Sgt	3	UK		13
	16	8.4	96	96	96	8.88	13	Sac	4	UK		13
	115	8.1	104	121	111	5.0	9	Mr	2	UK		9
	116	8.0	102	112	108	1.77	15	F/Lt	4	UK	St.P	15
	117	8.8	96	91	101	2.03	10	Sac	3	UK (N.Ire)		10
	118	8.5	106	112	111	8.33	18	Mr	2	UK		18
	119	8.7	103	101	103	4.31	29	Cpl	4	UK	Cur. St.P	29
	17	8.6	90	95	95	6.05	30	Cpl	4	UK	St.P	30
	18	8.0	95	115	103	5.98	62*	Mr	4	UK.6 wks before retn. to Cyp	Cur. St.P.	62*
	19	8.4	104	104	104	1.77	62*	Mr	3	UK. before schl. started	Pol. St.P	62*
	20	8.1	81	87	97	4.56	45	Mr	3	UK before schl. started	St.P	45
	21	8.4	76	82	87	15.1	14	F/Lt	3	UK		14
	120	8.5	95	100	101	5.33	12	C/Sgt	3	UK		12
	121	8.1	86	99	85	3.3	17	Mr	3	UK	St.P	17
	122	8.1	85	107	98	2.03	14	Cpl	3	UK		14
	123	8.2	94	99	101	5.8	14	Sac	4	UK	St.P	14
	22	8.7	78	96	87	5.07	21	Sac	3	UK		21
	124	8.1	119	112	113	7.3	28	Mr	3	UK before schl. started	Pol. St.P	28
	125	8.6	126	115	105	8.06	14	Sgt	3	UK	Camp.	14

	1	2	3	4	5	6	7	8	9	10	11	12
Schl. A.	No.	Age	Mech Arith	Eng. Prog.	V.A.	% Abs.	Mon. on Ild.	Rank of F.	No. of Scls.	Prev. tours	Other Scls. Cyp.	Total No. of mths.
	23	8.4	77	92	87	0.5	41	Mr	4	UK before school started	(Nic.) Epis.	41
	24	8.7	105	102	105	6.09	13	Sgt	3	UK		13
	25	8.3	94	99	92	0	6+	S/Ldr	4	UK		6+
	126	8.7	86	89	89	6.6	25+	Sgt	5	UK	Ky. (Nic) St.P Camp.	25
	127	8.3	105	105	108	1.52	10+	Sgt	5	UK		10
	128	8.3	122	116	120	1.16	21+	Ch/ Tec. NCO	3	UK	Ky. (Nic)	21
	129	8.6	115	112	112	2.03	31+	Mr.	3	UK	St.P	31
	130	8.6	119	127	117	2.04	24	Sgt	4	UK	A.N. St.P	24
	26	8.6	95	90	92	6.34	26	Cpl	3	UK		26
	27	8.0	117	134	121	0	4	W.O	3	UK		4
	131	8.2	101	98	96	3.04	16	Sgt	3	UK	St.P	16
	132	8.3	115	105	108	0.92	11	Sgt	5	UK	Cur.	11
	28	8.3	84	81	101	0.58	7	Sgt	4	UK		7
Twins	(133 ^{up}	8.7	126	120	112	0.5	27	Ch/ Tech.	2	UK		27
	(134 ^{up}	8.7	111	94	99	0.76	27		2	UK		27
	135	8.3	114	119	115	7.39	28	Cpl	4	UK	Ky. Cur. Camp.	28
	136	8.3	122	119	121	3.80	10	Air Comm.	3	UK		10
	29	8.6	96	125	114	2.29	22	Ch/ Tech.	3	UK	Ber.	22
	30	8.1	100	95	93	1.77	22	Sgt	3	UK	St.P.	22
	31	8.4	107	111	119	6.34	27	W/Cdr	3	UK		27
	137	8.7	94	88	86	2.7	21	Mr.	4	UK	Cur. Camp.	21
	32	8.5	108	122	127	1.62	21	S/Ldr	4	UK	KYR St.P Beren.	21
	138	8.1	107	108	103	6.28	33	Sgt	4	UK	Nic. Cur.	33
	33	8.3	110	98	89	6.23	25	Mr.	3	UK	A.N.	25
	139	8.3	84	98	97	2.25	5	WO II	4	Germany UK Sep- Nov '65		35

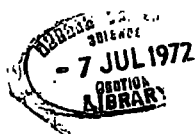
	1	2	3	4	5	6	7	8	9	10	11	12
Schl. E.	No.	Age	Mech. Arith.	Eng. Prog.	V.A.	% Abs.	Mon. on Id.	Rank of F.	No. of ScIs.	Prev. tours	Other ScIs. Cyp.	Total No. of mths.
	140	8.8	124	124	112	2.79	6	S/Ldr	5	UK	Camp.	6
	34	8.8	106	97	95	1.01	17	S/Sgt	3	Germany Sep '62-Mar '64 UK Mar - Oct '64		35
	141	8.5	112	98	107	9.13	17	S/Sgt	3	UK	St.P	17
	142	8.6	101	119	109	1.01	5	Capt	3	UK		5
	143	8.5	105	117	112	5.2	3	Mr	2	Singapore 62-65		39
	144	8.2	99	112	100	3.04	12	Sgt	4	UK	Cur.	12
	145	8.6	95	86	84	2.03	11	Cpl	4	UK	Cur. Camp.	11
	(146)	8.6	101	97	91	1.77	34	WO II	5	UK	L. St.P Camp.	34
Twins	(35)	8.6	105	119	115	7.86	34		5	UK	-ditto-	34
	(36)	8.8	112	112	106	4.56	6	Major	5	Germany '63-'65 UK 2 mths		31
	147	8.7	79	96	84	2.53	12	Capt	3	Germany Sep '62-Feb '63 UK '63-'65.		17
	37	8.4	111	123	117	4.86	4	S/Ldr	3	UK		4
	38	8.4	106	120	118	1.52	30	Mr	3	UK	Cur.	30
	148	8.4	98	114 ✓	80	3.55	17	Ch/Tech.	3	UK	St.P	17
	149	8.4	114	109	104	4.06	12	Major	3	UK		12
	39	8.1	102	103 ✓	80	10.66	18	Sgt	3	UK		18
	150	8.2	106	125	104	5.53	12	WO(RAF)	3	UK	Camp.	12
	151	8.5	113	114	108	2.53	12	Sgt	4	UK		12
	152	8.4	104	103	101	3.04	21	S/Ldr	3	UK		21
	40	8.8	99	107	98	6.34	39	Mr	3	Germany	Cur.	59*
	41	8.6	119	114	104	2.53	18	Mr	4	UK	Camp.	18
	42	8.7	107	101	100	1.77	28	F.O.	3	UK		28
	153	8.5	85	82	78	4.56	15	Sgt. Army	2	UK		15
	43	8.6	115	112	112	1.52	13	WO II Army	4	UK		13
	44	8.6	119	107	123	6.85	17	W/Cdr	4	UK	Camp.	17

	1	2	3	4	5	6	7	8	9	10	11	12
Schl. M.	No.	Age	Mech Arith	Eng. Prog.	V.A.	% Abs.	Mon. on Ild.	Rank of F.	No. of Scls.	Previous tours	Other Scls. Cyp.	Total No. of mths.
	154	8.7	81	102	89	10.15	6	Sgt	2	UK		6
	155	8.8	91	113	113	5.07	10	Sgt	3	Germany UK		22
	156	8.7	86	134✓	116	7.1	37	Mr	4	UK	Epis. (father's promotion)	37
	45	8.6	108	112	111	1.62	6	Cpl	4	UK		6
	46	8.7	80	99	99	9.65	5	Mr	3	Germany '62-'65 UK (3 wks)		47
	157	8.7	103	113	103	2.27	1	F.O.	3	UK		1
	158	8.6	107	112	106	3.55	13	S/Ldr	3	UK		13
	159	8.6	>70	70	79	6.6	18	Sac	3	UK		18
	160	8.8	87	96	84	1.01	31	Cpl	3	UK		31
	161	8.7	98	92	99	2.53	32	Sgt	3	UK		32
	47	8.6	>70	84	87	5.07	18	Sac	3	UK		18
	48	8.8	100	100	95	0.5	21	Cpl	3	UK		21
	49	8.7	104	95	81	1.7	4	Sgt	4	Malaya Germany UK		28
	162	8.3	86	79	>70	4.56	14	Cpl	5	UK		14
	50	8.3	107	109	108	7.10	32	Sgt	3	UK	Kykko	32
	163	8.1	107	118	112	6.09	6	Sgt	4	UK		6
	164	8.5	82	83	89	9.34	34	Sgt	2	UK		34
	165	8.1	100	99	101	1.01	9	Sgt	2	UK		9
	51	8.6	102	91	87	5.07	10	Sgt	4	UK		10
	52	8.4	102	109	106	12.5	6	Jnr. Tech.	4	Germany UK		20
	53	8.0	88	100	94	8.62	30	Sac	2	UK		30
	166	8.1	108	139✓	110	1.01	10	Sgt	3	Libya Germany		45
	54	8.4	87	85	92	4.06	10	Sac	3	UK		10
	167	8.3	91	91	90	0.5	28	F.O.	3	UK (N.Ireland)		28
	168	8.4	102	115	107	1.52	29	F/Sgt	3	UK		29
	169	8.3	100	101	94	2.06	35	Cpl	2	UK		35
	170	8.1	110	118	108	3.55	27	Cpl	4	Tobruk UK		39
	171	8.5	100	109	109	2.75	27	Sgt	3	UK		27

Schl M											
on't											
1	2	3	4	5	6	7	8	9	10	11	12
No.	Age	Mech Arith	Eng Prog.	V.A	% Abs.	Mon. on Ild.	Rank of F.	No. of Schls	Prev. tours	Other Scsls Cyp.	Total No. of mths.
55	8.6	108	100	102	13.3	35	Sac	2	UK		35
172	8.2	104	110	99	6.54	4	Cpl	3	UK		4
173	8.2	88	91	72	0	14	Cpl	4	UK		14
56	8.0	120	130	123	6.77	6	F/Lt	4	UK		6
57	8.2	101	128✓	106	14.12	33	Cpl	2	UK		33

School D

1	2	3	4	5	6	7	8	9	10	11	12
No.	Age	Mech Arith	Eng. Prog.	V.A	% Abs.	Mths on Ild.	Rank of F.	No. of Scls.	Prev. tours	Other Schls Cyp.	Total No.of mths.
58	8.2	99	121	102	6.7	6	Sgt	3	Germany		18
174	8.3	112	116	114	2.3	30	Sgt	3	UK	L.	30
175	8.3	112	115	113	0	12	S.Sgt	2	UK		12
176	8.5	102	132	121	7.7	17	Major	3	UK		17
177	8.7	88	86+	81	0	28	Sgt	2	UK		28
59	8.3	86	105	99	3.175	40	Mr	2	UK before schl. started	L.	40
60	8.3	108	113	111	0.79	23	Sgt	3	UK	Fma.	23
61	8.6	119	121	115	1.89	13	WO.I	3	UK	Fma.	13
178	8.1	88	97	100	0.97	16	Capt	3	UK before schl. started	Fma. A.N.	16
179	8.0	93	94	89	2.38	6	Pte	3	Germany 11.'65- 9.'66. UK		16
62	8.1	89	110	100	0.39	25	Major	4	UK	L.	25
63	8.2	97	110+	109	1.58	22	Sgt	3	UK	L.	22
64	8.7	101	101+	95	0	25	Capt	3	UK	L.	25
65	8.0	86	120	105	0.39	27	Mr.	2	UK		27
180	8.0	94	89	82	0.79	38	Cpl	2	UK before schl. started	L.	38
66	8.6	90	104	96	0.79	34	S.Sgt	5	Germany UK	L	54*
181	8.6	92	105+	100	2.38	32	Mr.	2	UK		32
182	8.0	92	95	86	0	2	Cpl	2	UK		2
67	8.2	103	106	104	6.75	18	WO.II	5	UK	Fma	18
68	8.6	105	106	100	1.98	18	S.Sgt	3	BFGS Germany	L.	38
69	8.5	105	118	103	0	38	Mr.	2	UK before schl. started	A.N.	38
70	8.0	76	83	70	0.79	6	Cpl	3	UK	L.	6
183	8.2	79	98+	98	0.44	28	Cpl	4	UK. Germany	Fma L.	33
184	8.8	108	109	100	7.9	13	Pte	3	Germany	L.	43
71	8.3	110	109+	106	2.38	13	Sgt	5	Kenya UK	Fma	16



School D con't

	1	2	3	4	5	6	7	8	9	10	11	12
	No.	Age	Mech Arith.	Eng Prog.	V.A.	% Abs.	Mths on Ild.	Rank of F.	No. of Scs	Prev. tours	Other Scs Cyp.	Total No. of mths.
	72	8.1	89	102	109	8.1	1	WO.II	3	UK until 2.'68		1
	73	8.3	91	106	101	0.39	18	Sgt	2	UK		18
	74	8.1	98	114	98	1.58	16	Cpl	4	Germany 1yr UK 1 mth		34
	75	8.1	102	128	113	2.77	24	L/Cpl	3	UK	L	24
	185	8.6	88	80	88	6.34	18	Cpl	2	UK	Fma	18
	76	8.6	104	100	101	8.33	14	Major	4	UK	A.N.	14
	77	8.3	90	117	109	0.39	24	Sgt	3	UK	L.	24
	78	8.5	85	104	97	1.19	29	WO.II	3	UK & Germany (Munster 10.65)		42
	79	8.6	119	118	119	1.71	17	Capt	3	UK	Fma	17
	80	8.4	101	90	73	6.3	12	WO.II	3	UK	Fma	12
	186	8.5	105	97	95	1.59	10	Capt	2	UK		10
	187	8.1	88	83+	81	3.57	13	S.Sgt	3	UK	L.	13
	81	8.5	97	123+✓	104	5.2	42	Ch.Tech	4	Cyprus 4 areas	St. Michaels	42
	188	8.6	109	120	106	2.77	18	Major	3	France	L.	40
	82	8.5	108	130+✓	111	1.64	4	Major	4	Tripoli UK Bahrein		7
	83	8.7	90	97+	94	0	1	Cpl	5	Tripoli UK Germany		40
	84	8.4	98	101+	95	9.9	30	Pte	2	UK	L	30
	85	8.0	91	87	87	1.99	22	WO.II	2	UK Germany (BFES)		36
(	189	8.2	92	119	103	3.4	6)	WO.II	2	Germany		35
(	190	8.2	83	104	100	0	6)		2	Germany		35
(	86	8.3	89	90	76	3.97	30	Cpl	3	UK	L	30
	87	8.5	103	83	70	2.38	6	Sgt	3	UK		6
	88	8.7	118	105	94	1.72	23	Sgt	3	UK	Fma A.N.	23
	191	8.3	100	90	80	1.58	28	Sgt	2	UK	Fma	28
	192	8.2	87	93	87	0.79	18	Cpl	3	Shape Village Schl. France L.		35

TABLE V.

DATA FOR FREQUENCY POLYGONS AND HISTOGRAMS.

Scores of Service- Children	PRIMARY VERBAL I			ENGLISH PROGRESS A			MECHANICAL ARITHMETIC 2B		
	RAF N=130 Schools	Army N=50 Schools	Comb'd. N=180	RAF Schools	Army Schools	Comb'd.	RAF Schools	Army Schools	Comb'd.
135-139	0	0	0	3	0	3	0	0	0
130-134	0	0	0	4	2	6	0	0	0
125-129	1	0	1	5	1	6	2	0	2
120-124	5	1	6	7	5	12	4	0	4
115-119	10	3	13	14	6	20	11	3	14
110-114	17	4	21	19	4	23	14	3	17
105-109	18	7	25	12	8	20	23	7	30
100-104	23	12	35	14	7	21	24	9	33
95-99	18	6	24	26	5	31	17	6	23
90-94	15	3	18	12	5	17	10	9	19
85-89	11	6	17	8	3	11	10	9	19
80-84	6	4	10	4	4	8	8	1	9
75-79	3	1	4	1	0	1	7	3	10
70-74	3	3	6	1	0	1	0	0	0

TABLE V

SMOOTHED VALUES FOR FREQUENCY POLYGONS AND HISTOGRAMS

Scores of Service- Children	PRIMARY VERBAL I			ENGLISH PROGRESS A			MECHANICAL ARITHMETIC 2B		
	RAF Schools	Army Schools	Comb'd.	RAF Schools	Army Schools	Comb'd	RAF Schools	Army Schools	Comb'd
135-139	0	0	0	2.33	0.66	3	0	0	0
130-134	0.33	0	0.33	4	1	5	0.66	0.	0.66
125-129	2	0.33	2.33	5.33	2.66	8	2	0	2
120-124	5.33	1.33	6.66	8.66	4	12.66	5.66	1	6.66
115-119	10.66	2.66	13.33	13.33	5	18.33	9.66	2	11.66
110-114	15	4.66	19.66	15	6	21	16	4.33	20.33
105-109	19.33	7.66	27	15	6.33	21.33	20.33	6.33	26.66
100-104	19.66	8.33	28	17.33	6.66	24	21.33	7.33	28.66
95-99	18.66	7	25.66	17.33	5.66	23	17	8	25
90-94	14.66	5	19.66	15.33	4.33	19.66	12.33	8	20.33
85-89	10.66	4.33	15	8	4	12	9.33	6.33	15.66
80-84	6.66	3.66	10.33	4.33	2.33	6.66	8.33	4.33	12.66
75-79	4	2.66	6.66	2	1.33	3.33	5	1.33	6.33
70-74	2	1.33	3.33	0.66	0	0.66	2.33	1	3.33

APPENDIX III

Key to the abbreviations used in the thesis.

B.M.H. British Military Hospital

H.Q. NEAF Near East Air Force Headquarters

H.Q. NEARELF Near East Land Forces Headquarters

M.O.D. (S.C.E.A) Ministry of Defence (Service Children's Education Authority)

S.B.A. Sovereign Base Area

CIVILIANS

Mr. U.K. (based) Mister. United Kingdom (based) Civilians

(including Meteorological Officers

NAAFI Employees (Navy, Army, Air Force Institute)

Education - teachers

M.P.B.W. Employees - (Ministry of Public Building and Works)

Civil Servants).

OFFICERS

ARMY COMMISSIONS C.E.O. Command Education Officer

Col. Colonel N.B. C.E.O's

Capt. Captain (In Cyprus, carries the rank of Group Captain
(RAF) and Colonel (Army).

Lt. Lieutenant

RAF COMMISSIONS

Air Comm. Air Commodore

Gp. Capt. Group Captain

Wing Commdr. Wing Commander

Sqn. Ldr. Squadron Leader

Ft. Lt. Flight Lieutenant

F.O. Flying Officer

NON-COMMISSIONED OFFICERS - N.C.O.

W.O. Warrant Officer (I and II)

Sgt. Sergeant

Ft. Sgt. Flight Sergeant (R.A.F)

Ch. T. Chief Technician (R.A.F)

OTHER RANKS - O.R's

Cpl. Corporal

Pvt Private

S.A.C. Senior Aircraftsman

SCHOOLS

A	AKROTIRI
AN	AYIOS NICOLAUS
Ber	BERENGARIA
Camp	CAMPBELL
Cu	CURIUM
D	DHEKELIA
Epis	EPISKOPI
Fma	FAMAGUSTA
Ky	KYKKO
L	LARNACA
Pol	POLIMEDHIA
St.P	St. PETERS
St.M	St. MICHAEL'S

APPENDIX IV

FORM A

TO THE PARENTS OF:

PLEASE COMPLETE THE FOLLOWING PARTICULARS AND RETURN THE FORM TO THE
HEADTEACHER AS SOON AS POSSIBLE

NAME OF PUPIL

CHRISTIAN NAMES

.....

.....

DATE OF BIRTH

CHILD'S ENTRY DATE TO PRESENT SCHOOL

PREVIOUS SCHOOLS:-

FROM

TO

1	.....	.....	.....
2	.....	.....	.....
3	.....	.....	.....
4	.....	.....	.....
5	.....	.....	.....

DETAILS OF FATHER:-

SECTION.

NAME

RANK

TOUR EX. DATE

SIGNED

.....

FOR SCHOOL USE ONLY

No. of Absences during last academic year

No. of Sessions possible to attend during last year

APPENDIX VEducational Provision for Children of British (non-Service) parents from 1935 - present day, in Cyprus.1. Roman Catholic Schools.

Latin, even in 1935, catered for pupils at both primary and secondary levels, for both boys and girls at Nicosia and Larnaca, and girls at Limassol (though, now, co-educational at the primary level).

2. English School, Nicosia.

The founder was Canon F.D. Newham (formerly Director of Education), who managed the school for 35 years. In 1930, certain Senior Government officers were appointed "ex-officio", as trustees. In 1935, the Government undertook full responsibilities for the management of the school, on the request of the trustees. The school was to be reorganised as a government secondary school, open to all nationalities, with English as the language of instruction. The staff, in 1937, consisted of a headmaster and six English assistant masters; and after the war was run on public school lines, with London Matriculation examinations taken. In 1949, the numbers of boys rose from 394 to 453 and, in the following year, a new building programme was started. The school is still thriving, and a small percentage of senior pupils living in RAF Nicosia attend the school.

3. Small Private Schools, for English children in Nicosia and at Skouriotissa for children of the Cyprus Mines Corporation. Both had British and American staff.

4. British Council Junior Mixed School, in Nicosia for English children (1946) only, extended admittance in 1947, to Cypriots, who required an English education for their children from 5 or 6 years to the 11+ age test. This led to a possible grammar school education in the United Kingdom.

5. American Academy, for boys and girls at Larnaca and girls at Nicosia. These are run by the Reformed Presbyterian Mission, with the language of instruction English and open to all Nationalities. The pupils, in 1946, were entered for

London Matriculation. Since 1939 the number of boy pupils had doubled and the girls had trebled - to 557 pupils in 1949. The academies are, still, in existence.

6. Infant Schools, a number of privately-run schools, in 1949, with no colony grant.



TABLE X

DATA, FROM WHICH UNITED KINGDOM NORMS WERE
CALCULATED, SUPPLIED BY N.F.E.R.

MECHANICAL ARITHMETIC TEST 2.B

N = 7,859

mean standardised score

M = 97.8

S.D = 10.28

mean

age = 7:11

PRIMARY VERBAL TEST I *

N = 3,115

mean standardised score

M = 100.2

S.D = 20.59

mean

age = 8:7

*This is one L.E.A. only.

ENGLISH PROGRESS TEST A

N = 3,199

mean standardised score

M = 100

 $\bar{\delta}$
(S.D) 15

Quote. 26th September 1969, Jeanette James, Research Officer, Guidance and Assessment Service, National Foundation for Educational Research. "The samples, these data are based on, came from a complete age range in State Schools, in various areas. They should, therefore, come from all different types of background. We have no reason to believe that they are unusual in any way and I would regard them as fairly average for this country".

*TABLE XII

Range of Predicted Score on one Standardised Test from Different Levels of Score on another Correlated Test.

taken from:-

Educational Research 4 1961-62
November 1961 The design, construction and
use of standardised tests
Part 2: The Interpretation of
Test scores by D.A. Pidgeon. (22)

Test A Mean 100 S.D. 15

Test B Mean 100 S.D. 15

Correlation 0.80*

Score on Test A	Score on Test B		
	Lower	Most likely	Upper
70	58	76	94
80	66	84	102
90	74	92	110
100	82	100	118
110	90	108	126
120	98	116	134
130	106	124	142

* Scores of "Service-Children"

$$r \approx 0.8$$

where English Progress Test A = "Test B" (22)
and

Primary Verbal I = "Test A" (22)

Correlation 0.60**

Score on Test A	Score on Test B		
	Lower	Most likely	Upper
70	58	82	106
80	64	88	112
90	70	94	118
100	76	100	124
110	82	106	130
120	88	112	136
130	94	118	142

** Scores of "Service Children"

$$r \approx 0.6$$

where

Mechanical Arithmetic 2B = "Test B" (22)

and

Primary Verbal I = "Test A" (22)

*

**

Researcher's addition

