

**FATHER - ABSENCE AND THE ACADEMIC  
ACHIEVEMENT OF HIGH SCHOOL STUDENTS**

**THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF MASTER OF EDUCATION,  
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### ABSTRACT

Father-absence, whether it be in the context of short duration or total absence, tends to provide inadequacies in the child's interaction with his/her father, leading to accompanying debilitating effects on cognitive functioning (Sutton-Smith et al, 1986). In view of the South African context father-absence economically sanctioned through migrant labour amongst Africans, manifests itself during the formative years of children's lives. For this reason this study investigates the association between migrant father-absence and children's levels of high school academic achievement.

The sample of matched father-absent and -present working class children was acquired from 39 schools under the Venda State department of Education. HSRC's standardised Scholastic Achievement Test (SAT) biology, English second language, and mathematics were used as data gathering instruments. 276 father-absent and -present high school (Std 10) student's data was analysed.

Analysis of variance (ANOVA) was used to establish how academic achievement among students varies by family patterns and gender. Differences established between family

patterns and gender on SAT raw scores of the Total Battery, mathematics, English second language and biology are reported separately.

The results of the study seem to suggest that father-absence has some remarkable deleterious effects upon scholastic achievement, apparently depending upon the type of skill tested. Furthermore, another significant finding indicated among these working class African children is that father-presence tends to benefit males more than females, while father-absence detrimentally affects females more than their male counterparts.

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## CHAPTER 1

### INTRODUCTION

Migrant labour is commonplace in South Africa. Natrass (1983) indicates that the average absentee rate among adult working men in rural areas of African homelands exceeds 50%. Under the stringent requirements of the South African labour system most fathers choose to separate from their families and children seeking better wages. Consequently, a concern has arisen among educationists and educationalists about the school performance of the children of such fathers. Suggestions have been made that father-absence may have psychological and educational implications for these children.

In spite of the large number of children that may be affected under such a system, scant or no research has been conducted on the possible association of the absence of fathers - due to economic sanctions in the homelands - with the academic under-achievement of pupils. For this reason the association between periods of migrant father-absence and children's level of school performance will be investigated in this study.

## SOME DEVELOPMENTAL DEFICIENCIES CAUSED BY FATHER-ABSENCE

This study is based upon the theoretical framework provided by developmental psychology. Developmental psychologists, have documented developmental deficits in children whose fathers were absent from home. These include deficient sex-role identification of children (Fleck, et al, 1980; Gershansky, et al, 1978; Goldstein, et al, 1973; Hetherington, 1973; Hunt, et al, 1975; Lynn, 1976; Shill, 1981, and Wolhford, et al, (1971); a relationship between father-absence and juvenile delinquency (Castellano, et al, 1981; Goldstein, 1972; Koller, 1971; Montare, et al, 1980, and Newman, et al, 1971); and psychiatric problems (Bunch, et al, 1971; Gershansky, et al, 1980; Kagel, et al, 1978; Kogelschaatz, et al, 1972; Levy-Shiff, 1982; Oshman, et al, 1975, and Parish, et al, 1981). Shinn's (1978) review of research relating father absence to children's cognitive performance suggests that the majority of studies have shown the deleterious effects of father-absence.

Adams et al (1984) maintain that father-absence is the result of a variety of conditions, namely imprisonment, remote job, militarization, hospitalization, desertion, unwed mother, divorce, death, mental illness and psychological absence or detachment from the family.

### THE DEVELOPMENT OF THE MIGRANT LABOUR SYSTEM.

It is important to give an overview of the historical development of the migrant labour system, noting how the system has spawned fully-fledged institutionalized labour-regulating structures based in the Homelands. Large-scale mining, manufacturing industries and agricultural enterprises have played a crucial role in the development of South Africa's forced labour system. From the beginning, factory and mine owners and agricultural farmers have made efforts to acquire sufficient workers at a price acceptable to them as employers (Natrass, 1983).

Yet when Africans first came into contact with Europeans they had their own well developed social and economic organisation which appeared to meet their needs satisfactorily (Native Economic Commission, 1932).

The State did not play a neutral role between migrant workers and mine owners. It viewed the African's subsistence economy as an obstruction to the advancement of the Europeans' monetary economy (The Native Economic Commission 1932). The Native Economic Commission (1932) indicated that, inasmuch as both systems (monetary and subsistence economy) were existing in South Africa, serious

maladjustments could be expected. Had Africans maintained their subsistence economy, they would have declined to accept the type of labour associated with a monetary economy. However, the Government largely dispossessed rural Blacks of control of the only means of subsistence, namely the Land (Wilson, 1972a). It enacted the Land Act of 1913 which limited the vast majority of Black people to 13% of land (Nattrass, 1983).

According to Nattrass (1983) there is evidence that this act was intended to force Africans to work on the mines and agricultural farms. The State further introduced a series of taxation measures (Wilson, 1972a) designed to alter their subsistence economy to cash economy. Consequently taxation was imposed upon them in the form of annual fees for grazing of stock, general tax, hut tax and an amount of money they had to pay for the privilege of occupying and cultivating a plot of communal land (The Native Economic Commission, 1948).

A system of subsistence farming with no monetary basis was an imperative economic sanction enough to induce Africans to go where they could obtain money. Efforts to dismantle the system were, however, futile because of the control maintained by the pass laws, the compound system, influx control, the recruitment process and contract system (Moller, 1985).

In common with most employees throughout the world, the migrants were not satisfied with the amount of money they earned. However, this dissatisfaction was aggravated (Natrass, 1983) by the discrepancy between the wages of urban residents and other Africans residing in the reserves.

The Native Economic Commission (1932) indicates that their wages and hours of labour were specified without consultation. They were not allowed to be members of the Trade Unions, and the Native Economic Commission (1932) reflects that the natives regarded it as a grievance that they were excluded from the operations of the industrial conciliation act, thus denying them the right to take part in steps to improve their positions. The migrant worker could be paid at his individual level of subsistence, since the mine owners argued that his family had another dependable subsistence base in the reserves (Nattrass, 1983; Wilson, 1972a). This led migrants to leave work places (mines) without notice to seek better paying jobs. Moreover, the capitalist system was so planned that it forced migrants to move constantly from rural areas to urban areas, and from job to job within the urban areas. As a result their labour tended to be casual, producing less and earning overall lower wages than the stable labourers. Then for other reasons the State restricted migrants' movements from one employer to another in different kinds of ways. It

introduced the Master and Servants Act No. 13 of 1880 for the Transvaal, Natal Ordinance No.2 of 1850, Cape Act No.5 of 1856, and Orange Free State Act No.7 of 1904 which made breach of contract by wage earners an offence for which they were prosecuted (Nattrass, 1983).

More constraints in the form of land reforms and resettlement were implemented to decrease the rural resource base (Native Affairs Commission 1948 ). Furthermore, the Tomlinson Commission (1955) also recommended that rural Africans be given small-size farms. Consequently, most families were unable to provide for their subsistence needs. One of the latter Commission's recommendations was that the State should establish industries in the homeland areas. This was not accepted and the State opted for border industries instead (Nattrass, 1983). The State prevented the growth of self-sufficient communities within these reserves, thus maintaining the flow of African cheap labour to White governed South Africa.

Homelands have been established, among other reasons to accommodate surplus labour (Nattrass, 1983). According to Nattrass, the situation is that there are always more unemployed men on hand than are required at any one time. Moreover, this is also an important contributory factor to the inadequate wages paid to migrants. The network of Labour Bureau system that recruits migrant males to work in

the mines and other industries is well established in the homelands. These structures were established in order to maintain the functions of Pass Laws, that is to further control the flow of Labourers to and from White governed South Africa (Native Laws Commission, 1948). Homelands are the most poverty-stricken of all places in South Africa (Schlemmer, 1985), as a result of which able-bodied males must persistently migrate to industries.

The migratory labour system has been unique in its developmental history and socio-economic consequences. It is held that there is no other economy in the world in which so large a proportion of workers stay in single-sex accommodation, while working at a place where their families are denied by Government Laws to stay together with them (Wilson, 1976). Wilson (1976) further maintains that the impact of oscillating migration over a long period of time, involving a large proportion of economically active males from the area may result in complex problems. As the industrial history of most countries indicates, those in other societies who start as migrant workers, or their grown-up children, move permanently to the cities, accompanied by their families (Wilson, 1976).

Nattrass (1983) supports this universal practice as she indicates that labour migration is a world-wide phenomenon. In most areas it is a reasonably stable process. People

migrate with their families from one area to another, where they settle, and the wage earner seeks a new occupation. Such migration normally leads to a lengthy stay in the area and, in many instances, to permanent settlement.

Migrants from the homelands, spend a greater portion of their adult lives in wage labour away from their rural areas of origin, and periodically return during leave times (mostly one month per year) and weekends (Wilson, 1972 a, Nattrass, 1983; Murray, 1981; Giliomee et al, 1985). The Native Laws Commission (1948) reported that migrant workers of rural origin enter the urban industrial labour centre in working capacity only. They are not allowed to stay with their families in places of work. One of the Influx Control laws, section 10 (1) of the Black (Areas Act) Consolidation Act of 1945 as amended, regulated the right of rural Africans to live and work in white South Africa (Bernstein, 1985; Murray, 1981). This Act stipulated that no African may remain in urban or peri-urban areas for longer than 72 hours, unless he can prove that he qualifies to be there (Giliomee et al, 1985). This Act was categorically amended to allow a few migrant workers residential rights. The condition was that they should have stayed in the industrial area, working for one employer permanently for 10 years unbroken service (Giliomee et al, 1985). Meanwhile Influx Control laws such as these were playing their role of

restricting urbanization and preventing surplus labour from entering the industrial area in capacities other than to sell labour power. Bernstein (1985) maintains that the shortage of housing is also an indirect form of influx control. Researchers have considered it to be the State's policy to avoid urbanization by rural Africans in white South Africa, to uphold the implementation of separate development (Wilson, 1972; Nattrass, 1983) to locate the reservoir of labour in the reserves (Wolpe, 1972) and to enforce total segregation (Native Laws Commission, 1948).

It has been indicated (Gordon, 1978) that labour migration is so widespread that families have adjusted to it to make it a way of life. Gordon maintains that wives function normally in their husbands' absence as kinsmen take over the responsibilities of the absent migrant. Murray (1981) observes that it is apologists for the migrant labour system that uphold this mode of thought.

More than fifty years ago it had been demonstrated that African wives maintain with difficulty the relationship between heavy domestic responsibility and a limited degree of economic security (Native Economic Commission, 1932). Kinsmen are most helpful in the set-up of an extended family structure, but they are unlikely to play responsible father-substitution roles in the nuclear family of a mother and children only.

Shinn (1978) has shown that extended families - which are most prevalent among blacks - may mitigate the adverse effects of father-absence upon cognitive development of children. The State's resettlement policy, as hinted above, has apparently been depressive to the rural Africans' kinship ties - depressive because it is held that it destroyed the important functions of extended families. Prior to resettlement, the extended family securely cushioned tensions and contradictions by the alliance between the individual and the grandparents' generation (Murray, 1981). The concept of the extended family (Barker, 1983) is wide enough to encompass the children of neglectful parents. Murray (1981) concurs by maintaining that, in the wake of resettlement, this important relationship was eliminated, and that other relatives in this context pay very limited attention to how children are educated in newly evolved nuclear families.

Father-absence tends to accompany poverty, because the migration of able-bodied males originates from the impoverishment of the family. Generally, evidence suggests that a condition of father-absence leads to low socio-economic status of a family. Elders et al (1981) assert that the father's absence exaggerates the effects of economic deprivation, because it leads to low aspiration levels. Under these conditions mothers do not get enough

time to care for their children adequately. Colletta (1979) has indicated that differences in child-rearing practices of married mothers is a function of father-absence and a condition of low income.

In collaboration Nattrass (1983) further asserts that in African context, where the husband is traditionally both the breadwinner and decision maker, the effect of a father's absence may be exacerbated. Due to this absence, mothers frequently express the frustration of onerous making decisions while they simultaneously encounter limited resources to meet the realistic needs of the family (Murray, 1981). Therefore, in these conditions of the father's absence the mother's attitude towards these problems may consequently tend to be unbecoming towards young growing children reducing them to feel unwanted, insecure, inferior and rejected. Psychological implications of these home conditions where children operate may tend to contribute to making them feel unprepared to learn as they confront the classroom scenario.

#### **SOME SOCIOLOGICAL AND PSYCHOLOGICAL ISSUES:FATHER-ABSENT FAMILIES IN CONTEXT**

In terms of the US Bureau of the census in Entwistle (1970), the migrant's family could be defined as the fractional

family, as it comprises a group of two or more persons residing in the same household but lacking some member which, in this case, is the father. A nuclear family, with only one female adult to carry out its functions, tends to be susceptible to social, psychological and educational problems.

Our conceptualisation of the impact of father-absence due to migrant labour was based on the notion that this mode of father-absence is not a single event, per se, but a process involving a sequence of changes in life circumstances of such parents and their children, extending over a period of many years. At different points in this process children of the migrant father and his wife are likely to be confronted with different stresses and various adaptive tasks .

Therefore, the context of father-absent homes could not be analysed separately as psychological, sociological or educational, but as a psycho-socio-pedagogical domain including interactional processes involved in the course of time in the development of the child.

Hunt (1966) points out that during the father-absence period, mother and children in this nuclear family setting are subjected to feelings of loneliness, rejection, depression, anger, helplessness, frustrated dependence,

incompetence, and lowered self-esteem, because the security and stability needed by children is unlikely to be provided in such an unsound artificial family structure. These psychological characteristics of homes tend to have a negative impact upon the child's development.

Significantly, problems caused by migrant labour on Lesotho families provide an illustrative model for us to be able to understand these issues. Gordon's (1978) findings established that 77% of Lesotho migrants' wives were worried about child upbringing, 74% about children's future and attending to livestock and fields, 71% about poverty, and 63% about making important family decisions. Obviously in these circumstances, the loaded parental role becomes more onerous and it is doubtful whether all these responsibilities, which were initially shared with the husband, can be adequately shouldered by the remaining parent without arousing emotional changes.

Sociologists such as Haralambos (1987) view this type of a family as a family gone wrong, a product of social disorganisation which is not a viable alternative to the nuclear family, since it does not appear to perform the functions of a proper family. This family disorganisation cannot be seen in isolation, but as dysfunctional for the child, making it difficult for such an emotionally disturbed child to cope with the learning task at school.

In this investigation we seek to establish whether a mother's assumed tension due to these unresolved problems and actual father-absence may be linked to children's levels of scholastic performance. Psychologists assert that emotional problems of absent husbands' wives are particularly important in determining adjustment of children (Hetherington, Cox and Cox, 1979). We therefore envisage that the reaction of children from such father-absent families may reflect their mothers' frustration unduly leading to reduced ability to concentrate on school work.

Many problems can be traced directly or indirectly to a dysfunctional family situation. It has been noted that conflicts within the family milieu (Belkin and Gray, 1977) which may range from mild deprivations and lack of concern to severe mistreatment of the child - inevitably bring their results to the classroom. Belkin et al (1977) maintain that the school and family cannot be viewed as two independent environments as the home environment shapes the intellectual background with which the teacher works.

Perhaps Bremer and Moschisler (1971) express this issue as well when they maintain that learning has no special geographical setting or time. The family is therefore a

foundation for educational experiences without which the school cannot fulfil its functions properly.

Douglas (1964) further reflects that children's attitudes to their school work are deeply affected by the degree of encouragement given by the parents, and by their own level of emotional stability. In this situation the only adult persons left (mothers) tend to be so overburdened by responsibilities as to be unable to take care of the child's sound socialisation and educative processes at home.

The findings of Radin (1978, 1981, 1982) suggest that fathers' warmth, closeness, and involvement are most important as fathers with these characteristics tend to have competent and achievement-motivation orientated children. Fathers' interaction with children through play (Pederson, 1980) which developmental theorists (Piaget, 1965; Isaacs, 1969; Lamb, 1987; Furth and Wacks, 1975) consider important in cognitive development, is likely to be inadequate in migrant father's children.

In interactional play, fathers are considered to have greater influence on the child. They are the "significant others" as they provide the most important and available reference to the child of the outside world (Lindgren, 1969). Most significant is social experience, which influences cognitive development as there is no learning

without experience (Isaacs, 1969). Piaget (1965) maintains that physical action enables the child to later develop mental action, as she/he is capable of transferring physical action into thought. In socialization of the individuals' intelligence the father's unique play which is considered to be more physical, idiosyncratic, and unpredictable (Parke and Sawin, 1977) is likely to be of cognitive importance in terms of Piaget's model. The model's injunction implies that thought is individual in origin, and becomes progressively more socially determined (Perret - Clermont, 1980) through the different exchanges with the social environment.

Sund (1976) asserts that a rich, discriminating environment contributes heavily to the manifestations of cognitive development, and central to such an environment are the adults surrounding the child. They provide much of this nourishment for the child's mind in different sorts of ways. It is maintained that a mind without operational food, just as a body without nutrients, does not grow well (Sund, 1976).

Psychologists are convinced that the presence of both parents in the nuclear family setting is vital in determining the effects of the immediate intellectual environment on intellectual growth. Notable is Zanzig and Marcus' (1975) confluence model which defines a family's

intellectual environment as an average of absolute intellectual levels of all members. Each individual contributes to the total intellectual atmosphere, which is subject to continual changes. According to the model a one-parent family, for instance the migrant's household, is likely to constitute an inferior intellectual environment diluted by the number of children against one parent. Children who are reared in this reduced intellectual environment tend to show deficits of intellectual development (Zanjonc et al, 1975) .

### STATEMENT OF THE PROBLEM

The aim of this study is to determine the relationship between the degree of father-absence and the levels of academic achievement of High School students.

### PURPOSE OF THE STUDY

The main purpose of the study is to investigate the association between father-absence, due to migrating labour, and the academic achievement of High School students. This involves five problems:

- 1 the extent to which scores of father-absent students differ from those of father-present students in the subjects studied at school (English Second Language, mathematics, biology).
2. the extent to which scores of father-absent male students differ from their father-present males in the subjects studied at school (English Second Language, mathematics, biology);
3. the extent to which scores of father-absent female students differ from those of father-present female

students in the subjects studied at school (English Second Language, mathematics, biology);

4. the extent to which scores of father-present male students vary from those of father-absent female students in the subjects studied at school (English Second Language, mathematics, biology);
5. the extent to which scores of father-present female students differ from those of father-absent males in the subjects studied at school (English Second Language, mathematics, biology).

#### THE NEED FOR THE STUDY

A survey of migratory labour literature reveals that the number of adult males in the industries is increasing every year at an accelerated rate (Murray, 1981). These males oscillate in their residential status over a long period of time, visiting their families and children during leave times, in most cases one month per year, and/or during some weekends. In industrial places (urban areas) they mostly stay in single-sex accommodation where their families are not allowed to stay together with them. In these circumstances fathers are absent during their children's formative years.

The literature review (Adams et al, 1984) indicates that father-absence is associated with significant detrimental effects upon academic performance of children.

It is apparent that there is a need for a study to determine the extent to which father-absence due to migratory labour may be linked with the academic performance levels of High School students. The main concern of this study is that the child's academic performance may be affected in families where father-absence is experienced.

In a methodologically good investigation (Cresimbeni, 1965), controlled for SES, gender, grade, teacher, and standard achievement of father-absent and father-present students, differences were significantly in favour of children from intact families.

In this study it was deemed vital that the following school subjects be chosen namely biology, mathematics, and English second language H.G.

Research suggests that growing up in a father-absent home leads to a feminine pattern (Carlsmith, 1964; Funkenstein, 1963) of relatively low quantitative and high verbal (qualitative) scores. Mathematics is analytical (Lazoff, 1973) whereas English is more global and expressive (Bardwick, 1971).

biology has been chosen since it (by inference) seems to be both conceptual, analytical (as Science) and verbal in approach, so that it reconciles the approaches of the other two subjects referred to above.

### DEFINITION OF TERMS

One of the methodological problems that weaken research on father-absence is precision in the definition of terms (Shinn, 1978).

**The following definitions relate specifically to this study:**

*Father-absence:* In this study father-absence will mean the absence of married adult males at their family homes for the period of eleven months in the Venda homeland.

*Absent father and the migrant father:* The absent father and migrant father will be used interchangeably to mean married adult males oscillating between their places of work and their family homes in the Venda homeland.

*Academic achievement/Scholastic achievement:* In this study academic achievement/Scholastic achievement will be used interchangeably to mean scores achieved in Std 10 HSRC's

SAT, in three subject areas, namely, biology, mathematics and English second language.

*Father-absent students:* These will be operationally defined as Std 10 students (under the Venda State Department of Education) staying in nuclear families with mothers only, and whose fathers have been migrants for the period of more than 10 years.

*Father-present students;* These will be defined as Std 10 students (under the Venda State Department of Education) from intact nuclear families of natural parents.

### **HYPOTHESES**

The following hypotheses represent the basic components for analysis in this study:

- 1     Father-present students will score significantly higher than father-absent students in the subjects studied at high school (English Second Language, mathematics, biology).
2.    Father-present male students will score significantly higher than father-absent male students in the subjects

studied at high school (English Second Language, mathematics, biology).

3. Father-present female students will score significantly higher than father-absent female students in the subjects studied at high school (English Second Language, mathematics, biology).
4. Father-present male students will score significantly higher than father-absent female students in the subjects studied at high school (English Second Language, mathematics, biology).
5. Father-present female students will score significantly higher than father-absent male students in the subjects studied at high school (English Second Language, mathematics, biology).

#### LIMITATIONS OF THE STUDY

In methodological considerations of this research, we have observed that the SES measures that depend on the education and occupation of the breadwinner should be more confined to research of middle-class westernized families as they become inadequate in most South African homeland based African families. Most breadwinners are uneducated manual labourers, and some self-employed. Furthermore, the concept

self-employment is difficult to define since to others it would mean owning arable land; farming with cattle, goats, sheep or pigs; selling vegetables and or fruit; small scale building construction work; selling homebrewed beer; and owning shop(s).

The father-presence variable is not a complete answer to family problems, it is rather the quantity and quality of attention. Biller (1974) indicates that inadequate fathering is commonplace in intact families of academic under-achievers.

This research project did not control the I.Q. variable as it tends to be unstable and not immune to environmental, emotional and motivational factors that may have unmistakable effects upon achievement. In the same vein Anastasis (1976) study indicates that some of these sharp rises or drops in I.Q. might have occurred in response to major environmental changes in the child's life.

The study was based on the group of Standard 10 pupils in the Venda homeland only. The sample base could have been broadened to include more pupils from other homeland areas where father-absence due to migrant labour is experienced, in order to establish generalisations of the research findings amongst all South African citizens affected.

This research was also conducted on Saturdays. Subjects should have completed the tests under the same conditions of school times.

Another limitation is related to the age range of subjects included in the study. Ages ranged from 16 to 24 years, which is an extremely wide range, encompassing pupils who are at very different levels of social and emotional development. Although subjects clustered at the lower levels (16-20 years), the wide age range poses a methodological problem in this study.

Finally, the HSRC's Scholastic Achievement Tests, which were standardised more than ten years ago, may tend to affect methodological considerations of the study.

## OVERVIEW

Chapter 2 deliberates on the review of literature. This comprises of two sections: contributions that fathers make to child-development, and then a detailed review of literature related to father-absence and its relation to academic performance will be made. It will examine father-absence, considering the reasons for father-absence such as death, militarization, divorce, desertion and separation, and work demands.

Chapter 3 will discuss the research methodology; research design, describe the population of the study; the sample; specific null hypotheses, and data collection procedures.

Chapter 4 will present the findings of the study. The analysis and evaluation and discussions of findings will be reported with respect to the confirmation or refutation of the hypotheses.

Chapter 5 will comprise the Summary, Discussion, Conclusions and Recommendations. A brief summary of the work covered in the first four chapters will be given. The implementation of the findings of the study will be discussed and suggestions will be made of problem areas on which additional research could hinge.

## CHAPTER 2

### LITERATURE REVIEW

#### INTRODUCTION

In this chapter two bodies of literature are discussed. Section A indicates the role that fathers, if present, can play in a child's development; that is the influence they may have upon child development when they are directly caring and rearing children. Section B shows, through the correlational deficit-orientated approach, the effects of father-absence upon academic achievement.

#### SECTION A

##### THE EMERGENCE OF FATHERS' ROLES IN CHILD-REARING PRACTICES

This part of the literature review examines the emergence of fathers' roles in child-rearing practices, infants' patterns of preferences in their display of attachment and affiliative behaviour towards parents, assessment of parental responsiveness to infants' cues, and roles which parents play in child development.

There is evidence that the father's contribution to child development has been ignored by sociologists and psychologists, while the mother's role has been the focus of

attention for an unduly long time (Green, 1976). The imbalance in the conceptualization of parental roles and responsibilities has recently started causing much concern as Lamb et al (1983) comment:

While theorists had correctly identified mothers as major sources of direct influence in traditional families, they had mistakenly assumed that they were exclusively important, and had thus ignored the many ways in which fathers too affected both family functioning and child development (Lamb and Sagi, 1983 : 3-4).

It is significant to note that some communities are currently in flux in matters of gender and parental roles. Evidence reviewed shows little doubt that some long-established assumptions, values and attitudes concerning children, their care and their needs are changing (Lamb, 1979). In the not so distant past, fathers in our culture neither sought nor assumed active responsibilities for the rearing of children. Recently, increasing numbers of fathers have shown some eagerness to play an active and important role in child-rearing practices (Adam et al, 1984).

The ensuing ascendance of the father's child-rearing and -caring position has occurred as a reaction to treatment of

the mother as if she comprised the infant's entire social milieu, a theory which has dealt with mother and infant as if theirs was the sole relationship such infants could form. (Pederson, 1980)

Lamb (1979) asserts that from the plausible conclusion that mothers were most important, theorists leapt to the unfounded inference that mothers were exclusively important influences in the personality development of children. Lamb observes that:

By considering only the greater quantity of mother-child than of father-child contact, we neglected to acknowledge that it is the quality (not simply the quantity) of experiences that makes them salient and that fathers may make up in quality some of what they lack in quantity (Lamb, 1979 : 942).

The father's contributory participation (Radin, 1978) has been delineated into five possible areas, namely involvement, which is the extent of contribution to child-rearing; responsibility taken for physical care; responsibility taken for socialization; decision making relating to the child and availability.

Amongst others, one problem that caused much concern was whether young children preferred mother or father in

attachment behaviour. Pederson (1980) analysed Lamb's study of patterns of preferences in the display of attachment and affiliative behaviour of 12- and 13-month-old infants, which suggests that the absence of preferences in the display of attachment behaviour, is one of the most significant findings which indicate that such infants were equally attached to both fathers and mothers. Along the same line other research indicates that young infants clearly develop attachments to both parents (Lamb, 1978) although most babies were found to preferentially seek comfort from their mothers when they encounter distressful situations. It was also reported that the two parent-infant attachment relationships appeared to emerge at roughly the same time, that is in the middle of the first year of life (Lamb, 1979).

Parke and Sawin (1975, 1976) suggest that assessment of parental responsiveness to cues has indicated that fathers and mothers are equally competent in meeting infant needs during feeding routines, whilst it was found that mothers held the babies more than fathers (Pederson, 1980) although there was significantly more positive average response to fathers. Another researcher studied the degree of involvement by fathers in two-parent families in which mothers were unemployed. Findings suggest that fathers spend about 20-25% of the time as mothers do in direct interaction with children (Lamb, 1987). It was also found (Lamb, 1987) that in 1981, the average father spent much

more (25%) of his time in the most intensive type of child-care than in 1975, whilst the percentage increase (7%) for mothers was comparatively smaller. The significance of the findings (Parke et al, 1976, 1977) is in the suggestion that fathers appear to have the basic competence to be effective contributors to infant care.

Parents play with children in uniquely different ways, and some psychologists suggest that such plays contribute in exclusively special ways to the child's development.

Pederson (1980) delineates:

The fact that mother- and father-infant relationships involve different types of interaction is important, for it suggests that mothers and fathers provide babies with different kinds of experiences and, hence, that they probably have different roles to play in the children's socio-personality development (Pederson, 1980 : 37).

Parke and Sawin's (1977) investigation found that father's play was more physical, idiosyncratic, and unpredictable while mother's play was more conventional and related to materials. The same research further indicated that father's play involved physical tapping (with infants) or

romping (with toddlers), whilst mother's play was found to be more verbal (Parke et al, 1977).

In collaboration, researchers found that mothers and fathers play qualitatively different roles (Lamb et al, 1983) in the development of children. In a more summing-up tone, Adams et al assert that:

the father helps to build a piece of the child's mind differently from the piece built by the mother ..... (Adams et al, 1984 : 5).

In addition, Henderson's (1980) study reports that fathers touch their infants with rhythmic tapping patterns and play tapping games with a quality and structural tempo that evoke the infant's attention and arousal more than mothers do. Furthermore, another interesting study found that mothers held their babies more often to perform caretaking functions, to restrict and protect them, whilst in contrast, fathers mostly held them to play (Pederson, 1980).

Fathers' behaviour when interacting with children was found to be significantly related to their children's cognitive development. Radin's (1972) research, which investigated interaction between 4-year-old boys and their fathers, showed a significant positive correlation between IQ and observed paternal nurturing. The same investigator

concluded that paternal nurturing (Radin, 1972) suggests to the child that interaction with the environment is likely to be rewarding. Interestingly, correlations of paternal nurturing and intellectual development were found to be consistent in boys only, perhaps suggesting the notion of the father-son identification process (Radin, 1972, 1973).

In the same tone, Radin's (1981) paternal nurturing also appeared to be closely related to cognitive competence in boys. However, the review of literature presented in this analysis is sociologically based on Western child-rearing practices which may be different from those of working class Black South Africans.

Inferences about influences of father-presence and -absence on older children are discussed in the deficit-orientated section of this review, which follows.

## **SECTION B**

This section focuses on studies that investigated the body of theory of this study. It examines the relationship between father-absence and the academic achievement of the child.

It deliberates over types of father-absence as they differentially affect the psychological meaning for the child. Shinn (1978) delineates this:

Reasons can be socially sanctioned (military service), traumatic (death), the source of social stigma (illegitimacy, desertion and separation) or suggestive of parental conflict (divorce) (1978 : 295).

It proceeds to consider the effects of father-absence upon academic achievement with specific focus on causes such as death, divorce, militarization, separation and desertion, and lastly demands of work, which are mainly due to economical sanctions.

Types of father-absence may also be classified in accordance with the examples of children experiencing absence of the father. Adams, Milner and Schrepf (1984) dealt with six types of fatherless families divided into: (i) those who had never had a father and (ii) those who had lost a father.

(i) Never had a father:

- (a) Father died in child's prenatal or pre-verbal period;
- (b) Father divorced or separated and departed very early in child's life;

- (c) Parents unwed and never together;
  - (d) Father deserted early;
  - (e) Father very early sent to:
    - (1) remote job;
    - (2) military;
    - (3) prison;
    - (4) mental hospital.
  - (f) Father always detached and psychologically absent, or non-salient.
- (ii) Had lost a father:
- (a) Father died after being present for two or more years;
  - (b) Father divorced or separated after being present;
  - (c) Parents did cohabit, then split;
  - (d) Father deserted after being part of child's and mother's life;
  - (e) Father sent away in child's second year or later due to examples given in (e)(1), (2), (3) and (4) above;
  - (f) Father seldom at home after initial presence; workaholic, etc. (Adams et al., 1984 : 81).

The theoretical framework and approach in this review of literature have been derived from authors who have subsequently studied effects of father-absence or fatherlessness upon children.

According to Biller (1974), in analyzing and evaluating the father-absent situations many factors need to be taken into account, namely the type of father-absence (constant, intermittent, temporary, etc.), length, cause, and the child's age and sex. Furthermore, the family's socio-economic status, the number of siblings in the family (family size), ordinal position of the child, dependent measures used and race of subjects should also be taken into consideration, since a lack of analyses relating to the potential effects of those factors upon the independent variable, tends to impose methodological limitations.

The purpose of this section is therefore to discuss the effects of father-absence, with the accompanying methodological considerations under which studies were conducted, in order to assess the distinct significance of the findings that such studies reported.

#### **EFFECTS OF FATHER-ABSENCE DUE TO DEATH**

Father absence due to death is traumatic (Shinn, 1978). This section reflects the ways in which death as the cause of fatherlessness affects the academic achievement of the children involved. It also reviews such effects with regard

to sex differences in both father-present and father-absent family patterns.

In thorough investigations Douglas et al. (1968) found that father-absence due to death had negative effects only if the death of the father followed prolonged illness. IQ and achievement scores for children whose fathers had died after prolonged illness consistently deteriorated. Santrock (1972) made a contribution in indicating that the absence of the father due to death had less harmful effects upon 3rd and 6th grade SAT and Otis IQ achievement than absence due to other reasons.

Sutherland (1930) did an interesting investigation with two samples of which most subjects were father-absent because of war deaths. In Sample I subject characteristics such as age, school, class, number of siblings and sex were controlled, although some father-absent variables such as onset and duration of father-absence were not kept constant. Generally in both Samples I and II certain subject variables, namely family size, ordinal position of the child, sex and mother's education were not taken into account. However, father-present children scored higher in Sample I's Northumberland No.1 Test of IQ and Sample II's Moray House Group Test of IQ than their father-absent counterparts.

Ilardi (1966) examined the effects of father-absence upon 450 Black lower-class four-year-old boys and girls. The study focused on stable families with both parents present from birth versus unstable families due to various reasons, death included. Unfortunately, all other subjects' characteristics except the SES were not taken into consideration. This obstacle renders the interpretation of the effects of father-absence difficult. However, it was found that there were better SB IQ scores in the intact families than in unstable families due to death and other causes.

In contradiction a better controlled study by Santrock and Wohlford (1970), having taken account of variables such as onset and duration of father-absence, type of father-absence, age, IQ, school and grade, distinctly suggested non-significant differences in SAT and GPA measures between the father-present and father-absent groups.

Thomas (1969) conducted research on 92 subjects whose fathers died in the war. The study unfortunately controlled only onset and duration of father-absence showing the following configurations: Active father figure (absent for less than 5 years) or stepfather versus less active father figure (absent for more than 5 years or totally disabled). War orphans who had active father figures (absent less than 5 years) scored higher on Otis IQ tests.

Most important in these findings is that GPA differences between the groups were found to be non-significant.

Another differently designed study (Chapman, 1977) assessed the effects of father-absence and stepfathers on cognitive performance of college students. The 96 White students participating in this research were selected from a pool of students taking introductory courses in psychology at the University of Virginia. Within each cell of 16 subjects findings showed that the SAT scores of those who became father-absent because of death did not significantly differ from those who became father-absent because of divorce. However, college students from intact families did better than those from broken homes in SAT tests.

Nielson (1971) studied four groups of war orphans who, most interesting in this investigation, were categorized according to onset and duration of father-absence. The study reported non-significant differences where the SES, sex, age, grades, family composition, ordinal position of the children and mother's education were regrettably not controlled. In support Kopf's (1970) methodologically good study found that data categorized according to cause of absence such as death, divorce, separation and desertion showed no significant differences in school performance and adjustment when questionnaires were administered to parents and teachers of children studied.

A methodologically inadequate piece of research (Clarke, 1961) that did not control any of the important father-absence variables reported no significant differences in scores between father-absent (due to death) and father-present students when the CAT measure was used. In contrast Nelson and Maccoby (1966), who also did not keep interfering variables constant, studied father-present and father-absent (death) college students and indicated that verbal scores were relatively higher than quantitative scores for males whose fathers died than females when quantitative and verbal aptitude tests were used.

Crescimbeni's (1965) study, which effectively controlled the SES, sex, grade, teacher, recent IQ, and standard achievement of 92 one-parent children and 92 children living with both parents, suggests that MAT score differences favoured the two-parent children. Moreover, differences were found to be larger for father-absence due to death than due to separation and desertion.

#### **EFFECTS OF FATHER-ABSENCE DUE TO DIVORCE**

Generally, after divorce, contact between fathers and children is totally or partially broken. It was found that contact between the father and the child, when the mother

has custody of the children, is affected by factors such as the age of the father, his current marital status and the length of marriage (Sou, 1980). Divorce and/or the difficulties that hamper shared custody (if this is desired) pose several problems, one of which this section of the review will discuss namely, how father-absence in the event of divorce affects children's achievement at school.

Bernstein's (1976) study, which ineffectively controlled disturbing variables, focused on how father-absence due to divorce affects the mathematics skills of fifth graders. Fourteen youngsters were living with mothers only while 103 were living with both parents. In this important study the IOWA test analysis showed an interesting gender difference. The study found that among boys math skills were not significantly affected by father-absence while among girls father-absence did significantly depress math scores relative to verbal scores.

Ilardi's (1966) research indicates that SBIQ scores of children from broken homes due to divorce were lower than those from stable homes. In support one researcher reported that father-absence due to divorce was related to lower 3rd grade SAT and Otis IQ achievement (Santrock, 1972).

Clarke (1961) investigated 3rd grade boys from the metropolitan suburban schools. It is regrettable that the study lacked analyses relating to the potential effects of such variables as SES, family composition, sex, age and grades, onset and duration of father-absence, mother's education and others. Nevertheless, non-significant achievement differences in CAT measure were reported by the research.

A study (Ferri, 1976) that was statistically controlled for SES, family size, household amenities, and parental aspirations reported that children living with both natural parents scored higher in arithmetic at age 11 and showed more progress in both reading and arithmetic than children who experienced father-absence due to divorce. This is in collaboration with Crescimbeni's (1965) study that suggests that two-parent children performed better in MAT than those from broken families due to divorce.

Sutton-Smith, Rosenberg and Landy (1968) did research on the effects of father-absence due to divorce for varying lengths of time and varying growth periods compared with the effects of father-presence as reflected in college entrance scores on the ACE. This study suggests lower quantitative, linguistic and total scores for father-absent students, with effects greater for male students from larger families, and students with opposite sex siblings.

Birnbaum's (1966) study adequately controlled IQ, age, grade, and upper or lower income group of the two-parent and broken home groups. The study indicates no significant differences when GPA, reading and vocabulary were used as measures. In contradiction Altus (1958) reported that quantitative scores did not differ, but ACE linguistic scores were higher for divorced children. However, Altus' (1958), findings of mixed and positive effects of father-absence upon academic achievement were found in a study in which no allowance was made for SES, gender of the children, birth order, number of siblings, ordinal position of the child, age and mother's education.

The research by Rees et al (1970) used SBIQ as the dependent measure when SES, sex, birth order, study from which data came and decade of birth were effectively controlled. This study suggests that boys but not girls from intact homes scored higher than children from broken homes at age 12 but not at age 6.

Collins' (1969) study, which investigated children from intact and broken (divorced) families, found that on PMAT intact-home children scored higher in 4th grade only; on teacher-rated achievement intact-home children scored significantly higher on arithmetic, but not in reading in

the 6th grade. Moreover, there were no significant differences on standardized achievement.

#### THE EFFECTS OF FATHER-ABSENCE DUE TO MILITARIZATION

Fanshawe's (1985) study on fathers in the army found that even in traditional contexts, the idea of shared parenting had gained a very strong foothold. The study indicated that only one out of a total of 50 mothers said her husband did not help at all with the children and another eight that not much help was provided. This review focuses on how father-absence on account of militarization affects the achievement of the children academically.

The investigation by Funkenstein (1963) that used quantitative and verbal medical admissions tests and scholastic aptitude tests showed differences in verbal and quantitative abilities between father-absent and father-present groups. This important research of specifically World War father-absent children suggested detrimental effects of father-absence indicating that 20% of those with relatively high quantitative scores had absent fathers and 80% had both parents present. Regrettably this study did not control for the potential effects of important father-absence variables.

Carlsmith (1964) also studied father-absent subjects during World War II matching 20 present-absent pairs on father's education, occupation and subject's public or private

schooling. The verbal and quantitative scholastic aptitude findings extended the qualitative-quantitative controversy started among previous authors, as it reported deleterious effects of father-absence in relation to superiority of verbal scores over quantitative scores for early and prolonged father-child separation.

Hillenbrand's (1970) research reported generally detrimental effects of father-absence on World War II father-absent subjects when the KAIQ was used as a dependent measure. Another study by the same author later observed (in his 1976 research) that changes in temporary father-absent girls included decreased quantitative ability (Hillenbrand, 1976).

Consistent with Carlsmith's (1964) and Funkenstein's (1963) findings, one study that specifically focused on the onset and duration of father-absence investigated the effects of temporary father-absence on 6th grade military dependents and found the first-born male children's cumulative absence of the father to be significantly related to enhanced quantitative ability (Hillenbrand, 1976).

## THE EFFECTS OF FATHER-ABSENCE DUE TO SEPARATION AND DESERTION

Skarsten (1974) maintains that the effect of a father's desertion on children is direct through the loss of the father and indirect through how it affects the mother and how she deals with this in her relationship with children. Kopf's (1970) study extended this contention more significantly as it indicates that deserted or separated mothers who recognized their position as different from what it was prior to separation negatively affected adjustment for their children and consequently detrimentally affected their achievement at school. However, the direct effects of father-absence on this achievement are discussed.

Kopf's (1970) investigation particularly looked into family variables and school adjustment of 8th grade father-absent boys due to desertion, separation and other reasons. The researcher noticed no IQ differences between the intact-family group and other groups of family configurations in which desertion and separation were included.

Most significant, some researchers in collaboration with Kopf (1970) could not find differences in separated and intact families. Santrock and Wohlford (1970) studied 15 father-present, 15 father-absent due to separation and desertion and 15 father-absent families due to death. SAT and GPA scores showed no significant differences between the

father-absent and father-present group when age, IQ, type of father-absence and school grade were controlled.

Crescimbeni (1965) indicates that MAT differences at both testings favoured father-present children. There were considerably fewer differences for children whose parents were absent due to desertion and separation than divorce and death. In contrast Ilardi (1966) reported that SBIQs of the stable family group were higher when compared to the father-absent group due to desertion and separation.

Santrock (1972) conducted research on 57 father-present and 186 father-absent groups of children classified by type of father-absence namely desertion, separation, death and divorce. The study indicates that absence due to separation and desertion had larger effects in 3rd grade SAT scores than absence due to death; while Clarke (1961) found that there were no CAT significant differences amongst father-absent groups due to death, divorce, separation, desertion and father-present group.

## THE EFFECTS OF FATHER-ABSENCE DUE TO DEMANDS OF WORK

Jackson (1984) argues that the failure of the working world, both at an institutional and a personal level, disrupts the developing bond between father and children. This part of the literature review looks at how absence because of demands of work on the father affects school work of his children.

Landy et al (1969) conducted a study of 20 father-present, 20 father-absent and 60 subjects whose fathers were partially absent due to night shift work in three onset and duration groups. The study controlled onset and duration of father-absence, and SES only. Findings show that only the complete father-absent and father-present groups differed significantly in ACE scores with effects of partial absence less than those of total father-absent subjects.

Blanchard and Biller's (1971) investigation of father-absence due to demands of work is uniquely interesting. Researchers studied father-absence as a continuum rather than a dichotomy. They examined degrees of working fathers' availability to the child, namely less than six hours per week and more than six hours per day. The study found that the high father-present group outscored the early father-absent group on all 10 achievement SAT and GPA scales that were employed. The late father-absent and low father-absent groups consistently but non-significantly scored between the other two groups.

In addition partial father-absence due to occupational absorption was also studied by Herzog (1974) whose four age groups were rated from 1 to 15. Only the SEs of the families were controlled. The study suggests that boys with early or complete father-absence did better on IQ but worse on graded arithmetic. It was also found that the IQ superiority of father-absent boys vanishes if the interfering variable, birth order, is kept constant.

Lambert and Hart (1976) studied frequent temporary father-absence due to demands of work. It is unfortunate that only the social class, sex, and family size were controlled. Findings indicate that children whose fathers were frequently absent from home overnight were 5 months behind in mathematics, while in support Douglas, Ross and Simpson (1968) found that IQ and achievement scores of children whose fathers were consistently away (due to demands of occupation) deteriorated for both girls and boys between the ages 8 and 15 years.

Cortes et al (1968) investigated boys from an economically depressed metropolitan area. Family configuration was 35 working fathers who were never absent (due to occupational demands) for more than two weeks at a time and 35 father-absent for 3-5 years. There were no significant differences found when the KAIQ and SAT measures were used, and when fathers were matched in semi-skilled and skilled jobs only.

Vroegh's (1972, 1973) studies of father-absent and high-low father-presence rated on an undefined continuum of quantity reported that high-low father-presence had no effect on pretest scores. However, the study found positive effects in that high father-absence was associated with improvements in language scores over the year, but none of the characteristics of subjects and father-absent variables were controlled.

In conclusion, an analysis of the findings of all investigations conducted indicates that studies showed negative, positive and mixed effects of father-absence.

In this review of literature Thomas' (1969) research had no single matching factor at all, though it reported statistically significant negative effects of father-absence. In contradiction Nielson's (1971) and Clarke's (1961) research, which had no controlling factors either, suggested non-significant results of father-absence, while Altus' (1958) and Vroegh's (1972, 1973), which also controlled none of the influencing variables, indicate positive and mixed effects of father-absence upon academic achievement of children.

Several authors controlled SES only (Landy, Rosenberg and Sutton-Smith, 1968 and 1969; Ilardi, 1966; Santrock, 1972) type of father-absence (Hillenbrand, 1970) and grade only (Collins, 1969). It is surprising to note that these methodologically inadequate studies which controlled one or two variables only showed statistically significant negative

effects of father-absence, while in contradiction Herzog (1974), having controlled the SES only, reported positive and mixed effects of father-absence upon the academic achievement of children.

It is therefore of utmost importance that a thorough analysis of effects of father-absence takes into account all important variables by ensuring methodological soundness in research designs.

## **CHAPTER 3**

### **METHODOLOGY**

#### **INTRODUCTION**

In this chapter research design, sample selection, identification of null hypotheses, data gathering instruments, procedures and devices for data gathering, and finally coding and rostering of data is described.

#### **RESEARCH DESIGN**

##### **SAMPLE**

A research sample group of 300 Std 10 students was designed according to two family patterns and gender so that it should be composed of:

75 Father-absent males, 75 father-absent females, 75 father-present males and 75 father-present females (as presented in the table 3.1):

**TABLE 3.1**  
**SAMPLE DESIGN**

FAMILY PATTERNS	GENDER		TOTALS
	M	F	
Father-absent students	75	75	150
Father-present students	75	75	150
TOTALS	150	150	300

#### THE SEARCH FOR THE SAMPLE

During the first week of the researcher's stay in the area to which the study was confined, strikes broke out. These were mainly in one circuit eventually, although on a small scale, spreading to other circuits. Consequently it was impossible to select a sample in this troubled area until the school situation improved. Due to the limited number of students fitting the parameters of the study, it was decided that a regional sample from the total of 96 schools be selected.

The selection of the sample occurred on the basis of the following criteria:-

- (i) Father-absence was due to migrant labour.
- (ii) Only students whose fathers had been continually migrating for a period of more than 10 years (i.e. since 1978), were considered.
- (iii) It was a requirement that father-absent students be matched with their father-present counterparts according to the school being attended, SES, grade and sex (Crescimbeni, 1965).
- (iv) When either the father-absent or father-present student had more than one match (as the number of father-absent and father-present were not always equal) such student's match was selected randomly.
- (v) Ss selected were all Std. 10 students who had completed syllabi pertaining to biology, mathematics and English second language (H G).

The researcher selected the sample within the period of two weeks, and established the number of schools from which subjects were drawn. Schools numbered up to 39 and would-be subjects a little more than 370. A sample search could not be conducted at one boarding school, for fear of the fact that boarding administrators would have mitigated the

effects of father-absence and father-presence in the respective groups.

In the circuit in which there was a serious uprising, four schools were still on strike when the sample was being searched and therefore, could not be included within its selection. Interesting enough in one circuit the number of pupils studying subjects in which SAT were administered was only 52, consequently no set of pupils could qualify for the research study. Consequently, the number of subjects was reduced to 300. Other problems that further reduced the number of subjects in this study were basically methodological:

- (i) Notably, in some schools all pupils were father-absent, and therefore could not be allowed to take part in the study as they had no father-present counterparts to be matched with (Lessing et al, 1970).
- (ii) In a considerable number of cases father-absent pupils who stayed with mothers and grandfathers, or grandmothers, or both, were not considered for the study since it was a requirement that subjects should exclusively come from nuclear families.
- (iii) Most important to this study, was the length of father-absence, and pupils who had experienced father-absence for the period of less than ten

years did not participate in this research (Landy et al, 1969).

- (iv) In other schools father absent pupils studying mathematics, biology and English second language were exclusively male, and consequently could not satisfy the requirements of the research set without their female matching partners (Santrock et al, 1970; Broman et al, 1975).
- (v) Furthermore, numbers were reduced when father-absent pupils had no matching father-present counterparts of working class fathers (Herzog, 1974). Children of Directors General, teachers, nurses, clerks, police persons and other high ranking officials were disqualified from participating in the study.

In the final analysis the sample comprised of 300 students split into 75 sets (of 4 subjects each) according to gender and father-absent and -present family patterns. The age range of the sample is 16 to 24, while mean age is 18 years.

The Table 3.2 shows the total distribution of the number of Std. 10 students for the research group according to gender, school and circuits.

**TABLE 3.2: DISTRIBUTION OF STD. 10 STUDENTS' SAMPLE**  
**ACCORDING TO GENDER, SCHOOLS AND CIRCUITS**

CIRCUITS	SCHOOLS	GENDER		TOTAL
		MALE	FEMALE	
A	A1	2	2	4
	A2	2	2	4
	A3	6	6	12
	A4	2	2	4
B	B1	2	2	4
	B2	4	4	8
	B3	4	4	8
	B4	2	2	4
	B5	4	4	8
C	C1	14	14	28
	C2	2	2	4
	C3	4	4	8
	C4	6	6	12
	C5	4	4	8
	C6	2	2	4
D	D1	12	12	24
	D2	4	4	8
	D3	2	2	4
	D4	2	2	4
	D5	2	2	4
	D6	4	4	8
	D7	8	8	16
E	E1	4	4	8
	E2	2	2	4
F	F1	2	2	4
	F2	2	2	4
G	G1	4	4	8
	G2	2	2	4
	G3	2	2	4
	G4	2	2	4
H	H1	2	2	4
	H2	4	4	8
	H3	2	2	4
I	I1	2	2	4
	I2	2	2	4
	I3	2	2	4
	I4	4	4	8
	I5	12	12	24
	I6	6	6	12
J	-	-	-	-
	39	150	150	300

## NULL HYPOTHESES TO BE TESTED

### **Null hypothesis One:**

There will be no significant difference in Scholastic Achievement Test Total Battery (SATT) scores between father-absent and father-present high school students.

### **Null Hypothesis Two:**

There will be no significant difference in Scholastic Achievement Test Total Battery (SATT) scores between female and male high school students.

### **Null Hypothesis Three:**

There will be no significant difference in Scholastic Achievement Test mathematics (SATM) scores between father-absent and father-present high school students.

### **Null Hypothesis Four:**

There will be no significant difference in Scholastic Achievement Test mathematics (SATM) scores between female and male high school students.

### **Null Hypothesis Five:**

There will be no significant difference in Scholastic Achievement Test English second language (SATE) scores between father absent and father present high school students.

### **Null Hypothesis Six:**

There will be no significant difference in Scholastic Achievement Test English second language (SATE) scores between female and male high school students.

**Null Hypothesis Seven:**

There will be no significant difference in Scholastic Achievement Test Biology (SATB) scores between father absent and father present high school students.

**Null Hypothesis Eight:**

There will be no significant difference in Scholastic Achievement Test Biology (SATB) scores between female and male high school students.

**DATA GATHERING PROCEDURES**

The author first reported at the Circuit Inspector's offices to seek the Headmaster's permission before visiting the schools. He explained the purpose of the visit to headmasters and with due permission proceeded with the gathering of data.

In some cases it was duly arranged that subjects in neighbouring schools be tested at a central venue. Demographic Information was gathered first before subjects could commence with the answering of (SAT) test questions. Testing was mainly done during the early hours of the morning. In other circuits some tests were successfully administered on Saturdays as subjects suggested it could be done. Data gathering was done within the

period of approximately two and half months, having commenced towards the middle of August and extending towards the beginning of November.

#### DATA GATHERING INSTRUMENTS

The data gathering instruments were acquired from the HSRC. These were English second language standardised SAT, mathematics SAT, and biology SAT. Details pertaining to the purpose of the instrument, description, administration, scoring of tests, standardisation, reliability and validity of each of the instruments are presented in Appendix D-1 (Annexures A-C). However, these HSRC Scholastic Achievement Tests were standardised more than ten years ago, which is likely to affect methodological considerations of the study.

#### CODING AND ROSTERING OF DATA

Data was numerically coded so that the word name of each category was replaced by a number. Then restoring was done in multiple-column data sheets. The first sixteen items related to Demographic Information while the remaining nine were actual data of dependent variables. Missing data led to the rostering of 276 subjects' data. When a subject's answer sheet was found missing, either in mathematics, biology or English second language, the whole set of (four) matched subjects' data was consequently excluded from the analysis.

## CHAPTER 4

### RESULTS OF THE STUDY

#### ANALYSIS OF DATA

Data were gathered from 39 schools from 10 circuits under the Venda State Department of Education. Participants in this research were 276 students. The number of students grouped by family patterns and gender are presented in Table 4.1.

TABLE 4.1

#### TOTAL NUMBER OF STUDENTS BY FAMILY PATTERNS AND GENDER

FAMILY PATTERNS	GENDER		TOTAL
	MALE	FEMALE	
Father-absent students (FA):	69	69	138
Father-present (FP):	69	69	138
Totals	138	138	276

The following notations will be used throughout the analyses.

Let:

- FA = Father-absent students
- FP = Father-present students
- FAM = Father-absent male students
- FAF = Father-absent female students

FPF = Father-present female students  
 FPM = Father present male students  
 HSRC = Human Sciences Research Council  
 SAT = Scholastic Achievement Test  
 SATT = Scholastic Achievement Test: Total Battery  
 SATM = Scholastic Achievement Test: mathematics  
           Subtest  
 SATE = Scholastic Achievement Test: English Second  
           Language Subtest  
 SATE (I-III) = Scholastic Achievement Test: English  
           Subtest  
 (I), (II) and (III)  
 SATB = Scholastic Achievement Test: biology Subtest.

Two-way analysis of variance (ANOVA) was used to determine how academic achievement varies by family patterns and gender. Data analyses focused on the eight research hypotheses specified in Chapter 1. Levels of significance established for accepting or rejecting the null hypotheses were  $p < 0.05$ ,  $p < 0.01$ ;  $p < 0.001$  and  $p < 0.0001$ .

## RESULTS OF THE STUDY

### ACADEMIC ACHIEVEMENT ANALYSIS

This analysis examines the difference between family patterns and gender on Scholastic Achievement Test (SAT) raw scores. Raw scores for the Total Battery (SATT) as

well as Mathematics, English and Biology subtests were used. Students' raw scores were analysed using a 2 (family patterns) x 2 (gender) Anova.

#### **SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)**

Results of the SATT analysis are shown in Table 4.2. The mean scores, standard deviations and sample size of research groups are presented in appendix E.

**TABLE 4.2**

**SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
DIFFERENCES  
BETWEEN FAMILY PATTERNS AND GENDER ON THE  
SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)**

Source of variation	SS	MS	df	F	p
Family Patterns (F)	19742.36	19742.36	1	11.81	0.0007***
Gender (G)	2791.87	2791.87	1	1.67	0.1973
F x G	142.34	142.34	1	0.09	0.7707
ERROR:	453024.43	1671.67	271		
*** p< 0.001					

Two null hypotheses are tested through results of analysis presented in Table 4.2.

There will be no significant difference in Scholastic Achievement Test Total Battery (SATT) scores between:

1. father-absent and father-present high school students,
- and
2. female and male high school students.

As indicated in Table 4.2 the main effect for gender was not significant. Also no significant interaction was found. However, there was a significant main effect for family patterns. On the SATT raw score FP high school students ( $m=149.90$ ) scored significantly higher than did FA high school students ( $m=132.94$ ),  $p<0.001$ . Therefore null hypothesis two could not be refuted whereas null hypothesis one was rejected.

Several researchers (Carlsmith, 1964; Herzog and Sudia, 1973, Lessing et al, 1970) have indicated that the effects of father absence are mediated by the child's sex role identification. This theory is based on the assumption that the feminine pattern of high verbal and low quantitative performance shown by father-absent children (mainly males) is due to their difficulty in forming a masculine identity with a male model. For this reason analysis of all pairs of means of subgroups within family pattern and gender variables was also reported.

Scores on the SATT for all pairs of means of subgroups within family patterns and gender variables were analysed separately by t-tests. The Bonferroni Significant Level was adopted for such comparisons. Results of all these analyses, reported in appendix F present the summary of these comparisons within the groups.

Analysis of data on family patterns and gender revealed that variance on SATT was by family patterns. FP high school students had higher SATT scores than did FA high school students. This significant main effect of family patterns for the total population reported in Table 4.2 was also found within the subgroups. Father-present male high school students scored significantly higher ( $m=153.81$ ) than father-absent female students ( $m=130.5$ )  $p < 0.01$  (see Appendix F Table F-4).

Scores on SATM, SATE and SATB subtests of SATT were analysed to make possible a better interpretation of the findings related to hypothesis 3-8. These analyses are presented in Tables 4.3 through to 4.11. The mean scores, standard deviations and sample size of research groups are presented in appendices G, O, and W.

Scores of the SATM, SATM (algebra), SATM (geometry), and SATM (trigonometry) for all pairs of means of subgroups within family pattern and gender variables were analysed separately by t-tests. The Bonferroni significant level

Scores on SATM, SATE and SATB subtests of SATT were analysed to make possible a better interpretation of the findings related to hypothesis 3-8. These analyses are presented in Tables 4.3 through to 4.11. The mean scores, standard deviations and sample size of research groups are presented in appendices G, O, and W.

#### **SCHOLASTIC ACHIEVEMENT TEST: MATHEMATICS SUBTEST (SATM)**

Two null hypotheses were tested through results of Analyses presented in Tables 4.3 - 4.6 below.

There will be no significant difference in Scholastic Achievement Test: Mathematics scores between:

3. father-absent and father-present high school students
- and
4. female and male high school students.

Results of SATM analysis depicted in Table 4.3 indicate the significant main effects for family patterns and gender. FP high school students ( $m=34.90$ ) scored significantly higher than FA high school students ( $m=30.10$ )  $p<0.001$ .

Furthermore, male high school students ( $m=34.20$ ) scored significantly higher than female high school students

( $m=31.10$ )  $p<0.05$ . In this variable both hypotheses 3 and 4 were rejected.

TABLE 4.3  
SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
DIFFERENCES  
BETWEEN FAMILY PATTERNS AND GENDER ON THE  
SCHOLASTIC ACHIEVEMENT TEST: MATHEMATICS SUBTEST

Source of variation	SS	MS	df	F	p
Family Patterns(F)	1589.34	1589.34	1	11.79	0.0007***
Gender (G)	752.18	752.18	1	5.58	0.0189*
F x G	21.69	21.69	1	0.16	0.6886
ERROR:	36531.89	134.80	271		
* $p<0.05$					
*** $p<0.001$					

Results of the analysis reported in Table 4.4 indicate significant main effects for both family patterns and gender on SATM (algebra). FP high school students ( $m=14.34$ ) scored significantly higher than FA high school students ( $m=12.44$ )  $p<0.01$ . Furthermore, male high school students ( $m=14.22$ ) scored significantly higher than female high school students ( $m=12.58$ )  $p<0.05$ .

The raw score on SATM (algebra) for all pairs of Subgroups within family pattern and gender variables were analysed by t-tests. Results in this regard are indicated later in this report.

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TABLE 4.4

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
DIFFERENCES  
BETWEEN FAMILY PATTERNS AND GENDER ON THE  
SCHOLASTIC ACHIEVEMENT TEST: MATHEMATICS SUBTEST  
(ALGEBRA)

---

Source of variation	SS	MS	df	F	p
Family Patterns(F)	245.27	245.27	1	8.41	0.0040**
Gender (G)	183.30	183.30	1	6.28	0.0128*
F x G	1.35	1.35	1	0.05	0.8298
ERROR:	7904.29	29.16	271		
* p< 0.05					
** p< 0.01					

---

Findings of family patterns and gender differences on raw score of SATM (geometry) are presented in Table 4.5. As shown the main effect for gender was significant. Male

high school students ( $m=10.28$ ) scored significantly higher than female high school students ( $m=8.60$ )  $p<0.05$ .

---

TABLE 4.5

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
DIFFERENCES  
BETWEEN FAMILY PATTERNS AND GENDER ON THE  
SCHOLASTIC ACHIEVEMENT TEST: MATHEMATICS SUBTEST  
(GEOMETRY)

---

Source of variation	SS	MS	df	F	p
Family Patterns(F)	121.73	121.73	1	3.72	0.0547
Gender (G)	191.57	191.57	1	5.86	0.0161*
F x G	16.51	16.51	1	0.51	0.4778
ERROR:	8856.85	32.68	271		

---

\*  $p<0.05$

---

Results of the analysis shown in Table 4.6 indicate that there was no significant main effect for gender on SATM (trigonometry). The main effect for family patterns was significant. FP high school students ( $m=10.90$ ) scored significantly higher than FA high school students ( $m=8.90$ )  $p<0.001$ .

TABLE 4.6

TWO-WAY ANALYSIS OF VARIANCE FOR DIFFERENCES BETWEEN  
FAMILY  
PATTERNS AND GENDER ON THE SCHOLASTIC  
ACHIEVEMENT TEST: MATHEMATICS SUBTEST (TRIGONOMETRY)

Source of variation	SS	MS	df	F	p
Family Patterns (F)	275.22	275.22	1	16.22	0.0001***
Gender (G)	29.16	29.16	1	1.72	0.1910
F x G	28.03	28.03	1	1.65	0.1998
ERROR:	4598.39	16.97	271		
*** p < 0.001					

Data analyses on family patterns and gender showed variation in scores by both family patterns and gender main effects. FP high school students scored higher in SATM (algebra), and SATM (trigonometry) than FA high school students. Moreover, male high school students had significantly higher scores in SATM Subtest, SATM (algebra), and SATM (geometry).

In the SATM subtest FPM high school students ( $m=36.85$ ) scored significantly higher than FAM high school students ( $m=31.47$ )  $p<0.01^*$  (see Appendix H, Table H-1).

Furthermore, FPM high school students ( $m=11.5$ ) scored significantly higher than FAM high school students ( $m=8.9$ )  $p<0.001^{**}$  in SATM (trigonometry). In the SATM Subtest FPM high school students ( $m=36.84$ ) scored significantly higher than FAF high school students ( $m=28.72$ )  $p<0.0001^{***}$  (see Appendix H, Table H-4). Similarly, FPM high school students ( $m=15.09$ ) scored significantly higher than FAF high school students ( $m=11.56$ )  $p<0.001^{**}$  in SATM (algebra) (see Appendix J, Table J-4). In SATM (geometry) (see Appendix L, Table L-4) FAF high school students ( $m=8.20$ ) scored significantly lower than FPM high school students ( $m=11.20$ )  $P=0.01^{*}$ , whilst in SATM (trigonometry) FPM high school students ( $m=11.52$ ) scored significantly higher than FAF high school students ( $m=8.90$ )  $p<0.001^{**}$  (see Appendix N, Table N-4).

**SCHOLASTIC ACHIEVEMENT TEST: ENGLISH SECOND LANGUAGE  
SUBTEST (SATE).**

Two null hypotheses are tested through analyses presented in Tables 4.7 - 4.10. There will be no significant difference in the Scholastic Achievement Test English (SATE) Subtest scores between:

5. father-absent and father-present high school students

and

6. female and male high school students.

Results of the analysis shown in Table 4.7 indicate that there was no significant main effect for gender. No interaction resulted on the SATE scores. However, there was significant main effect for family patterns. FP high school students ( $m=47.86$ ) scored significantly higher than FA high school students ( $m=42.50$ )  $p<0.01$ . Hypothesis 5 was therefore rejected, whereas hypothesis 6 was confirmed.

TABLE 4.7

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR

DIFFERENCES

BETWEEN FAMILY PATTERNS AND GENDER ON THE

SCHOLASTIC ACHIEVEMENT TEST: ENGLISH SECOND LANGUAGE

SUBTEST

(SATE).

Source of variation	SS	MS	df	F	p
Family Patterns(F)	1998.85	1998.85	1	9.48	0.0023**
Gender (G)	162.07	162.07	1	0.77	0.3814
F x G	34.76	34.76	1	0.16	0.6850
ERROR:	57127.11	210.80	271		

\*\* p< 0.01

Table 4.8 shows results of family patterns and gender variance on the raw score of SATE Subtest (I). Neither gender nor F x G interactional effects were suggested. However, the family pattern main effect was indicated to be significant. FP high school students (m=21.01) scored significantly higher than FA high school students (m=19.00) p<0.01.

TABLE 4.8

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
DIFFERENCES  
BETWEEN FAMILY PATTERNS AND GENDER ON THE  
SCHOLASTIC ACHIEVEMENT TEST: ENGLISH SECOND LANGUAGE  
SUBTEST  
(SATE I).

Source of variation	SS	MS	df	F	p
Family Patterns(F)	279.31	279.31	1	8.06	0.0049**
Gender(G)	17.61	17.61	1	0.51	0.4767
F x G	47.05	47.05	1	1.36	0.2451
ERROR:	9395.11	34.67	271		

\*\*  $p < 0.01$

Results of family patterns and gender on the raw score of SATE subtest (II) are reported in Table 4.9. As indicated the gender main effect was not found to be significant. No interaction resulted on the SATE (II) scores. The main effect for family patterns was significant. FP high school students ( $m=12.92$ ) scored higher than FA high school students ( $m=11.30$ )  $p < 0.01$ .

TABLE 4.9

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
 DIFFERENCES  
 BETWEEN FAMILY PATTERNS AND GENDER ON SCHOLASTIC  
 ACHIEVEMENT TEST: ENGLISH SECOND LANGUAGE SUBTEST  
 (SATE II)

Source of variation	SS	MS	df	F	p
Family Patterns(F)	179.94	179.94	1	8.97	0.0030**
Gender (G)	54.38	54.38	1	2.71	0.1009
F x G	0.1	0.1	1	0.01	0.9437
ERROR:	5437.90	20.07	271		
** p< 0.01					

Findings of family patterns and gender on the raw score of SATE subtest (III) are presented in Table 4.10. No F x G interactional effects were indicated. Furthermore, neither family pattern nor gender main effects were suggested to be significant.

TABLE 4.10

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
DIFFERENCES  
BETWEEN FAMILY AND GENDER ON SCHOLASTIC  
ACHIEVEMENT TEST: ENGLISH SECOND LANGUAGE SUBTEST  
(SATE III)

Source of variation	SS	MS	df	F	p
Family Patterns(F)	228.52	228.52	1	3.14	0.0775
Gender (G)	4.72	4.72	1	0.06	0.8088
F x G	76.53	76.53	1	1.05	0.3060
ERROR:	19719.15	72.76	271		

Scores of SATE subtest, SATE subtest (I), SATE subtest (II) and SATE subtest (III) for all pairs of subgroups within family patterns and gender variables were analysed separately by t-tests. Results of all these analyses, reported in Appendices P, T and V present the findings for subgroups.

Analysis on data of family patterns and gender indicates that variance on SATE subtest, SATE subtest (I) and SATE subtest (II) scores was by family patterns only. FP high

school students scored significantly higher than FA high school students.

This significant main effect of family patterns for the total population was also indicated within subgroups with the same strong pattern of differences indicated in Table 4.7-4.10.

On the SATE subtest FPM high school students ( $m=49.33$ ) scored significantly higher than FAF high school students ( $m=42.06$ ).  $p<0.01^*$  (see Appendix P, Table P-4). Moreover, on the SATE subtest (II) FPM high school students ( $m=13.39$ ) scored significantly higher than FAF high school students ( $m=13.40$ )  $p<0.001^{**}$  (see Appendix T, Table T-4).

FPM high school students ( $m=21.70$ ) scored significantly higher than FAM high school students ( $m=19.0$ ) on SATE subtest (I) scores at  $p<0.01^*$  (see Appendix R, Table R-1).

#### **SCHOLASTIC ACHIEVEMENT TEST: BIOLOGY SUBTEST (SATB).**

Two null hypotheses were tested through results of Analysis presented in Table 4.11.

There will be no significant differences in Scholastic Achievement Test Biology (SATB) scores between:

7. father-present and father-absent high school students

and

8. female and male high school students.

---

TABLE 4.11

SUMMARY OF THE TWO-WAY ANALYSIS OF VARIANCE FOR  
DIFFERENCES  
BETWEEN FAMILY PATTERNS AND GENDER ON THE  
SCHOLASTIC ACHIEVEMENT TEST: BIOLOGY SUBTEST (SATB)

---

Source of variation	SS	MS	df	F	p
Family Patterns (F)	3128.44	3128.44	1	6.20	0.0134*
Gender (G)	160.83	160.83	1	0.32	0.5729
F x G	1.90	1.90	1	0.95	0.9511
ERROR:	136794.02	504.77	271		

---

\*  $p < 0.05$

---

Results of the analysis shown in Table 4.11 reveal that there was no significant main effect for gender on SATB scores. Moreover, no interaction resulted on the SATB

scores. The main effect for family patterns was significant. FP high school students ( $m=67.13$ ) scored significantly higher than FA high school students ( $m=60.40$ )  $p<0.05$ . The significant main effect of family patterns for the total population was not indicated within the subgroups.

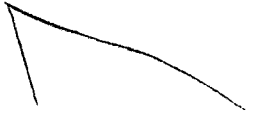
## CHAPTER 5

### SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with the summary of the study, discussion of the results, educational implications, and recommendations for future research.

#### GENERAL SUMMARY

The stringent requirements of the South African migrant labour system, the homeland policy, the Group Areas Act, the shortage of housing facilities in work places, and the 1913 Land Act that reduced Africans' land for subsistence farming, create circumstances in which most male Africans migrate to towns, mines and industries. These married labour recruits are not allowed to stay with their families in work places, and wives remain at home with their children. A nuclear family with only one parent present is one of the products of this ideological imposition.



This research investigates the association between father-absence due to migrant labour, and the academic performance of high school students, considering only students whose fathers have been migrating continually for a period of more than ten years (i.e. relating to onset and duration of father-absence).

The theorist Lamb (1979) indicates that the assumption that mothers were exclusively important in the personality development of children is unfounded. Fathers' contributory participation through involvement in child-rearing practice, responsibility for physical care, the socialization process, decision-making in relation to the child, and availability has been recorded in the literature as being important. (Radin, 1978)

Researchers suggest that young infants develop attachments (Lamb, 1978) to both parents, while fathers and mothers are equally competent in meeting infant needs (Parke & Sawin, 1975; 1976) during feeding routines, and fathers spend about 20 - 25% as much time as mothers do (Lamb, 1987) in direct interaction with children. Notably, Pederson (1980) suggests that mother- and father-child relationships provide babies with different kinds of experiences.

Fathers' play was found to be more physically idiosyncratic, and unpredictable (Parke & Sawin, 1977), while mothers' play was more conventional. Fathers help to build a piece of the child's mind (Adams et al., 1983) differently from that built by the mothers. Consequently the father's distance from family affairs exacerbates deficient father-child interrelationships, as Green (1976) comments:

Father's current distance from family affairs has not done modern parenting any good. Raising children is falling into disrepute (Green, 1976:209)

Demands of the working world, either at an institutional or personal level (Jackson, 1984), disrupts the developing bond between the father and his children in the supposedly interactive whole of the nuclear family system. Father-absence due to nightshift work (Landy et al., 1969) was found to significantly affect ACE scores of such children. Furthermore, Herzog's (1974) study suggests that even partial father-absence due to occupational preoccupation tends to affect graded arithmetic.

Father-absent students were matched with their father-present working class counterparts. The sample was acquired from 39 schools. HSRC's SATB (biology, SAT), SATE (English second Language, SAT) and SATM (mathematics, SAT), were used

as data-gathering instruments. The data of 276 working class students' was analysed. Anova was used to determine how academic achievement differs according to family patterns and gender. Eight hypotheses were tested in this study.

Differences between family patterns and gender in the Scholastic Achievement Test (SAT) raw scores of the Total Battery, mathematics, English second language and biology were presented separately.

#### SUMMARY OF RESULTS

##### Hypothesis 1

Ho<sup>1</sup>: There will be no significant difference in Scholastic Achievement Test Total Battery (SATT) scores between father-absent and father-present high school students.

The null hypothesis was rejected. Father-present high school students scored significantly higher than father-absent students in SATT,  $P < 0.001$ .

##### Hypothesis 2

Ho<sup>2</sup>: There will be no significant difference in Scholastic Achievement Test Total Battery (SATT) scores between female and male high school students.

The null hypothesis could not be rejected, as no main effect for gender was found to be significant.

### Hypothesis 3

Ho<sup>3</sup>: There will be no significant difference in Scholastic Achievement Test mathematics (SATM) scores between father-absent and father-present high school students.

The null hypothesis was rejected in SATM, SATM (algebra) and SATM (trigonometry). Father-present high school students scored significantly higher than father-absent high school students in SATM,  $p < 0.001$  as well as in SATM (algebra)  $p < 0.01$ , and SATM (trigonometry)  $p < 0.001$ .

### Hypothesis 4.

Ho<sup>4</sup>: There will be no significant difference in Scholastic Achievement Test mathematics (SATM) scores between female and male high school students.

The null hypothesis was rejected in SATM and SATM (algebra). Male high school students scored significantly higher than

female high school students in SATM,  $p < 0.05$  and SATM (algebra)  $p < 0.05$ .

#### Hypothesis 5.

Ho<sup>5</sup>: There will be no significant difference in Scholastic Achievement Test English second language (SATE) scores between father-absent and father-present high school students.

The null hypothesis was rejected in SATE, SATE subtest I and SATE subtest II. Father-present high school students scored significantly higher than father-absent high school students in SATE,  $p < 0.01$ , SATE subtest I,  $p < 0.01$ , and SATE subtest II,  $p < 0.01$ .

#### Hypothesis 6.

Ho<sup>6</sup>: There will be no significant difference in Scholastic Achievement Test English second language (SATE) scores between female and male high school students.

The null hypothesis was confirmed in all English second language variables. No significant differences were indicated between female and male high school students' achievement in SATE, SATE subtest I, SATE subtest II and SATE subtest III.

Hypothesis 7.

Ho<sup>7</sup>: There will be no significant difference in Scholastic Achievement Test biology (SATB) scores between father-absent and father present high school students.

The null hypothesis was rejected, as the main effect on family patterns was significant. Father-present high school students scored significantly higher than father-absent high school students,  $p < 0.05$ .

Hypothesis 8.

Ho<sup>8</sup>: There will be no significant difference in Scholastic Achievement Test biology (SATB) scores between female and male high school students.

The null hypothesis was not rejected, as no significant main effect for gender was indicated.

## DISCUSSION

### Discussion and conclusion on Scholastic Achievement Test: Total Battery (SATT).

Research findings of the present study indicate that the main effect on family patterns in the SATT variable was significant.

The general negative effects of father-absence on SATT scores of Father-absent high school students, as suggested in this study, seem to be compatible with the findings of previous research studies.

Chapman's (1977) investigation which assessed the effects of father-absence and -presence indicates that students from intact families did better at SAT than those from father-absent homes. In collaboration, researchers also suggested that father-absent students scored significantly lower than their father-present counterparts in ACE Scores (Lambert et al., 1968; Landy et al., 1969), SAT Total scores (Douglas, Ross and Simpson, 1968; Deutsch, 1960) as well as Total Achievement scores (Sciara, 1975; Peterson, Debord, Peterson, Livingstone, 1966).

In the present study, analysis shows that there was no gender significant main effect associated with SATT. These

results replicate some previous research that indicated no gender differences in SAT scores (Wilson, 1976; Oshman, 1975).

However, the finding (within subgroups) that FPM high school students scored significantly higher than FAM and FAF on SATT scores, is consistent with Rees and Palmer's (1970) study. Furthermore, some interesting investigations (Pederson, Rubenstein, Yarrow, 1973; Shelton, 1968; Webb, 1970) compatible with these research results indicate that father-present male (but not female) children scored significantly higher than the other paired groupings.

#### **Discussion and conclusions on Scholastic Achievement Test: mathematics.**

One of the most significant findings to emerge from this investigation is the effect of father-presence and -absence on mathematical scores of high school students.

Father-present high school students generally and significantly scored higher than their father-absent counterparts in SATM (algebra), SATM (trigonometry) and the SATM subtest. Previous research suggests that father-absent students tend to score significantly lower than father-

present students in (mathematics) quantitative (Carlsmith, 1964; Sutton-Smith, Rosenberg and Landy; 1968) and arithmetic scores (Lessing, Zagorin, Nelson, 1970).

Theorists offer various explanations for the difference in mathematics performance between father-present and father-absent children. Nelson and Maccoby (1966) attempting to interpret this tendency in previous research suggest that father-absent children's scores are negatively affected because of what they called anxiety interference, that such children are under a great deal of stress, and that ensuing tension interferes with mathematical skills more than any other learning activities (Nelson and Maccoby, 1966).

There is also a wide range of other studies which speculate that the father-present and -absent children's differential performance in mathematics as portrayed in the present study, is ascribed to the problem of poor father-child identification. Most interesting to this theory is Plank and Plank's (1954) study which found through psychoanalytic investigations that mathematical activity requires a masculine identification among females as well as males. In substantiation, this pattern of findings was associated with the fact that a close relationship with a father figure (Iacobacci, 1970; Plank et al., 1954) and masculine identification (Milton, 1957; Ross, 1967) foster both analytical thinking and mathematical interest.

In the same vein Lozoff's (1973) study indicates that women with high mathematical SATS scores tend to give verbal self-descriptions that show closeness to or even preoccupation with their fathers.

Researchers (Bing, 1963; Carlsmith, 1964; Maccoby et al., 1970; Bardwick, 1971) have endeavoured to provide the theoretical basis that this (poor-mathematics) discrepancy is attributable to the fact that in typical female style details of a problem are not disembedded from the context and therefore irrelevant ones in the environment are not ignored. By contrast, the high-mathematics response by male students in some important previous research (Iacobacci, 1970; Bernstein, 1976; Lozoff, 1973) tends to suggest that they typically take an analytic and conceptual approach to problems.

Perhaps most interesting to this study are the findings demonstrating the illuminating theoretical trends already discussed: firstly, that the female high school students scored significantly lower than male high school students, evidently indicating that gender differences in mathematics are in favour of male students, secondly, that father-absence affects female students' mathematical skills much more so than those of the male students' group; and finally, that while FAF's SATM (mathematics) mean scores

have been found to be significantly the lowest, those of FPM students were highest.

**Discussion and conclusions on Scholastic Achievement Test: English second language (SATE).**

In the SATE subtest, SATE subtest (I), and SATE subtest (II), the significant main effect for family patterns was reported. Father-present high school students scored higher than the father-absent group in tests of verbal achievement, supporting the findings of previous research (Maxwell, 1961; Sutton-Smith Rosenberg, Landy, 1968; Coleman et al., 1966).

Lessing, Zagorin, and Nelson's (1970) study suggests a trend that working class father-absence is associated with lower verbal achievement, while among middle and upper middle class students father-absence was found by contrast, to be positively related to verbal aptitude (Oshman, 1975; Vroegh, 1972, 1973). This is a very interesting finding in relation to the present research (which was also undertaken in working class backgrounds), as it goes beyond merely pointing out the effects of the father-absence variable but takes due consideration of (socio-economic status) class as one of the influencing factors.

We speculated that in family settings of migrant father-absence, mothers may tend to be so overburdened by responsibilities as to be unable to care for the children's sound socialization and educative processes. Moreover, the poor mother-child interaction, it is suggested (Zanjong et al., 1975), creates an inadequate intellectual environment for father-absent children. Therefore, this inadequate mother-child interaction in working class father-absent families might have affected the SATE (verbal) achievement of students (Shinn, 1978).

In addition, Bing's (1963), and Plank and Plank's (1954) studies suggest that the negative effects of father-absence upon verbal skills are related to a weak, difficult mother-child relationship. Furthermore, partly confined to Bing's (1963) and Plank et al.'s (1954) finding, researchers (Nelson and Maccoby, 1966; Bing, 1963; Rose et al., 1961) have generally indicated that a high degree of maternal attention or over-protection has been associated with improved verbal skills.

Gender differences were not found to be significant in the SATE subtest. However, differences within groups indicate that FPM scored significantly higher than both FAM and FAF high school students. Conceivably, father-absence appears to affect the SATE scores of female students (who scored significantly lower than FPM students in the SATE Subtest

and in SATE subtest II) than males (who scored significantly lower than FPM students in SATE subtest I only), while father-presence contributes to the improvement of SATE scores of male rather than of female students.

**Discussion and conclusions on Scholastic Achievement Test: biology (SATB).**

Research findings suggest a weakened effect of father-absence upon SATB scores of father-absent students. Although father-present high school students scored significantly higher than the father-absent group, differences were relatively mild compared to the SATT, SATM and SATE variables.

This might suggest that biology neither requires as much analytical-cognitive style as mathematics (SATM), nor as much language proficiency as English (SATE), which in our view may tend to mitigate gender differences.

### EDUCATIONAL IMPLICATIONS

There are two main practical implications for child developmental theories. Research (Pederson, 1980; Lamb, 1986; Lamb et al., 1983) indicates that the absence of preferences in the display of attachment behaviours is one of the most significant findings suggestive of the fact that such infants were equally attached to both fathers and mothers whilst assessment of parental responsiveness to cues (Parke and Sawin 1975, 1976) indicates that fathers and mothers are equally competent in meeting infant needs during feeding routines. Furthermore the suggestion that the human environment of mother-and-father-infant relationships involve qualitatively different types of interactions (Pederson, 1980; Parke et al., 1977; Lamb et al., 1983; Adams et al., 1984) is also indicative of the fact that participation of both parents in child-rearing practices might tend to enhance their complementary roles in the child's personality development.

Considerations of the negative effects (on family and children) of the South African Government's institutionalised father-absence through organized migrant labour, suggest a number of practical policy changes that are necessary if one wishes to eliminate the inhibiting

effects of employment practices on father-child interaction. Lamb and Sagi assert:

Policies and practices that implicitly or explicitly restrict male involvement in child care significantly limit the freedom of choice that is the good of any democratic society(1983:257).

Consequently, the Government should reevaluate its socio-politico-economic policy (based upon the homeland policy) that requires African men to spend extended periods of time away from their families if (as suggested) it is committed towards the creation of a democratic South Africa.

The present study's findings of the negative effects of migrant father-absence upon scholastic achievement of father-absent students suggest other implications for politico-socio-economic theory, as they indicate an indirect form of social control with respect to the homeland-based Africans. Firstly, these findings suggest that very few people will be able to break the vicious cycle of the reproduction of the working class. We, therefore, maintain that migrant father-absence with its accompanying negative effects upon the cognitive development of children serves to maintain the reproduction of such a process of recycling (of cheap labour). Fisher, cited in Adams et al., (1984), explains:

...this industrial society requires a large workforce to reproduce its goods and services. A workforce that generation after generation comes from the working class families. These families reproduce themselves not because they are somehow deficient or their culture aberrant, but because there are not alternatives for most of their children (Adams, Milner, Schreff, 1984: 34).

Secondly, migrant father-absence has been occurring in the African society for many years, meaning wasted years and lost African people. This situation is an indictment on the ruling group and makes a mockery of their claim to "progress" in South Africa.

On the basis of the results, father-absence serves to help us reconstruct some of the influences and insights of the past and present in a linear and ordered fashion, that African people should stay failures, that they are the basic category of failure, and of deviancy in our South African society while the racist Government decides.

### RECOMMENDATIONS

1. Researchers in this area should examine the performance of students related to father-absence due to demands of work (migrant labour) in association with other types of father-absence such as death, desertion, illegitimacy, separation and divorce.
2. In future research, subjects from intact families in which inadequate fathering is commonplace should not be included in the study, as father-presence should be associated with qualitative and quantitative interactional attention to children.
3. Researchers in future studies should consider a broad based sample of father-absent and -present subjects from different homeland areas, where migrant labour is intermittent, to enhance further wider generalisations of the findings of the study.
4. Further research should be conducted exclusively during school times, as subjects tested should be subjected to the same research-oriented conditions.

5. The age variable should be properly controlled in future research, as a wide age range might cause methodological problems.
6. Researchers could also establish the extent to which the presence of grandfathers, uncles, elder working brothers and other male relatives can mitigate the negative academic effects of father-absence in this type of family disorganization.
7. Socio-economic status measures that depend on the education and occupation of the breadwinners, should be more confined to middle-class westernized families. They become inadequate in most South African homeland based African families in which most bread-winners are uneducated manual labourers, and self-employed - concepts that are difficult to define in terms of western standards.

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## APPENDIX B continued

ANNEXURES	TABLES	
Biv	3	NUMBER OF WORK SEEKERS WHO DID NOT GET EMPLOYMENT (1980 - 1982)
Bv	4	NUMBER OF WORK SEEKERS REGISTERED (1983)
Bvi	5	NUMBER OF WORK SEEKERS EMPLOYED (1983)
Bvii	6	NUMBER OF WORK SEEKERS EMPLOYED (1985)

## APPENDIX C

ANNEXURES	TABLES	
Ci		THE SETTING OF SOCIETY IN WHICH THE STUDY WAS CONDUCTED
Cii		THE POPULATION
Ciii		POLITICAL SITUATION

## APPENDIX C continued

ANNEXURES		TABLES
Civ		HEALTH SERVICES
Cv		ECONOMIC DEVELOPMENT
Cvi		EDUCATION
Cvii	7	TOTAL NUMBER OF PUPILS: GRADE 1 TO STANDARD 10 (TOTAL)

APPENDIX D

APPENDIX D-1: DATA GATHERING INSTRUMENTS

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ANNEXURE A ENGLISH SECOND LANGUAGE (HIGHER GRADE)  
STANDARDISED SAT

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THE PURPOSE OF THE INSTRUMENT  
DESCRIPTION  
ADMINISTRATION  
SCORING OF TESTS  
STANDARDISATION  
RELIABILITY  
VALIDITY

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ANNEXURE B MATHEMATICS STANDARDISED SAT

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THE PURPOSE OF THE INSTRUMENT  
DESCRIPTION  
ADMINISTRATION  
SCORING OF TESTS  
STANDARDISATION  
RELIABILITY  
VALIDITY

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**APPENDIX D-1 continued****APPENDIX D-1: DATA GATHERING INSTRUMENTS**

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**ANNEXURE C BIOLOGY STANDARDISED SAT**

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THE PURPOSE OF THE INSTRUMENT

DESCRIPTION

ADMINISTRATION

SCORING OF TESTS

STANDARDISATION

RELIABILITY

VALIDITY

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**APPENDIX D-2**

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**ANNEXURES**

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A DEMOGRAPHIC INFORMATION QUESTIONNAIRE

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B CODED DEMOGRAPHIC INFORMATION AND RAW DATA

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## APPENDIX E

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**TABLE**

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E-1	MEAN SATT SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS
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E-2	MEAN SATT SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-ABSENT HIGH SCHOOL STUDENTS
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E-3	MEAN SATT SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS
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E-4	MEAN SATT SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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E-5	MEAN SATT SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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## APPENDIX F

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**TABLE**

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F-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)
F-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)
F-3	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT MALE AND FATHER-PRESENT FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)
F-4	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT FEMALE AND FATHER-PRESENT MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)
F-5	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)

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**APPENDIX F continued**

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**TABLE**

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F-6	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)
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**APPENDIX G**

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**TABLE**

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G-1	MEAN SATM SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS
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G-2	MEAN SATM SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-ABSENT HIGH SCHOOL STUDENTS
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G-3	MEAN SATM SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS
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## APPENDIX G continued

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G-4	MEAN SATM SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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G-5	MEAN SATM SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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## APPENDIX H

## TABLE

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H-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)
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H-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)
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## APPENDIX H continued

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H-3	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT MALES AND FATHER-PRESENT FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)
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H-4	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT FEMALES AND FATHER-PRESENT MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)
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H-5	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)
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H-6	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)
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## APPENDIX I

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TABLE

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I-1	MEAN SATM (ALGEBRA) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS
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I-2	MEAN SATM (ALGEBRA) SCORES, STANDARD DEVIATIONS,, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS
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I-3	MEAN SATM (ALGEBRA) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER- PRESENT HIGH SCHOOL STUDENTS
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I-4	MEAN SATM (ALGEBRA) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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I-5	MEAN SATM (ALGEBRA) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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## APPENDIX J

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**TABLE**

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J-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) ALGEBRA
J-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) ALGEBRA
J-3	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT MALE AND FATHER-PRESENT FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) ALGEBRA
J-4	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT FEMALE AND FATHER-PRESENT MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) ALGEBRA
J-5	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) ALGEBRA

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APPENDIX J continued

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J-6	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) ALGEBRA
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APPENDIX K

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TABLE

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K-1	MEAN SATM (GEOMETRY) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS
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K-2	MEAN SATM (GEOMETRY SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS
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K-3	MEAN SATM (GEOMETRY) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER- PRESENT HIGH SCHOOL STUDENTS
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APPENDIX K continued

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K-4	MEAN SATM (GEOMETRY) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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K-5	MEAN SATM (GEOMETRY) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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APPENDIX L

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TABLE

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L-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) GEOMETRY
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L-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) GEOMETRY
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## APPENDIX L continued

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L-3      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT MALE AND FATHER-PRESENT FEMALE HIGH SCHOOL  
STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST  
MATHEMATICS (SATM) GEOMETRY

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L-4      tt-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT FEMALE AND FATHER-PRESENT MALE HIGH SCHOOL  
STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST  
MATHEMATICS (SATM) GEOMETRY

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L-5      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC  
ACHIEVEMENT TEST MATHEMATICS (SATM) GEOMETRY

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L-6      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC  
ACHIEVEMENT TEST MATHEMATICS (SATM) GEOMETRY

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## APPENDIX M

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**TABLE**

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M-1	MEAN SATM (TRIGONOMETRY) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS
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M-2	MEAN SATM (TRIGONOMETRY) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-ABSENT HIGH SCHOOL STUDENTS
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M-3	MEAN SATM (TRIGONOMETRY) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS
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M-4	MEAN SATM (TRIGONOMETRY) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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M-5	MEAN SATM (TRIGONOMETRY) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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## APPENDIX N

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**TABLE**

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N-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) (TRIGONOMETRY)
N-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) (TRIGONOMETRY)
N-3	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT MALE AND FATHER-PRESENT FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) (TRIGONOMETRY)
N-4	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT FEMALE AND FATHER-PRESENT MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) (TRIGONOMETRY)

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**APPENDIX N continued**

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**TABLE**

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N-5	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) (TRIGONOMETRY)
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N-6	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM) (TRIGONOMETRY)
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**APPENDIX O**

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**TABLE**

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O-1	MEAN SATE SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS
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## APPENDIX O

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O-2      MEAN SATE SCORES, STANDARD DEVIATIONS, AND SAMPLE  
            SIZE OF RESEARCH GROUPS AMONG FATHER-ABSENT HIGH  
            SCHOOL STUDENTS

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O-3      MEAN SATE SCORES, STANDARD DEVIATIONS, AND SAMPLE  
            SIZE OF RESEARCH GROUPS AMONG FATHER-PRESENT HIGH  
            SCHOOL STUDENTS

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O-4      MEAN SATE SCORES, STANDARD DEVIATIONS, AND SAMPLE  
            SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL  
            STUDENTS

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O-5      MEAN SATE SCORES, STANDARD DEVIATIONS, AND SAMPLE  
            SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL  
            STUDENTS

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## APPENDIX P

TABLE

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P-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE
P-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG <sup>FE</sup> FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE
P-3	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT MALES AND FATHER-PRESENT FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE)
P-4	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT FEMALES AND FATHER-PRESENT MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE
P-5	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE)

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## APPENDIX P continued

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**TABLE**

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P-6	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE)
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## APPENDIX Q

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**TABLE**

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Q-1	MEAN SATE SUBTEST (I), SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS
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Q-2	MEAN SATE SUBTEST (I), SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-ABSENT HIGH SCHOOL STUDENTS
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Q-3	MEAN SATE SUBTEST (I), SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF THE RESEARCH GROUPS AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS
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APPENDIX Q continued

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Q-4	MEAN SATE SUBTEST (I), SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF THE RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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Q-5	MEAN SATE SUBTEST (I), SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF THE RESEARCH GROUPS AMONG MALE HIGH SCHOOL
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APPENDIX R

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TABLE	
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R-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST I
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R-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST I
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## APPENDIX R continued

- 
- R-3      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT MALE    AND FATHER PRESENT-FEMALE HIGH  
SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST  
ENGLISH SECOND LANGUAGE (SATE) SUBTEST I
- 
- R-4      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT FEMALE    AND FATHER-PRESENT MALE HIGH  
SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST  
ENGLISH SECOND LANGUAGE (SATE) SUBTEST I
- 
- R-5      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC  
ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE)  
SUBTEST I
- 
- R-6      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC  
ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE)  
SUBTEST I
-

## APPENDIX S

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**TABLE**

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S-1	MEAN SATE SUBTEST (II) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS
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S-2	MEAN SATE SUBTEST (II) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHERS-ABSENT HIGH SCHOOL STUDENTS
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S-3	MEAN SATE SUBTEST (II) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHERS-PRESENT HIGH SCHOOL STUDENTS
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S-4	MEAN SATE SUBTEST (II) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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S-5	MEAN SATE SUBTEST (II) SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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## APPENDIX T

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**TABLE**

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T-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST II
T-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST II
T-3	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT MALE AND FATHER-PRESENT FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST II
T-4	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT FEMALE AND FATHER-PRESENT MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST II

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## APPENDIX T continued

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**TABLE**

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T-5	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST II
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T-6	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST II
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## APPENDIX U

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**TABLE**

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U-1	MEAN SATE SUBTEST (III) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS
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## APPENDIX U continued

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U-2	MEAN SATE SUBTEST (III) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-ABSENT HIGH SCHOOL STUDENTS
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U-3	MEAN SATE SUBTEST (III) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS
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U-4	MEAN SATE SUBTEST (III) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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U-5	MEAN SATE SUBTEST (III) SCORES, STANDARD DEVIATIONS AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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## APPENDIX V

TABLE

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V-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST III
V-2	t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST III
V-3	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT MALE AND FATHER-PRESENT FEMALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST III
V-4	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-ABSENT FEMALE AND FATHER-PRESENT MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST III

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APPENDIX V continued

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V-5	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST III
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V-6	t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER- ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE (SATE) SUBTEST III
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APPENDIX W

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TABLE	
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W-1	MEAN SATB SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS
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W-2	MEAN SATB SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-ABSENT HIGH SCHOOL STUDENTS
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APPENDIX W continued

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W-3	MEAN SATB SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FATHER-PRESENT HIGH SCHOOL STUDENTS
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W-4	MEAN SATB SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG FEMALE HIGH SCHOOL STUDENTS
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W-5	MEAN SATB SCORES, STANDARD DEVIATIONS, AND SAMPLE SIZE OF RESEARCH GROUPS AMONG MALE HIGH SCHOOL STUDENTS
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APPENDIX X

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TABLE	
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X-1	t-TEST ANALYSIS FOR DIFFERENCES AMONG MALE HIGH SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST BIOLOGY (SATB)
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## APPENDIX X continued

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X-2      t-TEST ANALYSIS FOR DIFFERENCES AMONG FEMALE HIGH  
SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST  
BIOLOGY (SATB)

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X-3      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT MALE AND FATHER-PRESENT FEMALE HIGH  
SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST  
BIOLOGY (SATB)

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X-4      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT FEMALE AND FATHER-PRESENT MALE HIGH  
SCHOOL STUDENTS ON SCHOLASTIC ACHIEVEMENT TEST  
BIOLOGY (SATB)

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X-5      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
PRESENT HIGH SCHOOL STUDENTS ON SCHOLASTIC  
ACHIEVEMENT TEST BIOLOGY (SATB)

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X-6      t-TEST ANALYSIS FOR DIFFERENCES AMONG FATHER-  
ABSENT HIGH SCHOOL STUDENTS ON SCHOLASTIC  
ACHIEVEMENT TEST BIOLOGY (SATB)

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## APPENDIX A : ANNEXURE A(i)

University of Cape Town  
Woolsack pav. 2.13  
UCT Residence  
Rondebosch 7700  
Cape Town  
22. 07. 1988

Director General  
Department of Education  
P/Bag 2250  
SIBASA  
VENDA

## APPLICATION FOR PERMISSION TO CONDUCT AN EDUCATIONAL RESEARCH

1. This matter refers.
2. I hereby apply for permission to conduct an educational research project in schools under the control of your department.
3. Father-absence, which is mainly caused by the migrant labour system, is escalating among African families in the homelands, and Venda is no exception.
4. It is likely that father-absence might cause poor father-child interaction, perhaps leading to poor discipline in the whole family and concern has arisen that this problematic social substrate might tend to affect even the academic achievement of the children concerned.
5. The research topic will therefore be:  
FATHER-ABSENCE AND ACADEMIC ACHIEVEMENT
6. Subjects will be standard ten pupils.

Hoping that this matter will receive your kind attention.

Thanking you in anticipation.

Yours faithfully

  
R.I. NESENGANI



## APPENDIX B

### ANNEXURE Bi

#### MIGRANT LABOUR RECRUIT SYSTEM

In this area on which the study is focused, poverty-stricken males are forced to accept recruitment for the labour market. The government legitimated the recruiting system through the Labour Act of 1964 (Act 67 of 1964). It is in terms of the provisions of this Act that a central Labour Bureau was established in the Department of Internal Affairs prior to the Independence of Venda on the 13th September 1979 (Venda Internal Affairs Report, 1981). The labour force in Venda is recognised as an export commodity for the Homeland. The Labour Bureau, therefore, has well-established functions that are executed in order to run the recruiting process. The Labour Bureau necessarily keeps records, promotes selective recruiting of employees and organises occupational adjustments for them (Venda Internal Affairs Annual Report, 1981). Thus Labour Bureau offices have been established in district offices of Magistrates at Dzanani, Mutale, Thohoyandou and Vuwani.

The purpose of reporting, hereunder, the number of migrant labourers recruited is to indicate the approximate number of fathers that are recruited. According to the Internal

Affairs Annual Report (1981), the Labour Bureau offices registered 69 971 (in 1980), 58 951 (in 1981) and 55 473 (in 1982) work seekers. (See Table 1)

# ANNEXURE Bii

## TABLE 1

### NUMBER OF REGISTERED WORKERS

LABOUR BUREAU OFFICES	1980	1981	1982
Dzanani	13 635	16 250	19 018
Mutale	7 360	1 405	6 903
Thohoyandou	27 970	28 454	17 155
Vuwani	21 006	12 862	12 397
<b>Grand Total</b>	69 971	58 951	55 473
	=====		

The Internal Affairs Annual Report (1981) indicates that of all registered workseekers above, only 24 040 (in 1980), 20 403 (in 1981), and 29 436 (in 1982) were employed in South Africa. (See Tables 2 and 3).

## ANNEXURE Biii

TABLE 2

## NUMBER OF WORKSEEKERS EMPLOYED IN SOUTH AFRICA

DISTRICT	1980	1981	1982
Dzanani	6 388	7 204	8 720
Mutale	2 360	1 405	6 908
Thohoyandou	7 233	8 671	10 704
Vuwani	5 995	3 481	5 890
Sub-total	21 962	20 403	27 332
Teba (included)	2 078	-	2 014
Grand Total	24 040\$	20 403	29 436

## ANNEXURE Biv

TABLE 3

## NUMBER OF WORKSEEKERS WHO DID NOT GET EMPLOYMENT

DISTRICT	1980	1981	1982
Dzanani	7 247	9 046	9 978
Mutale	5 162	358	4 438
Thohyandou	20 740	19 763	5 447
Vuwani	16 011	9 381	6 174
<b>Grand Total</b>	<b>46 160</b>	<b>38 548</b>	<b>26 037</b>
=====			

It is important to note that in 1983 approximately 75% of all Venda work-seekers were employed in the Republic of South Africa. (See Tables 4 and 5).

## ANNEXURE Bv

TABLE 4

NUMBER OF WORKSEEKERS REGISTERED - 1983

DISTRICT	NO. OF WORKSEEKERS
Thohoyandou	10 637
Vuwani	6 980
Dzanani	11 516
Mutale	3 183
Grand Total	32 316

=====

## ANNEXURE Bvi

TABLE 5

## NUMBER OF WORKSEEKERS EMPLOYED - 1983

DISTRICT	B.A. 1163 &	B.A. 403	TEBA	TOTAL
Thohoyandou	6 541	2 486	958	9 958
Vuwani	5 000	1 215	393	6 608
Dzanani	9 668	644	360	10 672
Mutale	2 262	304	478	3 048
<b>Total</b>	23 472	4 647	2 189	30 386

It is significant to note that 93,7% or 32 316 were registered, the rest having side-stepped the Labour Bureau and organized their own employment opportunities (see Table 4). It is unfortunate that there is no clear tabled record for 1984. However during this year, 89,1% of the total of about 34 240 in the workforce were employed in various industries in South Africa. Lastly, in 1985, the Labour Bureau helped employ 31 512 workseekers, who formed 95,5% of the total work force that year (see Table 6).

## ANNEXURE Bvii

TABLE 6

NUMBER OF WORKSEEKERS EMPLOYED (1985)

DISTRICT	WORK SEEKERS	BA 1163	TEBA	COMMUTERS	TOTAL UNEMPLOYED EMPLOYED	
Thohoyandou	10 885	9 662	971	1 100	10 743	143
Vuwani	7 678	5 353	514	711	6 578	1 100
Dzanani	11 488	7 699	447	3 188	11 334	154
Mutale	2 951	2 291	551	15	2 857	94
<b>Total</b>	<b>33 002</b>	<b>25 005</b>	<b>2 483</b>	<b>4 024</b>	<b>31 512</b>	<b>1 491</b>

Within a period of six years (1980-1985) more than 100 000 migrants were recruited. There is a negligible number of unmarried male and female persons included in these statistical numbers, but most recruits are married men whose poverty-stricken families look to them for the basic requirements of life. This investigation will attempt to study school performance of children in relation to father-absence.

## APPENDIX C

### ANNEXURE Ci

#### THE SETTING OF SOCIETY IN WHICH THE STUDY WAS CONDUCTED

In this section, we are going to try and give insights into interdisciplinary components of the societal setting, for fear of only considering an isolated short analysis of a purely educational problem and its relation to migrant labour. We suggest that society, as an ensemble of structural articulated sites of social practice, be treated as one inextricably bound whole, since educational practices are determined by, and heavily depend on conditions established in it.

### ANNEXURE Cii

#### THE POPULATION

We consider it important to give a statistical account of the approximate number of people affected - people who have been ultimately edged to structural margins of the apartheid, capitalist society through manipulation of the homeland policy by the white South African Government.

According to the Venda Development Information Report (1986) the total population of Venda increased from 272 452 persons in 1970 to 344 932 in 1980 and to 459 986 in 1985.

Furthermore, there is evidence that in 1980, 164 714 or 47,7 percent of the de facto population were in the age group between 1 to 14 years, while 164 403 or 47,7 percent were in the age group of 15 to 64 years and 15 815 or 4,6 percent were in the age group of more than 64 years (Statistical Abstracts Report, 1987).

Notably, the SATBVC statistical Abstracts Report (1987) shows that the area of Venda is 7176 km<sup>2</sup> in which the population density was found to be 64 persons per square km in 1985.

### ANNEXURE Ciii

#### POLITICAL SITUATION

The Homeland we focus on was offered independence by the South African Government. It is common knowledge that it (S.A. Government) did so mainly out of socio-politico-economic interests. The Government leaders in this homeland, were co-opted into the South African Socio-politico-economic structure that serves the white South Africans capitalist economy (Mugomga and Nyaggah, 1980). It is unlikely that such white South African interests in this area can be reduced, unless such an apartheid political

Government evolves to a non-racial, and democratic form of government.

In accordance with the SATBVC Statistical Abstracts Report (1987) the executive president is the head of the state; the country's present legislative power is vested in parliament which consists of the president and the National Assembly, which is composed of 91 members: 28 of which are mahosi (chiefs) who are ex-officio members; 45 elected members; 15 members designated by the District Councils and three members nominated by the president. The executive Council (SATBVC Statistical Abstracts Report, 1987) consists of the president, and nine ministers. There are 23 Government departments and two state corporations namely, the Venda Development Corporation (VDC) and the Venda Agricultural Corporation (Agriven). Venda is a one-party state (SATBVC Statistical Abstracts, 1987).

One of the most interesting notions in the political analysis of this one party-state is that the number of elected members as shown above, is comparatively less than their non-elected counterparts. This ensuing disparity is the particular government's legislative constitutional device to secure maintenance of power of illegitimate Government against the general voters' will. The fact that more and better jails have been built after independence

than before reflects the realities of the type of rule that homeland dwellers are confronted with.

#### ANNEXURE C iv

#### HEALTH SERVICES

Interestingly, the growth rate in the number of health institutions has been found to be comparatively high in post-independence than at any other period in time, suggestive of the more inviting independence prize packages.

There is evidence that health institutions have grown from 41 clinics in 1980 to 48 clinics in 1985, and from 16 visiting points in 1980 to 48 clinics in 1985, and from 16 visiting points in 1980 to 23 in 1983. While in 1985, there were only three hospitals, two health centres, and three mobile clinics (SATBVC Statistical Abstracts Report 1987).

Moreover, the number of doctors has grown from 11 in 1980 to 19 in 1985, an annual increase of 9.5%. Notably too, is the growth in the number of nurses from 381 in 1980 to 762 in 1985 showing an annual increase of 12.3%, while paramedical personnel has grown from 25 in 1980 to 32 in 1985, having increased by 4.2% annually (SATBVC Statistical Abstracts, 1987).

Nevertheless, despite these marked improvements, the vulnerability of people's landlessness (over time) was exacerbated by fluctuating economic conditions. The SATBVC Statistical Abstracts Report (1987) indicates that the 1984 drought provides an illustrative model of appalling economically inadequate conditions under which people in this area live. The report noted that in 1984 severe drought caused a steady rise to 545 of Kwashiokor cases admitted to all three hospitals. Noteworthy also is that, during this year there were distributions of food to some 6000 families, vitamin tablets to malnourished school children and milk powder to under-nourished infants. Furthermore, for the March 1984 - March 1985 financial year, 1069 patients were treated for malnutrition, while 1373 were treated for the same deficiency disease in (1983 - 1984) previous financial year. During the same current year, 1229 gastro enteritis patients were admitted (SATBVC Statistical Abstracts, 1987).

In this section data indicates the realistic constraints of the socio-economic-political system that surround working-class people. Malnutrition in their children is accompanied (Brozek, 1979) by systematic neurological and physiological retardation of the important bases of intellectual development. Moreover, poverty produces and reproduces some kind of psychological deprivation (Moll, 1984) in the cognitive development of children.

ANNEXURE Cv  
ECONOMIC DEVELOPMENT

The population in this part of South Africa has more materially disadvantaged than advantaged people. In this study however, no attempt will be made at classifying them into the deprived and the non-deprived.

Perhaps an indication of some abiotic factors will make for an understanding of the real issues. Ancient granite-gneiss rock lies beneath a large part of Venda and the area North of the Soutpansberg mountains is covered mainly by sediments and volcanics of the Karroo super group (SATBVC Statistical Abstracts, 1987). The resettlement process has systematically relocated people in these areas in which the soil is generally poor in plant nutrients and rainfall scarce.

However, some fertile area, which is unfortunately used for most of the state corporation's agricultural projects, comprised of 8536ha in June 1985. Of these projects 26 were managed by Agriven, five managed by the Department of Agriculture and forestry, three tea and coffee projects managed by Sapekoe, and one each managed by Venteel and Sentra bestuur (SATBVC Statistical Abstracts, 1987).

In resettlement areas not every household (as designed by the Department of Native Affairs, 1959) owns a subsistence piece of land to cultivate. By the state's legislative design (Department of Native Affairs 1959), the larger percentage of the population have to be offered other ways of making a living, and this other alternative being the sale of labour power.

Although the local workforce has grown from 17129 in 1980 to more than 3444 in 1985, showing an annual increase of 17,5% there have been more unemployment problems during this decade than ever before. Outrageous situations such as these are not without their psychological implications upon the landless working class. These conditions reduce human beings to cheap, exploitable economical resources, and encourage optimal dependency relations with the socio-political-economic design of the homeland policy.

#### **ANNEXURE Cvi**

##### **EDUCATION**

This study focuses on students from schools which are under the jurisdiction of the Venda State Department of Education. At the top of the Head Office staffing hierarchy is the Director General, who is directly responsible to the

## ANNEXURE Cvii

TABLE 7

TOTAL NUMBER OF PUPILS:

GRADE 1 TO STD 10 TOTAL 238 474 PUPILS.

	Primary	Secondary	TOTAL
<b>FEMALES</b>	82557	36030	118587
<b>MALE</b>	86464	33423	119887
<hr/>			
<b>TOTAL</b>	169021	69453	238474
<hr/>			

Of the Secondary Schools, 119 are high schools which range up to Std. 10 in 1988. The Std. 10 student population in these high schools is 9 621, of which 4 631 consist of male and 4 990 of female students.

It is not the purpose of this study to directly discuss the broad system of education as such, but its short analysis in relation to the South African society as a whole.

The separation of education from the overall political, economic, social and cultural development of people in the South African situation is considered (Mugomga and Nyaggah, 1980) to be one of the greatest mistakes of our time. There

is general recognition that there is direct correlation between Bantu Education and the resultant African's dependence servitude. Bantu Education is viewed (Mugomga and Nyaggah, 1980) as legally married to the homeland-based separate development policy which is aimed at cyclical and systematical denial of Africans' educational opportunities equal to those of dominating whites. This is the condition which internalizes servitude of exploited Africans politico-economically.

**APPENDIX D-1****DATA GATHERING INSTRUMENTS****Annexure A****English second language standardised SAT.****The purpose of the instrument.**

In these standardised (SAT) tests acquired from HSRC (1973), achievement is assessed in terms of (a) knowledge and understanding of basic concepts and principles in the usage of English; (b) the ability to apply knowledge in problems situations and (c) the ability to use it in analysis and evaluation.

**Description**

English second language Std. 10 standardised SAT, (most importantly based on the syllabus which hasn't changed since, 1973) measure achievement in three major areas, namely:

- (a) language usage;
- (b) vocabulary, and

(c) reading.

This instrument (HSRC, 1973) enables the comparison of individual pupils with each other, diagnosis and prognosis of individual areas of weakness and the classification of pupils.

The SAT sub-test of language usage, which has 50 items (40 minutes) tests language manipulation and application of grammatical concepts and those principles which govern such application. The SAT vocabulary sub-test consists of 30 items (25 minutes) in the form of words in sentences and in some instances words isolated from syntax. SAT Reading Comprehension Sub-test consisting of 40 items (35 minutes) requires a pupil to read passages of prose and poetry, and then answer questions based on ideas, meanings or concepts from such passages. Questions are multiple choice with five possible answers (HSRC, 1973).

#### **Administration**

For the purpose of administration the testees used one test booklet (1026 ps); one answer sheet (1022 ps); pencil and eraser per testee. In order to administer the tests the tester needed the following materials, supplied by the HSRC;

- (a) test booklet (1026 ps);
- (b) instruction booklet (1028 ps), and used his own stop watch.

### **Scoring of tests**

Scoring was to be carefully done by the tester. This was done according to instructions on scoring of sub-tests as per instruction booklet (1028 ps) pp 10-11 of HSRC (1973).

### **Standardisation**

This SAT test was modified after subsequent item analysis and selection in 1969. In 1970 the test was re-administered for item analysis. Teachers' and testers' comments after experimental applications were taken into consideration in the construction of the final test.

The sample used for the application in establishment of norms consisted of 365 Std. 9 pupils and 364 Std. 10 pupils studying English second language in 19 schools (throughout South Africa under the then Department of Education and Culture).

The composition of the norm group sample was drawn in proportion to the number of pupils from the Transvaal, Cape, OFS and Natal provinces. Notably, the proportion of the composition of the norm group sample hasn't changed in 15 years. Type of norms which were used for interpreting the scores are the percentile ranks, stannines, and a qualitative ranking scale.

### Reliability

Reliability of these tests was calculated in accordance with the Kuder-Richardson formulae. The reliability of all three Std. 10 tests is 0.9 (HSRC 1973). The standard error measurement which is dependent on the reliability of the test is likely to be low as a higher reliability always indicates the lower error of measurement.

### Validity

The validity of the instrument is considered as the extent to which the content of the test constitutes a representative sample of skills and knowledge, which are the goals of instruction for which learning was planned. English second language experts decided on appropriate items to be included. When this instrument was constructed an

attempt was made to ensure content validity by examining syllabi as a basis for determining skills, knowledge, and understanding to be measured (HSRC, 1973). The correlation between this (SAT) test and the English second language examination is 0,8 for the Std. 10 group.

## **ANNEXURE B**

### **Mathematics SAT**

#### **The purpose of the instrument.**

Mathematics (SAT) (based on present used syllabus) tests supply a valid, reliable and objective measuring instrument (HSRC, 1973). These tests determine the pupil's level of knowledge, insight and the ability to apply acquired skills.

#### **Description**

The algebra SAT (booklet 1059 ps) for Stds. 9 and 10 consists of 55 items of which pupils answer 40 (90 minutes) only. Std. 9 pupils answer from the 3rd to the 42nd while Std. 10 pupils answer items 16 to 55. The geometry SAT (booklet 1060 ps) has 47 items (90 minutes) of which 30 are to be answered by students. Std. 9 pupils answer items 3 to

32. Std. 10 pupils are required to answer from the 18th to the 47th item. SAT for trigonometry Stds 9 and 10 comprises 40 items (90 minutes) of which 25 have to be answered. Std. 9 students have to answer items 3 to 27 and Std. 10 students from items 16 to 40. The three sub-tests consist of multiple-choice questions with five possible answers.

### **Administration of Tests**

For the proper administration of these tests, instructions as prescribed in the HSRC (1973) test Manual 1072 ps (pp8-20) were studied and observed throughout the testing period.

### **Scoring of Tests**

The three sub-tests were scored manually by means of scoring keys. Before scoring it was checked to see whether one answer to the question had been marked. If two or more answers had been marked, marks for the particular item were erased. The scoring keys were used as stipulated in the HSRC (1973) test Manual 1072 ps 20.

### Standardisation

In 1971 algebra, geometry and trigonometry SAT were applied to a representative sample of Std. 9 and 10 pupils in RSA and SWA. In 1972 this SAT instrument was applied for norms. Types of norms given in this test are percentile, T-score, and Stannine ranks (HSRC, 1973).

### Reliability

The term reliability refers to the degree to which the test results are consistent. The reliability of these tests is calculated by means of the K-R formula 20. The reliability co-efficient of algebra SAT for Std. 9 is 0,8 and 0,8 for Std. 10's test. Lastly, reliability co-efficient of trigonometry SAT Std. 9 is 0,9 and 0,8 for Std. 10's test (HSRC, 1973).

The test manual (1072 ps) also reports on error of measurement, on procedures, and samples showing the number of pupils in norm groups, and on the correlation between the means of test and examination marks.

## Validity

The validity of the instrument is in fulfilling the function for which it is being utilised, mainly the degree to which it is capable of achieving certain specified purposes.

However, content validity is of importance as Ebel (1956) reflects:

"that the relevant type of validity in the measurement of academic achievement is content validity. In assessing the content validity on an achievement test one asks: To what extent does the test require demonstration by the achievements which constitute the objectives of instruction in this area?" (p. 269).

In order to ensure content validity of the tests the HSRC (1973) designed that:-

- (a) The test constructor make a comprehensive study of the curriculum and subject matter content;
- (b) Questions were carefully checked by a committee of subject specialists with respect to aspects of education and content;

- (c) The refining of certain questions was carried out as a result of item analysis, and
- (d) Comments obtained from teachers were taken into consideration (HSRC 1072 ps, 1973 : 30).

The test manual (HSRC 1072 ps) describes measures of criteria, criterion-related validity sample, and criterion-related analysis distinctly. For purposes of construction validity, interpretation of the test as a measure of a theoretical variable has been elaborated.

## **ANNEXURE C**

### **Biology SAT**

#### **The purpose of the instrument.**

The Biology SAT is intended to provide a reliable and objective measurement of the pupils' level of knowledge, understanding and their ability to apply their knowledge in new problem situations.

### **Description**

Biology SAT (English) is based on syllabi that were introduced by the provincial education departments in 1972 which were revised in 1977.

These Scholastic Achievement Tests consist of 18 Std. 8, 9 and 10 standardised ones based in HIGHER GRADE.

African Std. 10 pupils are examined on work based on Std. 9 and 10 syllabi (norms) for their final year examinations. Therefore, the following sub-tests of high validity and reliability co-efficients were chosen for the assessment of achievement in this subject. Std. 9 (SAT) sub-test 2 of 33 minutes duration, which consists of 52 items; sub-test 12 of 14 minutes duration consisting of 37 items; and Std. 10 (SAT) sub-test 9 of 46 minutes duration consisting of 117 items were chosen for the research. These sub-tests consist of multiple choice questions with at least five possible answers.

### **Administration of tests**

The instructions for the administration of tests were properly studied before they were administered.

Instructions appearing on the test manual 2112 (pp 15-25) were strictly adhered to.

### **Scoring of tests**

Tests were scored in accordance with instructions as set out in the HSRC (1984) manual (2112 ps). Steps 3.2.1. to 3.2.5. (on p.27) served as guidance.

### **Standardisation**

In 1977 ten of the 18 (SAT) tests were administered for experimental purposes to a stratified sample of pupils in the RSA. The other eight tests remaining were administered toward the end of 1978. Each section was tested at three levels, namely: knowledge, comprehension and application.

Administration of these tests for the establishment of norms was done to stratified samples of pupils in schools in the RSA during October and November, 1979

### Reliability

Reliability co-efficient of SAT biology was calculated by using the Kuder-Richardson formula 8.

Reliability co-efficients of SAT in the TRansvaal province, under which the geographical area of this study falls, were considered for the choice of tests for fear of both geographical bias and a smaller than 0,70 reliability co-efficient, which is inadequate according to the HSRC (1984) manual (2112 sp).

Consequently, the reliability co-efficients of the sub-tests we have chosen are adequate to be employed in the research. They are (SAT) biology HG, sub-test 2 of reliability co-efficient of 0,81, sub-test 12 of which is 0,79 and Test 9 of 0,9 reliability co-efficient.

### Validity

In as far as Achievement Tests are concerned, the type of validity of greatest concern is content validity where content does not only refer to the subject matter content covered by the tests but the range of behaviour evaluated.

In the (SAT) biology test (2112) manual (1984) a review of outlined subject matter content sampled by the test was made including an evaluation of how representatively the content has been sampled.

The biology test manual (HSRC, 1984) describes completely and accurately the adequacy of all measures of criteria. Furthermore, the manual reports very clearly the criterion-related validity analysis and proposed interpretation of the tests.

## ANNEXURE A.

DEMOGRAPHIC DATA QUESTIONNAIREINSTRUCTIONS:

Please answer the following questions. There are no right or wrong answers. I simply want you to tick or write one answer (in the appropriate box) to each question.

1. YOUR NAME: \_\_\_\_\_
2. YOUR SCHOOL: \_\_\_\_\_
3. YOUR SCHOOLS'S CIRCUIT: \_\_\_\_\_
4. WHAT IS YOUR PRESENT STANDARD: COLUMNS

(a) 5	1.	<input type="checkbox"/>	1
(b) 9	2.	<input type="checkbox"/>	
(c) 10	3.	<input type="checkbox"/>	
5. SEX:
 

(a) Male	1.	<input type="checkbox"/>	2
(b) Female	2.	<input type="checkbox"/>	
6. WHAT IS YOUR AGE IN YEARS?
 

	<input type="text"/>	<input type="text"/>	3-4
--	----------------------	----------------------	-----
7. ARE YOU LIVING/STAYING 5

(a) With both parents everyday?	1.	<input type="checkbox"/>	
(b) Mainly with mother because father is away at work??		<input type="checkbox"/>	
8. IF YOUR FATHER IS WORKING AWAY FROM HOME HOW MANY YEARS HAS HE BEEN DOING SO? 6

(a) 10-15 years	1.	<input type="checkbox"/>	
(b) 15-20 years	2.	<input type="checkbox"/>	
(c) 20-25 years	3.	<input type="checkbox"/>	
(d) 25-30 years	4.	<input type="checkbox"/>	
(e) 30-35 years	5.	<input type="checkbox"/>	
(f) 35-40 years	6.	<input type="checkbox"/>	

2.

COLUMNS

## 9. WHEN DOES YOUR FATHER COME BACK HOME?

- (a) During leave times only which is once a year 1. ☐
- (b) During Easter and Christmas holidays 2. ☐
- (c) During leave times and some weekends 3. ☐
- (d) Does not come back, we visit him in town 4. ☐

## 10. HOW MANY LIVING BROTHERS AND SISTERS DO YOU HAVE IN YOUR FAMILY?

(e.g. Where there are two children only in your family 0 2) ☐☐

## 11. WHAT IS YOUR ORDINAL POSITION IN THE FAMILY?

(e.g. If you are a child who was born first, write 0 1) ☐☐

## 12. WHAT IS THE TOTAL NUMBER OF YOUR MOTHER'S SCHOOLING YEARS?

- (a) (Never attended school) Zero years 1. ☐
- (b) 1 year 2. ☐
- (c) 2 years 3. ☐
- (d) 3 years 4. ☐
- (e) 4 years 5. ☐
- (f) 5 years 6. ☐
- (g) 6 years 7. ☐
- (h) 7 years 8. ☐
- (i) 8 years 9. ☐

(j) 9 years

10. ☐

(k) 10 years

11. ☐

(l) 11 years

12. ☐COLUMNS13. WHAT IS THE TOTAL NUMBER OF YOUR  
FATHER'S SCHOOLING YEARS?

14-15

(a) (Never attended school)  
Zero years1. ☐

(b) 1 year

2. ☐

(c) 2 years

3. ☐

(d) 3 years

4. ☐

(e) 4 years

5. ☐

(f) 5 years

6. ☐

(g) 6 years

7. ☐

(h) 7 years

8. ☐

(i) 8 years

9. ☐

(j) 9 years

10. ☐

(k) 10 years

11. ☐

(l) 11 years

12. ☐

## 14. WHAT IS YOUR FATHER'S OCCUPATION?

16

(a) Manual (unskilled) work  
in factory1. ☐(b) Manual (unskilled) work  
in mine2. ☐(c) Manual (unskilled) work  
in Government employment  
in Venda3. ☐(d) Manual self-employed  
work in Venda4. ☐

(e) Other manual work in

Venda

5. ☐(f) Other manual work in  
South Africa6. ☐

## 15. WHAT IS YOUR MOTHER'S OCCUPATION?

17

(a) Housewife

1. ☐

(b) Domestic worker

2. ☐(c) Self-employed manual  
work3. ☐

(d) Small factory worker

4. ☐

(e) Other

5. ☐16. WHAT ARE YOUR FAMILY'S HOUSING  
STRUCTURES?

18

(a) Huts

1. ☐(b) Cement-plastered corrugated  
-iron-roofed house2. ☐

(c) both house and huts

3. ☐(d) Mud-plastered corrugated-  
iron-roofed house4. ☐

## 17. HAS YOUR MOTHER ATTENDED High SCHOOL?

19

(a) Yes

1. ☐

(b) No

2. ☐

## 18. HAS YOUR FATHER ATTENDED HIGH SCHOOL?

20

(a) Yes

1. ☐

(b) No

2. ☐19. WHEN DID YOUR FATHER FIRST START  
WORKING FAR AWAY FROM HOME?

21

(a) Between 1970-1978

1. ☐

(b) Between 1968-1973

2. ☐

(c) Between 1963-1968

3 ☐

(d) Between 1958-1963

4 ☐

(e) Before 1963

5 ☐

## APPENDIX D-2

## ANNEXURE B

## CODED DEMOGRAPHIC INFORMATION AND RAW DATA

001219100060201075412201707073103322040430  
002118100050301014122201510143904624071041  
003118253060402076132251507123404609091129  
004216233050301066132231510143905210061228  
005219100060201075112202418186004513030420  
006218232030106086222232014175704807060417  
00721721302011116512212418155707317141445  
008118233090405126122131715185004919040629  
009123232040301026112232714246505716070831  
010120100070501014232203322268105915071840  
011120100110301054332203420268003822071443  
012219100030302103332203120257606007061326  
013218232020112086342221912195010109080825  
014218251090301066132251713144407418131445  
015218242090703076532243111165807409060217  
016118100070701094542202312144907011031327  
017219100050101085132202815165909413080627  
018219100020301014112202414175509411100930  
019220100050501075112202515185809014091033  
020118253060301076532243221298211916121038  
02111821203010101112211715144607117121039  
022119231050209076122232011164707414070829  
023118100080301064132202819237009019122051  
024118100040102074132202917226808316151445  
025125100050201015132203023308309309051630  
027218253060307096422242815185108608030920  
028218100040101015512202612286609408051528  
029119232050201086132231708053005309080926  
030122100070507095542201911053505615081033  
031225100060301024332201006112604812090627  
032218222030101076112222109073705807060619  
033119233030106066112232111215305219070834  
034122242040210081532221912174803809050418  
035117100040301083132202217145304508070722  
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038218100040501075212202015195403710051126  
039218233030102081112231913134503610040832  
040218243040307111122241911205004212070625  
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043120100020301014132201308082905218040527  
044122100040301014112201107052303607110523  
045219100060701024132202007113806513050523  
046219100090801024112201511103605010070522  
047220243050501011132241108092803006070114  
048221223050103036132221207072604808060418

049117233030301011112231310093205410051126  
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051218100050101094132201312063109925030735  
052217223050207061112222112104305706060416  
053126241060103046322231208082804610070724  
054119100050105092512102404053305616051334  
055219100080401035112201710123905315061435  
056219233040206086132231109072706610060622  
057220231090201071542231310113404407060619  
058124222050601011112221006052102609030214  
059120100040401055112201610043005214030720  
060218100050701045142202111084004406050819  
061224100070401075112201410032703010050722  
062219100050409105322201506093005212070423  
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064120100050404845122015120553204413061433  
065119243030301076542241911023203311041225  
066118251060601066142252218054505007030717  
067217252090801071542252011023304919070925  
068221233040303091512231111032505113071636  
069118223060101096232221109042405007060417  
070119100070301095112201509103405018071237  
071218100050507064132201209022304512080929  
072219232050209026542231207072603808060317  
073121233030109096132231411053003713061130  
074121244030202091222241612073505414060525  
075121100050302071442202511124807224081850  
076117100030110123122102415155405017060629  
077218100020310095132202704114204506050920  
078219100050207045132202108093804311060322  
079219233050301061532232408134504611060925  
080219233030207096222231708053003713080728  
081218100050401091122201710073406615101136  
082119100050201095132201608032705221151551  
083119223030109096122221610123806114071031  
084221233010109051122232009103904513020833  
085218100020103116132201104082303710071027  
086122100060103085122201607062903710080624  
087120233040101046122231611053205011060219  
088219223050102096132221909083605211080726  
089120100030201043112202116205707911141338  
090118100070502084112202110245509316171033  
091118233020201066132232217195810010151439  
092118213070201061132212414145606817121039  
093220100080702034132202116236008816181953  
094219100050304064112202117155306023111549  
095217223050101106132221717175111611131236  
096219232040401051112231913235309625131149  
097119212040201031112211309022405010070926  
098121100060303024212200811042305111080827  
099218100030401113112202214084406214061232  
100216212070504086122122707104408312050825  
101119252080703071142252116155209529101453  
102218252050303061112252314185508915142251

103219100070601094112202018175509217171852  
104119100050101065142201918215809718131643  
105120100050201013132202515195909811191545  
106118233050109106132231911184807422151653  
107217223090206046132221513164410411081433  
108218100060601075142202216175509122171049  
109217100030506104542202615226309023101245  
110219100030401074112201913154708411071128  
111217100020601064112201917155108818071338  
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APPENDIX E

MEANS AND STANDARD DEVIATIONS OF THE SCHOLASTIC ACHIEVEMENT TEST:

TOTAL BATTERY (SATT)

TABLE E-1

Mean SATT scores, Standard Deviations and Sample Size of Research Groups

Groups	Mean scores	Standard Deviation	n
Father absent students	132,94	38,50	138
Father present students	149,90	43,11	138
Female students	138,24	40,37	138
Male students	144,63	41,24	138

TABLE E-2

Mean SATT scores, Standard Deviations, and Sample size of Research groups among Father-Absent High School Students.

Groups	Mean scores	Standard Deviation	n
Females	130,50	38,70	69
Males	135,43	38,31	69

TABLE E-3

Mean SATT Scores, Standard Deviations and Sample Size of Research groups among Father-Present High School Students

Groups	Mean Score	Standard Deviation	n
Females	146,0	42,0	69
Males	153,8	44,2	69

TABLE E-4

Mean SATT Scores, Standard Deviations, and Sample Size of Research groups among Female High School Students

Groups	Mean Score	Standard Deviation	n
Father absent	130,50	38,70	69
Father present	146,0	42,0	69

TABLE E-5

Mean SATT Scores, Standard Deviations and Sample Size of Research groups among Male High School Students

Groups	Mean Score	Standard Deviation	n
Father absent	135,43	38,31	69
Father present	153,8	44,2	69

## APPENDIX F

t-test ANALYSIS BETWEEN SUB-GROUPS OF FAMILY PATTERNS AND GENDER ON  
THE

SCHOLASTIC ACHIEVEMENT TEST: TOTAL BATTERY (SATT)

TABLE F-1

t-test Analysis for Differences among Male High School Students on  
Scholastic Achievement Test: Total Battery (SATT)

Sub-groups	df	t	p
Father present with Father absent	132	2,60	0.0103

TABLE F-2

t-test Analysis for Differences among Female High School Students on  
Scholastic Achievement Test: Total Battery (SATT)

Sub-groups	df	t	p
Father present with Father absent	135	2,25	0,0258

TABLE F-3

t-test Analysis for Differences among Father Absent Males and Father Present Female High School Students on Scholastic Achievement Test: Total Battery (SATT)

Sub-groups	df	t	p
Father present with	134	-1.54	0,1262

TABLE F-4

t-test Analysis for Differences among Father Absent Females and Father present male High School Students on Scholastic Achievement Test: Total Battery (SATT)

Sub-groups	df	t	p
Father present with	133	3.30	0,0012*
Father absent			

\*p<0,01

TABLE F-5

t-tests Analysis for Differences among Father Present High School Students on Scholastic Achievement Test: Total Battery (SATT)

Sub-groups	df	t	p
Male with Females	135	1,06	0,2893

TABLE F-6

t-tests Analysis for Differences among Father-absent High School Student on Scholastic Achievement Test: Total Battery (SATT)

Sub-groups	df	t	p
Male with Female	134	0,75	0,4545

## APPENDIX G

MEANS AND STANDARD DEVIATIONS OF SCHOLASTIC ACHIEVEMENT TEST

MATHEMATICS (SATM)

TABLE G-1

Mean SATM scores, Standard Deviations and Sample Size of Research Groups

Groups	Mean Scores	Standard Deviations	n
Father Absent Students	30,08	11,02	138
Father Present Students	34,90	12,15	138
Female Students	31,07	11,73	138
Male Students	34,17	11,44	138

TABLE G-2

Mean SATM scores, Standard Deviations and Sample size of Research groups among Father Absent High School Students

Groups	Mean Scores	Standard Deviations	n
Females	28,7.	10,70	69
Males	31,5	11,31	69

TABLE G-3

Mean SATM scores, Standard Deviations and Sample size of Research groups among Father Present High School Students

Groups	Mean Scores	Standard Deviations	n
Females	33,0	12,7	69
Males	37,0	11,6	69

TABLE G-4

Mean SATM scores, Standard Deviations, and Sample Size of Research groups among Female High School Students

Groups	Mean Scores	Standard Deviations	n
Father Absent Students	28,7	10,7	69
Father Present Students	33,0	12,0	69

TABLE G-5

Mean SATM scores, Standard Deviations, and Sample size of Research groups among Male High School Students

Groups	Mean Scores	Standard Deviations	n
Father Absent Students	31,5	11,31	69
Father Present Students	37,0	11,6	69

## APPENDIX H

t-tests ANALYSIS FOR DIFFERENCES BETWEEN SUB-GROUPS OF FAMILY PATTERNS  
AND GENDER ON THE SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)

TABLE H-3

t-tests Analysis for Differences among Father-absent Males and Father-present Female High School Students on Scholastic Achievement Test Mathematics (SATM)

Sub-groups	df	t	p
Father present with	133	-0,73	0,4669

TABLE H-4

t-tests Analysis for Differences among Father-absent Females and Father-present Male High School Students on Scholastic Achievement Test Mathematics (SATM)

Sub-groups	df	t	p
Father present with	135	4,27	0,0000**
Father absent			

\*\*  $p < 0,001$

TABLE H-1

t-tests Analysis for Differences among Male High School Students on Scholastic Achievement Test Mathematics (SATM)

Sub-groups	df	t	p
Father absent with Father present	134	2,75	0.0069*
* p < 0,01			

TABLE H-2

t-tests Analysis for Differences among Female High School Students on Scholastic Achievement Test Mathematics (SATM)

Sub-groups	df	t	p
Father absent with Father present	132	2,12	0,0360

TABLE H-5

t-tests Analysis for Differences among Father-present High School Students on Scholastic Achievement Test Mathematics (SATM)

Sub-groups	df	t	p
Male with Female	134	1,84	0,0640

TABLE H-6

t-tests Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test Mathematics (SATM)

Sub-groups	df	t	p
Male with Female	134	1,46	0,1472

## APPENDIX I

MEANS AND STANDARD DEVIATIONS OF THE SCHOLASTIC ACHIEVEMENT TEST

MATHEMATICS (ALGEBRA)

TABLE I-1

Mean SATM (Algebra) Scores, Standard Deviations and Sample Size of Research groups

Groups	Mean Scores	Standard Deviation	n
Father Absent students	12,44	4,91	138
Father Present students	14,34	5,84	138
Female students	12,58	5,22	138
Male students	14,22	5,53	138

TABLE I-2

Mean SATM (Algebra) Scores, Standard Deviations, and Sample Size of Research Groups among Father Absent High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	11,6	4,6	69
Males	13,3	4,7	69

TABLE I-3

Mean SATM (Algebra) Scores, Standard Deviations, and Sample Size of Research Groups among Father Present High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	13,6	5,8	69
Males	15,1	5,9	69

TABLE I-4

Mean SATM (Algebra) Scores, Standard Deviations, and Sample Size of Research Groups among Female High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	11,6	4,6	
Faather present students	13,6	5,8	69

TABLE I-5

Mean SATM (Algebra) Scores, Standard Deviations, and Sample Size of Research Groups among Male High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	13,3	4,7	69
Father present students	15,1	5,9	69

## APPENDIX J

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUB-GROUPS OF FAMILY PATTERNS  
AND GENDER ON THE SCHOLASTIC ACHIEVEMENT TEST MATHAMATICS (SATM  
ALGEBRA)

TABLE J-1

t-tests Analysis for Differences among Male High School Students on  
Scholastic Achievement Test Mathematics (SATM) Algebra

Sub-groups	df	t	p
Father absent with Father present	133	1,85	0.0669

TABLE J-2

t-tests Analysis for Differences among Female High School Students on  
Scholastic Achievement Test Mathematics (SATM) Algebra

Sub-groups	df	t	p
Father absent with Father present	130	2,27	0.0249

TABLE J-3

t-tests Analysis for Differences among Father-absent Male and Father-present Female High School Students on Scholastic Achievement Test Mathematics (SATM) Algebra

Sub-groups	df	t	p
Father present with Father absent	133	-0,27	0.7851

TABLE J-4

t-tests Analysis for Differences among Father-absent Female and Father-present Male High School Students on Scholastic Achievement Test Mathematics (SATM) Algebra

Sub-groups	df	t	p
Father present with Father absent	129	3,89	0.0002**
** p < 0,001			

TABLE J-5

t-tests Analysis for Differences among Father-present High School Students on Scholastic Achievement Test Mathematics (SATM) Algebra

Sub-groups	df	t	p
Males with Females	135	1,50	0.1356

TABLE J-6

t-tests Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test Mathematics (SATM) Algebra

Sub-groups	df	t	p
Males with Females	133	2,11	0.0369

APPENDIX K

MEANS AND STANDARD DEVIATIONS OF SCHOLASTIC ACHIEVEMENT TEST

MATHEMATICS (SATM GEOMETRY)

TABLE K-1

Mean SATM (Geometry) scores, Standard Deviations, and Sample Size of Research Groups

Groups	Mean Scores	Standard Deviations	n
Father absent students	8,7	4,34	138
Father present students	10,11	6,68	138
Female students	8,6	4,69	138
Male students	10,28	6,33	138

TABLE K-2

Mean SATM (Geometry) scores, Standard Deviations, and Sample Size of Research Groups among Father absent High School Students

Groups	Mean Scores	Standard Deviations	n
Female students	8,2	4,0	69
Male students	9,4	5,20	69

TABLE K-3

Mean SATM (Geometry) scores, Standard Deviations, and Sample Size of Research Groups among Father present High School Students

Groups	Mean Scores	Standard Deviations	n
Female students	9,0	5,4	69
Male students	11,2	8,0	69

TABLE K-4

Mean SATM (Geometry) scores, Standard Deviations, and Sample Size of Research Groups among Female High School Students

Groups	Mean Scores	Standard Deviations	n
Father absent students	8,2	4,0	69
Father present students	9,0	5,4	69

TABLE K-5

Mean SATM (Geometry) scores, Standard Deviations, and Sample Size of Research Groups among Male High School Students

Groups	Mean Scores	Standard Deviations	n
Father absent students	9,4	5,20	69
Father present students	11,2	8,0	69

## APPENDIX L

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUBGROUPS OF FAMILY PATTERNS  
AND GENDER ON THE SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)

GEOMETRY

TABLE L-1

t-test Analysis for Differences among Male High School Students on  
Scholastic Achievement Test Mathematics (SATM) Geometry

Sub-groups	df	t	p
Father absent with Father present	110	1,63	0,1054

TABLE L-2

t-test Analysis for Differences among Male High School Students on  
Scholastic Achievement Test Mathematics (SATM) Geometry

Sub-groups	df	t	p
Father absent with Father present	125	1,04	0,3003

TABLE L-3

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test Mathematics (SATM) Geometry

Sub-groups	df	t	p
Father absent with Father present	131	0,39	0,6954

TABLE L-4

t-test Analysis for Differences among Father-absent Female and Father-present Male High School Students on Scholastic Achievement Test Mathematics (SATM) Geometry

Sub-groups	df	t	p
Father present with Father absent	100	2,80	0,0062*

\*  $p < 0,01$

TABLE L-5

t-test Analysis for Differences among Father-present High School Students on Scholastic Achievement Test Mathematics (SATM) Geometry

Sub-groups	df	t	p
Male with Female	119	1,86	0,0648

TABLE L-6

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test Mathematics (SATM) Geometry

Sub-groups	df	t	p
Male with Female	131	1,58	0,1159

## APPENDIX M

MEANS AND STANDARD DEVIATION OF THE SCHOLASTIC ACHIEVEMENT TEST

MATHEMATICS: SATM (TRIGONOMETRY)

TABLE M-1

Mean SATM (Trigonometry) Scores, Standard Deviations and Sample Size of Research groups.

Groups	Mean Scores	Standard Deviations	n
Father absent students	8,87	4,19	138
Father present students	10,87	4,04	138
Female students	9,55	4,21	138
Male students	10,21	4,02	138

TABLE M-2

Mean SATM (Trigonometry) Scores, Standard Deviations and Sample Size of Research groups among Father absent High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	8,9	4,1	69
Male students	8,9	4,2	69

TABLE M-3

Mean SATM (Trigonometry) Scores, Standard Deviations and Sample Size of Research groups among Father present High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	10,2	4,2	69
Male students	11,5	3,9	69

TABLE M-4

Mean SATM (Trigonometry) Scores, Standard Deviations and Sample Size of Research groups among Female High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	8,9	4,1	69
Father present students	10,2	4,2	69

TABLE M-5

Mean SATM (Trigonometry) Scores, Standard Deviations and Sample Size of Research groups among Male High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	8,9	4,20	69
Father present students	11,5	3,9	69

## APPENDIX N

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUBGROUPS OF FAMILY PATTERNS  
AND GENDER ON THE SCHOLASTIC ACHIEVEMENT TEST MATHEMATICS (SATM)  
TRIGONOMETRY

TABLE N-1

t-tests Analysis for Differences among Male High School Students on  
Scholastic Achievement Test Mathematics (SATM) Trigonometry

Subgroups	df	t	p
Father present with Father absent	133	3,84	0,0002**

\*\* p < 0,001

TABLE N-2

t-tests Analysis for Differences among Female High School Students on  
Scholastic Achievement Test Mathematics (SATM) Trigonometry

Subgroups	df	t	p
Father absent with Father present	135	1.90	0,0595

TABLE N-3

t-tests Analysis for Differences among Father-absent Male and Father-present Female High School Students on Scholastic Achievement Test Mathematics (SATM) Trigonometry

Subgroups	df	t	p
Father present with Father absent	134	-1,88	0,0626

TABLE N-4

t-tests Analysis for Differences among Father-absent Female and Father-present Male High School Students on Scholastic Achievement Test Mathematics (SATM) Trigonometry

Subgroups	df	t	p
Father present with Father absent	135	3,87	0,0002**

\*\*  $p < 0,001$

TABLE N-5

t-tests Analysis for Differences among Father-present High School Students on Scholastic Achievement Test Mathematics (SATM) Trigonometry

Subgroups	df	t	p
Male with Female	134	1,87	0,0633

TABLE N-6

t-tests Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test Mathematics (SATM) Trigonometry

Subgroups	df	t	p
	134	1,90	0,05 64

## APPENDIX O

MEANS AND STANDARD DEVIATIONS OF THE SCHOLSTIC ACHIEVEMENT TEST:

ENGLISH SECOND LANGUAGE (SATE)

TABLE 0-1

Mean SATE scores, Standard Deviations, and Sample size of Research groups.

Groups	Mean Scores	Standard Deviations	n
Father absent students	42,47	12,90	138
Father present students	47,86	15,96	138
Female students	44,39	14,06	138
Male students	45,95	14,80	138

TABLE 0-2

Mean SATE scores, Standard Deviations, and Sample size of Research groups among Father absent High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	42,0	12,5	69
Males	42,8	13,3	69

TABLE 0-3

Mean SATE scores, Standard Deviations, and Sample size of Research groups among Father present High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	46,7	15,6	69
Males	49,0	16,3	69

TABLE 0-4

Mean SATE scores, Standard Deviations, and Sample size of Research groups among Female High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	42,0	12,5	69
Father present students	46,7	15,6	69

TABLE 0-5

Mean SATE scores, Standard Deviations, and Sample size of Research groups among Male High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	42,8	13,3	69
Father present students	49,0	16,3	69

## APPENDIX P

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUBGROUP OF FAMILY PATTERNS  
AND GENDER ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE  
(SATE)

TABLE P-1

t-test Analysis for Differences among Male High School Students on  
Scholastic Achievement Test English Second Language (SATE)

Subgroups	df	t	p
Father absent with Father present	130	2,40	0.0177

TABLE P-2

t-test Analysis for Differences among Female High School Students on  
Scholastic Achievement Test English Second Language (SATE)

Subgroups	df	t	p
Father absent with Father present	129	1,94	0.0541

TABLE P-3

t-test Analysis for Differences among Father-absent Males and  
 Father-present Female High School Students on Scholastic Achievement  
 Test English Second Language (SATE)

Subgroups	df	t	p
Father present with Father absent	132	-1,55	0,1225

TABLE P-4

t-test Analysis for Differences among Father-absent Females and  
 Father-present Male High School Students on Scholastic Achievement Test  
 English Second Language (SATE)

Subgroups	df	t	p
Father present with Father absent	127	2,81	0.0058*

\*p < 0, 01

TABLE P-5

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test English Second Language (SATE)

Subgroups	df	t	p
Male with Female	135	0,83	0.4099

TABLE P-6

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test English Second Language (SATE)

Subgroups	df	t	p
Male with Female	134	0,37	0.7092

## APPENDIX Q

MEANS AND STANDARD DEVIATIONS OF THE SCHOLASTIC ACHIEVEMENT TEST:

ENGLISH SECOND LANGUAGE (SATE) SUBTEST I

TABLE Q-1

Mean SATE subtest (I) Scores, Standard Deviations and Sample Size of the Research groups.

Groups	Mean Scores	Standard Deviations	n
Father absent students	19,00	5,32	138
Father present students	21,01	6,45	138
Female students	19,90	5,68	138
Male students	20,26	6,00	138

TABLE Q-2

Mean SATE subtest (I) Scores, Standard Deviations and Sample Size of the Research groups among Father absent High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	19,1	5,3	69
Males	18,8	5,1	69

TABLE Q-3

Mean SATE subtest (I) Scores, Standard Deviations and Sample Size of the Research groups among Father present High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	20,3	6,0	69
Males	21,7	6,9	69

TABLE Q-4

Mean SATE subtest (I) Scores, Standard Deviations and Sample Size of the Research groups among Female High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	19,1	5,3	69
Father present students	20,3	6,0	69

TABLE Q-5

Mean SATE subtest (I) Scores, Standard Deviations and Sample Size of the Research groups among Male High School.

<u>Groups</u>	<u>Mean Scores</u>	<u>Standard Deviations</u>	<u>n</u>
Father absent students	19,80	5,1	69
Father present students	21,7	6,9	69

## APPENDIX R

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUBGROUPS OF FAMILY PATTERNS  
AND GENDER ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE  
(SATE) SUBTEST I.

TABLE R-1

t-test Analysis for Differences among Male High School Students on Scholastic Achievement Test English Second Language (SATE) subtest I.

Subgroups	df	t	p
Father absent with Father present	125	2,74	0,0070*

\*  $p < 0,01$

TABLE R-2

t-test Analysis for Differences among Female High School Students on Scholastic Achievement Test English Second Language (SATE) subtest I.

Subgroups	df	t	p
Father absent with Father present	134	1,23	0,2223

TABLE R-3

t-test Analysis for Differences among Father-absent Males and Father-present Female High School Students on Scholastic Achievement Test English Second Language (SATE) subtest I.

Subgroups	df	t	p
Father absent with Father present	132	-1,58	0,1155

TABLE R-4

t-test Analysis for Differences among Father-absent Females and Father-present Male High School Students on Scholastic Achievement Test English Second Language (SATE) subtest I.

Subgroups	df	t	p
Father absent with Father present	128	2,40	0,0179

TABLE R-5

t-test Analysis for Differences among Father-present High School Students on Scholastic Achievement Test English Second Language (SATE) subtest I.

Subgroups	df	t	p
Male with Female	133	1,21	0,2284

TABLE R-6

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test English Second Language (SATE) subtest I.

Subgroups	df	t	p
Male with Female	134	-0,36	0,7200

## APPENDIX S

MEANS AND STANDARD DEVIATIONS OF THE SCHOLASTIC ACHIEVEMENT TEST:

ENGLISH SECOND LANGUAGE SUBTEST (SATE) SUBTEST II

TABLE S-1

Mean SATE subtest (II) Scores, Standard Deviations, and Sample Size of Research groups.

Groups	Mean Scores	Standard Deviations	n
Father absent students	11,30	4,23	138
Father present students	12,92	4,70	138
Female students	11,67	4,63	138
Male students	12,57	4,30	138

TABLE S-2

Mean SATE subtest (II) Scores, Standard Deviations, and Sample Size of Research groups among Father-absent High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	10,9	4,5	69
Males	11,7	4,0	69

TABLE S-3

Mean SATE subtest (II) Scores, Standard Deviations, and Sample Size of Research groups among Father-present High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	15,5	4,8	69
Males	13,4	4,6	69

TABLE S-4

Mean SATE subtest (II) Scores, Standard Deviations, and Sample Size of Research groups among Female High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	10,9	4,5	69
Father present students	15,5	4,8	69

TABLE S-5

Mean SATE subtest (II) Scores, Standard Deviations, and Sample Size of Research groups among Male High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	11,17	4,0	69
Father present students	13,4	4,6	69

## APPENDIX T

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUBGROUPS OF FAMILY PATTERNS  
AND GENDER ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE  
(SATE) SUBTEST II.

TABLE T-3

t-test Analysis for Differences among Father-absent Males and Father-present Female High School Students on Scholastic Achievement Test English Second Language (SATE) subtest II.

Subgroups	df	t	p
Father absent with Father present	131	-0,97	0,3340

TABLE T-4

t-test Analysis for Differences among Father-absent Females and Father-present Male High School Students on Scholastic Achievement Test English Second Language (SATE) subtest II.

Subgroups	df	t	p
Father present with Father absent	135	3,23	0,0015*

\*p<0,01

TABLE T-1

t-test Analysis for Differences among Male High School Students on Scholastic Achievement Test English Second Language (SATE) subtest II.

Subgroups	df	t	p
Father absent with Father present	132	2,25	0,0264

STABLE T-2

t-test Analysis for Differences among Female High School Students on Scholastic Achievement Test English Second Language (SATE) subtest II.

Subgroups	df	t	p
Father absent with Father present	135	2,00	0,0472

TABLE T-5

t-test Analysis for Differences among Father-present High School Students on Scholastic Achievement Test English Second Language (SATE) subtest II.

Subgroups	df	t	p
Male with Female	135	1,16	0,2488

TABLE T-6

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test English Second Language (SATE) subtest II.

Subgroups	df	t	p
Male with Female	133	1,18	0,2418

## APPENDIX U

MEANS AND STANDARD DEVIATIONS OF THE SCHOLASTIC ACHIEVEMENT TEST:

ENGLISH SECOND LANGUAGE (SATE) SUBTEST.

TABLE U-1

Mean SATE subtest (III) Scores, Standard Deviations and Sample Size of Research Groups.

Groups	Mean Scores	Standard Deviations	n
Father absent students	12,80	8,64	138
Father present students	14,62	8,06	138
Female students	13,50	9,04	138
Male students	13,84	7,66	138

TABLE U-2

Mean SATE subtest (III) Scores, Standard Deviations and Sample Size of Research Groups among Father absent High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	13,20	10,8	69
Males	12,4	7,4	69

TABLE U-3

Mean SATE subtest (III) Scores, Standard Deviations and Sample Size of Research Groups among Father present High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	14,0	7,2	69
Males	15,3	9,0	69

TABLE U-4

Mean SATE subtest (III) Scores, Standard Deviations and Sample Size of Research Groups among Female High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	13,2	10,8	69
Father present students	14,0	7,2	69

TABLE U-5

Mean SATE subtest (III) Scores, Standard Deviations and Sample Size of Research Groups among Male High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	12,4	6,4	69
Father present students	15,3	9,0	69

## APPENDIX V

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUBGROUPS OF FAMILY PATTERNS  
AND GENDER ON SCHOLASTIC ACHIEVEMENT TEST ENGLISH SECOND LANGUAGE  
(SATE) SUBTEST III

TABLE V-1

t-test Analysis for Differences among Male High School Students on Scholastic Achievement Test English Second Language (SATE) Subtest III

Sub-groups	df	t	p
Father absent with Father present	123	2,17	0,0316

TABLE V-2

t-test Analysis for Differences among Female High School Students on Scholastic Achievement Test English Second Language (SATE) Subtest III

Sub-groups	df	t	p
Father absent with Father present	118	0,49	0,6257

TABLE V-3

t-test Analysis for Differences among Father-absent Males and Father-present Female High School Students on Scholastic Achievement Test English Second Language (SATE) Subtest III

Sub-groups	df	t	p
Father absent with Father present	133	-1,35	0,1803

TABLE V-4

t-test Analysis for Differences among Father-absent Female and Father-present Male High School Students on Scholastic Achievement Test English Second Language (SATE) Subtest III

Sub-groups	df	t	p
Father absent with Father present	130	1,23	0,2222

TABLE V-5

t-test Analysis for Differences among Father-present High School Students on Scholastic Achievement Test English Second Language (SATE) Subtest III

Sub-groups	df	t	p
Male with Female	130	0,95	0,3461

TABLE V-6

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test English Second Language (SATE) Subtest III

Sub-groups	df	t	p
Male with Female	110	-0,53	0,5977

## APPENDIX W

MEANS AND STANDARD DEVIATIONS OF THE SCHOLASTIC ACHIEVEMENT TEST :

BIOLOGY (SATB)

TABLE W-1

Mean SATB Scores, Standard Deviations, and Sample size of Research groups.

Groups	Mean Scores	Standard Deviations	n
Father absent students	60,38	21,16	138
Father present students	67,13	23,66	138
Female students	63,46	22,87	138
Male students	64,55	22,0	138

TABLE W-2

Mean SATB Scores, Standard Deviations, and Sample size of Research groups among Father absent High School Students.

Groups	Mean Scores	Standard Deviations	n
Females	59,71	22,3	69
Males	61,07	20,0	69

TABLE W-3

Mean SATB Scores, Standard Deviations, and Sample size of Research groups Among Father Present High School Student.

Groups	Mean Scores	Standard Deviations	n
Females	66,3	23,5	69
Males	68,0	24,0	69

TABLE W-4

Mean SATB Scores, Standard Deviations, and Sample size of Research groups among Female High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	61,07	20,0	69
Father present students	66,3	23,5	69

TABLE W-5

Mean SATB Scores, Standard Deviations, and Sample size of Research groups among Male High School Students.

Groups	Mean Scores	Standard Deviations	n
Father absent students	59,71	22,3	69
Father present students	68,0	24,0	69

## APPENDIX X

t-test ANALYSIS FOR DIFFERENCES BETWEEN SUBGROUPS OF FAMILY PATTERNS  
AND GENDER ON SCHOLASTIC ACHIEVEMENT TEST BIOLOGY (SATB).

TABLE X-1

t-test Analysis for Differences among Male High School Students on Scholastic Achievement Test Biology (SATB).

Sub-groups	df	t	p
Father absent with Father present	131	1,84	0.0684

TABLE X-2

t-test Analysis for Differences among Female High School Students on Scholastic Achievement Test Biology (SATB).

Sub-groups	df	t	p
Father absent with Father present	135	1,69	0.0935

TABLE X-3

t-test Analysis for Differences among Father-absent Male and Father-present Female High School Students on Scholastic Achievement Test Biology (SATB).

Sub-groups	df	t	p
Father absent with Father present	132	-1,40	0.1641

TABLE X-4

t-test Analysis for Differences among Father-absent Female and Father-present Male High School Students on Scholastic Achievement Test Biology (SATB).

Sub-groups	df	t	p
Father absent with Father present	135	2,11	0.0370

TABLE X-5

t-test Analysis for Differences among Father-present High School Students on Scholastic Achievement Test Biology (SATB).

Sub-groups	df	t	p
Male with Female	135	0,42	0.6744

TABLE X-6

t-test Analysis for Differences among Father-absent High School Students on Scholastic Achievement Test Biology (SATB).

Sub-groups	df	t	p
Male with Female	133	0.38	0.7070