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THE RELATIONSHIP BETWEEN SELF CONCEPT, FAMILY FACTORS AND ACADEMIC ACHIEVEMENT

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A Dissertation Submitted to the Faculty of Education, University of Witwatersrand, Johannesburg, for the Degree of Master of Education (Educational Psychology)

JOHANNESBURG, 1990

DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted for the degree of Master of Education in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

GBerg

19th day of December, 1990.

TO MY HUSBAND

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ABSTRACT

The study examines the interrelationships and relative contributions of self concept and family factors in relation to academic achievement outcomes of children in Standard 5. Family variables assessed are ten dimensions of family environment, as well as family structure. IQ and gender differences are included in the model. IQ accounted for the largest proportion in the variation of achievement outcomes, followed by academic self concept, followed by dimensions of family environment. Family structure did not appear as a significant variable. Gender differences with regard to academic self concept and perceptions of family environment emerged. The study lends support for the usefulness of a multidimensional model of self concept which distinguishes between academic self concept and general self concept. Expressiveness, the encouragement of open or direct family communication, was the most salient family environment dimension in accounting for academic achievement, although in general, the relative contributions of the particular family environment variables in predicting achievement outcomes was small. Self concept and family variables were correlated on a number of dimensions, although clear interactive effects between these factors did not emerge. Possible directions for future research of the particular relationship between self concept and family factors in a model of academic achievement are discussed.

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INTRODUCTION

1. SOCIO-EMOTIONAL FUNCTIONING AND ACADEMIC ACHIEVEMENT

In recent years, multiple factors have been assessed as determining academic achievement (Baker and Stevenson, 1986). Researchers have largely dispelled the assumption that academic achievement depends solely on cognitive abilities and have looked toward the intertwinement of intrapsychic, socio-emotional and other non-cognitive variables in the educational process (Baker, 1975; Entwistle and Stevenson, 1987; Watkins and Astilla, 1986). Factors which have been considered in accounting for achievement outcomes include empathy, depressive affectivity (Feschbach and Feschbach, 1987), interpersonal relations, anxiety, independence (Hilliard, 1969), the psychological environments of the peer group and home (Parkerson et al, 1984), the classroom environment (Haertel et al, 1981), motivational issues (Wood et al, 1988), self concept (Purkey, 1970), family functioning (Shawinsky, 1988), attribution of success, perception of teacher and parent expectancies (Parsons, 1983) and expectations for performance (Entwisle et al, 1987).

Typically, the academic achievement research can be located in two categories, namely studies of psychological constructs within the individual and studies of environmental variables imposing on the individual. Within these two categories respectively, the concepts which emerge as central in the literature are the relationship of self concept and that of family factors to academic achievement. The present research aims to serve as an integratory study which will not only further elucidate the relationship between each of these individual concepts and

academic achievement, but will afford an examination of the interrelationships between self concept and family factors in their relation to achievement outcomes.

2. SELF CONCEPT

2.1 Definition of Self Concept

A review of the literature reveals no clear, concise, universally accepted operational definition of self concept (Byrne, 1984) and self concept definitions have been characterised by vagueness and imprecision (Harter, 1982; Shavelson et al, 1976). Elements which are incorporated in definitions of self concept include the sum total of all the characteristics the individual attributes to himself (Rogers, 1947); an evaluative aspect (Ames, 1978) or judgement of worthiness (Coopersmith, 1988) attached to the attribution, which includes the individual's opinion of how others perceive him (Calhoun and Morse, cited in Swartzberg, 1982). The self concept includes not only one's perceptions of what one is like, but also what one thinks one ought to be (Hjelle and Ziegler, 1981) and it culminates as a directing force in behaviour (LaBenne and Green, 1969).

Various terms have been used in the literature to describe self concept, such as sense of self, self esteem, self competence and self worth (Harter, 1985). Some theorists have differentiated between the terms self concept and self esteem, where self esteem is used to designate the evaluative aspect of self concept (Swartzberg, 1982). For the purposes of this research, the terms SELF CONCEPT and SELF ESTEEM are used largely interchangeably to denote the evaluative perception of self in terms of affects and cognitions regarding one's abilities.

Recent research has aimed at arriving at an empirically validated construct definition of self concept (see Byrne, 1984; Byrne 1986; Marsh, Byrne and Shavelson, 1988; Shavelson and Bolus, 1982; Shavelson, Hubner and Stanton, 1976). An important factor which emerges in defining the nomological network of the self concept, is that self concept is a multifaceted construct. It is conceived of as hierarchical, with general self concept at the apex and situation specific self concepts at the base. In particular, general self concept can thus be interpreted as distinct from, but correlated with academic self concept. Harter (1985) proposes that one's global sense of self worth, or general self concept, is separate from and more than the sum of evaluative judgements from specific domains.

2.2 The Formation of Self Concept

A multiplicity of factors have been seen as contributing to the development of the self concept.

A common theme in much of the self concept research is the recognition that social interaction plays a central role in self concept development (e.g. Brookover, 1964; Byrne, 1984; Entwisle et al, 1987; Shavelson et al, 1976). Classically, the theoretical basis in which lies the explication of the role of social interaction in self concept development has been Mead's (1934) Symbolic Interactionism. Mead proposed that "selves can only exist in definite relationships to other selves" (p.189). The self is seen as a social construct which arises out of interpersonal experience. The child internalizes attitudes of significant others in her world toward herself. The gauge of self evaluation becomes a mirror image of the criteria employed by what Mead referred to as the "generalised other", or the social group on whom the child depends and by whom she is controlled.

Many other theorists have considered the role of interpersonal relationships in self concept development. For example, Rogers considered positive self regard to be learned through the introjection of positive regard from others. Horney, Adler, and Erikson considered the role of the child-parent relationship and Sullivan considered the role of the family in self concept development, (see Coopersmith, 1967; Purkey 1970 and Samuels, 1977 for reviews).

2.3 Self Concept and Academic Achievement

The importance of self image as a major determinant of human behaviour has long been recognized (LaBenne and Green, 1969), and positive self concept has been linked to emotional health (Coopersmith, 1969). Self concept has been considered a critical variable in education and educational/psychological research (Byrne, 1986).

Within the self studies one of the most consistent lines of enquiry is that regarding the link between self concept and various measures of achievement (Hansford and Hattie, 1982). It has been argued that strong abilities do not guarantee feelings of personal adequacy and that the child's perception of reality is the more powerful predictor of achievement related behaviour (Phillips, 1987). It is proposed that school achievement may only be expected when the child feels himself capable of success (Garwood, 1986) and conversely repeated experiences of failure will negatively influence the child's affect (Bryan and Pearl, 1979). Negative self concepts have thus been linked with learning disabilities (Pickar, 1986) and underachievement (Grau, 1985). A review of studies led Purkey (1970) to make the forceful statement that,

> "the overwhelming body of contemporary research points insistently to the relationship between self esteem and academic achievement and suggests strongly that self concept can no longer be ignored by parents and teachers". (Purkey, 1970, p.v).

A more recent review, however, casts doubt on the simple association between self concept and achievement that educators have unhesitatingly assumed. Hansford and Hattie (1982) argue that,

> "this relationship is neither precise nor clear. In fact, given the volume and diversity of research literature, it is possible to find support for all view points". (Hansford and Hattie, 1982, p. 124).

Their meta-analysis of 128 studies found that the mean correlation between measures of self and performance/ achievement measures was .21, with a range of association varying from -.77 to .96. Clearly, there is a need for more precise research.

A further contentious issue in the self-achievement literature is that regarding the direction of causality in the relationship between self concept and academic achievement.. Watkins (1986) presents conflicting evidence in a number of studies. While some studies suggest the causal influence runs primarily from achievement to self concept, other studies suggest that it runs primarily from self concept to achievement and still other studies suggest that reciprocal causality is very likely.

3. FAMILY FACTORS

3.1 The Significance of the Family

Psychology has shifted in intense focus on the individual toward the incorporation of interpersonal and environmental processes in explaining behaviour. The new focus has been accompanied by an epistemological shift relying on general systems theory which emphasises the significance of examining all units in relation to one another and focusing on the characteristics of whole systems which are more than the sum of their parts (Shawinsky, 1988). An immense literature has developed which applies the principles of systems to the family system in particular.

Inherent in the family systems approach is the concept of circular causality which moves away from the old notion of cause-effect toward a view of a process whereby units of a living system affect and are affected by all others. It is proposed that an individual's difficulties can often be better understood when viewed in the context of a family system that is in disequilibrium (Goldenberg and Goldenberg, 1985).

The child's relationship with her family assumes tremendous significance in view of the complete dependency of the infant and very small child and the many years it takes until the child is able to function at an independent level. According to Lidz (1970), for the infant and small child, the family's ways are the only known ways of life. The family thus constitutes the child's earliest and most persistent influence and the family ways and child's pattern of reacting to them become thoroughly incorporated in the child.

In general, the function of the family operates on two basic levels - the personal and societal. On the personal level, the parents serve as guides, educators and models for their offspring. On the broader level, the family performs the dual role of forming a shelter for the child within the larger society, while simultaneously the family must accommodate to and transmit the society's culture (Minuchin, 1974). Within the family system, each member has a role by which he is both moulded and moulds the behaviour of other members.

> "Out of this process of reciprocal interaction more than just a redefinition of roles and relationships is born - a family unit emerges, identified by a definite pattern of interaction called the 'family process". (Krige, 1974, p.1).

3.2 Family Environment and Academic Achievement

Given psychology's recognition of the immense significance of the family in child development, as well as the high value placed on achievement in Western society, it is not surprising that a plethora of studies have emerged which investigate the relationship between various family factors and academic achievement. Achievement studies have examined the influence of parent background variables such as parents' occupations, level of education, work patterns and family income (Milne, 1986), as well as the emotional climate and transactional patterns within the family environment.

Hess and Holloway (1984, cited in Dornbusch et al, 1987) identify five processes linking family and school achievement. These include: verbal interaction between mother and children, expectation of parents for achievement, positive affective relationships between parents and children, parental beliefs and attributions about the child and discipline and control strategies.

According to Abrams and Kaslow (1977) the child will be unable to concentrate on learning in a meaningful way if overly involved in family difficulties. Various processes within the family system have been linked with poor achievement. Families may be ambivalent about their child's success and the child's failure may insure the family homeostasis (Baker, 1975); parents may project their negative attitudes on the child and the child may present as the family scapegoat, expressing the family conflict in her poor achievement (Grau, 1985). Family boundaries have been identified as a significant family variable and the trend in the research seems to suggest that the stronger the parental coalition, the greater the likelihood of satisfactory achievement (Shawinsky, 1988).

Kakkar (1970) points out the association in research of factors such as maternal attitude, parental involvement, inter-parental conflict and ego-threatening aspects of family environments in relation to academic success or failure. Mothers of learning disabled children tend to respond more negatively and less positively to their children's achievement behaviours (Chapman et al, 1979). Parents actively manage their child's school career in ways that can have direct consequences for their child's educational achievement (Baker and Stevenson, 1986) and children of parents who are more involved in school activities do better than children with parents who are less involved (Stevenson and Baker, 1987).

A picture of parents' characteristics and their relationship to their children has emerged in relation to achievers and underachievers. In underachieving families, the parents try to force their children into a pattern of dependency and non-aggression (McIntrye, 1964). Parents of achievers have been found to give their children more praise and approval, show more interest and understanding and be closer to their children; whereas parents of under-achievers are more domineering, overrestrictive and use more severe and frequent punishment (Morrow and Wilson, 1961). In underachieving families, the father is often rejecting and gives little warmth (Grau, 1985) and mothers are less accepting of their children (Hilliard, 1969).

3.3 Family Structure and Academic Achievement

Researchers have also considered the structural components of the family in relation to academic achievement. For the purposes of this research, family structure is defined as the physical composition of the family, for example two parent families, single parent or divorced parent families, step parent families, etc. The majority of studies in this area tend to focus on achievement and the child from

divorced or single parent families. According to the analysis of Hetherington et al (1983), whereas children from single parent families do not seem to suffer any long term intellectual deficit, grades do appear to negatively differ from children from two parent families. They suggest that circumstances within the one parent household may result in children becoming more disruptive in the classroom, less efficient in their study habits and less likely to be willing or able to attend school regularly - all of which creates less favourable conditions for achievement. According to Hoffman and Zippco (1986) the mediating factor producing lower grades in children from homes of divorce is that children's attitude toward school and their motivation to succeed are often linked to the stability they feel at home. Those children coming from divorced homes may view the school environment as unimportant relative to the personal problems created by their parents' divorce. The disadvantages of living in a single parent family have also been attributed to such mediating factors as decline in both financial resources and the quality of child supervision associated with single parenthood (Weiss, 1984, cited in Kurdek and Sinclair, 1988).

According to Milne et al (1986) although achievement scores favour children from two parent families, differences may in fact be too small to be meaningful. They cite Hetherington et al (1981) who stated in a comprehensive review of research that it is difficult to establish clear associations between one-parent status and depressed achievement since many studies do not provide adequate controls for such factors as socio-economic status or racial or ethnic backgrounds of students.

RATIONALE FOR THE PRESENT STUDY

The discrepancies and conflictual evidence regarding the relationship between self concept and academic achievement has been pointed out (Hansford and Hattie, 1982). It is the author's contention that our limited understanding of the self-achievement relationship has arisen out of a narrow focus and part-analysis orientation which has led to a continued investigation of the self-achievement relationship in isolation. In his early ground-breaking study on self esteem, Coopersmith (1967) already maintained that,

> "far from being an epiphenomenon, self esteem appears significantly associated with specific antecedents on one end and behavioural consequences on the other". (p.254).

However, Entwisle et al (1987) point out that research has been more concerned with ascertaining the level of children's self images than with understanding the processes that underlie their formation. Increasingly, researchers are now recognizing the need for and advocating the inclusion of additional variables into the model of the linkage between self concept and academic achievement in order to arrive at a more composite view of this relationship (see Byrne, 1984; Hansford and Hattie, 1982; Keith, 1986; Ladd, 1986; Parsons, 1981; Shavelson and Bolus, 1982; Song and Hatti, 1984).

How self concept is viewed theoretically is a fundamental issue as it frames the relationship of the construct with other variables (Byrne, 1986). However, while paying lip service to the theoretical basis that outlines the central role that interpersonal and environmental variables play in self concept development, few researchers actually proceed to include these variables in their research designs in much of the self-achievement studies.

In considering the dynamic interrelationship between self concept development and the social matrix within which the child is embedded, the development of self concept within the family unit serves as an obvious starting point for investigation. Indeed, according to Lidz (1970),

> "Any attempt to study the child's personality development or maldevelopment as an autonomous process, independent of the family matrix, distorts as much as it simplifies; it is bound to error, for such abstractions can be made only by eliminating essential factors in the process." (Lidz, 1970, p. 19).

In the academic achievement studies, just as those investigating self concept tend to focus on the internal affective world of the child, so do family studies tend to focus on factors external to the individual. Thus, while a multitude of studies have separately considered the relationship between self concept and achievement and the relationship between family factors and achievement, a paucity of studies define the interrelationship between all three variables.

Moos (1987) stresses the significance of an holistic perspective in educational research.

> "Our task is to formulate an integrated conceptual framework to reflect more adequately the complex inter-play of real-life processes." (Moos, 1987, p.1).

Clearly, what is needed in investigating achievement outcomes are more studies of an integratory type which simultaneously consider the interrelationships and relative contributions of self concept and family factors in relation to academic achievement.

One study which does consider all three variables, is that of Song and Hatti (1984), who present a model whereby self concept is a mediating variable between home environment and academic achievement. This study is limited in that it does not isolate the specific interactional characteristics of home environment significant in this relationship, which narrows the clinical applications of the findings. In the exploration of the person-home-achievement relationship, a further consideration should be the delineation of specific relevant dimensions of the family

environment in order for the investigation to achieve practical significance.

A number of further considerations are necessary. Firstly, in basing ones research in the context of recent theoretical developments in self concept definition, it is important to distinguish between general self concept and academic self concept. Secondly, it is recognized that sex differences may exist in predicting achievement (Calsyn, 1977) and thus gender differences should be explored. Thirdly, a measure of intellectual ability should be included in order to provide a comparative basis for relative contributions to achievement outcomes. Finally, measures of academic achievement should not be global, but rather a distinction should be made between academic achievement in diverse subject areas, in order to determine whether differences exist in accounting for various types of achievement.

AIMS OF THE STUDY

In accordance with the rationale developed thus far, the aim of this research is to serve as an integratory study which will simultaneously examine self concept and family factors in relation to academic achievement. The family factors to be examined comprise family structure and ten specific dimensions of family environment. Consideration will be given to gender differences, the contribution of intellectual ability, the distinction between academic and general self concept, as well as that of different subject areas of academic achievement.

Specifically, the aims of the study are to examine:

* the relationships between each of the following: General self concept, academic self concept, dimensions of family environment, IQ and academic achievement;
* gender differences with regard to general self concept, academic self concept, family environment and academic achievement;
* family structure differences in relation to general self concept, academic self concept, family environment and academic achievement;
* the relative contributions of IQ, general self concept, academic self concept, dimensions of family environment and family structure in accounting for academic achievement;
* the interactions between IQ, general self concept, academic self concept, dimensions of family environment and family structure in accounting for academic achievement.

METHOD

1. SUBJECTS

The subjects consisted of 104 pupils in Std 5 - 44 males and 60 females. All pupils attended a Jewish private school in Johannesburg. The sample comprised 84.5% of the population of Std 5 pupils at the school. Pupils who had only joined the school in Std 5 were excluded, since their academic achievement scores attained at other schools were not considered directly comparable with those of the sample. Further, in order to avoid contamination of academic achievement scores due to language disadvantage, foreign language pupils were excluded from the sample. Only foreign language pupils who had joined the school in their first or second year of schooling were included, since their scores were considered comparable to those of the sample. Two pupils were excluded from the sample since their protocols were incorrectly completed. All parents consented to have their children participate in the research.

2. MEASURES

2.1 Self Concept

The Coopersmith Self Esteem Inventory, School Form (Coopersmith, 1981) was used to measure the self evaluative aspect of self concept. According to Coopersmith (1986), the inventory measures a personal judgement of worthiness, expressed in the attitudes a person holds toward the self. The inventory is a self report questionnaire consisting of 58 items, each of which are answered "like me" or "unlike me". Five sub-scores are yielded, only two of which were used for the purposes of this research. These are General Self, referred to in the research as general self concept

and School-Academic, referred to as academic self concept. Internal consistency of the Coopersmith Self Esteem Inventory has been estimated between .81 and .92 for different age groups (see Spatz and Johnson, 1973 and Kimball, 1972 in Coopersmith, 1986). Acceptable levels of construct, concurrent and predictive validity have also been documented (Coopersmith, 1986).

2.2 Family Factors

The Family Environment Scale (FES)(Moos and Moos, 1981) was used to measure family climate. This is a 90 item scale, each item requiring a "true" or "false" response. The scale measures how subjects perceive their family environment. It consists of 10 subscales which measure three domains of the family milieu: The Cohesion, Expressiveness and Conflict subscales comprise the Relationship Dimensions; the Independence, Achievement Orientation, Moral-Religious Emphasis, Intellectual-Cultural Orientation and Active-Recreational Orientation subscales comprise the Personal Growth or Goal Orientation dimension; and the Organisation and Control subscales comprise the Systems Maintenance and Change dimensions. A further description of what each subscale measures is presented in **Table 1**, which appears in **Appendix 1**.

A few items on the scale were adjusted so that they would be suitable for South African pupils. Adjustments included word or sentence structure substitutions or additional explanations where language was found to be slightly difficult for Std 5 pupils, or not generally used by South Africans. In making adjustments, care was taken not to alter the original meanings of the items. One item was not considered relevant to the South African context and this was substituted with a parallel item which was contextually suitable. Full details of adjusted items are contained in **Appendix 2**.

Internal consistencies for each of the ten family environment subscales were found to be in an acceptable range, varying from moderate for Independence and Achievement Orientation to substantial for Cohesion, Organization, Intellectual-Cultural Orientation and Moral-Religious Emphasis. Cronbach's Alphas were between .61 and .78. Test-Retest reliabilities are all in an acceptable range, ranging from .68 for Independence to .86 for Cohesion. Several studies support the construct validity of the Family Environment Scale (Moos and Moos, 1986).

2.3 Family Structure

Pupils provided information regarding their family structure. Options included a two parent nuclear family, separated or divorced parent family, step-parent family, deceased parent family, adopted child family, Children's Home setting, as well as an open-ended category.

2.4 Academic Achievement

In order to obtain a stable reflection of academic achievement, it was decided to use a year long assessment record, which is computed from a combination of grades obtained over the entire three school terms of one year. The most recent year long assessment, i.e. December, Std 4 grades were used and scores were obtained for the following subjects in which all pupils participated: English, Afrikaans, Mathematics, Science, History, Geography and Health. In addition, a Language score was computed from a combination of English and Afrikaans and a Cultural score was computed from a combination of Science, History, Geography and Health. Finally, the average of all subjects yielded a Total score.

2.5 IQ

Intelligence Quotients for each child were obtained from the New South African Group Test, Intermediate Series, Form G (National Bureau of Educational and Social Research). This is the standard group intelligence test which is administered in South African Schools.

Reliability coefficients of the non-verbal, verbal and total scores of the test were calculated for different groups from the Kuder-Richardson Formula 21. Coefficients are .87, .88 and .96 respectively. Acceptable levels of concurrent validity are reported (New South African Group Test Manual, 1965).

3. PROCEDURE

Apart from the academic achievement measures obtained from school records, all measures were administered over two consecutive school mornings in April of the Std 5 school year. Each subject required one school morning to complete the measures. The measures were administered by the author (female) as well as two female school counsellors. The school counsellors were trained by the author so that a standard procedure of administration was developed.

The order of administration of the measures was: The New South African Group Test, Family Structure Information, Coopersmith Self Esteem Inventory, and Family Environment Scale. Two breaks were scheduled into the administration in order to avoid fatigue. Administration took place in class groupings which consisted of approximately 25 pupils each.

The subjects were told that they were participating in research aimed at understanding how people feel about themselves and their families, and they were assured of

confidentiality. Regarding the non-cognitive measures, it was explained to the subjects that there were no "correct" answers, but that they were simply required to answer as truthfully as possible.

The administrators ensured that each subject understood what was required of him/her in responding to the measures. Although individual queries were answered, care was taken not to influence subjects' responses.

RESEARCH DESIGN AND STATISTICAL ANALYSES

The study utilized correlation and multiple regression procedures which are suitable for ex-post facto research. This research design determines relationships between variables, but does not necessarily provide evidence as to direction of causation.

In accordance with the stated aims of the study, the following statistical analyses were performed:

1. Pearson Product Moment Correlation Coefficients (SAS, 1982) were computed to determine the interrelationships amongst the following variables:
   * The ten Family Environment Scale Variables (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active Recreational Orientation, Moral-Religious Emphasis, Organization and Control).
   * The two self concept measures (General Self Concept and Academic Self Concept).
   * IQ
   * The academic achievement measures (Language, comprised of English and Afrikaans; Culturals, comprised of Science, History, Geography and Health; Mathematics, as well as Total, which is the average score of all the subjects).

   Gender and Family Structure were not included in the correlational analysis, since they are nominal variables. Correlational analyses were computed for the entire sample, as well as separately for males and females.

2. Multivariate Analyses of Variances (MANOVAS) were computed to determine whether significant differences exist between males and females, and between different family structures.

These analyses were performed separately on the sets of family environment variables, the self concept variables, and the academic achievement measures.

3. Multivariate regression procedures were employed to determine the amount of variation in the academic achievement measures that could be accounted for by family environment, self concept, IQ, family structure and gender and the interactions between family environment and self concept variables.

RESULTS

1. SCORE INTERCORRELATIONS

1.1 Self Concept

Table 2 (p.22) shows the correlations between self concept measures (General Self Concept and Academic Self Concept) and the family environment variables, the academic achievement measures and IQ. Of the ten family environment dimensions, Expressiveness is significantly, positively related to General Self Concept ($r = 0,25; p < 0,05$), and there is a significant negative correlation between General Self Concept and each of Conflict ($r = -0,30; p < 0,01$), Achievement Orientation ($r = -0,28; p < 0,01$) and Control ($r = -0,28; p < 0,01$).Organisation is significantly positively related to Academic Self Concept ($r = 0,23; p < 0,05$) and Conflict is significantly negatively related to Academic Self Concept ($r = -0,25; p < 0,05$). The correlations between family environment and self concept measures are generally low.

There is a low significant positive relationship between General Self Concept and all the academic achievement measures presented in the table, namely Language ($r = 0,26; p < 0,01$), Culturals ($r = 0,31; p < 0,01$), Maths ($r = 0,21; p< 0,05$) and Total ($r = 0,28; p < 0,01$). A moderate significant positive relationship exists between Academic Self Concept and Language ($r = 0,41; p < 0,01$), Culturals ($r = 0,46; p < 0,01$), Maths ($r = 0,38; p < 0,01$) and Total ($r = 0,45; p < 0,01$).

TABLE 2

Correlations Between Self Concept Measures and Family Environment Dimensions, Academic Achievement Measures and IQ

	SELF CONCEPT	
	General Self Concept	Academic Self Concept
COHESION	0,14	0,17
EXPRESSIVENESS	0,25*	0,08
CONFLICT	-0,30**	-0,25*
INDEPENDENCE	0,11	-0,06
ACHIEVEMENT ORIENTATION	-0,28**	-0,10
INTELLECTUAL-CULTURAL ORIENTATION	0,12	0,11
ACTIVE-RECREATIONAL ORIENTATION	0,09	0,17
MORAL RELIGIOUS EMPHASIS	0,01	0,13
ORGANIZATION	0,14	0,23*
CONTROL	-0,28**	-0,13
LANGUAGE	0,26**	0,41**
CULTURALS	0,31**	0,46**
MATHS	0,21*	0,38**
TOTAL	0,28**	0,45**
IQ	0,28**	0,20*
GENERAL SELF CONCEPT		0,47**
ACADEMIC SELF CONCEPT	0,47**	

* $p < 0,05$ ** $p < 0,01$

The relationship between Academic Self Concept and academic achievement measures is consistently higher than that of General Self Concept and academic achievement. IQ is significantly positively correlated with both General Self Concept ($r = 0,28$; $p < 0,01$) and Academic Self Concept ($r = 0,20$; $p < 0,05$).

A significant positive relationship exists between General Self Concept and Academic Self Concept ($r = 0,47$; $p < 0,01$). Nevertheless, since only 22% of the variance is shared between these two measures, it is justified to maintain Academic Self Concept and General Self Concept as two separate self concept constructs within the study.

1.2 Family Environment

Table 3 shows the correlations between the ten family environment dimensions, and the academic achievement measures and IQ.

TABLE 3

Correlations Between Family Environment Scale Dimensions and Academic Achievement Measures, Family Structure and IQ

	COHESION	EXPRESSIVENESS	CONFLICT	INDEPENDENCE	ACHIEVEMENT ORIENTATION
LANGUAGE	-0,45	0,20*	-0,04	-0,13	-0,13
CULTURALS	0,05	0,25*	0,01	-0,10	-0,14
MATHS	-0,16	0,15	-0,05	-0,14	-0,16
TOTAL	-0,06	0,23*	-0,02	-0,14	-0,15
IQ	-0,12	0,16	-0,05	-0,02	-0,16

* $p < 0,05$

TABLE 3/continued

	INTELLECTUAL CULTURAL ORIENTATION	ACTIVE-RECREATIONAL ORIENTATION	MORAL-RELIGIOUS EMPHASIS	ORGANISATION	CONTROL
LANGUAGE	0,21*	-0,01	-0,11	0,03	-0,04
CULTURALS	0,20*	0,06	-0,01	0,03	-0,04
MATHS	0,10	-0,04	-0,12	-0,08	-0,13
TOTAL	0,17	0,01	-0,08	-0,02	-0,09
IQ	0,06	0,08	-0,10	-0,09	-0,03

* $p < 0,05$

Only two family environment dimensions are related to academic achievement measures, namely Expressiveness and Intellectual- Cultural Orientation. Expressiveness is significantly positively correlated with Language ($r = 0,20$; $p < 0,05$), Culturals ($r = 0,25$; $p < 0,05$) and Total ($r = 0,23$; $p < 0,05$). The particular subjects with which positive significant correlations are yielded for Expressiveness are English ($r = 0,21$; $p < 0,05$), History ($r = 0,27$; $p < 0,01$) and Health ($r = 0,24$; $p < 0,05$). Intellectual-Cultural Orientation is significantly positively correlated with Language ($r = o,21$; $p < 0,05$) and Culturals ($r = 0,20$; $p < 0,05$). The particular subjects with which positive significant correlations are yielded for Intellectual-Cultural Orientation are English ($r = 0,20$; $p <0,05$), Afrikaans ($r = 0,20$; $p < 0,05$) and History ($r = 0,23$; $p < 0,05$). It is noted that the correlations between family environment dimensions and academic achievement measures are low. There are no significant correlations between Family Environment Scale Dimensions and IQ.

1.3 IQ

There are high significant positive correlations between IQ and all the academic achievement measures, namely English (r = 0,66), Afrikaans (r = 0,51), Science (r = 0,63), History (r = 0,62), Geography (r = 0,67), Health (r = 0,70), Maths (r = 0,72) and Total (r = 0,73). All correlations are significant at the 1% level.

2. GENDER DIFFERENCES

2.1 Family Environment

A multivariate analysis of variance (MANOVA) which compared males and females on the 10 Family Environment Scale variables yielded significant results (Wilks' Lambda = 0,81; F = 2,13; p < 0,05; DF = 10,91). **Table 4** shows the Family Environment variables for which significant gender differences were yielded. Means, Standard Deviations and F values are presented.

TABLE 4

Significant Gender Differences for Family Environment Scale Variables

VARIABLE	MALE		FEMALE		F. VALUE
	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	
CONFLICT	3,57	1,96	2,52	1,78	9,14**
INTELLECTUAL-CULTURAL ORIENTATION	4,77	1,99	5,65	2,01	5,20*
CONTROL	4,80	1,96	3,92	2,05	4.38*

* p , 0,05 ** p < 0,01

Males perceived their families as higher in Conflict and Control than females. Nevertheless, the separate correlational analyses for males and females did not show that the relationship between Conflict and Control and the Self Concept, Academic Achievement and IQ measures differed for males and females.

Females perceived their families as higher in Intellectual-Cultural Orientation than males. The separate correlational analyses for males and females showed that for females there was a significant positive relationship between Intellectual-Cultural orientation and General Self Concept ($r = 0,27$; $p < 0,05$), whereas for males this relationship was not significant. For females there was also a significant positive relationship between Intellectual-Cultural Orientation and three academic achievement measures, namely Afrikaans ($r = 0,26$; $p < 0,05$), History ($r = 0,27$; $p < 0,05$) and Languages ($r = 0,26$; $p < 0,05$). For males the relationship between Intellectual-Cultural Orientation and the academic achievement measures was not significant.

2.2 Self Concept

Significant differences were found on the multivariate analysis of variance (MANOVA) which compared males and females on the self concept measures (Wilks' Lambda = 0,90; $F = 5,78$; $p < 0,01$; DF = 2,101). While significant differences were yielded between males and females for Academic Self Concept, no gender differences were found for General Self Concept. **Table** 5 (p.27) shows the gender differences for Academic Self Concept. The F value, means and standard deviations are presented.

TABLE 5

Gender Differences for Academic Self Concept

VARIABLE	MALE		FEMALE		F. VHE
	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	
ACADEMIC SELF CONCEPT	4,86	2,00	6,05	1,75	10,09**

** $p < 0,01$

Males' Academic Self Concept was lower than that for females in this sample. Nevertheless, the separate correlational analyses for males and females did not show that there were gender differences in the significant relationships between Academic Self Concept and IQ and the academic achievement measures. For females there was a significant positive relationship between Academic Self Concept and three Family Environment Scale variables, namely Cohesion ($r = 0,29$; $p < 0,01$), Active Recreational Orientation ($r = 0,36$; $p < 0,01$) and Organisation ($r = 0,27$; $p < 0,05$). There are no significant relationships between Academic Self Concept and the Family Environment Scale variables for males.

2.3 Academic Achievement and IQ

The multivariate analyses of variance (MANOVAS), which compared males and females on the academic achievement measures and IQ did not yield significant differences.

3. FAMILY STRUCTURE

In order to create adequate sample sizes, the multiple options of family structure were divided into two groups: INTACT FAMILIES (N = 84) comprising of the two parent nuclear family category and NON-INTACT FAMILIES (N = 20) comprising the categories of : separated or divorced parent family, step-parent family, deceased parent family, adopted child family, children's home setting and open-ended.

The MANOVAS yielded no significant differences between INTACT families and NON-INTACT families for self concept, family environment dimensions, or the aspects of academic achievement.

4. MULTIVARIATE REGRESSION ANALYSIS

A summary of the results of the stepwise regression with the Academic Achievement Total as the dependent variable is presented in Table 6.

TABLE 6

Summary of Stepwise Regression with Academic Achievement Total as the Dependent Variable

STEP NO	VARIABLE ENTERED	PARTIAL R^2	R^2	F
1	IQ	0,54	0,54	113,83***
2	Academic Self Concept	0,10	0,64	27,48***

*** $p < 0,0001$

The variables contributing a significant proportion of the variation in achievement of the Total measure are IQ ($p < 0,0001$) and Academic Self Concept ($p < 0,0001$). 64% of the variation of Total is accounted for in this model. IQ accounts for 54% and Academic Self Concept accounts for an additional 10%.

Since there is a very high correlation between IQ and the academic achievement measures, in the presence of IQ as a predictor, the other predictors do not appear to be significant. Further analyses were computed in order to account for the variation in academic achievement due to the non-intellective variables when they are not in the presence of IQ. Interactions between the family environment, self concept and family structure variables were also computed.

A summary of the results of the stepwise regression with the academic achievement measure of Language as the dependent variable is presented in **Table 7.**

TABLE 7

Summary of Stepwise Regression with Language as the Dependent Variable, IQ excluded

STEP NO	VARIABLE ENTERED	PARTIAL R^2	R^2	F
1	Academic Self Concept	0,16	0,16	20,44***
2	Moral-Religious Emphasis	0,04	0,20	4,08*
3	Intellectual Cultural Orientation x Academic Self Concept	0,04	0,24	5,40*

*** $p < 0,0001$ * $p < 0,05$

The variables contributing a significant proportion of the variation of Language achievement are Academic Self Concept ($p < 0,0001$), Moral-Religious Emphasis ($p < 0,05$), and the interaction between Intellectual-Cultural Orientation and Academic Self Concept ($p < 0,05$). 24% of the variation of Language is accounted for by this model. Academic Self Concept accounts for approximately 16%, Moral-Religious Emphasis accounts for an additional 4% and the interaction between Intellectual-Cultural Orientation and Academic Self Concept accounts for an additional 4%.

A summary of the results of the stepwise regression with the academic achievement measure of Maths as the dependent variable is presented in **Table 8.**

TABLE 8

Summary of Stepwise Regression with Maths As the Dependent Variable, IQ excluded

STEP NO	VARIABLE ENTERED	PARTIAL R^2	R^2	F
1	Academic Self Concept	0,14	0,14	16,69***
2	Cohesion	0,05	0,19	6,29**

*** $p < 0,0001$
** $p < 0,01$

The variables contributing a significant proportion of the variation of Maths Achievement are Academic Self Concept ($p < 0,0001$) and Cohesion ($p < 0,01$). The model accounts for 19% of the variation of Maths Achievement. Academic Self Concept accounts for 14% and Cohesion accounts for an additional 5%.

A summary of the results of the stepwise regression with the academic achievement measure of Culturals as the dependent variable is presented in **Table 9.**

TABLE 9

Summary of Stepwise Regression with Culturals as the Dependent Variable, IQ Excluded

STEP NO	VARIABLE ENTERED	PARTIAL R^2	R^2	F
1	Expressiveness x Academic Self Concept	0,23	0,23	27,88***

*** p < 0,001

The variables contributing a significant proportion of the variation of Culturals achievement are Expressiveness and Academic Self Concept in interaction. The interaction between Expressiveness and Academic Self Concept accounts for 23% of the variation of Culturals.

A summary of the results of the stepwise regression with the academic achievement measure of Total as the dependent variable is presented in **Table 10** (p.32).

TABLE 10

Summary of Stepwise Regression with Academic Achievement as the Dependent Variable, IQ Excluded

STEP NO	VARIABLE ENTERED	PARTIAL R^2	R^2	F
1	Academic Self Concept	0,21	0,21	25,10***
2	Expressiveness	0,04	0,25	5,17*
3	Cohesion	0,03	0,28	4,19*

*** $p < 0,0001$

* $p < 0,05$

The variables contributing a significant proportion of the variation of the achievement of Academic Achievement Total are Academic Self Concept ($p < 0,0001$), Expressiveness ($p < 0,05$), and Cohesion ($p < 0,05$). 28% of the variation of Total is accounted for by this model. Academic Self Concept accounts for 21%, Expressiveness accounts for an additional 4% and Cohesion accounts for an additional 3%.

The tables containing the results of the stepwise regressions presented, thus far are only summaries of these analyses. The SAS programme entered as predictors variables that contributed significant percentages of variation at the .15 alpha level. Upon inspection of all the steps of the multivariate regressions, it appeared that Academic Self Concept was in all cases an important predictor and that Expressiveness appeared either alone or in combination with other variables in accounting for the variation in the academic achievement measures.

Further multivariate regressions were computed for each of Language, Maths, Culturals and Total as the dependent variables. In these analyses, Academic Self Concept and Expressiveness were included into the regressions as compulsory predictors. The aim of this type of analysis is to attempt to find a common set of variables which are the most salient in accounting for the variation in the academic achievement measures as a whole.

Appendix 3 (p.55) contains **Tables 11 to 14** which present a summary of the results of the regressions at step 0, where Academic Self Concept and Expressiveness have been included as compulsory predictors.

Academic Self Concept contributes a significant proportion of the variation in all the academic achievement measures, namely Language ($p < 0,0001$), Maths ($p < 0,0001$), Culturals ($p < 0,0001$) and Total ($p < 0,0001$). Expressiveness contributes a significant proportion of the variation in achievement for Culturals ($p < 0,01$) and Total ($p < 0,05$). Expressiveness approaches significance at the 6% level in accounting for the variation in the regression model with Language as the dependent variable.

In summary, in attempting to find a common set of variables which account for the variation in the academic achievement measures as a whole, it is seen that of the non-intellective variables, Academic Self Concept accounts for the largest proportion of the variation of all the academic achievement measures employed in this study. Of the Family Environment Scale Variables, Expressiveness is the most salient in accounting for all the academic achievement measures, except for Maths. Academic Self Concept and Expressiveness together, account for 20%, 26% and 25% of the variation in Language, Culturals and Total, respectively.

DISCUSSION

1. INTELLECTUAL vs. NON-INTELLECTUAL VARIABLES AND ACADEMIC ACHIEVEMENT

The correlation analysis yielded high positive correlations between IQ and all the measures of academic achievement. The highest proportion of the variation of academic achievement accounted for by a single variable was 54%, which was by IQ. When not in the presence of IQ, the family environment and self concept variables together, accounted for between 19 and 28% of the variation of the various academic achievement measures.

A superficial interpretation would suggest that psycho-social variables play a relatively minor role and that intellectual ability is the most salient factor in predicting academic achievement. However, one should consider that one of the validation criteria for IQ tests is scholastic achievement. Feuerstein (1979) points out the "tautological platitude" in the assumption that a poor IQ predicts poor academic achievement, since, if a child functions on a low level at school, then the very behaviours that ensure poor performance at school are measured psychometrically and ensure a resulting poor IQ. The child is then said to be deficient in the classroom because he has a low IQ or intelligence level. Thus, while not ignoring the significance of cognitive abilities in determining achievement outcomes, the high proportion of shared variation between IQ and academic achievement should be interpreted with caution.

Further, although 54% accounted for by IQ, is high, nearly half the variation in academic achievement remains unexplained. The relatively low proportion of the variance

explained by the particular non-intellectual variables employed in this study must also be interpreted in the light of Kurdek and Sinclair's (1988) argument that if we assume that academic performance is determined by multiple factors, then even a modest amount of variance accounted for becomes relatively important.

2. FAMILY STRUCTURE

Significant differences between INTACT and NON-INTACT families did not emerge. It is possible that differences in various types of family structure were masked by the necessity of amalgamating the different types of non-nuclear families into one category due to the small sample sizes of each separate type. Further, the study did not differentiate between the time period at which a family had assumed its non-nuclear status, for example, when a divorce or death had taken place. Larger sample sizes could allow for more refined categorization and would possibly yield more meaningful results. According to Hetherington et al (1983), the long term effect of marital disruption on children may be modified by effective family functioning, and thus the particular family climate associated with a family structure type , rather than the family structure per se, may be a more useful area of study.

3. SELF CONCEPT AND FAMILY ENVIRONMENT

In determining the relationship between the self concept and family environment measures, a significant positive relationship was found between general self concept and Expressiveness and a significant negative relationship between general self concept and each of Conflict, Achievement Orientation and Control. Academic self concept was positively correlated with Organisation and negatively correlated with Conflict.

Bearing in mind that all of the correlations between the self concept and family environment measures were low, as well as the possibility of chance correlations due to the large number of variables employed in the study, it is still nevertheless useful to comment on the pattern of relationships found between self concept and family environment, since they seem to support findings of previous research.

Regarding the positive relationship between Expressiveness and general self concept, Coopersmith (1967) has commented that communication between parents and children is associated with the development of mutual knowledge and respect. It is likely that such a climate, particularly where the child is able to openly express her needs, would lead to increased positive feelings in the child. Conversely, a child who feels positive about herself is more likely to feel freer to express herself, which could also explain the positive association between general self concept and Expressiveness in families.

The inverse relationship between positive feelings about the self and conflict in the family finds much support in the literature (see Billings and Moos, 1982; Coopersmith, 1967; Cheung and Lau, 1985; Kakkar, 1970; Leung et al, 1986). Kurdek (1988) has commented that conflict among family members has been identified as being particularly pathogenic for sociopersonality function.

It is interesting that family conflict was not only negatively related to general feelings about self, but also to academic self concept. Entwisle et al (1987) have commented that children may elaborate the academic component of their emerging self images not just on the basis of their experience in the academic realm, but partly on the basis of other experience as well. In this regard it appears that the most detrimental variable within the

family to influence feelings in the academic area is family conflict. On the other hand, family Organization is a positive variable in enhancing self concept and it is possible that the structure and organisation provided within the family context enhances positive feelings in the academic realm, since organisation can have a facilitating effect in coping with academic demands.

The negative relationship between general self concept and Control appears to contrast Coopersmith's findings where it was stated that clearly defined and enforced limits and rules in the family have an enhancing effect on self esteem. He proposed that this is due, in part, to the process whereby enforced standards of conduct make it easier for the child to know when she has failed, by how much and what she must do to achieve success, whereas the absence of defined standards leaves the child uncertain of her success or failure. With regards to limits, Coopersmith does qualify that the limits should be reasonable and moderate. It seems that it may be an overemphasis on rules that makes for the negative association between Control and general self concept found in the present study, rather than the fact that rules or limits per se are related to negative feelings about the self.

A finding which is of particular interest in relation to the study's Jewish sample where achievement is generally overemphasised, is the negative correlation between Achievement Orientation and general self concept. It has been stated elsewhere that self esteem may be hampered by families that emphasise achievement in the context of restrictive rules (Moos, 1986). Not only does the present study's findings suggest that Achievement Orientation does a disservice to the child's self concept, but the study seems to bear out little purpose for Achievement Orientation in that no relationship was found between

Achievement Orientation and grades. Of course, since correlation does not imply causation, one must be careful in drawing the direct conclusion that a family which highly emphasises achievement will breed a negative self concept in the child, as it is equally possible that a child with a negative self concept may perceive a high level of Achievement Orientation in her family, expecting that she is unable to meet high standards while supposing that this is what her family requires. As with the case of Control, it is also probable that it is not the dimension per se, that is related to poor self concept, but rather an overemphasis. It is probable that an optimum level of Achievement Orientation could be healthy for child and adolescent development.

4. SELF CONCEPT AND ACADEMIC ACHIEVEMENT

While positive correlations were yielded for both general and academic self concept in relation to academic achievement, the correlations between academic self concept and the achievement measures were consistently higher than those between general self concept and the academic achievement measures. Further, in accounting for the variation in academic achievement in the regression analysis, general self concept did not appear as a significant variable, while academic self concept accounted for 16%, 14% and 21% of the variation of Language, Mathematics and Total achievement respectively. The interaction between academic self concept and Expressiveness accounted for 23% of the variation of Culturals.

The findings of the study lends support for a model which distinguishes between different types of self concepts. Part of the confusion in the self-achievement literature arises from the use of only a single global measure of self esteem, while the present study supports the usefulness of

separate measures of self concept since different self concept measures appear to have different relationships with achievement outcomes. The results of the present study add further verification to the emerging body of research findings suggesting larger positive correlations between academic self concept and academic achievement, than between general self concept and academic achievement (see Hansford and Hattie, 1982; Keith, 1986; Shavelson and Bolus, 1982; Song, 1984).

5. FAMILY ENVIRONMENT AND ACADEMIC ACHIEVEMENT

In determining the relationships between the family environment variables and academic achievement measures, it was found that there were low significant positive correlations between Expressiveness and each of Language, Culturals and Total, as well as between Intellectual Cultural Orientation and each of Language and Culturals. In the regression analysis, the family environment variables which emerged as significant on their own (i.e. not in interaction) were Moral-Religious Emphasis, which accounted for 4% in the variation of Language; Cohesion, which accounted for 5% in the variation of Maths and 3% in the variation of Total achievement and Expressiveness which accounted for 4% in the variation of Total achievement.

It is seen that support for strong relationships between academic achievement and the particular dimensions of family environment investigated in this study was not yielded. Nevertheless, the pattern of relationships which emerged is consonant with previous findings in the literature. For example, it is reported that children located in more cohesive and intellectually oriented families tend to show more rapid mental development and academically competent children are more likely to be reared in cohesive homes (see Moos, 1987, for a review of studies).

Open communication between parents and children has been associated with high levels of achievement (Shawinsky, 1988). Moral-Religious Emphasis has been found to have both positive and adverse effects on children's functioning, depending on other associated dimensions in the family climate (Billings and Moos, 1982).

The regression analyses showed that of the Family Environment Scale variables, Expressiveness is the most salient in accounting for all the academic achievement measures, besides maths. It is interesting to note that within the overall literature of family systems, it is this very variable of Expressiveness, akin to family communication, that has emerged as a particularly significant family dimension. Theoretical support for the saliency of Expressiveness is drawn from the Circumplex Model of Marital and Family Systems (Olson et al, 1983). The Circumplex Model derives from a conceptual clustering of over fifty concepts developed to describe marital and family dynamics, into three dimensions, namely <u>family cohesion</u>, <u>family adaptability</u> and <u>family communication</u>. Within the model family communication assumes centrality in relation to all family functioning since it is described as a facilitating dimension which is critical for development on the other two dimensions.

It is possible that the healthy family functioning, whose way has been paved by good communication patterns, engenders healthy emotional functioning in the child whose emotional energy is then, in a sense, freed to concentrate her efforts on academic pursuits.

Good communication patterns may not be significant only in terms of their affective impact on the child, but also in terms of their indirect or even direct effect on the child's cognitive functioning, thereby enhancing academic achievement.

Firstly, better communication patterns which lead to better family relationships increase the level and quality of stimulation provided for the child, which enhances mental development (Moos, 1987). Secondly, Feuerstein (1979) proposes a model whereby underlying cognitive structures are built by "mediated learning experiences" (MLE's) which occurs "when a mediator interposes himself between the learner and the environment and interprets the world to the learner". Mediation takes place through communication and thus communication has a direct effect on cognitive development. It is probable that a family high in Expressiveness , with well developed patterns of communication, has associated well developed mediated learning experiences which directly impact on the child's ability to intellectually cope with schooling.

The possibility that Expressiveness, as a family environment variable, impacts on academic achievement through both emotional and cognitive means, suggests that the dividing line between intellective and non-intellective variables is thin. Rather than distinguishing between intellective and non-intellective variables, research should focus its efforts on defining the interface between these two factors.

It is of note, that the particular areas of academic achievement investigated in this study, do not have a uniform relationship with the various family environment variables, suggesting the usefulness of the differentiation between types of academic achievement over the study of achievement as a global concept. Of particular interest is the finding that Expressiveness was the most salient family variable related to all the achievement measures, apart from maths. At the level of schooling of the sample studied, maths is qualitatively the most distinct subject, being the least language based. It is possible that success in this subject area requires specific facilities

or abilities which can be differentiated from those required for the other subjects.

6. SELF CONCEPT, FAMILY ENVIRONMENT AND ACADEMIC ACHIEVEMENT

The simultaneous investigation of self concept and family variables has been useful in providing an account of the relative contributions of each of these dimensions in accounting for achievement outcomes. Academic self concept accounts for between 14 and 21% of the academic achievement measures when not in the presence of IQ, whereas family environment variables together, account for at most, 7% of the variation. While these results appear to suggest that academic self concept is by far a more useful variable than family functioning in predicting achievement outcomes, such a conclusion should be drawn cautiously. It must be noted that family environment was measured from the view point of the child and thus the more reasonable conclusion to draw would be that children's feelings or perceptions of themselves correlate more strongly with their academic achievement, than do their feelings or perceptions about their families. It is possible that an independent evaluation of family environment might yield a different account of the relative relationships between each of family environment and self concept in determining achievement outcomes. While a pattern of relationships, albeit based on weak correlations between aspects of family environment and self concept does emerge, the results of the study do not clearly demonstrate the additive effects of family and self variables in interaction in accounting for the variation in academic achievement. In the regression analysis, only two interactions between family environment and self concept variables were significant. The interaction between Intellectual-Cultural Orientation and academic self concept accounts for only 4% of the variation of Language achievement, which limits its meaningfulness. The interaction between Expressiveness and

Academic self concept accounts for 23% of the variation of Culturals achievement.

7. GENDER DIFFERENCES

A number of interesting gender differences emerged in this study. While previous studies in different cultural groups have found that girls have a more negative self concept than boys (e.g. Carpenter, 1969; Cheung, 1986), or that there is no support for a relationship between sex and overall self regard (Wylie, 1979 in Hansford and Hattie, 1982), the present study found that girls' academic self concept was significantly higher than that of boys. This result does not appear to be a function of differences in academic achievement since there were no significant differences between achievement scores for males and females.

The differences between the present and previous findings are possibly explained by the fact that the previous studies cited, were researched in diverse populations, e.g. Negro, Chinese, American, and self concept gender differences could be a function of culture. Two other considerations are however necessary, which would appear to validate the present results within the context of findings of other researchers. Firstly, Marsh et al (1985) state that although there may be no differences in overall self concept , previous research has found gender differences in specific areas of self concept.. This is consistent with the findings of the present study where gender differences were detected in the particular area of academic self concept rather than general self concept. The second consideration needs to explain why the academic self concept was higher for females and this should be considered in the light of the particular developmental period of the subjects of this study. According to Parsons et al (1982) during the elementary school years parents

generally expect girls to do better than boys and indeed, the prevailing attitude at the school researched in the present study is that girls apply themselves more co-operatively to academic tasks. Girls' higher academic self concepts could then possibly be attributed to environmental expectancies (which in turn may be reciprocally influenced by girls' behaviour).

The proposed explanation here that higher female academic self concept is attributable to a process located in the girls' interaction with the environment, is supported in part by previous findings that adolescent females report greater concern about how others view them (Leahy et al, 1985) and that girls depend more on parent evaluations than boys (Entwisle et al, 1987). This is also consistent with the present study's findings that there was a greater amount of family environment variables associated with academic self concept for females than for males.

Females reported their families to be higher in Intellectual-Cultural Orientation than males, and males reported their families to be higher in Conflict and Control than females. It is more probable that these differences emerge as a function of differing gender perceptions rather than actual family differences, since there would be a random distribution of males and females in each family. While female identity development in adolescence revolves around issues of interpersonal concerns, male identity development revolves around issues of gaining autonomy and independence (Entwisle et al, 1987). Since the areas that the males are negotiating at this stage may clash with family limitations, issues around Conflict and Control may be augmented in males' perceptions, which would account for the gender differences in these family variables which emerged in this study. Females' perceptions of higher Intellectual-Cultural Orientation could possibly be explained by greater value

being placed by females in the area of intellectual or cultural pursuits than males at this stage of development.

8. LIMITATIONS OF THE STUDY

A number of limitations are inherent in the present study:

The measurement of self concept is an area around which much controversy exists in the literature and the Coopersmith Self Esteem Inventory has not been without criticism. For example, Harter (1982) argues that the two choice format of the inventory pulls for socially desirable responding. Harter (1985) has also criticised the scale for such things as problems with domain and item selection and inappropriate data-analytic strategies. Coopersmith (1969) himself admits to the difficulties in measurement of self concept, stating "it is an ephemeral subject difficult to deal with empirically".

Accurate or meaningful measurement of family functioning is similarly an issue of debate in the literature. In criticism of the use of the Family Environment Scale to measure family climate, some family researchers, such as Haley (1964, cited in Shawinsky, 1988), hold that the systematic observation of family functioning is the most reliable method of gaining information about the family. Further, the nature of the Family Environment Scale makes it difficult to draw direct conclusions about family functioning in general, since the family environment is measured from the perception of the individual child rather than the family as a whole. (Although it should be noted that this in itself has merits as a method of assessment, as the child's perceptions of her family would strongly associate with the way in which the family impacts on the child). A further difficulty associated with the Family Environment Scale is that the scale tends to give a quantitive measure, i.e. the degree to which a particular

dimension is perceived, rather than a qualitative measure, for example the optimum level of a dimension for healthy family functioning. Quantitative rather than qualitative measures could mask certain effects.

Both the Coopersmith Self Esteem Inventory and the Family Environment Scale have all the limitations particular to the use of closed response questionnaires in general as a method of assessment, including the inhibition of richness of response, respondent biases and deliberate inaccuracies in supplying information.

The results of this study need then be interpreted within the limitations of the particular measuring instruments employed. Byrne (1986) has proposed that future researchers should consider the use of maximally dissimilar instrumentation as multiple measures of general and academic self concept.

A further shortcoming associated with the measurement of self concept is that self concept was measured in the same manner for each child, rather than distinguishing between the self concepts of children relative to their achievement level. Controlling for the confounding influence of achievement would allow for a more accurate measurement of self concept since this would allow the separation of effects attributable to self perceptions and those attributable to a level of academic achievement. Future research could develop methods of the study of self concept in terms of an equation which takes into account the relative positions of perceptions and actual ability.

An important aspect of the research design worthy of consideration here, involves the time periods at which measurement took place. In order to obtain a stable measurement of academic achievement, the Std 4 December grades were utilized, since they were the latest year-long

measurement of the sample's grades over the three academic terms. Measurement of self concept, IQ, family structure and family environment took place in April of the Std 5 year, on the assumption of the relative stability of these measures. Nevertheless, the discrepancy between measurement times could serve as a confounding variable. A more extensive research design could compare the relationship between academic achievement and the IQ, self concept and family variables measured repeatedly at various points in the academic year with possibly contrasting results.

Finally, an obvious limitation of the study concerns the external validity of the findings. Future research need focus on the study of a diversity of samples to ascertain the generalizability of the present findings. The findings of the present study will have particular practical relevance to mental health workers operating in the present population studied.

CONCLUSION

The aim of the present study was not simply to add yet another self concept or family factor study to the already multitude of existing complementary or contradictory findings characterising the achievement literature. Rather, the intention of the study was to place both self concept and family factors in a broader context by examining them concurrently, rather than in isolation, thereby allowing for the exploration of their relative contributions as well as the process of their relationship in accounting for achievement outcomes. While a clear interactive effect did not emerge in the regression analyses, the overall findings of the study do suggest some interesting directions or perspectives which future research could validate.

The correlation analysis yielded more correlations between family environment dimensions and general self concept, than family environment dimensions and academic self concept. It is possible that the family environment variables mostly influence academic achievement through their indirect effects via general self concept which is positively correlated with academic self concept.

Emerging from this study then, is an impetus for the exploration of academic self concept as a proximal factor, and the relationship between general self concept and family environment as a distal factor in determining achievement outcomes. The connection between family environment and academic self concept may be traced indirectly through each of their relationships to constructs within the overall multidimensional self concept hierarchy. Future research need define the interconnections more precisely.

Although a causal model may not be derived from the present findings, it would be naive to assume the existence of simple cause-effect relationships. More likely would be a complex interaction involving reciprocal causality and various feedback loops.

While the present study has aimed at a more holistic and broader focus in the study of academic achievement by examining the process of the interrelationship between self concept and family factors, there is no limit to the amount of variables that could be included in a multidimensional model of academic achievement. Future research could include such factors as classroom, peer and teacher variables in a broadly based, integrative model. Of particular relevance in the South African context would be the inclusion of environmental variables, particularly the impact of such factors as violence, stress and a rapidly changing political climate. Research can no longer afford to continue to focus on isolated variables if meaningful results are to be yielded. Further, research needs to give attention to the development of a number of diverse models to account for differences at various developmental stages in the child's academic career.

The present study has a number of implications for mental health workers and educationalists concerned with children's academic achievement. The study has highlighted the role of non-intellective variables in relation to achievement and in particular, has emphasised the complexity of the interaction of multiple factors in predicting academic achievement. The usefulness of the study lies in its delineation of specific elements within the self concept hierarchy and within family functioning that are most closely related to academic achievement. In this respect, academic self concept and Expressiveness have emerged as the most salient self and family variables to be included in a model of academic achievement.

Specificity is important to provide the direction for the designing of intervention programmes aimed at addressing pertinent issues related to academic achievement, such as enhancing achievement potential. Research should continue to guide intervention programmes in the direction of addressing broad contextual factors. An holistic consideration of the child, rather than a narrow focus on production of achievement results solely at the level of academic training, should be regarded as an educational responsibility.

APPENDIX 1

TABLE 1

Family Environment Scale Subscale Descriptions
(Fuhr, Moos & Dishotsky, 1981)

1.	COHESION	Commitment, help and support family members provide for one another.
2.	EXPRESSIVENESS	How much family members are encouraged to act openly and to express their feelings directly.
3.	CONFLICT	The amount of openly expressed anger, aggression and conflict among family members.
4.	INDEPENDENCE	The extent to which family members are assertive, self sufficient and make their own decisions.
5.	ACHIEVEMENT ORIENTATION	The extent to which activities (e.g. school and work) are cast into an achievement-oriented or competitive framework.
6.	INTELLECTUAL-CULTURAL ORIENTATION	The degree of interest in political, social, intellectual and cultural activities.
7.	ACTIVE-RECREATIONAL ORIENTATION	The extent of participation in social and recreational activities.
8.	MORAL-RELIGIOUS EMPHASIS	The emphasis on ethical and religious issues and values.
9.	ORGANIZATION	The importance of clear organization and structure in planning family activities and responsibilities
10.	CONTROL	The extent to which set rules and procedures are used to run family life.

APPENDIX 2

FAMILY ENVIRONMENT SCALE ADJUSTMENTS

	ITEM	ADJUSTMENT
8.	Family members attend church, synagogue or Sunday School fairly often.	Family members attend synagogue (Shul) fairly often.
10.	Family members are rarely ordered around.	Family members are hardly ever ordered around.
11.	We often seem to be killing time at home.	We often seem to be killing time at home. (Killing time means using up time without really having anything to do).
13.	Family members rarely become openly angry.	Family members hardly ever become openly angry.
16.	We rarely go to lectures, plays or concerts.	We hardly ever go to lectures, plays or concerts.
22.	Its hard to "blow off steam" at home without upsetting somebody.	Its hard to "blow off steam" at home without upsetting somebody. (To "blow off steam" means to give vent to, or let out your emotions).
27.	Nobody in our family is active in sports, Little League, bowling, etc.	Nobody in our family is active in sports, soccer league, tennis club, etc.
28.	We often talk about the religious meaning of Christmas, Passover, or other holidays.	We often talk about the religious meaning of Shabbat, Passover, or other holidays.

36.	We are not interested in cultural activities.	We are not interested in cultural activities (for example, plays, music concerts, art exhibitions).
41.	We rarely volunteer when something has to be done at home.	We hardly ever volunteer when something has to be done at home.
42.	If we feel like doing something on the spur of the moment we often just pick up and go.	If we feel like doing something on the spur of the moment, we often just get up and go.
45.	We always strive to do things just a little better the next time.	We always strive to do things just a little better the next time. (Strive means to try hard).
46.	We rarely have intellectual discussions.	We hardly ever have intellectual discussions.
55.	Family members rarely worry about job promotions, school grades, etc.	Family members hardly ever worry about job promotions, school grades, etc.
57.	Family members are not very involved in recreational activities outside work or school.	Family members are not very involved in recreational (fun, amusing or relaxing) activities outside work or school.
58.	We believe there are some things you just have to take on faith.	We believe there are some things you just have to take on faith. (To "take on faith" means to accept or believe in some things even if you don't fully understand).
73.	Family members often try to one-up or out-do each other.	Family members often try to be a step ahead of or out-do each other.

74.	It's hard to be by yourself without hurting someone's feelings in our household.	If a family member just wants to be by themselves, this will tend to hurt someone's feelings in our household.
80.	Rules are pretty inflexible in our household.	In our household, rules are pretty inflexible (cannot be easily changed, strict).
82.	There are a lot of spontaneous discussions in our family.	There are a lot of spontaneous (unplanned and relaxed discussions in our family).
86.	Family members really like music, art and literature.	Family members really like music, art and literature (books and poetry).
89.	Dishes are usually done immediately after eating.	Things are tidied up as soon as an activity is completed, e.g. putting things where they belong when we are finished using them.

APPENDIX 3

TABLE 11

Summary of Stepwise Regression at step 0 (Compulsory Variables). Language as Dependent Variable

STEP NO.	VARIABLE ENTERED	F
0	Academic Self Concept	19,52***
0	Expressiveness	3,62∝
		R^2 = 0,20

*** p < 0,0001

∝ p < 0,06

TABLE 12

Summary of Stepwise Regression at Step 0 (Compulsory Variables). Maths as Dependent Variable

STEP NO.	VARIABLE ENTERED	F
0	Academic Self Concept	15,88***
0	Expressiveness	1,70
		R^2 = 0,16

*** p < 0,0001

APPENDIX 3 /continued

TABLE 13

Summary of Stepwise Regression of Step 0 (Compulsory Variables). Culturals as Dependent Variable

STEP NO.	VARIABLE ENTERED	F
0	Academic Self Concept	25,43***
0	Expressiveness	6,60**
		R^2 = 0,26

*** p < 0,0001

** p < 0,01

TABLE 14

Summary of Stepwise Regression at Step 0 (Compulsory Variables). Total as Dependent Variable.

STEP NO.	VARIABLE ENTERED	F
0	Academic Self Concept	24,47***
0	Expressiveness	5,19*
		R^2 = 0,25

*** p < 0,0001

* p < 0,05

BIBLIOGRAPHY

ABRAMS, J.C., and KASLOW, F. (1977). Family systems and the learning disabled child : Intervention and treatment. Journal of Learning Disabilities, 10(2), 27-31.

ADELMAN, H., and TAYLOR, L. (1982). Learning Disabilities in Perspective. Illinois : Scott, Foresman & Co.

AMES, C. (1978). Children's achievement attitudes and self-reinforcement : Effects of self concept and competitive reward structure. Journal of Educational Psychology, 70, 345-355.

BAKER, D., and STEVENSON, D. (1986). Mothers' strategies for school achievement : Managing the transition to high school. Sociology of Education, 59, 156-167.

BAKER, H.S. (1975). The treatment of academic under-achievement. Journal of the American College Health Association, 24, 4-7.

BARKER, P. (1986). Basic Family Therapy. Oxford : Blackwell Scientific Publications.

BECKER, W.C., PETERSON, P.R., LURIA, Z., SHOEMAKER, D.J., and HELLMER, L.A. (1962). Relations of factors derived from parent interview ratings to behaviour problems of 5 year olds. Child Development, 33, 509-535.

BILLINGS, A.G., and MOOS, R.H. (1982). Family environments and adaptation : A clinically applicable typology. American Journal of Family Therapy, 10(2), 26-38.

BLACK, F.W. (1974). Self concept as related to achievement and age in learning disabled children. Child Development, 45, 1137-1140.

BOWEN, M. (1960). The family as the unit of study and treatment. American Journal of Orthopsychiatry, 31, 40-60.

RIDGEMAN, B., and SHIPMAN, V.C. (1978). Preschool measures f self-esteem and achievement motivation as predictors of hird grade achievement. Journal of Educational Psychology, 0, 17-28.

ROOKOVER, W.B., THOMAS, S., and PATTERSON, A. (1964). Self oncept of ability and school achievement. Sociology of ducation, 37, 271-278.

RYAN, T., and PEARL, R. (1979). Self concepts and locus of ontrol of learning disabled children. Journal of Clinical hild Psychology, 3, 223-226.

YRNE, B.M. (1984). The general/academic self concept omological network : A review of construct validation esearch. Review of Educational Research, 54, 427-456.

YRNE, B.M. (1986). Self concept/academic achievement elations : An investigation of dimensionality, stability and ausality. Canadian Journal of Behavioural Science, 18(2), 73-186.

CALSYN, R.J., and KENNY, O.A. (1977). Self concept of ability and perceived evaluation of others : Cause or effect of academic achievement.. Journal of Educational Psychology, 69, 136-145.

CARPENTER, T.R., and BUSSE, T.B. (1969). Development of self concept in negro and white children. Child Development, 40, 935-939.

CHAPMAN, J.W., and BOESMA F.J. (1979). Learning disabilities, locus of control and mother attitudes. Journal of Educational Psychology, 71(2), 250-258.

CHEUNG, P.C., and LAU, S. (1985). Self-esteem : Its relationship to the family and school social environments among chinese adolescents. Youth and Society, 16, 438-456.

CHEUNG, T.S. (1986). Sex differences in the effect of academic achievement on self esteem : A Hong Kong case. Social Behaviour and Personality, 14(2), 161-165.

COLANGELO, N., KELLY, K.R., and SCHREPFER, R.M. (1987). A comparison of gifted, general and special learning needs students on academic and social concept. Journal of Counselling and Development, 66(2), 73-77.

COOLEY, E.J., and AYRES, R.R. (1988). Self concept and success-failure attributions of non-handicapped students and students with learning disabilities. Journal of Learning Disabilities, 21(3), 174-178.

COOPERSMITH, S. (1967). The Antecedents of Self Esteem. San Francisco : Freeman Publications.

COOPERSMITH, S. (1986). Self Esteem Inventories. Palo Alto: Consulting Psychologists Press.

DIX, R., RUBLE, D.N., GRUSEC, J.E., and NIXON, S. (1986). Social cognition in parents : Inferential and affective reactions to children of three age levels. Child Development, 57, 879-894.

DORNBUSCH, S.M,, RITTER, P.L., LEIDERMAN, P., and ROBERTS, D.F. (1987). The relationship of parenting style to adolescent school performance. Child Development, 58(5), 1244-1257.

ENTWISLE, D.R., ALEXANDER, K.L., PALLAS, M.A., and CADIGAN, D. (1987). The emergent academic self-image of first graders : Its response to social structure. Child Development, 58, 1190-1206.

ENTWISLE, D.R., and STEVENSON, H.W. (1987). Schools and Development. Child Development, 58, 1149-1150.

EPSTEIN, S. (1973). The self-concept revisited. American Psychologist, 28, 404-416

ESCHEL, Y., and KLEIN, Z. (1981). Development of academic self concept of lower-class and middle-class primary school children. Journal of Educational Psychology, 73, 287-293.

FESCHBACH, N.D., and FESCHBACH, S. (1987). Affective processes and academic achievement. Child Development, 58(5), 1335-1347.

FEUERSTEIN, R. (1979). The Dynamic Assessment of Retarded Performers. Baltimore : University Park Press.

FEUERSTEIN, R., MILLER, R., HOFFMAN, M.B., RAND, Y., and MINSKER, Y. (1980). Cognitive modifiability in adolescence : Cognitive structure and effects of intervention. Pre publication copy.

FRANK, I., and FRANK, R.K. (1970). The management of the academic under-achiever in a family practice. Psychosomatics, 11(3), 183-187.

FRIEDMAN, I. (1985). Marital Discord and Child Behaviour Problems : Their Relationship in Normal and Clinic Referred Children. Unpublished Masters Thesis, University of Witwatersrand, Johannesburg.

FUHR, R., MOOS, R.H., and DISHOTSKY, N. (1981). The use of family assessment and feedback in ongoing family therapy. American Journal of Family Therapy, 9, 24-36.

GARWOOD, D.A. (1986). Social-Emotional Functioning in Pre-School Children as a Predictive Factor of Later Academic Underachievement. Unpublished Masters Thesis, University of the Witwatersrand, Johannesburg.

GIBLIN, P.T., POLAND, M.L., and AGER, J.W. (1988). Clinical applications of self esteem and locus of control to adolescent health. Journal Adolescent Health Care, 9(1), 1-14.

GIVELBER, F. (1983). The parent-child relationship and the development of self-esteem. In J.E. Mack and S.L. Ablon (Eds.), The Development and Sustenance of Self Esteem in Childhood. New York : International University Press.

GLICK, M., and ZIGLER, E. (1985). Self-image : A cognitive-developmental approach. In R.L. Leahy (Ed.), The Development of the Self. New York : Academic Press.

GOLDENBERG, I., and GOLDENBERG, H. (1985). Family Therapy : An Overview. Belmont : Brooks/Cole Publishing Company.

GOTTFRIED, A.E. (1985). Academic intrinsic motivation in elementary and junior high school students. Journal of Educational Psychology, 77, 631-645.

GOTTFRIED, A.W., and GOTTFRIED, A.E. (1984). Home environment and cognitive development in young children of middle socio-economic status families. In A.W. Gottfried (Ed.), Home Environment and Early Cognitive Development. New York : Academic Press.

GRAU, P.N. (1986). Two causes of underachievement : The scapegoat phenomenon and the peter pan syndrome. G/C/T, 41, 47-50.

HAERTEL, G., WALBERG, H.J., and HAERTEL, E. (1981). Socio-psychological environments and learning. British Educational Research Journal, 7, 27-36.

HAERTEL, G.D., WALBERG, H.J., and WEINSTEIN, T. (1983). Psychological models of educational performance. A theoretical synthesis of constructs. Review of Educational Research, 53, 75-91.

HANSFORD, B.C., and HATTIE, J.A. (1982). The relationship between self and achievement/performance measures. Review of Educational Research, 52(1), 123-142.

HARTER, S. (1982). The perceived competence scale for children. Child Development, 53, 87-97.

HARTER, S. (1985). Competence as a dimension of self evaluation : Toward a comprehensive model of self-worth. In R.L. Leahy (Ed.), The Development of the Self. New York : Academic Press.

HETHERINGTON E. (1979). Divorce : A child's perspective. American Psychologist, 34(10), 851-858.

HETHERINGTON, E.M., CAMARA, K.A., and FEATHERMAN, D.L. (1983). Achievement and intellectual functioning of children in one-parent households. In J.T. Spence (Ed.), Achievement and Achievement Motives : Psychological and Sociological Approaches. San Francisco : W.H. Freeman.

HEYNS, B., and CATSAMBIS, S. (1986). Mother's employment and children's achievement : A critique. Sociology of Education, 59, 140-152.

HILLIARD, T., and ROTH, R.M. (1969). Maternal attitudes and the non-achievement syndrome. Personnel and Guidance Journal. 47(5), 424-428.

HJELLE, L., and ZIEGLER, D. (1976). Personality Theories : Basic Assumptions, Research and Applications. New York : McGraw Hill.

HOFFMAN, R., and ZIPPCO, D. (1986). Effects of divorce upon school self esteem and achievement of 10-11 and 12 year old children. Perceptual and Motor Skills, 62(2), 397-398.

HOWES, C. (1988). Relations between early child care and schooling. Developmental Psychology, 24(1), 53-57.

HUNT, D. (1975). Person-environment interaction : A challenge found wanting before it was tried. Review of Educational Research, 45, 209-230.

KAKKAR, S.B. (1970). Family conflicts and scholastic achievement. Indian Journal of Psychology, 45, 159-164.

KEITH, T.Z., POTTEBAUM, S.M., and EBERHART, S. (1986). Effects of self concept and locus of control on academic achievement : A large sample path analysis. Journal of Psychoeducational Assessment, 4, 61-72.

KRIGE, P. (1974). Family Interactional Patterns and Achievement. Unpublished Doctoral Thesis, University of Port Elizabeth, Port Elizabeth.

KURDEK, L.A., and SINCLAIR, R.J. (1988). Relation of eighth graders' family structure, gender and family environment with academic performance and school behaviour. Journal of Educational Psychology, 80(1), 90-94.

LaBENNE, W.D., and GREENE, B.I. (1969). Educational Implications of Self Concept Theory. Pacific Palisades : Goodyear Publishing Company.

La COSTE, L.D., GINTER, E.J., and WHIPPLE, G. (1987). Intrafamily communication and familial environment. Psychological Reports, 61(1), 115-118.

LADD, G.W., and PRICE J.M. (1986). Promoting children's cognitive and social competence : The relation between parents' perceptions of task difficulty and children's perceived and actual competence. Child Development, 57, 446-460.

LEAHY, R.L., and SHIRK, S.R. (1985). Social cognition the development of the self. In R.L. Leahy (Ed.), The Development of the Self. New York : Academic Press.

LEUNG, P.W.L., SALILI, F., and BABER, F.M. (1986). Common adolescent problems in Hong Kong : Their relationship with self esteem, locus of control, intelligence and family environment. Psychologia, 29, 91-101.

LIDZ, T. (1970). The family as the developmental setting. In E. Anthony and C. Koupernik (Eds). The Child in his Family. New York : John Wiley and Sons.

MACK, J.E. (1983). Self esteem and its development : An overview. In J.E. Mack, and S.L. Ablon (Eds.), The Development and Sustenance of Self Esteem in Childhood. New York : International University Press.

MARSH, H.W., BYRNE, B.M., and SHAVELSON, R.J. (1988). A multifaceted academic self concept : Its hierarchical structure and its relation to academic achievement. Journal of Educational Psychology, 80(3), 366-380.

MARSH, H.W.; SMITH, I.D., and BARNES, J. (1985). Multi-dimensional self-concepts : Relations with sex and academic achievement. Journal of Educational Psychology, 77, 581-596.

McINTYRE, P.M. (1964). Dynamics and treatment of the passive-aggressive underachiever. American Journal of Psychotherapy, 18, 95-108.

MEAD, G.H. (1934). Mind, Self and Society, Chicago : The University of Chicago Press.

METCALF, K., and GAIER, E.L. (1987). Patterns of middle class parenting and adolescent underachievement. Adolescence, 22(88), 919-928.

MILNE, A., MYERS, D., ROSENTHAL, A., and GINSBERG, A. (1986). Single parents, working mothers and the educational achievement of school children. Sociology of Education, 59, 125-140.

MINUCHIN, S. (1974). Families and Family Therapy. London : Tavistock Publications.

MOOS, R.H. (1987). Learning environments in context : Links between school, work and family settings. In B.J. Foster (Ed.), The Study of Learning. Perth : Curtin University of Technology.

MOOS, R.H., and FUHR, R. (1982). The clinical use of social-ecological concepts : The case of an adolescent girl. American Journal of Orthopsychiatry, 52(1). 111-122.

MOOS, R.H., and MOOS, B.S. (1976). A typology of family social environments. Family Process, 15, 357-371.

MOOS, R.H., and MOOS, B.S. (1986). Family Environment Scale Manual. Palo Alto : Consulting Psychologists Press.

MORROW, W.R., and WILSON, R.C. (1961). Family relations of bright high achieving and underachieving high school boys. Child Development, 32, 501-510.

MORSE, W.C. (1964). Self-concept in the school setting. Childhood Education, 41, 195-198.

MWAMWENDA, T.S., and MWAMWENDA, B.B. (1987). Self concept and academic achievement in Botswana primary school leaving examinations. Perceptual and Motor Skills, 65(1), 71-75.

MYERS, D.E., MILNE, A.M., BAKER, K., and GINSBERG, A. (1987). Student discipline and high school performance. Sociology of Education, 60(1), 18-33.

NELSON, G. (1984). The relationship between dimensions of classroom and family environments and the self concept, satisfaction and achievement of grade 7 and 8 students. Journal of Community Psychology, 12, 276-287.

OLSON, P.H., RUSSEL, C.S., and SPRENKLE, P.H. (1983). Circumplex model of marital and family systems : VI. Theoretical update. Family Process, 22, 69-83.

OSMAN, B. (1987). Promoting social acceptance of children with learning disabilities : An educational responsibility. Journal of Reading, Writing and Learning Disabilities, International, 3(2), 111-118.

PARKERSON, J.A., LOMAX, R.G., SCHILLER, D.P., and WALBERG, H.J. (1984). Exploring causal models of educational achievement. Journal of Educational Psychology, 76, 638-646.

PARSONS, J.E. (1983). Expectancies, values and academic behaviours. In J.T. Spence (Ed.), Achievement and Achievement Motives : Psychological and Sociological Approaches. San Francisco : W.H. Freeman.

PARSONS, J.E., ADLER, T.J., and KACZALA, C.M. (1982). Socialization of achievement attitudes and beliefs : Parental influences. Child Development, 53, 310-321.

PETERSON, L.C. (1979). An Investigation of Some Hypotheses Concerning Psychological Factors Related to Underachievement in Primary School Children. Unpublished Doctoral Thesis, University of South Africa, Pretoria.

PICKAR, D.B. (1986). Psychosocial aspects of learning disabilities. Bulletin of the Menninger Clinic, 50(1), 22-32.

PIERS, E., and HARRIS, D. (1964). Age and other correlates of self concept in children. Journal of Educational Psychology, 55, 91-95.

PHILLIPS, D. (1984). The illusion of incompetence among academically competent children. Child Development, 55, 2000-2016.

PHILLIPS, D.A. (1987). Socialization of perceived academic competence among highly competent children. Child Development, 58(5), 1308-1320.

PLOMIN, R., and DeFRIES, J. (1985). Origins of Individual Differences in Infancy : The Colorado Adoption Project. New York : Academic Press.

PURKEY, W.W. (1970). Self Concept and School Achievement. New Jersey : Prentice Hall.

RIMM, S.B. (1985). Identifying underachievement : The characteristic approach. G/C/T. 41, 2-5.

ROGERS, C. (1988). On Becoming a Person. London : Constable and Company.

ROSENBAUM, L.A. (1989). Enhancement of Self Concept in Gifted Disadvantaged Children. Unpublished Masters Thesis, University of the Witwatersrand, Johannesburg.

ROSENBERG, M. (1985). Self concept and psychological well-being in adolescence. In R.L. Leahy (Ed.), The Development of the Self. New York : Academic Press.

ROTHERAM, M.J. (1987). Children's social and academic competence. Journal of Educational Research, 80(4), 206-211.

RUBIN, L. (1984). Learning Disabilities and Family Dynamics : An Orthopedagogical Perspective. Unpublished Doctoral Thesis, Rand Afrikaans University, Johannesburg.

SAMUELS, S.C. (1977). Enhancing Self Concept in Early Childhood, Theory and Practice. New York : Human Sciences Press.

SCHNEIDER, Z. (1986). A Teacher Intervention Programme in the Development of Self Concept in a Group of Thirty 12 year old Boys and Girls. Unpublished Masters Thesis, University of Witwatersrand, Johannesburg.

SCHULER, A.L., and PEREZ, L. (1987). The role of social interaction in the development of thinking skills. Focus on Exceptional Children, 19(7), 1-11.

SEGAL, J., and YAHREAS, H. (1978). A Child's Journey. New York : McGraw Hill.

SHAVELSON, R.J., and BOLUS, R. (1982). Self Concept : The interplay of theory and methods. Journal of Educational Psychology, 74(1), 3-17.

SHAVELSON, R.J., HUBNER, J.J., and STANTON, G.C. (1976). Self concept validation of construct interpretations. Review of Educational Research, 46, 407-441.

SHAW, M.E., and WHITE, D.L. (1965). Relationship between child parent identification and academic underachievement. Journal of Clinical Psychology, 21, 10-13.

SHAWINSKY, C. (1988). Family Dynamics and Academic Achievement. Unpublished Masters Thesis, Potchefstroomse Universiteit vir Christelike Hoër Onderwys, Potchefstroom.

SOFER, T.A. (1975). A Cross-Cultural Investigation of Family Interactional Patterns of Jewish and Afrikaans Children with Neurotic Problems. Unpublished Masters Thesis, Rand Afrikaans University, Johannesburg.

SONG, I., and HATTI, J. (1984). The home environment, self concept and academic achievement : A causal modelling approach. Journal of Educational Psychology, 1269-1281.

SPENCE, J.T., and HELMREICH, R.L. (1983). Achievement-related motives and behaviour. In J.T. Spence (Ed.), Achievement and Achievement Motives : Psychological and Sociological Approaches. San Francisco : W.H. Freeman.

STEVENSON, D.L., and BAKER, D.P. (1987). The family-school relation and the child's school performance. Child Development, 58, 1348-1357.

STEVENSON, H.W., and NEWMAN, R.S. (1986). Long-term prediction of achievement attitudes in mathematics and reading. Child Development, 57, 646-659.

STIPEK, D.J., and HOFFMAN, J.M. (1980). Children's achievement related expectancies as a function of academic performance histories and sex. Journal of Educational Psychology, 72, 861-865.

STOCKARD, J., and WOOD, J.W. (1984). The myth of female underachievement : A re-examination of sex differences in academic underachievement. American Educational Research Journal, 21(4), 825-838.

SWARTZBERG, L.D. (1982). The Effects of a Psychoeducational Intervention Programme of the Self Concept of Latency Age Children of Divorce. Unpublished Masters Thesis, University of Witwatersrand, Johannesburg.

TAYLOR, W. (1980). Family, school and society. In M. Craft, J. Raynor and L. Cohen (Eds.), Linking Home and School. London : Harper and Row.

VALENCIA, R.R., HENDERSON, R.W., and RANKIN, R.J. (1985). Family status, family constellation and home environmental variables as predictors of cognitive performance of Mexican-American children. Journal Educational Psychology, 77, 323-331.

WALDRON, K.A., SAPHIRE, D.G., and ROSENBLUM, S.A. (1987). Learning disabilities and giftedness : Identification based on self concept, behaviour and academic patterns. Journal of Learning Disabilities, 20(7), 422-427.

WATKINS, D., and ASTILLA, E. (1986). Causal dominance among self concept, locus of causality and academic achievement. Journal of Psychology, 120(6), 627-633.

WEINER, I.B. (1971). Psychodynamic aspects of learning disability : The passive-aggressive underachiever. Journal of School Psychology, 9, 246-251.

WOOD, J., CHAPIN, K., and HANNAH, M. (1988). Family environment and its relationship to underachievers. Adolescence, 23(90), 283-290.

YARROW, M.R. (1963). Problems of methods in parent-child research. Child Development, 34, 215-226

WYNNE, L.C., COLE, R.E., and PERKINS, P. (1987). University of Rochester child and family study : Risk research in progress. Schizophrenia Bulletin, 13(3), 463-476.