17 A.S.D

A CLINICAL INVESTIGATION OF THE ROLE OF FAMILY FUNCTIONING IN CHILDHOOD LEARNING DISORDERS

Alison M. Madden

A Dissertation Submitted to the Faculty of Arts,
University of Cape Town, for the Degree of
Doctor of Philosophy

Cape Town
August 1984

ABSTRACT

The lack of clarity both of definition and of aetiology of the Learning Disability Syndrome prompted this clinical research. The family unit served as the focal point of analysis and various aspects of family functioning were investigated in order to trace the role of the family in the manifestation of this controversial childhood disorder. The interrelationships between family interaction and the cognitive, affective and personality characteristics of learning disabled children were analysed extensively. The family was regarded as the microsystem of an educo-political society which in turn forms part of history.

Forty-two families in which a learning disabled child was present were compared with a control sample of thirty non-learning disabled families. A total of sixty variables was identified in each group and the resulting profiles were analysed statistically by means of a multivariate analysis and one-way analyses of variance.

The results indicated that there were significant differences between the two groups in areas of family functioning and that numerous correlations emerged in the learning disabled sample between these family characteristics and aspects of the learning disabled child. In contrast to this, the control sample revealed very few significant correlations in any of the areas and there was clearly little carry-over between the areas of family interaction and the children under discussion.

In the learning disabled families the interaction was characterised by inadequate decision-making, a lack of consistent structure in the home

and an unsettled emotional climate. The spouse dyad emerged as playing the dominant role in these areas of family functioning, with the mother linked to the poor problem-solving and the father being associated with the vacillating family structure. Marital upheaval was strongly connected to the emotional imbalance in the family, which was linked to a tendency toward explosive anger, little communication of happiness and misdirected sadness. In addition, many of the mothers worked and this fact appeared to be related to the inadequacies in family interaction.

Closely associated with these family characteristics were the affective and cognitive areas of the learning disabled child. The quality of the family interaction appeared to be reflected specifically in his anxiety, his limited coping mechanisms, his lack of inner control, his labile emotional structure, his poor community interaction, his inability to analyse and synthesize problem-situations and in his dysfunctioned non-verbal cognitive skills.

These aspects of the learning disabled child form a large proportion of the symptomology of the syndrome and suggest that the child has become the product of inadequate family functioning. His limited awareness of responsibility and purpose, his inability to deal with abstract and unknown tasks effectively, his fluctuating attention span, his heightened emotional responsiveness were all interrelated with the inadequate application of cognitive principles. In fact, the Learning Disability Syndrome might be the combination of emotional and cognitive aspects of the child in response to an unsettled family and societal environment.

The implications of these findings point to the significance of the contextual setting of the family with the emphasis on the quality of reciprocal interaction between the members of the unit. Cause and

effect are so closely interwoven with a markedly high incidence of the ripple-effect in these families. An element of self-perpetuation was also present due to the families tending to focus attention on the child exclusively while maintaining the same form of behavioural interaction.

Treatment should be aimed at early prevention and intervention should take place at the level of aetiology - which appears to be the family. Detailed clinical assessments of families are necessary and the actual development of certain patterns of interaction within the unit where a child is at risk should be traced. The fallibility of Intelligence tests should be noted and the criteria for intelligence should pertain directly to the needs of society.

ACKNOWLEDGEMENTS

I wish to express my gratitude to

my Professor, Dr. Graham Saayman, for his encouragement and supervision;

the Medical Research Council;

Dr. T. Kotze, for his clear and detailed statistical analyses;

all the families and children who so kindly made themselves available for my research;

the Kinderzentrum München and Professor Hellbrügge, for the opportunity for full-time clinical experience and research in family analysis and therapy;

Hedley, for his constructive criticism, constant support and unflagging patience;

Mrs. Doyle, who meticulously typed and retyped the manuscript.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 INTRODUCTION

1.1 Introduction

As manifold as there are ordersof learning, as plentiful are the disorders. As long as man has been involved in the quest for knowledge, cognitive functions have played a significant role in society. Intact and consistent cognitive functions have, for centuries, been regarded as prerequisites for social acceptability, success and health.

On the other hand, inconsistent and ineffective cognitive skills have been the focal point of concern and research and very often the incentive for change within a system. In the past, emphasis was placed specifically on causality or on symptomology. Treatment was then implemented. If the incidence rate was high enough to warrant clinical attention the eradication of the symptom tended to be of prime importance.

The aim of this thesis is to investigate the intelligent learning disabled child as thoroughly as possible, with the primary focus on factors of family functioning. Further clarification of the aetiology of the syndrome is essential at present and the in-depth analysis of the child within the family unit should elucidate causality.

In the field of learning disabilities the aetiology has become a deciding factor. Definitions of the syndrome are plentiful and diverse. The varying nature is largely due to cultural, educational and social differences and is also associated with the particular

profession involved in the identification and treatment.

The learning disability syndrome may be identified in an intelligent child whose cognitive development exhibits inconsistencies due to a combination of visual, auditory, motor or emotional dysfunctions and not primarily due to neurological or sensory defect. The difficulty with learning is in relation to the requirements set for academic success by the governing educo-political system and may be identified by means of a discrepancy between measured actual and potential intelligence quotients. Behaviour and emotional difficulties are felt to be significant only in so far as they are clinically regarded as primary causes or compounding factors in the manifestation of the learning disability syndrome.

However, the form of childhood learning disorders has altered in its manifestation and the technological sophistication has caused greater emphasis to be placed on the effective implementation of cognitive skills required for a particular social system. The stimulus that prompted the research presented here, was the present lack of observable clear and direct causality and uniform symptomology in learning disorders. The emergence of a syndrome of learning disability and the consequences of malfunctioning or inappropriate cognitive skills in highly differentiated societies have increased the need for investigation.

Incidence rates of learning disability vary according to the country, class, race, age and diagnostic practises. Three to fifteen percent of children in the American population (Wallace & McLaughlin 1975) are said to manifest the syndrome in the U.S.A. Depending on the diagnostic criteria and the particular learning requirements for the educational system, the rate might increase to thirty percent of

children attending child guidance clinics in the U.S.A. (Sandberg, Wieselberg & Schaffer 1980). In the U.K. Bowley and Gardner (1972) quote seven percent presenting with the syndrome. In South Africa the Murray Report (1969) gives an estimate of fifteen percent of the white South African school-going population. The ratio of manifestation of the syndrome in boys as opposed to girls is 4:1.

The need for research and clarity is apparent.

It is generally believed that there is no single cause for all learning disabilities. Learning problems are rather the result of a variety of factors, most of which may be significantly interrelated. A unitary orientation as an approach is not only futile, but deceptive and the belief in a single aetiology, or in only one cure or approach as a panacea for all types of learning disabilities is naive.

Due to disputes in diagnostics, delayed identification of the syndrome and a debatable success rate with treatment, different approaches are being called for. Frequent mention is made in the literature urging the investigation of the syndrome by analysing more homogenous groups of children presenting with similar clusters of scores (Ryckman 1981, Moore & Wielan 1981, Kaufman 1981a, Schiff, Kaufman & Kaufman 1981). Early identification of cognitive dysfunction and pre-school treatment are emphasised (Hellbrügge, Lajosi, Menara, Schamberger & Rautenstrauch 1978, Smith & Phillips 1981, Soboloff 1981, Yule & Rutter 1979, Stone & Levin 1979). Reference is made to the Piagetian sequence of learning with early investigation serving a preventitive function.

As a unit the family is a microcosm and therefore representative of current societal and political change. For clinical research purposes it presents a convenient fragment of society and of human

behaviour for analysis. Learning occurs within the family - disability does too. It is however only recently that family and emotional factors are being considered as playing a significant role in the development of learning disabilities and of specific learning patterns (Abrams & Kaslow 1977, Decker & De Fries 1981, Chapman & Boersma 1979, Schiff, Kaufman & Kaufman 1981). In fact, the literature indicates that to date there is no formal analysis of the specific influence of identified areas of family functioning in childhood learning disorders.

The diagnostics and treatment of these children have involved a variety of laymen and professionals. This has compounded the problem. Learning disorders are found through all strata of society, irrespective of colour, creed, race or sex. Manifestations are clinical, educational, psychological, economical and sociological and this variety of forms has given rise to as many theoretical approaches. Unfortunately, however, there has been the tendency for each discipline to work exclusively and to perceive the entire problem through its own window of specialisation. A deleterious professional isolation has therefore been maintained.

Approaches to the subject are multiple and the syndrome may be analysed from many different viewpoints. Emphasis may be placed on cognitive functions (Meichenbaum 1979, Kaufman 1981b, Schiff, Kaufman & Kaufman, 1981) and on neurological factors (Hertzig 1981, Rubin & Balow 1980). Either a paediatric and neuro-paediatric approach may dominate (Parkinson, Wallis & Harvey 1981, Michelson, Ylinen & Donner 1981, Chadwick, Rutter, Thompson & Schaffer 1981), or a psychiatric and mother-child emphasis may take precedence (Sandberg, Rutter & Taylor 1978, Walker 1981, Zulaika & Lowry 1981). Myklebust (1980) for example, believes in a neuropsychological approach to the syndrome. Due to the com-

plexity of the child, the various disciplines involved in the treatment of the problem tend to approach the syndrome with a particular frame of reference. This approach is generally selected in accordance with the diagnosed nature of the learning dysfunction.

Modes of approach may emphasiseclinical remediation and the application of individually applied educational aids (Jorm 1981, Bradley 1981, Oettinger, Majorski & Gauch 1978, Wallace & McLaughlin 1975); psycho-linguistics and the analysis of language processes and development; visual perception and the treatment of delayed or faulty sensory integration (Ayres 1980); improved educational methods (McLeod 1979, Wilkes, Bircley & Schultz 1979, Diamond 1979, Haight 1980); or the investigation of personality factors and of psychopathology (Richey & McKinney 1978, Arnold 1970, Stewart, Crump & McLean 1979, Lyon & Plomin 1981, Carey, McDevitt & Baker 1979). The multiplicity of approaches are to a large extent due to the lack of clear definition of the syndrome and due to an unestablished and inconsistent aetiology. It is therefore a natural consequence that optimum diagnostic and treatment conditions involve a multidisciplinary team of professionals.

However, research in developmental paediatrics and in cognitive skills, irrespective of the particular professional orientation, abounds. But, so does the confusion. There is a multitude of both raw and processed data containing potential information. In the field of childhood learning disorders it is however the lack of a generally-understood conceptual framework from which to work which has impeded the implementation of further research.

It is clear that research in this area involves a complexity, not only of symptomology, but also of approach. Sample selection problems are caused by the lack of uniformity in the prevalence and in the

manifestation of the syndrome. This is due to the syndrome often presenting in the form of different combinations of symptoms and due to a variety of diagnostic criteria being used. The numerous professional approaches to the syndrome necessitate team cooperation in research and the developmental nature of the learning process calls for flexibility. Changing political and educational requirements which are found in a social system alter diagnostic criteria for what constitutes a learning disability and therefore force research attitudes to be contemporary and adaptable. Hence a number of theoretical frameworks and a variety of research goals are found depending on the particular interpretation of the needs of the time. These differences have served paradoxically both to create argument and to add weight to scientific investigation and findings (Torgeson & Dice 1980, Sternberg 1981, Kratochwill, Brody & Piersel 1979, Hofmeister 1979, Gickling & Armstrong 1978, Stone & Levin 1979). More exploratory data analysis as advocated by Marx (1979) appears a worthwhile consideration when dealing with such an heterogenous experimental sample. This is contrasted with more formal and traditional hypothesis testing. The emphasis would then be placed on researching selected data gleaned from groups and on utilizing alternative methods of graphic presentation.

The needs to break with traditional group studies and to study the learning disorders of individual children in depth are emphasised by Kratochwill, Brody and Piersel (1979). The authors hold that single case research has gained increased attention and that both the advantages and disadvantages of a particular research strategy should be evaluated. Their time-series methodology is an advance over case study research and involves a longitudinal investigation of the same sample and of the different effects of intervening stimuli in the

data. This offers the opportunity for functional control and for evaluating change over time. This, as an alternative to conventional research designs, may be utilized for conducting research in applied settings and for combining features in multivariate and multi-subject designs. Berler and Romanczyk (1980) point out the lack of standardized assessment procedures, perhaps largely due to the lack of standard research subjects.

Lenkowsky and Saposnek (1978) ask for more continued research into family dynamics by studying many more families in depth. This is supported by McLoughlin, Edge and Strenecky (1978), Sloman and Webster (1978), Friedman (1978) and Abrams and Kaslow (1977) who place emphasis on parental and family involvement in analysis and treatment. It is said that learning styles, work habits and values about the educational process and product, as well as ways of relating to a learning authority are learned first in the family setting. The family plays a significant, "often decisive part in the aetiology of a learning disability - that children do what parents expect of them, and that parents are primary agents of positive change in the treatment process" (Friedman 1978, p.378).

1.2 Research Objectives

The primary stimulus that prompted the research was the lack of clarity in the aetiology and in the manifestation of childhood learning disorders.

Three main research tasks emerge from the literature and from clinical experience in the field. These are firstly, the clinical investigation of the developing child as thoroughly as possible; secondly, the analysis of the family as the primary social unit and of areas of

family functioning; and thirdly, the role that family interaction plays in childhood learning disorders.

A detailed analysis of areas of family interaction and of the inter-relationships of cognitive, affective and personality variables in the intelligent learning disabled child are the primary purposes of this research. A research objective is the evaluation of these inter-relating variables, the effects and influence on family functioning and on the development of a specific learning dysfunction. For statistical purposes, a matching comparative sample of non-learning disabled children is incorporated in the study.

The conceptual framework from which to work in order to include as many aspects of the child and of the family as possible requires clinical flexibility and practical experience. A systems theory orientation serves as an appropriate approach.

This in-depth study aims at finding order in a field where problems are increasing in significance. It is hoped to utilize information, emphases, findings and criticism from the many disciplines involved so as to enhance the understanding of the troubled child whose potential to learn cannot be appropriately matched with actuality.

CHAPTER 2 THEORETICAL BACKGROUND AND CONTEMPORARY STATUS

2.1 Introduction

The Specific Learning Disability represents a cognitive dysfunction which deviates from the established norm for learning. The nature of the dysfunction may be regarded as clinical, as the learning problem per se and the accompanying emotional and behavioural difficulties cause unhappiness and maladjustment. The general condition is one of a disorder and is defined by means of a cluster of scores describing a combination of behavioural patterns. The lack of readily recognised organic parameters and the limited discrete behavioural definitions have largely contributed to the confusion in the research of the syndrome. There tends to be an exaggerated preoccupation with the abstract concept of the "uneven gifted child" on the one hand, and with the systematic and concrete analysis of what a measured Intelligence Quotient is and cognitive functions are, on the other.

2.2 Specific Principles in Clinical Research

The epidemiological approach to clinical syndromes has both helped and hindered the clear formulation of the syndrome. The widespread nature of the problem has created public awareness and stressed the urgency of treatment. Simultaneously, specific causality and the evaluation of treatment effectiveness have remained open to contention. Operationally valid concepts and definitions have been stressed as premises from which to work. Researchers struggle to operationalise, to isolate, and to simplify the aetiological and manifest components of the syndrome in order to facilitate scientific investigation.

In the field of learning disabilities the literature abounds with value judgements, spasmodic scientific cults and controversial syndromes being specified and researched. However progress has brought about a re-evaluation. Wong (1979) raises the question as to whether we lack theory-based research in Learning Disabilities. She goes on to say that,although fewer theories prevail in this area than in other disciplines, the literature does however document the presence of theories in the development of the field. The logical question then follows as to the identification of specific theories in the history of learning disabilities and how they have contributed in the function of a theory.

2.3 A Systems Theory Conceptual Framework

The field of learning disability is the concern of many clinicians from different academic backgrounds. At present there is no accepted theoretical framework from which the problem is analysed. The differing attitudes have resulted in an abundance of research, characterised mainly by its exclusive quality. In this thesis, the researcher is aiming to analyse this complex area in which there is little order and no universally accepted theoretical orientation. The attempt is to utilize the multitude of related variables illuminated by the various disciplines involved in this field and to present the general pattern of their interaction.

"Systems Theory claims to be a major reorientation in scientific thought" (Lilienfeld 1978, p.7) and emerged when the world was conceived as chaotic in the nineteenth and first half of the twentieth centuries. This development is in contrast to the Closed System propogating society as encompassed and manipulated by logically closed

theoretical models.

It is an attempt to base research on the outlook that the world is an organisation with "systems" or "wholes" and is seen as a totality. Inherent in this system is the living organism which represents a state of organised complexity. It is necessary to maintain this condition and the organism does so despite continuous change through self-regulation and apparent goal-directed behaviour.

In a social system all factors (people, families, interests, aptitudes) are mutually dependent or interactive. Everything in the system is dependent on the previous state of the system. If a displacement enters into the system, motion is caused, but equilibrium will be re-established due to the inherent self-regulating mechanism. All factors interact in a social system. Everything is in a state of mutual dependency on everything else.

2.3.1 Main Principles and Clinical Applicability

The main concepts of the Open Systems theory as propogated by Von Bertalanffy (1968) are described briefly. They serve as the fundamental principles of this research: the system is seen as open in so far as the living organism exchanges material with its environment and there is therefore a change of components. According to systems theory the organism possesses a self-regulating mechanism whose goal is the maintenance of health or equilibrium; a condition of disequilibrium represents illness. However to maintain itself in its steady state the system needs a constant energy supply. This suggests that there is constant interaction within the organism and that the final state of the system is a result of the changes and influences occurring within it. This is in contrast to the principles

governing the closed inanimate system in which the final state of the system is governed by the initial conditions. Therefore in the open system, as in a family, the same final state may be reached under many conditions and in different ways.

Von Bertalanffy has attempted to develop a theoretical concept based upon a simplified mathematics of systems. This is based on the assumption that the same laws find expression in different and apparently unrelated fields.

It is therefore possible to transfer one conceptual model from one field to another. One particular discipline may develop, test and demonstrate laws equally applicable to a variety of fields.

Due to the widespread nature of the behavioural sciences, there is a need for general overriding theoretical principles. A prerequisite in clinical research is therefore the clear identification of the selected experimental area coupled with the clear articulation of the theoretical constructs. Fortunately the era of disciplinary isolation and intellectual egocentricism is passing. The influence of systems thinking has weakened the lines of demarcation between the disciplines and social scientists are recognising the ripple-effect principle. Influences in any one area depend largely on what happens in all others. The accurate explanation of variance within and between changing individuals has proven difficult if not impossible. Social scientists have therefore had to look beyond their disciplinary training. "They have found the joint utilization of constructs and variables selected from different disciplines more useful in accounting for such variance" (Lerner & Spanier 1978, p.2).

A pluralistic approach is therefore necessary. This involves not

only description and theory but also methodology and analysis. It also calls for a multicausal reciprocal framework which promotes notions of plasticity. Both the changing historical context and the developmental nature of man are components of this view. This involves reciprocal dependencies and a dynamic interactional system.

2.4 Delineation of this Research Area

The focal point of this research is the family system of the learning disabled child. Born into a social network, man is embedded in a social system. The primary institution is the family. This unit represents the core of socialisation and is responsible for transforming societal norms and perpetuating goals in the form of personal directives - it is an adaptional unit which changes through history.

The embeddedness of the child within a family, of a family in society and of all social systems in history is clear. Initially, however, the dynamics of the interaction between these systems remain masked and unexplored. Social scientists have relied upon traditional disciplinary approaches. Individual change has rarely been used to explicate family changes as have family changes rarely been used to describe individual change. The analysis of the mutual interaction is rare as is pointed out by Lerner and Spanier (1978). They state that "the reciprocal dependency of familial change on intraindividual ontogeny has, until relatively recently, been largely unrecognised. In turn, the causal reciprocities among individuals, their families and history have been similarly disregarded" (p.1).

The Open Systems orientation allows a disciplinary flexibility. It also emphasises the concept of group theory in clinical treatment. Epstein, Bishop and Levin (1977) stress the necessity that "behavioural

scientists working in the field should be prepared to state the value base on which their approach rests" (p.2). They also accept simultaneously that any number of alternative systems may be equally valid and used as value bases for evaluation. They view the family as an "open system" consisting of systems within systems (individual, marital dyad, and so on) as well as relating to other systems (extended family, schools, industry, religion and so on).

The dynamism of the family group is unique in that it cannot simply be reduced to the characteristics of the individuals or the interactions between members. Rather there are explicit and implicit rules, plus actions by members, which govern and monitor each others' behaviour.

The McMaster Model (Epstein, Bishop & Levin, 1977) assumes that "the primary function of today's family unit appears to be that of a laboratory for the social, psychological, and biological development and maintenance of family members" (p.4). Any change within the family causes and is caused by interaction within the system. The family is regarded as adaptive, functional and open to change. Development is therefore seen primarily as biological, but emphasis is simultaneously placed on the social and environmental influences and the adjustment to meet the demands of the social milieu.

In the analysis of family structures and functions it is significant to identify both the causes and the nature of the changes taking place. There is a continuous interdependency of individual and social change processes. The development of family members and of their resources for maintaining themselves and their unit are partially dependent on matching their abilities with the needs of

society. Similarly, the cognitive skills of the child develop as a function of how they appropriate social and political requirements.

Systems Theory serves a dual purpose in this thesis. Firstly, the open system provides a conceptual framework in the analysis of the child as being part of the family. In addition, the family has greater ramifications in that it has a socio-historical and political context. What is the analysis of a child therefore assumes a universal significance.

Secondly, Systems Theory serves as a tool to assess family functioning. The family is seen as a dynamic system in which any change alters the structure. The identification of the cause, the nature, and the effects of the change in the family system is one of the objectives of this research.

2.4.1 Socio-political Significance of the Family

The influence of politics on the family and on child-rearing, as well as their reciprocal effects on politics are factors frequently overlooked by clinicians.

Political life is a boundary maintaining set of interactions according to Von Bertalanffy's General Systems Theory and Systems Analysis as described by Lilienfeld (1978). These interactions are embedded in and surrounded by other social systems. One might interpret political phenomena as constituting an open system - a system that must adjust to the problems generated by environmental exposure. In order to maintain this system, it must be reinforced by feedback and adjust its needs to ensure long-term persistence. In a society, the political system is the most inclusive system of behaviour for the authoritative

allocation of values.

There seems to be a difference of opinion as to whether man alters society, or whether society alters man. Lilienfeld (1978) holds that "the concept of man as a robot was both an expression of and a powerful motive force in the industrialised Western society. It was the basis for behavioural engineering in commercial, economic, political and other advertising and propoganda. The expanding economy of the affluent society could not subsist without such manipulation. Only by manipulating humans even more into Skinnerian rats, robots, buying automata, homeostatically adjusting conformers and opportunists can this great society follow its progress toward ever-increasing gross national product" (p.30). This is one view.

To present perhaps the other side of the same coin a report on the changes in societies and developing trends in human values and life-styles was produced by the Stanford Research Institute (1980). This was a reaction to the finding that "many people were not behaving in accordance with expectations of them as consumers, employees, voters, or as supporters of the cherished traditions of society" (p.2). An attempt was made to examine trends and events from the perspective of peoples' changing needs, beliefs, wants, desires and hopes. The underlying thesis was that change in people, rather than in economics, technology, or politics, was the true driver of change in many significant aspects of the contemporary world. This same question exists in the field of education and learning with particular reference to the emergence of the Learning Disability Syndrome. Have the demands and pressures of society altered or have cognitive functions in children themselves altered? Thus, both the causes and the developmental patterns of the syndrome become important.

2.4.2 The 1980's: International Perspective of Societal and Family Change

> There are no eternal verities, and the values or system of beliefs as well as the roles played by the family members are changing today more rapidly than ever before.
>
> (Taschman, 1979, p.18)

Sociologically, family composition has altered substantially over the past twenty-five years. The domestic type with the traditionally conservative roles, the nuclear family, the single-parent family are just examples of societal microcosms whose compilation has adjusted to cope with political influence so as to remain intact.

The alienation felt by the youth, the extended life-span due to progress in medicine, the mobility of the population and the effects of mass-media in producing an effectively informed citizency, changing sexual needs and the effect of the social revolution with minority-group recognition are just examples of obvious manifestations of technological growth.

To quote Alvin Toffler, in Future Shock (1970)

> The ability to pre-set the sex of one's baby or even to "program" its IQ, looks and personality traits, must now be regarded as a real possibility. Embryo implants, babies grown in vitro, the ability to swallow a pill and guarantee oneself twins or triplets or even more, the ability to walk into a baby-sortium and actually purchase embryos - all this reaches so far beyond any previous human experience that one needs to look at the future through the eyes of the poet or painter, rather than those of the sociologist or conventional philosopher.
>
> (Taschman, 1979, p.22)

And yet, despite the research advances of our age there has been virtually no change in the ability of parenting our children.

> This Nation (America) which looks to the family to nurtureits young, gives no real help with child

> rearing until a child is badly disturbed or disruptive to the community. The discontent, apathy, and violence today are a warning that society has not assumed its responsibility to ensure an environment which will provide optimum care for its children. The family cannot be allowed to withstand alone the enormous pressures of an increasingly technological world. Within the community some mechanisms must be created which will assume the responsibility for ensuring the necessary supports for the child and family.
>
> (Taschman, 1979, p.23)

It has become evident that changes in societies and in human values within families have had much influence on government and business, and vice versa. During the 1960's and 1970's student riots, long strikes, the oil crisis and Middle and Far East conflicts were dominant features and felt to be transitory aberrations in the normal course of history (Stanford Research Institute, 1980). However, to this day world peace has not yet been achieved and previous upheavals have merely been transformed into attempted assassinations, sabotage, revolts, terrorism, open warfare and disturbed children in the 1980's. It has become clear that the world appears more uncertain and that trends are more difficult to predict in almost every sphere of life.

The explanation of the human condition has proved insufficient. With the emergence of Systems Theory the society and family structures may be viewed as systems in states of flux in which changes constantly occur. World affairs are indicators of changes in people and are the results of interaction between people. According to Lilienfeld (1978) the affluent post World War II society is characterised by an "unprecedented number of mentally ill persons whose mental dysfunction seem to have originated not from repressed drives, stress nor unfulfilled needs but rather from the purposelessness of life. Man as an active personality system has become the developing conceptual

framework aimed at explaining both normal and pathological psychology. The mental illness is a reflection of a breakdown in a symbolic universe representing both physical and biological needs. It is clear that human behaviour must now be reduced to biological notions; personality disorders must now be understood in terms of the breakdown of value systems; culture is an important component of mental health" (p.30).

With the family as the primary and initial system of socialisation it is self-explanatory that it represents the principal area of change. It is the family unit which provides the immediate social context for any new member of society. It serves as the major mediator between social and historical change, on the one hand, and between biocultural and ontogenetic change on the other. It is therefore significant that the interaction between the developing child and his or her changing family becomes the core concern of social scientists.

Certain aspects within both the societal and family systems take precedence and are usually related to the contemporary norms. In accordance with the particular requirements of the system the child develops coping mechanisms and adjusts to the established standards. These requirements of both the social and political systems become needs in the child in order to be able to meet the cognitive, emotional and physical demands of the society.

In an analysis of the present status of values and lifestyles in Western Europe and the U.S.A., the variety of languages, government systems, societal pressures and educational systems all contribute to the differences in societal and family structures in the various

countries. Research done by the Stanford Research Institute (1980) provides an overview of these changes. What emerges is that in the Western European countries such as France, Italy, Sweden and the United Kingdom, as well as in the United States of America, the highest percentage of people fall in the category of people who live according to socially defined norms. They are influenced by established customs, governmental standards and are usually unquestioning and of low to average education. In the United Kingdom, society is characterised mainly by lower middle class married people of conservative lifestyles. They adhere strictly to traditional roles and are family oriented. In contrast to this, Sweden and France have similar tendencies but are simultaneously markedly achievement oriented. There is a need to improve both social status and wealth, an awareness of job-fulfillment and a concern for equipping their children financially. West Germany is the most middle class society in Europe today and is characterised by a high standard of living and general affluence. Social standing is dependent upon success and wealth but their strong confidence in their affluent society is accompanied by a constant feeling of uneasiness. This includes latent fears, social envy and apathy. Areas of concern are a falling birth rate, an aging society and the social security system. There is also a noticeably high incidence of hypochondriasis and psychological difficulties. In Italy the main group tends towards passivity in society and are incapable of independent activity not linked to the family and home. They are also still strongly bound by tradition but have become disoriented due to forced emigration to urban areas. Family systems still tend to be conservative and there is a fear of the changes in values

introduced by industrialisation.

These changes evident in society are indicative of changing family structures. It is necessary to explore the primary units of socialisation and identify the variables within these units which embody and cause change. The interactions within families and the demands made within these units to ensure education, and social and intellectual achievement, require investigation. Mary Jo Bane (1979), in her critique of a book on family policy, points out the value of family impact analysis in providing a useful tool for describing and evaluating social welfare policy. She briefly describes government policies involving fourteen European and North American countries all of which follow a similar outline but with differing political motives. An important distinction is made between "the family" as an institution and actual "families", the latter being particularly responsive to changing character and composition. Despite the changes found in political systems and in current academic thought, the family still remains in fundament. With the United States in mind, the authors feel that "with children becoming an increasingly scarce and precious resource despite tight budgets and claims by a growing aged population on social welfare funds, we may see policy efforts directed at making it easier for families to have children and raise them similar to those in many European nations already concerned with declining fertility" (p.392).

The primary concern of this thesis is the analysis of the family functioning of the learning disabled child and the effect that this interaction has on the cognitive and affective functions of the child. The intelligent child with the learning disability in a

Western society is of primary importance. The syndrome is prevalent in most Western European and American countries and is also found in more developed third world countries. This research is a descriptive investigation aimed at identification and classification in a field riddled with ambivalence. The generalised political significance is seen to be of relevance with a syndrome often regarded as the malady of the century. It is worthy of attention.

CHAPTER 3 THE LEARNING DISABILITY SYNDROME

The actual historical perspective of the Learning Disability Syndrome is pointed out by Lester Mann (1980). He states that despite the fact that the current use of the term Learning Disabilities is of relatively recent origin, the explanations of cognitive processes date back to Plato's time (427-347BC). Myklebust (1980) refers to the fact that many shifts in emphasis have occurred but there has been little change in the nature of the problems. He also refers to the need to "attempt to derive meaning from our history, from the happenings, failures, and achievements of the past ..." (p.468). This syndrome was identified along with the development of the analysis of knowledge. The various manifestations of the deficiency have not only recently been linked with learning difficulty. Plato himself used the wax block metaphor to explain cognitive differences structurally. Mann (1980) describes this phenomenon with reference to Plato when he states that cognitive functions found

> in this or that individual may be larger or smaller, and composed of wax that is comparatively pure and muddy, and harder in some, softer in others and sometimes of just the right consistency. Such differences in cognitive form distinguish between the cognitively adequate and those with limitations. The bright individual is blessed with a wax block in his mind that is substantial in size, qualitatively consistent, and free of defect.
>
> (p.422)

3.1 Current Definitions of the Learning Disability Syndrome

Despite the long-standing nature of the syndrome, adequate definition still remains a problem. This is felt to be due to the multi-

disciplinary involvement in both the identification and treatment (Gaddes, 1979), the unestablished aetiology and complex causality (Douglas, 1979), the heterogeneity of the samples (Torgesen & Dice, 1980), the lack of standardised descriptive terminology (Yule & Rutter, 1979) and the continuing belief in the underlying assumption that somewhere in the maze of complexities there is a hidden area of commonality, "that within the population of children there is a mysterious but as yet undiscovered homogeneity" (Reger, 1979, p.529).

It has been postulated that the learning disabled label has become reflective of a problem related more to social structure than to children (Reger, 1979, Smith & Polloway, 1979). Although some authors tend to view this labelling, or need for categorisation, as superfluous or futile (Thompson, 1981, Trotter, 1975, Saravio-Campos, 1976), the manifestation of the syndrome is by no means an illusion (Connolly, 1980). Reger (1979) feels that the criteria for classification are unrealistically rigid and views the search for a definition as illusory. Smith and Polloway (1979) ask for greater attention to be paid to individual needs and less emphasis on categorical concerns. Haight (1980) stresses a realistic approach with regard to the heterogeneity of the learning disabled population and an openness in the definition.

However, this very laxity and tendency to move away from reductionism or specificity, have been contributing factors to limiting the validity of research in the field. Torgesen and Dice (1980) point to the prevalence of problems of selection and the "failure of researchers to adequately describe their samples" (p.531). Para-

doxically, in the attempt to find order through diagnostics, greater awareness of the heterogeneity of the subjects has emerged. A lack of universal definition has resulted. However, in America this lack of a standard definition has partially been relieved by the formation of a set of prerequisites for classification of the learning disabled child. They have been documented by Gaddes (1979) as follows (p.19):

A. "Educationally handicapped minors are minors who by reason of marked learning or behaviour disorder or both cannot benefit from the regular educational program and who as a result thereof require the special educational programs ... Such learning or behaviour disorders shall be associated with a neurological handicap or emotional disturbance and shall not be attributed to mental retardation".

B. "The learning or behaviour disorders are specific learning disabilities in the psychological processes involved in understanding or in using spoken or written language. Such learning disabilities include, but are not limited to, those sometimes referred to as perceptual handicaps, minimal brain dysfunction, dyslexia, dyscalculia, dysgraphia, or communication disorders".

C. "The specific learning disabilities are of such severity that the pupil's level of functioning in basic learning skills is significantly below the range of functioning expected from pupils of similar age and ability and evidence is presented for a favourable prognosis for the reduction of the discrepancy between ability and achievement".

D. "Where the general level of academic functioning is retarded", and such retardation is not "attributed to limited intellectual

capacity for academic learning".

E. "The specific learning disabilities shall be determined by complete evaluation accompanied by recommendations for the amelioration of the learning disorder that can be carried out within the class or program recommended".

F. "Children with Specific Learning Disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage".

The above prerequisites reflect the varied nature of the syndrome and serve as broad diagnostic categories for identification of learning disabilities. Salient operational points in these prerequisites might be regarded as covering the following areas:

(a) they identify task failure,

(b) they contain exclusion factors, whereby sensorially impaired and retarded children do not qualify as learning disabled,

(c) they elucidate discrepancies or extreme intra-individual differences in performance, and

(d) they reveal psychological processes such as difficulties in memory, discrimination, perceptual integration, concept formation and reasoning.

(e) there are varying attitudes towards the emotional component in learning disabilities - i.e., they might or might not be associated with emotional disturbance. This is due both to the fact that it is extremely difficult to differentiate between the cognitive and emotional processes in children, as well as to distinguish whether emotional disturbances are due to cognitive shortcomings, or the reverse - the cognitive disability gave rise to the emotional inadequacy.

It is clear that a universally acceptable definition has as yet not been found. Frequent mention is made in the literature that the criteria for the syndrome are viewed in various ways in each country (Gaddes, 1979, Thompson, 1981, Connolly, 1980, Torgeson & Dice, 1980, Haight, 1980, McLeod, 1979, Sandberg, Wieselberg & Schaffer, 1979, Yule & Rutter, 1979). To a large extent this might be a function of the specific educational system. For this reason a clinical definition of the syndrome incorporating the dominant characteristics as manifest in other Western countries and customarily acceptable in the local population was used. The viable definition used for this thesis and as applied in local diagnostics and treatment is as follows:

(i) that the child does not have gross neurological abnormality,

(ii) that he be of average to above-average intelligence on a Wechsler or South African standardised test,

(iii) that his cognitive functioning be inconsistently developed and identifiable in the fields of visual, auditory or motor dysfunction and manifest in various forms of learning disability,

(iv) that the difficulty with learning is in relation to the requirements set for success by the governing educo-political system,

(v) that behaviour and emotional difficulties are felt to be signi-

cant only in so far as they are felt to have been compounding factors in the manifestation of the learning disability syndrome.

In summary, this group of children appears to have a particular dysfunction in the brain which is not manifest in gross neurological abnormalities, but causes serious deficits in learning and in the actualisation of what might be high or even very high intellectual potential. In addition, it is not known whether the dysfunction per se can be regarded as a symptom of inadequate cognitive processing, inaccurately matched learning ability with what is expected in society, changing cognitive demands, a lack of ability, or, whether a previous function has now become a dysfunction. This uncertainty is therefore clearly due to the lack of clarity of definition of the problem - a point which has been foremost in discussion since the awareness of the syndrome.

3.2 The Significance of the Family - The Primary Social Unit

With the family as the microcosm of the social unit and representing the primary state of socialisation for man, it was regarded as the obvious point of departure. In this study, the McMaster Model of Family Functioning as described by Epstein, Bishop and Levin (1977) serves as the conceptual framework in which the family is seen primarily as the problem-solving unit. The clinical utility of this model lies in its containing the spectrum of health to pathology with the focus of attention on the processes themselves found within the family system. The infrastructure is based on the Systems Approach but also includes learning theory, the structural model, the dialectic-interactional models and so on. The emphasis is not however exclusively on structural composition as in Minuchin (1974) or on the fragmentation of the various subsystems with the focus on a single member as in Peseschkian (1980) or on the

experiential as propogated by Kaslow (1980). The underlying characteristic to the McMaster Model is regarded as the fact that the family has a component of "constant change" or of "being in flux" (Lerner & Spanier 1978, Epstein, Bishop & Levin 1977, Lilienfeld 1978, Haley 1977). Within this context the clinical investigation of the family of the learning disabled child is undertaken.

3.3 Need for Research

The literature is constantly pointing out the significance of the family as the primary social unit demanding attention in the learning disabled child (Lerner & Spanier 1978, Idol-Maestas 1981, Abrams & Kaslow 1977, Bryan 1976, Harris 1966, Peseschkian 1980, McGlannan 1977, Shelton 1977, Decker & De Fries 1981), and the discrepant lack of research on family interaction and dynamics in the field of learning disabilities (Idol-Maestas 1981, Abrams & Kaslow 1977, Zussman 1980, Klein, Altman, Dreizen, Friedman & Powers, 1981 a and b, Chapman & Boersma 1979, Adams, Lerner & Anderson 1979, Friedman 1978, Wright 1960, Neyhus & Neyhus 1979, Douglas 1979b, Harris 1966, Bryan 1977). Some authors debate the syndrome itself and view the attention being given to it as unwarranted. Alice Thompson (1981) questions the reality of the learning disability syndrome itself in a paper on the so-called "myths" of learning disability. "The Wax Block Matephor" attributed to Plato by Lester Mann (1980) describes the learning disability as always having been present in people throughout history. The syndrome being reflective more of a dysfunctional social structure rather than manifest in the children themselves is a viewpoint presented by Smith and Polloway (1979).

The prevalence of children with severe learning difficulties without

any clearly definable aetiology still exists. The interrelatedness of general political and social trends with the family unit has already been demonstrated. The shifts in emphasis and changing demands are characteristics of every system as pointed out by von Bertalanffy (in Lilienfeld 1978), Lerner and Spanier (1978) and Zussman (1980). Awareness of the significance of the contextual situation of the family and identification of various dimensions characterising it is a realistic approach to this clinical problem.

Psychological research has largely ignored the family as a system beyond the dyad (Zussman, 1980). Hence the appropriateness of a pluralistic methodology (Lerner & Spanier, 1978), in which one accepts the reciprocity of social interaction and that "the child is presumably as much an active force in his or her own development as a passive receptacle of social forces" (Lerner & Spanier, 1978, p.108). It is practically impossible to distinguish cause from effect when interpersonal influences are treated as simultaneous and therefore qualitative and descriptive methods are relied upon. This synchronous perspective implies a mutual influence within a system which occurs simultaneously. It should include the linear view but with arbitrary boundaries. The boundaries would serve to partially cater for the difficulty of indeterminancy so as to attend to the principle of causality more effectively.

General systems theory in turn serves to somewhat cloud the issue through the use of terminology and regards reciprocity as cyclical causation. As units of analysis the interaction loops within families serve an explanatory function which is indicative of the present stage of research. "Family interaction literature has

not yet gone beyond discussing the interpretive utility of cyclical models" (Lerner & Spanier, 1978, p.109). This does not however detract from the necessity for investigation.

More appropriate forms of research of this contemporary problem appear to be clinical and multivariate analysis (Idol-Maestas, 1981; Lerner & Spanier, 1978) of the child within the learning and social environments rather than attempting to isolate one or two apparently significant variables underlying the learning problems.

It is not difficult however to understand why researchers have chosen to selectively focus on certain aspects of family structure.

3.4 Contemporary Methodological Developments

A number of contemporary workers have found the field of methodology to be lacking in certain respects. For instance, Douglas (1979b) asks for more specificity and the identification of certain variables for analysis while criticising the lack of differentiation in the research. She asks for operational definitions and the development of "specific disability hypotheses" (p.421). Meichenbaum (1979) stresses the need for single case analysis, holding that "the tradition of a functional analysis of behaviour emphasises an examination of environmental antecedents and consequences, as related to a given response repertoire". In support of his selective variable analysis he goes on to say that "a functional analyst carefully defines the specific response class, notes its naturally occurring topography and frequency within various international settings, and then systematically manipulates environmental events in order to describe

a causal relationship" (p.432).

Gaddes (1979) asks for the selection of operationally valid concepts and definitions. He states that the field of learning disabilities is not characterised by the all-or-none principle and nor does one find discrete behavioural definitions as in the medical field. Although one turns to behavioural rather than medical terminology this does not imply a lack of empiricism. He stresses the operational analysis of a level of deficit behaviour by singling out symptoms.

This form of scientific investigation appears to fall into the same category as the Vellutino's unitary deficit hypothesis as described by Fletcher and Satz (1979). This hypothesis holds that a single specific area of cognitive dysfunction is held responsible for the general learning disability. The only difference here is that the approach should not be exclusive or in isolation. Alternative unitary deficit hypotheses should not be the reason for the rejection of the approach but rather a broader perspective to the problem in the form of more appropriate theoretical contexts. Reger (1979) points out too that as human behaviour itself is multidimensional, a unidimensional, single-factor trait discrepancy model of learning will never be a satisfactory frame of reference. Although the area of research has to ultimately be defined in a certain context "it is not a discrete category" (p.530). He too emphasises the need for a review of the axiomatic base or premise and asks for more fundamental conceptual work.

> While many people in the field want to get on with shovels and bricks - and tests of statistical significance - it is first necessary to have a conceptual plan. We are building something today,

but we do not quite know what it is.

(Reger, 1979, p.532)

This factor is supported and elaborated upon by Wong (1979) when she stresses the narrowness and inadequacy of present conceptual frames. This she feels is largely due to methodological problems which restrict the growth of more appropriate or exploratory theories.

Apparently unmoved by these fundamental questions as to the actual nature of the field and its feasibility for scientific investigation, Myklebust (1980) reasserts his belief in the psychoneurology of learning. He holds that "brain development and learning are a two-way street, one being dependent upon the other. On this basis alone, we have a firm foundation for the psychoneurological concept of learning disabilities" (p.470). Although the theory may well be relevant, it is perhaps the exclusive nature of the underlying unitary hypothesis which adds to these so-called methodological problems referred to by Wong (1979), Reger (1979), Haight (1980), Fletcher and Satz (1979), Smith and Polloway (1979) and Yule and Rutter (1979).

3.5 Necessity of a Clinical Conceptual Framework

Torgeson and Dice (1980) conducted a survey of characteristics of research methods of the past three years involving empirical work in the field of learning disability. Frequent reference has been made to the pervasive problems in the research which have limited the contribution to knowledge. They range from inadequacies in subject selection to poorly formulated experimental designs lacking

in validity and reliability. The authors found that these tended to reflect a fairly widespread set of impressions about characteristic problems rather than factual evidence. Although in their survey they were only able to concentrate on the research done in one major disciplinary area concerned with learning disability, they did not omit the value of the contributions of research done from other perspectives. They found that sample definition and more descriptive statistics were areas demanding attention, mainly due to the heterogeneity of the samples, as were needs for well-established paradigms and more systematic research programmes. The authors steered away from the theoretical considerations criticising empirical science per se and its application in disciplines requiring research.

In contrast to this approach, Meichenbaum (1979) presents research approaches and their applicability to the field itself. He attempts to incorporate all the disciplines involved in the diagnostics and treatment of learning disabilities with a view to furthering his own theory as a result of a combination of existing research strategies.

The chaos which exists in the field at present seems to indicate a primary need for order, with a more appropriate and universal underlying clinical conceptual frame. This might reduce professional isolation and interprofessional ignorance. Simultaneously, a conceptual framework might streamline semantics and aid cross-professional communication. One of the problems in creating a standard framework from which to operate is the lack of a sophisticated taxonomy with universally accepted and operationally defined

criteria. This in turn leads to further complications. For instance, Gaddes (1979) states that "since there is no generic definition, we cannot recognise the cases with reliability. At present the learning disabled child is diagnostically almost faceless, unless his symptoms are so extreme or his abilities to learn so refractory, that there is general and immediate agreement on his condition" (p.6).

In this field the disciplines involved are psychological, medical, educational, sociological and political. The primary concern is to facilitate cognitive and affective functioning within the family where a specific learning disability occurs in a child. One must be able to understand the reciprocity of effects between developing individuals and developing families set in a particular socio-political environment. The complexity of these interactions cannot be underestimated. It is therefore clear that attention must first be focussed on a feasible conceptual framework which might underly all the disciplines involved in the diagnosis and treatment of the learning disabled child.

3.6 Current Models of the Development of Families

Relatively little attention has been devoted to models of development of families (Lerner & Spanier 1978, Zussman 1980, Abrams & Kaslow 1977, Bryan 1978, Sloman & Webster 1978, Chapman & Boersma 1979), and the part they play in facilitating exploratory research. Models of the development of individuals have had a long history of debate, but frequently in isolation. The familial context has often been implied but seldom given explicit attention. Clearly

this is due to the fact that the researcher uses either the perspective of the individual or that of the family, as the primary unit of analysis, whereas the two are inextricably linked.

Various opinions exist regarding the developmental change of the individual. For instance, Lerner and Spanier (1978) stress the reciprocity within the family and maintain that change is a function of the degree of their openness to change at different stages of life. In contrast, Allmond, Buckman and Goffman (1979) believe in the child's "own specific, individual, behavioural and temperamental style detectable in the first week of life". They feel that this behaviour pattern is persistent throughout subsequent development, adding that "such characteristics appear to be one of that child's innate contributions to his environment and may often determine his reactions to imposed parental environmental influences" (p.150).

In agreement with this, Serrano and Wilson (1968) view the individual as part of a "solid background" and also mention the influence of the actual impact of the family. These authors point out that emphasis on the inherent behavioural patterns within each family member does not necessarily imply that reciprocity cannot exist within the system. It is merely a shift of emphasis.

Andolfi (1979) regards the family primarily as an interactional system which moves towards homeostasis. He holds that "a stimulus does not CAUSE a process to occur in an otherwise inert system, it merely modifies processes already existing in an autonomously active system" (p.9). Along with Lerner and Spanier (1978), Satir, Stachowiak and Taschman (1979), and Satir (1968), Andolfi emphasises the view of the family as an open system in interaction with other

systems. He recommends a shift from an individual to a family approach by adopting an entirely different conceptual model. Concepts should be redefined from a systematic point of view. The latter implies that characteristics such as behaviour or personality emerge or come into being through repeated interactional experiences. Andolfi (1979)adds that "the behaviour of an individual is a signal of the relationship existing in a particular phase of the family life cycle" (p.10). It is therefore significant to note that "symptons are a family production" and "can also be the product of a family system" (Satir, 1968, p.663).

Hence the field of investigation should not be restricted to the individual in the context of his family system but should encompass the complex network of relationships that surround the family micro-system. The aim is to move away from attempting to explain the individual in isolation, even if one description is multifacetted, and to adopt an open conceptual model of family functioning which is sensitive to change and specific in matching appropriate treatment.

CHAPTER 4 METHODOLOGY AND RESEARCH DESIGN

4.1 Introduction

Cognitive ability and learning success are not synonymous. The learning disabled child is identified as being equipped with the cognitive ability but for various reasons appears to lack the ability to achieve learning success. This research is aimed at investigating the cognitive, affective and personality components of each child within the framework of family functioning. In it, the learning disabled child serves as the common denominator and the purpose is to examine as many relevant aspects of these children as is possible.

In this chapter the first section covers methodology which is descriptive by nature. The section deals with the assessments of cognitive skills (4.1), family functioning (4.2), affective functioning (4.3), and personality factors (4.4). The methodological difficulties are elucidated.

The second section covers research design (4.6) and gives the modus operandi of sample selection, experimental procedure and data processing.

4.2 The Assessment of Cognitive Functioning

Cognitive functioning was initially regarded as being of primary importance and therefore the selection of the samples in this study was based on the prevalence of an identified cognitive dysfunction.

This is also a traditional viewpoint strongly supported by Vance, Singer and Engin (1980), Meichenbaum (1979), Douglas (1979b), Johnson and Myklebust (1967), Myklebust (1980) and by postulators of unitary deficit hypotheses as well as many educationalists (Haight, 1980; Thompson, 1981). The rationale underlying this point of view is that the discrepancy felt to exist between potential and actualized cognitive skills is indicative of a dysfunction and of an imbalance in intellectual functioning. This is manifest in the forms of poor scholastic achievements where the child is unable to match his own skills with the requirements of the educational system. The actual work which he produces is inconsistent and characterised by a profile of errors revealing specific problem areas (namely, visual or auditory perceptual difficulties, sequential memory weaknesses and so forth). Simultaneously one is warned of the tendency to regard findings as absolute. It is clearly not so much the quality of the application and analysis of intelligence testing which is to be evaluated critically, but primarily the right to quantify a priori skills in other people in order to resculpt their cognitive functioning. Brabner (1975) mentions that the diagnosis is based on "complex programme criteria and on an imperfect predictor variable that being an IQ score" (p.101). Schwartz and Elonen (1975) dispute the concept of intelligence as being a stable characteristic that is measured by each and every device said to measure intelligence and that determines the individual, cognitive function at every age level. Unfortunately, this is still regarded as being the most pervasive view among behavioural scientists and the public in general.

In their longitudinal study Schwartz and Elonen (1975) found great

variance in intelligence test scores over a sixteen year period, this being associated with developmental transitions in cognitive, emotional and social functions, and with unevenness in cognitive development and significant life events and experiences. They stress the importance of a clinical conceptual framework and hold that the "application of the clinical process to test construction should be a starting point to direct us away from a mechanistic view of intelligence and preoccupation with quotients as well as the belief that everything need be measured or, in fact, can be measured" (p.69).

In an annotation Lansdown (1978) mentions the educational irrelevance and unrealiability of IQ tests in the early detection and prevention of learning disabilities. It is felt that there has been a shift from problem children to problem situations and that there is a need for the concept of diagnostic teaching rather than diagnostic testing. In contrast to these attitudes we find that Parkinson, Wallis and Harvey (1981) point out the value of early assessment when they found that poor scores on developmental tests tend to indicate a high probability of future learning problems. Hellbrügge, Lajosi, Menara, Schamberger and Rautenstrauch (1978) also emphasise the importance of using early developmental scales for assessment.

No single discrete variable is representative of the learning disability. The diagnosis of the learning disability is based on a multifactorial approach and on a syndrome analysis of test scores. The Wechsler scales have been closely linked with the diagnostic assessment of the syndrome for as long as learning disabilities have been under discussion (Sandberg, Rutter & Taylor, 1978, Oettinger, Majovski & Gauch, 1978, Rubin & Balow, 1980, Hertzig,

1981, Goh & Youngquist 1979, Trites & Friedorowicz 1979, Yule & Rutter 1979, Kaufman 1979b, Schiff, Kaufman & Kaufman 1981, Michayluk 1981, Aaron 1979). The two features, a large Verbal - Performance IQ discrepancy and a significant intersubtest scatter are indicative of cognitive inconsistencies. These features have therefore been regarded as test manifestations of the clinical syndrome. Although tests such as the Wechsler are often used, the value of psychometric testing is still frequently debated (Sternberg 1981, Brabner 1975, Lansdown 1978, Schwartz & Elonen 1975).

Torgenson and Dice (1980) describe the critiques as tending "to reflect a fairly widespread set of impressions about characteristic problems, rather than being based on a systematic examination of research literature in learning disabilities. This is clear due to the complexity of the syndrome and the lack of uniformity in its manifestation too. Despite this heterogeneity, little work is being done to study clearly defined and relatively homogenous subgroups of learning disabled children (p.535).

Cognitive deficits in children have been investigated primarily by two strategies. One, the Comparative Populations Approach, involves the comparison of the performance of learning disabled children with a non-learning disabled control group by means of a comprehensive battery of tests. The nature of the deficit is then inferred from the differential pattern of performance between the two groups.

The second strategy is the Specific Deficits Analysis whereby the investigator hypothesises that a particular type of deficit forms the basis of the cognitive dysfunction. The specific nature of the deficit is then assessed by means of a battery of tests specifically designed for that particular area of deficit. Non-

learning disabled controls are usually matched with the learning disabled subjects.

However, both the Comparative Populations Approach and the Specific Deficits Analysis have proved insufficient in defining and explaining the syndrome. They do not provide explanatory diagnostic profiles of intelligence and the problem still remains as to what it means to be unable to achieve a certain standard on a particular measure. The presence of a profile would facilitate the identification of the underlying dysfunction.

Sternberg (1980) also questions the relevance of the current methodology and offers an alternative approach. He gives a perspective on the applicability of testing tools, of psychometrics in general, of factor analysis and of the current information-processing analysis of intelligent behaviour. After a detailed description of why and how one applies these methods, the author points out both the advantages and disadvantages. He arrives at the conclusion that "the present state of intelligence could be conceived as the border-line of a crisis period" (p.528). He warns that one should be wary of a trend in research to reject old approaches in favour of our own preferred ones. New successful methodologies should be viewed in perspective. The author suggests that we should rethink the criteria we wish to use in evaluating the relative success of various approaches to studying intelligence; that the behaviours being studied should be consequential ones and that the studies should be direction-setting. One should isolate certain components of social intelligence if they exist, and attempt to investigate their interrelationships and how they relate to components of cognitive intelligence and educational success. He concludes that

the investigation of knowledge is only possible in people of various levels of ability who are engaged in a particular form of complex problem-solving.

> At the present time, our knowledge of high level performance in real-world tasks is meagre. But if our goal in research on intelligence is to understand intelligence as successful adaptation to and purposive action in one's real-world environment, knowledge about such relations would seem to be essential.
>
> (Sternberg, 1981, p.529)

In addition it is mentioned that "the value of a contribution seems to lie in how creatively and insightfully a given method is used by an investigator, rather than in the method itself" (Sternberg, p.528).

Two aspects emphasised by Sternberg (1981) are frequently overlooked in favour of the undebated and so-called standardised tests. These aspects are the contemporary applicability of particular cognitive skills in relation to the socio-politico-educational system and the competence of the investigator. In assessment the latter requires values of maturity, experience, balanced judgement, criticability and flexibility. However, due to the lack of these factors, psychometrics and quantification often serve as ends in themselves.

Recent criticisms of the Wechsler Tests (Kaufman, 1979; Schiff, Kaufman & Kaufman, 1981; Michayluk, 1980) have served to highlight the current paucity of appropriate assessment tools. Research is restricted diagnostically due to "the lack of valid measures to discriminate the child who has problems in learning from either the normal child or the child who fails academically for other reasons" (Michayluk, 1981, p.108).

In South Africa both the Wechsler and standardised South African

Intelligence tests are used for assessing learning disabled children. In accordance with accepted diagnostic practice, it was decided in this thesis to evaluate levels of cognitive functioning by means of the Verbal, the Performance and the Overall scores on Intelligence tests and the Coding subtest of the Wechsler. This subtest was felt to be appropriate in that it utilises visual sequential memory, visual perception, directionality and laterality, fine motor co-ordination, speed and concentration. In so far as the codes are meaningful, the performance on the subtest might be related to the auditory-vocal process necessary for reading. It is regarded in the literature as useful diagnostically and effective in the identification of a learning disability. For learning disabled children Coding was found to be more successful than other tests in that it usually tends to be low statistically and has been reported to provide the lowest mean of all, $\bar{x}$ = 9.6, SD = 3.4 (Schiff, Kaufman & Kaufman, 1981). Vance, Singer and Engin (1980) found a similar trend. Again one of the lowest scores was the mean for Coding at 7.94 for males.

The large discrepancies between the Verbal and the Performance IQ's in the learning disabled children serve as a problem in the selection of a research sample in that the depressed score could be in the average or low-average range of intelligence. If below average, the overall level of cognitive potential as well as of present cognitive functioning becomes debatable. This could suggest that the subject does not fit the criteria for diagnosis as learning disabled. This is a common finding (Schiff, Kaufman & Kaufman, 1981). On the one hand, caution should be exercised regarding the diagnostic value of IQ tests. On the other hand, certain cognitive skills usually assigned as representative of intelligence can be

questioned. Research in these areas is therefore essential.

4.3 The Assessment of Areas of Family Functioning

Idol-Maestas (1981) feels that observations of family members of children with learning difficulties could aid the understanding of the aetiology and methods of learning employed. She points out that both environmental influences and the genetic transmission of certain learning and behaviour characteristics could be valuable considerations in this understanding. Further evidence to support the existence of such relationships is emerging in the literature. The spontaneous reinforcement of certain behavioural patterns, the level of anxiety and the emotional interaction between family members are a few factors affecting learning abilities. Language models, listening and concentration skills, body image and the perception of spatial relations are influences in the family unit which affect the developing child. Lenkowsky and Saposnek (1978) ask for more research into the relationships between family dynamics and reading disabilities by studying many more families in depth. There is also a need for further enquiry into parental learning history and into any persisting emotional problems resulting from early learning difficulties. Zussman (1980) stresses the need for research into the contextual situation of the parent and the awareness of the elements of the setting that influence their sense of control and competence, their involvement in the parental role, their affect and quality of attention. He adds that "psychological research has largely ignored the family as a system beyond the dyad" (p.800).

Rejection of traditional values is often felt to be directly related to more confused children. Working mothers, marital discord,

single parenting, psychiatric disturbance, poverty, are just to mention a few examples of factors which have been researched (Harris 1966, Rutter 1970, Satir, Stachowiak & Taschman 1979, Lerner & Spanier 1978, Anderson 1980, Schubert, Bradley-Johnson & Nuttal, 1980).

Family disorganisation is felt to have a crucial impact on learning. Harris (1966) found that the influences of this disorganisation, involving chronic argument and unconventional and irregular working hours and environments, impinge on the actual learning processes. He states that "regardless of basic motivation, the inner anxious turmoil aroused in the non-learning boy by family disorganisation appears to take up energy which could have been used for learning" (p.27). The symptoms are inter alia in the forms of thinking disorders like concentration problems, underachieving, failing and reading problems.

Apart from the actual disorganisation due to disagreement within the family, there are also the effects of misunderstandings and ignorance which often lead to ambivalence. The following example elucidates this and also indicates the complexity of the situation.

> After establishing that some adversity, pressure or challenge is necessary to stimulate any civilization's growth (it is added that) if we increase the severity of the challenge ad infinitum .... we reach a point beyond which increasing severity produces diminishing results .... and the possibility of successfully responding to the challenge disappears.
>
> (Harris, 1966, p.52)

In the family microcosm a similar situation exists where misplaced pressure on learning has an inverse effect. The question is how does one know where to draw the line. To some people however, this might appear self-explanatory. Simultaneously, it serves to

emphasise the lack of obvious practical solutions to problems within the family where decisions often seem to rest upon intuition.

4.3.1 Lack of Clinical Assessment Techniques

There has been preoccupation with the cognitive skills *per se* and the alleviation of the symptomatic problem areas in the field of learning disability. This is partially due to the contemporary nature of the field and the diagnostic difficulties found in this heterogenous population group.

Despite the current call to attend to the emotional factors of the intelligent learning disabled child, and the need to investigate families of learning disabled children, almost no published research is to be found. In the family the general principle is that behaviour is maintained by reinforcers applied to each member of the family. When looking at the whole family unit, it is necessary to analyse for each member the payoffs for maintaining the system in the *status quo*. With reference to learning disabilities, this analysis could aid the understanding of the syndrome.

In the general clinical field of family therapy "no systematic clinical assessment of family interaction is widely accepted or available for use by researchers in the no longer new field of family therapy" (Kinston, Loader & Stratford, 1979, p.291). There is also a lack of recorded information on the impact of the problem child on the family (Howard, 1978) and only superficial scanning is therefore possible. The conceptual framework of the assessor of family functioning is of significance in this complex field of frequently masked dysfunction. The social, cultural, political and multi-professional nature have to be considered and integrated in

the frame of reference.

It is clear therefore that

> the demands upon clinicians, teachers and researchers in the family therapy field all point to the need for clear descriptions of conceptual orientations and the specifics of the therapy process.
>
> (Epstein & Bishop, 1981, p.23)

4.3.2 Application of the Problem Centred Family Systems Therapy Model

The McMaster model of family functioning as described by Epstein, Bishop and Levin (1978) was selected as it is based on the model of Problem Centred Family Systems Therapy (PCFST) and was felt appropriate to this research. Although criticised for its simplicity, the clarity and precision of delineated categories is particularly appropriate for this form of research (Epstein & Bishop, 1981). The applicability to a variety of clinical family problems and the awareness of the therapist's experience and training in implementing and utilising this operationally defined model as a basic framework indicate a certain maturity of approach and a necessary level of professional integrity in the application. The model is perhaps in accordance with the movement away from the preoccupation with the psychometric paradigm (Sternberg, 1981) and the concept of testing as an end in itself.

The McMaster Model of Family Functioning as described in more detail in Appendix C was used as a framework in the single assessment session of each family. It covers the six dimensions of Problem-solving, Communication, Roles, Affective Involvement and Behaviour Control which help to provide a profile of overall family functioning. The awareness of strengths and weaknesses in the family, their own resources and the presence of problems being common to all families

are facets in the underlying philosophy. Epstein, Bishop and Levin (1977) summarise the aspects of Systems Theory which underlie the model as follows:

- "Parts of the family are related to each other.
- One part of the family cannot be understood in isolation from the rest of the system.
- Family functioning is more than just the sum of the parts.
- A family's structure and organisation is important in determining the behaviour of family members.
- The transactional patterns of the family system are involved in shaping the behaviour of family members." (p.4)

Emphasis is placed on the multi-dimensional nature of the family as a complex entity. Each dimension can be rated singly. However, overlapping and interaction occur.

For quantification the six dimensions are subdivided to form a total of twenty-two seven-point scales ranging from least to most effective. Illustrations and basic definitions of each area of family functioning for which the scales were developed are provided in Appendix . For this research nineteen scales were used, those omitted being more concerned with the spouse dyad. Figure 1 illustrates the dimensions.

The established scales on a seven-point continuum were implemented essentially because of their clinical utility and involve clinical judgements. The lower end of the scale (1) represents a "very disturbed family" on a particular dimension progressing through "normative" (5) to "superior" (7) at the other extreme. "Very disturbed" implies clinically in need of treatment while superior refers to the "ideal type". The authors point out that families functioning at this superior level are seldom found in real life.

Dimensions	Quantifiable Scales
A. PROBLEM-SOLVING	1.
B. COMMUNICATION	2. Instrumental 3. Affective 4. General
C. ROLES	5. Providing Basic Resources 6. Nurturance and Support 7. Personal Development 8. Systems Management 9. General Maintenance
D. AFFECTIVE RESPONSIVENESS	10. Emergency Anger 11. Emergency Sadness 12. Emergency Fear 13. Emergency General 14. Welfare Affection 15. Welfare Happiness 16. Welfare General
E. AFFECTIVE INVOLVEMENT	17.
F. BEHAVIOUR CONTROL	18. 19. Overall

Figure 1: Summarised Key Concepts of McMaster Model of Family Functioning

They also explain the concept of "normative" to be acceptable healthy functioning. It is pointed out realistically that it is a clinical value judgement and does not necessarily refer to typical or average statistically. It is therefore essential to consider socio-economic contexts and cultural standards when evaluating the appropriateness of any behaviour within the family. The rating at (5) for "normative" is based on the reasoning that a healthily functioning family is perhaps somewhat above the statistical mean for the population.

In the quantification, the descriptives for the scales have been based

on percentage guidelines, namely fifty percent, eighty percent, rather than on generalisations and temporal considerations such as "usually", "frequently", "generally". This not only helps to avoid ambiguity in the interpretation, but does provide an overall perspective in relation to other profiles in clinical work.

4.3.3 Description of Dimensions of Family Functioning

Problem-solving

This dimension is defined as "a family's ability to resolve problems to a level that maintains effective family functioning" (Epstein, Bishop & Levin, 1977, p.6). With a problem being regarded as an issue which might affect the functional capacity and integrity of the family, the authors point out that the solution itself also presents difficulty. Unresolved difficulties however, which do not threaten to uproot the family are not necessarily presented as problems. For classification the problem must present clinically.

These problems are divided into instrumental - more mechanical everyday life problems like transport or finances, and affective types - more emotional difficulties. There is no complete dichotomy and the two areas may overlap. In the clinical field problems in the affective area may present independently. However, it is more common that the presence of instrumental problems is found in conjunction with affective rather than vice versa.

Effectivity in problem-solving is rated according to the speed and the spontaneity of the process. The process itself is significant and the model provides a sequential listing and operational definition of the components. Figure 2 illustrates this briefly.

Operation	Qualitative Considerations
1. Identification of the problem	Identifying member Consistency of pattern Accuracy of identification
2. Communication of problem	To appropriate resource within or outside families
3. Development of alternative action plans	Flexibility
4. Decision regarding a suitable action	Do they decide? How? Appropriate member involvement
5. Action	Degree of implementation
6. Monitoring that executed action	Presence of accountability mechanism
7. Evaluation of the success of the action	Has there been a learning process? Ability to differentiate between appropriate/successful and inappropriate and unsuccessful problem-solving behaviour

Figure 2: Illustration of Steps in Problem Solving

Effective problem-solving may be regarded as the successful negotiating of as many of these stages as is possible.

The families in the research were selected and did not come for assessment independently. They had neither presented themselves as inadequately functioning families, nor as families in which the presence of a learning disability could be associated with the ways in which they function. The identification of unresolved difficulties with a view to treatment was not a primary reason for clinic presentation.

Communication

This dimension is defined as "how the family exchanges information" (Epstein, Bishop & Levin, 1977, p.9) with the emphasis on verbal exchanges. The non-verbal exchanges are considered equally important but are difficult to quantify.

Communication is also classified as instrumental and affective as

in problem-solving, in which an overlap may be found. Instrumental communication may however be efficient despite striking difficulties in affective communication. The reverse phenomenon is uncommon. The further components are considered and involve a clear vs masked continuum, focussing on the clarity with which the content of the information is exchanged, and a direct vs indirect continuum, indicating whether the message is communicated to the correct person. Four styles of communication are possible: clear and direct, clear and indirect, masked and direct, masked and indirect. The first is the most effective, the last the least effective.

Roles

This dimension addressed itself to the number of functions to be carried out by family members. "Family roles are the repetitive patterns of behaviour by which individuals fulfil family functions" (Epstein, Bishop & Levin, 1977, p.10).

In addition to the instrumental/affective differentiation in the other dimensions, the model analyses roles into the two further spheres of necessary and other family functions.

(1) Necessary family functions cover necessary repetitive functions to ensure adequacy as illustrated in Figure 3.

NECESSARY FAMILY FUNCTIONS	
Instrumental	Affective
Provision of Resources (food, clothing)	Nurturance and support (reassurance, comforting)
	Sexual gratification of marital partners
Personal Development (both children and adults)	
Systems Management and General Maintenance (leadership, decision-making, discipline, limit-setting)	

Figure 3: Necessary Family Functions in the Role Dimension

(2) Other family functions are not essential and are spasmodic in incidence. They include unique functions which can be either adaptive (use of funds, normally allocated for clothing, for medication in crisis time) or maladaptive (the presence of a displacement mechanism in the form of a scapegoat).

Two further concepts are considered in this dimension.

(a) Role allocation - method of assigning responsibilities, the appropriateness thereof, and the nature of the process by which they are carried out. Equal and apt delegation is also significant.

(b) Role accountability - this covers the process of being accountable to another family member for the allocated responsibility and serves a significant group-strengthening function.

In this dimension the clear specification of the functions is necessary in order to evaluate both the appropriate allocation

of roles and execution.

Affective Responsiveness

This dimension is defined as "the ability to respond to a range of stimuli with appropriate quality and quantity of feelings" (Epstein, Bishop & Levin, 1977, p.13). Attention is directed towards the pattern of responses to affective stimuli within a certain context and a certain culture. The two classes into which these responses are divided are

(a) Welfare Feelings covering responses of love, joy, happiness, and

(b) Emergency Feelings such as anger, fear and sadness.

Again the issues of appropriateness, quality and quantity are considered. A wider range of appropriate responses is indicative of more effective functioning.

Affective Involvement

This dimension covers "the degree to which the family shows interest in and values the activities and interest of family members" (Epstein, Bishop & Levin, 1977, p.14). The focus is on the degree and forms of interest and investment in each other. The authors describe six defining styles of affective involvement as presented in Figure 4.

LEVELS	DESCRIPTIVE FORMS
1. Lack of involvement	Solely physical and instrumental in nature, rather like a group of boarders
2. Involvement devoid of feelings	Minimum interest with little investment of self in relationships and only given on demand
3. Narcissistic involvement	Entirely egocentric investment in others. No consideration for another
4. Empathic involvement	Most effective. The investment in others is primarily concerned with the value of the situation for the other person
5. Over involvement	Over-intrusive, over-protective and over-affectionate involvement
6. Symbiotic involvement	The intensity of the involvement is so great that the interpersonal boundaries are blurred

Figure 4: Styles of Affective Involvement

Behaviour Control

Behaviour control may be defined as "The pattern the family adopts for handling behaviour in three specific situations - physically dangerous situations, situations involving the meeting and expressing of psychological needs and drives, and situations involving socialising behaviour both inside and outside the family" (Epstein, Bishop & Levin, 1977, p.16).

The focus here is on the patterns that have been adapted to control and monitor behaviours involved in meeting and expressing these needs and drives. In addition this covers the patterns adopted to control acceptable interpersonal socialising behaviour within the family as well as outside the family. Clearly the degree of acceptability differs inside and outside the family. All family members' behaviours

in each situation must be born in mind when rating this dimension.

The four styles of Behaviour Control are regarded as

(a) Rigid — Constricted, narrow, little room for negotiation and change irrespective of context

(b) Flexible — A reasonable standard and amount of flexibility, given in the context. The most effective form.

(c) Laissez-faire — Emphasis is placed on individual freedom of choice and action with a tendency to deliberately avoid directing or intervening. Total latitude is permitted

(d) Chaotic — Random shifting style of control causing uncertainty as to appropriate application of style.

If certain styles of behaviour are perceived as acceptable, a number of functions develop which reinforce these. They form part of the Role dimension, and are closely connected to Systems Management and Maintenance functions.

Overall Family Functioning

Large differences in the levels of functioning within a particular family on a certain dimension are catered for in the overall evaluation (i.e. scale 19 Figure 1) by means of the following considerations:

- with other factors equal, the health/pathology level of the parents should carry more weight than that of the children;
- with other factors equal, the more depressed the level of functioning of any one member or dyad or triad, the lower the

overall rating;

- with other factors being equal, the more family members presenting at a lower level of health or pathology, the lower the overall rating.

Rating is done either during or directly after the family assessment and clinical judgement is used with the model providing definitions for the extremes (1 and 7) and the normative (5) positions.

4.4 The Assessment of Affective Functioning

As the inconsistency of cognitive functioning tends to either be part of, or contributes to emotional upheaval, the symptomology of the intelligent learning disabled child therefore also includes certain recurrent behavioural and emotional patterns. Poorly developed integrative functions, anxiety, inadequate impulse control, a defective self-concept, insecurity, hypersensitivity and loneliness are just a few of the emotional complications found more manifest in this group of children (Schiff, Kaufman & Kaufman, 1981; Lenkowsky & Saposnek, 1978). Richey and McKinney (1978) also state that learning disabled children tend to portray different patterns of interaction but could not find any conclusive evidence in their research that they possessed a certain behavioural profile as a group.

4.4.1 Research into the Affective Structures of Learning Disabled Children

Emotion is a primitive form of answer given by a subject to a situation. It occurs in context of situations which involve personal interaction and is eruptive and expressive by nature. Emotional quality and

intensity vary depending on the intensity of the stimulus and on the responsiveness of the subject.

Emotion is a function of personal experience. Just as to one born blind, for example, the colour blue is indescribable. Similarly to the person who does not struggle to read, the inability to read and spell is foreign. "We cannot fully delineate or describe the nature of the emotions when we confine ourselves exclusively to emotional behaviour. Something essential will be missing - something which introspection alone can furnish .... Many important emotions, such as shame, embarrassment, grief, love, hate and guilt, largely elude laboratory investigation based on animal behaviour ... These considerations appear essential in order to affect a balanced understanding of the emotions" (Jacobson, 1967, p.35).

Investigation of the structure of the emotions as well as of the emotional difficulties and the context in which they manifest themselves, would commence with the family. Thereafter the focus is on the affective functioning of the individual child. In the literature there is little evidence of research into the emotional complexities of intelligent children with cognitive difficulties. The marked contemporary emphasis on achievement and ambition places success as highly correlated with academic superiority. Harris (1966) points out the attitude that "the best assurance of being properly equipped and motivated to get the most from our educational system is the possession of parents and grandparents of a socio-economic group which places a high value on education" (p.13). He hastens to add however that the child is nevertheless not guaranteed free from learning difficulty. Friedman (1978) stresses the significance of the family's often decisive part in the aetiology

of a learning disability - that children do what parents expect of them, and that parents are primary agents of positive change in the treatment process. "Learning styles, work habits and values about the educational process and product, as well as ways of relating to a learning authority, are learned first in the family setting" (p.378).

To develop this facet of parent and family influence, Strasser (1970) states that "it is beyond all doubt that the unconscious mind of the child responds to the parents' unconscious sets, attitudes and prejudices like a sensitive seismograph. It responds to their place and security, harmony and joy, as well as to their irritability and anxiety, their quarrelling and temper" (p.30).

4.4.2 Motivation for the Use of the Columbus Test

The test used to investigate the affective areas and feelings of the children in both the experimental and control groups is the Columbus Picture Analysis of Growth toward Maturity by Langeveld (1976). It consists of twenty-four picture cards of which fourteen were to be used. It originated at the Institute of Education, University of Utrecht, in 1976 and the research extended over a period of twenty years (1947-1967). During this time five hundred and ninety cases were discussed longitudinally over a five to eighteen year period. Four thousand other cases were examined independently of the aforementioned groups. The data were compared with that attained by means of other picture cues for purposes of verification. No reliability statistics are available for the Columbus Test.

Motivation for the inclusion of this clinical affective assessment was the need to secure the emotional profile of the individual

learning disabled child. The value thereof and the necessity of an in-depth analysis of the child himself and his inter-relationships with his environment are clearly presented in the review of the literature. The alternatives to these projective techniques do not as yet supply us with the qualitative breakdown necessary in this field. The cognitive testing, personality profiles, family analysis rate the child in relation to the normal distrubution curve or the respective societal norm. It is true that the examiner is not primarily concerned with the subejcts deviations from a statistically established norm which may or may not be significant. However the need to understand the child's emotional structure and attitudes emerges more and more strongly with a view to clarifying aetiology or compounding factors.

4.4.3 Brief Description

The Columbus was developed with the question of whether it would contribute toward fulfilling the advisory and, above all, remedial function in developmental and educational problems. It covers the following areas:

(a) The child's relationship to the present environment, including family members, peers, school and community.

(b) The child's relationship to himself, others and the world of objects covering his self-control, his coping mechanisms, conscience, sense of identity, self-concept and level of realism.

(c) His relationship to the future covering his awareness of responsibility, purpose, mode of approach and attitudes toward the Unknown and the Formless. The quality of the verbal response was also rated.

Quantification

Personal correspondence with both the Swiss Publishers (S. Karger, A.G. Basel), the Dutch Publishers, Svetz and Zeitlinger (Amsterdam) and the University of Utrecht, from where the test originated, revealed that there was no recognised standardised system of quantification. The only form of assessment were the descriptive categories as abbreviated above. In the explanation of this factor, Langeveld (1976) is of the opinion that a clinical and flexible approach is necessary as "the individual cards may be regarded from different points of view .... Every good diagnostic examination affects a certain order in the subject's mind, has a cathartic or therapeutic effect, and in many cases the lines of demarcation between diagnostic and therapeutic or educational activity cannot be sharply drawn ..." (p.20). He stresses that "it is not a question of setting up diagnostic indications for two heteronomous fields of action: the continuation of life by this child on the one hand, and our intervention on the other" (p.38) but that "the cards have been designed and ... given their final form in order to help to reveal certain of the child's relationships to security and its guarantors; the basic security of the small child on the one hand, and the new tasks of growing up on the other" (p.36). Emphasis is placed on the developmental aspects in the child in person and on the competent clinical judgement of the tester in perceiving these.

Four general principles are for consideration throughout rating, namely

(a) emotionality;

(b) the material of the problems;

(c) structural form; and

(d) the quality of his projective activity and responses.

Quantification is therefore based on similar principles employed by Epstein, Bishop and Levin (1977) in the family assessment as both investigations were regarded as primarily clinical in nature.

Rating is done either during or after the session and eighteen seven-point scales are used ranging from a poor/inadequate (1) level of functioning to a good/adequate level. The norm also lies at (5) with the lower extreme revealing a disturbed affective level of functioning on that particular dimension and the opposite end of the continuum being the ideal. The extreme categories are clearly defined and described to provide a framework for a clinical evaluation (Appendix E) and overlapping is regarded as probable.

4.5 The Assessment of Personality Factors

As the need for the affective investigation of the learning disabled child has become so great (Schiff, Kaufman & Kaufman, 1981; Abrams & Kaslow, 1977; Bryan, 1978; Lerner & Spanier, 1978; Pinkerton, 1970; Lenkowsky & Saposnek, 1978; Shelton, 1977; Friedman, 1978) and the emphasis in the field of clinical psychology has been on the treatment of the child with a definite pathology, it was difficult to decide upon an appropriate assessment tool. As there is no generally acceptable measure applied to gauge this area, and being convinced of the necessity of investigation, the only alternative was to utilise the Columbus test as described above. It is a contemporary developmental test and well suited to a clinical application. However, the subjectivity of the testing and inter-

pretation was regarded as a clear confounding variable, and, for that reason, a standardised personality test was administered in addition.

4.5.1 Motivation for the Use of the Children's Personality Questionnaire (CPQ)

There has been an unfortunate neglect of the development of instruments for personality assessment regarding both the disabled and competent children (Eysenck, 1970). This was partially due to the concentration on the educational and cognitive skills of children, and due to the theoretical and methodological problems related to the definition of and identification of personality variables (Eysenck, 1970; Sherman, Krug & Birenbaum, 1979; Peterson (1970).

The lack of personality profiles for intelligent children with learning disabilities is apparent in the literature. The clinical investigation of the learning disabled child from many perspectives is still in its infancy. No definite profiles in the cognitive, familial and affective domains of the learning disabled child have been found (Schiff, Kaufman & Kaufman, 1981; Ryckman, 1981; Moore & Wielan, 1981; Decker & De Fries, 1981), nor have conclusive personality profiles been identified. The heterogeneity of the group has no doubt served to impede the assessments along with the additional problems of how to apply the test's validity to children exhibiting a variety of manifest behaviour, cognitive and character disorders (Sherman, Krug & Birenbaum, 1979).

In an attempt to investigate the personality structures of both the experimental and control group children, the Children's Personality Questionnaire (CPQ) was felt the most appropriate of the available

tests in this country. The test is based on the personality theory of R.B. Cattell (1966) and covers fourteen dimensions of personality. The CPQ is part of the series which include the High School Personality Questionnaire (HSPQ) and the Sixteen Personality Questionnaire for Adults. It is essentially orientated towards children and the purpose was to serve as "a valuable instrument for screening and diagnostic purposes" (Du Toit & Madge, 1972, p.10). It serves to give a profile of each child and has been adapted and translated for use in South African schools by the Institute for Psychometric Research of the Human Sciences Research Council. It was standardised on a representative random sample of 2,760 boys and girls in the Republic of South Africa and Namibia. The statistical analysis of the standardisation is described by Du Toit and Madge (1972).

4.5.2 The Concept of Personality According to R.B. Cattell

There are many and varied definitions of personality. It may be defined as "the sum total of the actual or potential behaviour patterns of the organism as determined by heredity and environment; it originates and develops through the functional interaction of the four main sectors into which these behaviour patterns are organised: the cognitive sector; the conative sector; the affective sector; and the somatic sector" (Eysenck, 1947, p.25). Allport (1937) regards personality as "the dynamic organisation within the individual of those psychophysical systems that determine his unique adjustments to his environment" (p.48). In psychometric terminology personality tests are used to measure motivational, emotional, interpersonal and attitudinal characteristics as distinct from abilities.

Personality has an infinity of aspects. Cattell (1953) is of the opinion that "if one deals with the real functional and structural unities in personality, rather than artificially created ad hoc unities, the same factors will always be relevant, in whatever field of personality expressions is involved .... They may have different relative importance .... but they will be the same unitary functional temperament, or character forces" (p.176).

The following table describes the factors which Cattell (1953) feels encompass the concept of personality most comprehensively:

Table 1: A Table of Personality Factors as Described by R.B. Cattell (1953)

Factor	The Primary Factors of Personality		
A	Cyclothymia	v	Schizothyme Frustration
B	General Intelligence	v	Mental Defect
C	Emotionally Stable Character	v	Demoralised General Emotionality
D	Hypersensitive Infantile Emotionality	v	Phlegmatic Frustration Tolerance
E	Dominance	v	Submissiveness
F	Surgency	v	Melancholic Anxious Desurgency
G	Positive Character Integration	v	Immature Dependent Character
H	Charitable, Adventurous Cyclothymia	v	Obstructive, Withdrawn Schizothyme Temperament
I	Sensitive, Imaginative Anxious Emotionality	v	Rigid Tough Poise
J	Neurasthenia	v	Vigorous Obsessional-determined Character
K	Trained, Socialised Cultured Mind	v	Boorishness
L	Surgent Cyclothymia	v	Paranoia
M	Unconcernedness	v	Conventional Practicality
N	Sophistication	v	Rough Simplicity
O	Free Anxiety	v	Depression

Factors A. D. E. F. H and L are variables more regarded as constitutional, i.e. as factors of temperament and disposition. Factors C. G. I. J and K are more dependent on environment and training and more definitely connected with character stability, moral control and personality integration.

Appendix D provides a detailed account of each factor used in the research. Quantification involves converting the raw data for each of the fourteen personality factors into stens as stipulated according to standardised tables provided in the manual.

In the Children's Personality Questionnaire every factor is presented as a bi-polar continuum and the two extreme poles of the continuum have either high sten scores (8, 9, 10) on the right-hand side, or low sten scores (1, 2, 3) on the left.

4.6 Resume of all the Tests utilised for the Purposes of this Thesis

As the aim of the research was to investigate the various areas of the learning disabled child as fully as possible, the clinically descriptive nature of the findings is perhaps of primary importance. The methodological difficulties and lack of appropriate and valid assessment aids, the heterogeneity of the population and the ambivalence inherent in the so-called syndrome are merely a few of the problems encountered in drawing up the test battery. Figure 5 briefly illustrates the tests, their purpose, and the methods of administration and of quantification.

Area of Investigation	Purpose in Battery	Tests	Method of Administration	Quotient
Cognitive Skills	Intelligent Quotient	WECHSLER TESTS NSAIS NSAGT CODING	Individual and Group	International Standard Scores and SouthAfrican Standardised Scores
Family Interaction	Family Categories Assessment scale	McMASTER MODEL	Whole Family Unit at their house/or clinic	Clinical Scales
Affective Structure	Profile	COLUMBUS - Picture Analysis of Growth Towards Maturity	Individual	Clinical Scales covering recognised dimensions in tests
Personality	Profile	CHILDREN'S PERSONALITY QUESTIONNAIRE CPQ	Individual and Group	South African Standardised Scores

Figure 5: A Summary of Assessment Tests Pertinent to this Research

4.7 Research Design

4.7.1 Description of Sample

4.7.1.1 Experimental group

Forty-two English-speaking families in which one or more of the sons had been diagnosed as having a learning disability were selected. There was no reported history of the need for family therapy in any of the families and the learning disability was reported to be the only problem. The clinical diagnosis had been made by a multi-professional team consisting of a registered clinical and educational psychologist, a medical doctor, an occupational therapist, a speech and language therapist and a physiotherapist. All the learning disabled children were boys and ranged from seven to fourteen years of age. Overall levels of intelligence based on a recognised differentiated IQ test (Wechsler, NSAIS - New South African Individual Scale, NSAGT - New South African Group Test) were all within the average to high ranges. Despite their average to high intellectual abilities, the children were underachieving in the regular classroom in relation to their assessed intelligence. It is important to note that the experimental sample consisted of children already in remedial education and is therefore not representative of the entire population.

Many learning disabled children remain unidentified in the mainstream in South African schools. However, each of these experimental children was detected by a specialist teacher as requiring remedial help. As is customary in some provinces, the child was then taken from the mainstream for varying periods of time depending on his progress and received full-time remedial education. These schools enjoy the same treatment as other educational units. Only educational shortcomings

are considered for placement and no child was learning disabled due to gross neurological dysfunction or primary physical impairment. No severe emotional disturbances nor recognised family dysfunction was apparent at the time of testing. It should be added here that although the learning disabled sample was taken from a remedial unit, the sample was not considered to be unrepresentative of the entire population since, in South Africa, emotional disturbances and family dysfunction are factors which preclude admission to these units. The criteria have been dealt with in detail in Chapter 3.

The families, but for two, were all two parent families in which fathers were in employment and were within either the middle or upper income brackets. Birth order of the children was varied.

4.7.1.2 Control group

This group was made up of thirty English-speaking families in which one specific son was matched with the appropriate member in the experimental group. The group was matched on age to the nearest year, overall intelligence, language, sex, race, school area and income bracket. None of the respective children had an identified learning or emotional problem, nor did he have a history of learning difficulties due to a potential dysfunction. There was also no recorded history of the need for family therapy in any of the families.

In the groups the family compositions were similar. Regarding marital status, there was only one split family unit, although it was still two parent in the control group and two single parent families in the experimental sample.

4.7.1.3 Distribution tables

Distribution tables for the variables of age, overall intelligence

and family size are presented in Tables 2, 3 and 4 respectively. Tables 2 and 3 have been diagramatically illustrated in the form of histograms (Figures 6 and 7).

Table 2: Distribution of Experimental and Control Groups Factor: Age

Ages	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs
Experi-mental Group	7	6	6	6	7	7	2	1
Control Group	5	3	4	5	5	4	2	2

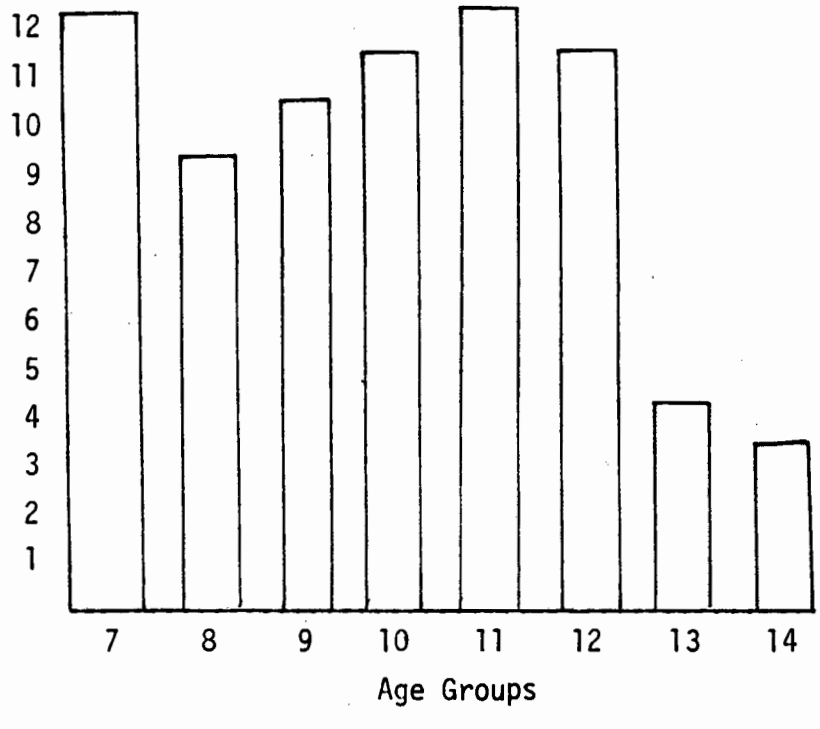


Figure 6: Histogram Illustrating Total Number of Children in Each Age Group

Table 3: Distribution of Experimental and Control Groups
Factor: Overall Intelligence

IQ	90-100	101-110	111-120	121-130	131-140	Total No.
Experimental Group	13	11	9	7	2	42
Control Group	3	10	5	9	3	30
TOTAL NO.	16	21	14	16	5	72

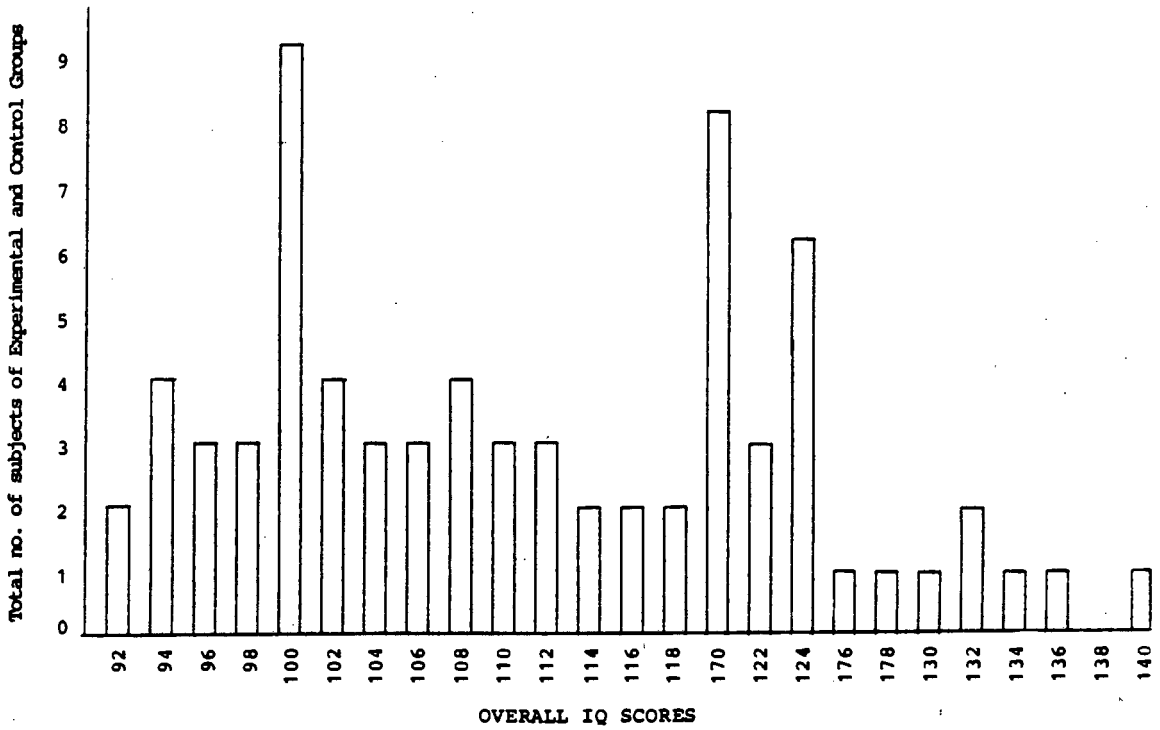


Figure 7: Histogram Illustrating the Distribution of IQ scores of Both Groups Combined

Table 4: Distribution of Experimental and Control Groups
Factor: Family Size

Members per Family		2	3	4	5	6	7	8	9	10	11	Total No.
Groups	Experimental	1	4	23	8	3	2	0	0	0	1	42
	Control	0	0	6	11	12	0	0	1	0	0	30
TOTAL NO.		1	4	29	19	15	2	0	1	0	1	72

4.7.2 Experimental Procedure

Permission was granted from each of the Experimental and Control families to participate in a university research project.

4.7.2.1 Cognitive assessments

Each subject was assessed on a differentiated intelligence test in which a verbal, non-verbal and a full intelligence quotient was calculated. A Coding subtest of the Wechsler Test was also administered to each child individually.

4.7.2.2 Family assessments

Each of the seventy-two families was assessed as a complete unit by the researcher. Individual family histories were unknown prior to the assessment. They took place either in their homes, in the sitting room, or at the clinic at a time which suited the family. Seating arrangements were spontaneous and with the permission of the parents, the interview was recorded. This was done so that the interview could be referred to at a later date. The duration of the interview

varied from one hour to two and a half hours. The interview was structured by the clinician who initiated the questions in the beginning. The interview was introduced by assuring the family that there would be no personal imposition on their privacy and that the purpose of the interview was to learn more of how families function. No mention was made of the learning disability of the particular experimental child. After the interview the family was immediately rated on the McMaster Family Categories Assessment form (Appendix C).

4.7.2.2.1 Inter-rater reliability for family tests

Due to the strong possibility of both tester subjectivity and of "the inadequacy of present conceptual frames" to which Wong (1979) referred on page 33, ratings by another registered clinical psychologist were felt to be necessary. For this purpose nine families were selected randomly and the independent psychologist was present in person at each interview in the capacity of observer. It was essential that he be skilled in the McMaster model of assessment, that the diagnostic status of the families being observed be unfamiliar to him, and that he be present throughout the session. These criteria were rigidly adhered to as the experimenter was concerned about the methodological limitation inherent in this exploratory clinical research. For reasons of practicality the researcher had to carry out all experimental investigations personally and was therefore not blind to the group status of the families. All ratings were done individually and confidentially.

Appendix F_A illustrates the comparison of the mean scores of the two separate clinical ratings for family functions. Although the size

of the sample was felt to be too small for statisitcal significance, agreement on ratings was felt to imply similar clinical judgements. The clinical nature of the research did not ensure an entirely empirical approach and results should be regarded in this light.

4.7.2.3 The assessments of Affective Functioning

Each of the experimental and control children was assessed individually by the author on the Columbus : Picture Analysis of Growth Towards Maturity test. With the permission of the child, the entire testing session was recorded for the purpose of more accurate rating and to use in the inter-rater reliability test. The purpose of the test was explained in that the author wished to learn more of how the child felt and he was asked to describe what he saw in the pictures and how he felt about the content. The author initiated the assessment by asking the child to comment on the various people and situations in the pictures. The child was encouraged to talk as freely as he wished and the interview was to be regarded as confidential. There was no time limit and only the first fourteen cards were used in the assessment. Directly after the testing session the interview was rated on the Affective Functioning Form (Appendix E).

4.7.2.3.1 Inter-rater reliability for Affective ratings on children

As in the assessments of family functioning (4.7.2.2), the possibility of clinical subjectivity was an important consideration. It was made more so by the fact that the researcher was aware of the diagnostic status of the children. It was therefore again necessary to ascertain the accuracy of the clinical evaluations of the affective functioning of the children. For this purpose another clinically qualified registered psychologist was given nine randomly selected taped inter-

views to rate. This independent clinician (different from the clinician involved in the family assessments) was not familiar with any of the characteristics or histories of the children, but was very familiar with the Columbus itself, and with the basic definitions and illustrations for the rating scales (Appendix E).

The results of the two independent assessments of affective functioning are illustrated in Appendix F_B. As the sample size was small, the high number of variables on each child was felt to provide the opportunity for general agreement or disagreement on ratings. Where differences between the mean scores were significant at the 0.01 level of probability, inferences were made with extreme reservations.

4.7.2.4 Assessments of Personality Factors

Each child was given the complete Children's Personality Questionnaire (CPQ) to fill in. The test is self-administrative but where reading problems were obvious and aid had no influence on the results, assistance was given. The subjects were assessed in small groups of eight or ten children and there was no time limit. Breaks were given as stipulated in the testing instructions (Du Toit & Madge, 1972). The results were calculated using the manual and recorded on the Children's Personality Rating Scale (Appendix D).

4.7.3 Data Processing and Analysis

After the completion of the family assessments, and the intelligence, projective and personality testing, ratings and scaled scores were calculated and charted for each individual family and respective child.

Initially, the value of a cross-cultural study was seriously con-

sidered as a means of comparison. However intensive investigation of a West German sample, while doing research at a neuro-paediatric unit in Munich, dispelled this consideration. Due to the scarcity of children per family, varying attitudes towards cognitive skills, and culturally different family structures, comparative family profiles would have proved extremely difficult.

At the Institute for Biostatistics of the South African Medical Research Council all information was transferred to programming sheets and an IBM 3441 Computor was used. Of the seventy-two families, sixty variables per family were obtained which included both discrete and continuous factors. As the quantity of variables was considerably larger than the number of experimental and control subjects, a statistical complexity was created. For this reason the calculations were always restricted to the analysis of the child in relation to primary groups of variables. The child was analysed individually as well as in the context of his family.

A sample of 60 dependent variables representing each child and family was used for parametric statistical analysis. These variables cover family parameters (variables 1 to 4); specific areas of family functioning (variables 5 to 23); personality factors (variables 24 to 38); affective factors (variables 39 to 55) and cognitive factors (variables 56 to 60) as shown in Figure 8.

The statistical analysis of the data was as follows:

- The chi-square test (Colton 1974, Daniel 1978) provided two-way contingency tables. These indicated the frequency and distribution in both the Experimental and Control groups of the factors of Age (Table 2 and Figure 6), Overall IQ scores (Table 3 and Figure 7), Combined IQ scores (Figure 7) and Family Size (Table 4).

Statistical box-plots and histograms were compiled.

- Means and differences between the means were calculated using T-tests for each variable in each of the two groups (Tables 5 to 8).
- P-values indicating the significance of the differences between the means on each variable for the two groups were calculated (Tables 5 to 8).
- Correlation coefficients were calculated on the experimental and control groups separately using the Pearson Product Moment Correlation Coefficient (Colton 1974, Daniel 1978). This was done on each of the sixty variables and intercorrelation matrices were compiled for each group. Arbitrary cut-off points were $p < 0.05$ and $p < 0.0001$. The matrices contained 3600 cells each and were used for the analysis of the relationships between variables within groups and between groups (Tables 9 to 24).
- In addition, using the Welch one-way analysis of variance to test for significance, differences between the means were calculated on all raw data. If the one-way analysis of variance was significant ($p < 0.005$), the two-way analysis of variance was referred to. However, due to the small sample size and the possibility of unequal variances within the subgroups that might have a marked effect on the asymptotic probability levels produced by the BMD computer package in the two-way analysis of variance, deducations were made with reservation.
- Two independent evaluations in the inter-rater reliability tests were also analysed and tested for the statistical differences between the means. The Wilcoxon signed rank test (Colton 1974, Danield 1978) was used (Appendix F).

4.7.4 Rationale for the choices of significance levels

The choice of an appropriate level of significance in this thesis has been difficult. While one is tempted to utilise an extremely high level of significance in order to reduce the probability of chance correlations, one should be careful not to increase the probability of failing to identify significant relationships.

In theory one considers $p < 0.05$ as being significant when a single test is carried out. When more than one test is performed simultaneously, this level should be divided by the number of test being carried out. In this thesis sixty dependent variables representing each child and family were used. Therefore, the level of significance used should be $0.05 \div 60$, that is 0.0008. Thus, for this thesis any probability less than 0.0008 should be considered significant and any probability between 0.05 and 0.0008 could be considered as an indication towards significance.

In the analysis of data, therefore, cut-off points used were $p < 0.05$ and $p < 0.0001$. Using this data, the matrices were constructed. Whenever possible an alpha-value of $p < 0.0001$ was used. The rationale underlying the use of the 0.0001 level of significance in preference to, say, 0.05 is that at 0.05 there were so many significantly interrelating variables - and associations were not identified with as great a degree of certainty as at the higher levels of significance.

However, in order to try and minimise the chances of missing significant relationships, a general matrix of intercorrelations of all variables for both the Experimental and Control groups was done at the 0.05 significance level (Table 9). This table was constantly

referred back to in the discussion of results. Also, in certain tables (15, 16, 22, 23 and 24) there were insufficient interrelating variables at the 0.0001 level and the level of significance was lowered to a level at which some significant correlations existed. This was $p < 0.01$ for all the above tables.

CHAPTER 5 RESULTS

5.1 Introduction

To date there is no single identifiable discrete variable representing the learning disability. The syndrome manifests itself in a heterogenous population and is clinically recognised by means of clusters of behavioural patterns which interrelate. The aetiology can therefore be regarded as a function of a combination of presenting symptoms and is usually established with extreme difficulty.

Data processing and analyses for both the Experimental (E) and Control (C) groups were done in steps in order to simplify the volume of information created by the complexity and quantity of variables.

5.2 Order of Presentation

The presentation of the results corresponds with the order of the statistical analyses. This is as follows:

- The means and standard deviations of both the E and C groups, and the p-values on each of the 60 variables are presented (Tables 5 to 8).

- Significant correlation coefficients ($p < 0.05$) indicating relationships between groups for both the E and C groups are presented in the form of an intercorrelation matrix (Table 9).

- Significant correlation coefficients ($p < 0.0001$) indicating relationships between variables in the E group are presented in the form of an intercorrelation matrix (Table 10). This

level was selected due to both the high number of significant correlations at the 0.05 level and the fact that probability may be regarded with greater certainty.

- Significant correlation coefficients ($p < 0.0001$) indicating relationships between variables in the C group are presented in the form of an intercorrelation matrix (Table 11).

- The results of significantly interrelating variables for both the E and C groups have been combined and are presented in Table 12.

Each area depicting a certain type of functioning was extracted systematically from the overall matrix and the significantly interrelating variables WITHIN the specific areas were analysed. This was done for both the E and C groups separately and comparisons were made. The following areas of functioning have been extracted:

- Family Functioning	- Table 13 (E Group) Table 14 (C Group)
- Age, Family Structure and Cognitive Factors	- Table 15 (E Group) Table 16 (C Group)
- Personality Factors	- Table 17 (E Group) Table 18 (C Group)
- Affective Factors	- Table 19 (E Group) Table 20 (C Group)

In these analyses, the various levels of significance are denoted as they indicate the strength of the association between variables.

The significantly interrelating variables BETWEEN the specific areas were then analysed. Once again this was done for both the E and C groups. The following areas have been compared with each other:

- Family Functioning and Affective Factors - Table 21 (E Group)
- Cognitive Functions and Affective Factors - Table 22 (E Group) Table 23 (C Group)
- Cognitive Functions Affective Factors Personality Factors - Table 24 (E Group)

One-way analyses of variance of the differences between groups were then done with reference to:

- working mothers - Table 25
- marital upheaval - Table 26
- the level of the family income - Table 27

5.3 Means and Standard Deviations and p-values of Variables

Means and standard deviations for both the E and C groups on each of the 60 variables were calculated. The means of the two groups were then statistically compared and p-values are given (Tables 5 to 8).

The age range of both groups was seven to fourteen years of age with an E mean of 9.80 and a C mean of 10.06. The mean number of siblings was 2.57 for the E group and 3.33 for the C group with age ranges in

Table 5: The means and standard deviations of the Experimental and Control groups on the variables of Age of the Child, Number of Siblings, Family Size, Position in the Sibling Subsystem and ratings on the areas of Family Functioning (7-point scale). P-values are given on the areas of Family Functioning

	Means and Std. Deviations of Experimental Sample N: 42 Families			Means and Std. Deviations of Control Sample N: 30 Families	
Variable	Mean	Std Dev.	p-value	Mean	Std Dev.
FAMILY FUNCTIONING					
AGE OF THE CHILD	9.80	1.97		10.06	2.13
SIBLINGS	2.57	1.38		3.33	1.02
FAMILY SIZE	4.50	1.43		5.33	1.02
SIBLING POSITION	1.85	1.40		2.30	.120
PROBLEM SOLVING	4.02	1.02	.0000	5.13	.86
COMMUNICATION					
Instrumental	4.35	1.00	.0151	4.93	.90
Affective	3.83	1.26	.0063	4.63	.106
General	4.00	.91	.0000	4.93	.73
ROLES					
Basic Resources	4.52	.96	.0001	5.33	.66
Nurturance & Support	4.33	1.22	.0837	4.83	1.14
Personal Development	4.02	.99	.107	4.66	1.06
Systems Management	3.73	1.28	.0004	4.80	1.03
General Maintenance	4.14	1.00	.0002	4.90	.60
AFFECTIVE RESPONSIVENESS					
Emergency Anger	4.52	.96	.0011	5.33	.66
Emergency Sadness	4.09	1.07	.0789	4.50	.73
Emergency Fear	4.39	.94	.1687	4.64	.55
Emergency General	4.02	.97	.0041	4.60	.49
Welfare Affection	4.52	1.25	.0052	5.30	.91
Welfare Happiness	4.26	1.21	.0004	5.16	.83
Welfare General	4.28	1.04	.0000	5.20	.66
AFFECTIVE INVOLVEMENT	3.64	1.24	.0000	4.83	.83
BEHAVIOUR CONTROL	3.66	1.11	.0000	4.96	.80
OVERALL	4.04	.98	.0000	5.10	.75

Table 6: Means, standard deviations and p-values of the variables of Personality Factors for the Experimental and Control groups (units = stens)

Variable	Means and Std. Deviations of Experimental Group N: 42 Families Mean	Std Dev.	p-value	Means and Std. Deviations of Control Group N: 30 Families Mean	Std Dev.
PERSONALITY FACTORS					
CPQ A	4.35	1.97	.1680	5.10	2.55
B.	4.07	2.21	.0001	6.20	1.90
C	4.64	1.91	.7909	4.76	1.99
D	6.76	2.09	.4657	7.10	1.66
E	6.00	1.84	.9496	6.03	2.41
F	6.09	2.31	.1632	5.26	2.65
G	3.73	2.01	.5453	4.03	2.05
H	4.90	1.91	.5738	5.20	2.52
I	4.64	1.85	.9068	4.70	2.26
J	5.78	2.38	.3888	6.23	1.79
N	7.04	1.48	.8900	7.10	1.70
O	5.95	2.17	.4909	5.60	2.06
Q_3	4.26	2.18	.8509	4.16	2.00
Q_4	7.19	1.83	.4758	6.86	1.96

Table 7: Means, standard deviations and p-values for the Experimental and Control groups on the variables of Cognitive Functioning and Coding

Variable	Means, standard deviations and p-values of Experimental and Control groups Mean	Std Dev.	p-value	Min.	Max.
COGNITIVE FUNCTIONING					
Exp. N: 42 Families					
Coding (20 point scale)	8.50	2.72	.2519	4	16
Verbal IQ	108.60	12.60	.1203	86	136
Non-Verbal IQ	108.85	12.95	.0924	83	139
Full IQ	109.54	12.07	.0858	92	140
Difference between IQ	-0.47	13.25	.9934	-31	36
Control N: 30 Families					
Coding	12.00	2.25		6	16
Verbal IQ	113.33	14.02		91	145
Non-Verbal IQ	113.83	11.04		93	133
Full IQ	114.56	12.00		95	136
Difference between IQ	-0.50	9.74		-14	22

years of one to nine and two to seven respectively. The means of the total family sizes were 4.50 (E) and 5.33 (C) with the mean position of the selected child within the family subsystem being 1.85 (E) and 2.30 (C).

In the majority of areas of family functioning differences between the means of the E and C groups occurred at the 5% level of significance. Highly significant differences with $p = < 0.0008$ were found on the variables of Problem-Solving, General Communication, Basic Resources, Systems Management, General Maintenance, Welfare Happiness and General Welfare Emotions, Affective Involvement, Behaviour Control and Overall Family Functioning.

Differences between the groups at the 5% level of significance on Personality factors were found on one variable only, namely CPQB (general intelligence) where $p = 0.0001$. Each of the recognised IQ test scores revealed no significant differences between the means.

As mentioned in the methodology, the two groups were selected on the basis of similarity of assessed Intelligence Quotients. The Coding test was not used in selection and differences between the means for the E group ($\bar{x} = 8.50$) and for the C group ($\bar{x} = 12.00$) were not statistically significant at the 0.05 level of significance. The minimum-maximum ranges are however similar and the means difference indicates that a greater number of E group children scored in the lower range.

The scores in the Intelligence tests were similar. This is borne out by the mean scores for cognitive skills for the E group which reveal an above-average Verbal IQ score of 108.60 (SD = 12.60) with a range from 86 to 136; the C group also reveals an above-average

range mean Verbal IQ score of 113.33 (SD = 14.02) with a range of 91 to 145. Mean Non-verbal IQ scores for the E and C groups were 108.85 (SD = 12.95, range = 92 - 140) and 113.83 (SD = 11.04, range = 93 - 133) respectively.

Mean scores for the Full IQ were 109.54 (SD = 12.07, range = 92 - 140) for the E group and 114.56 (SD = 12.00, range = 95 - 136) for the C group. The mean score differences between the Verbal and Non-verbal cognitive functions were not markedly different. All scores fell in the high-average or high ranges of intellectual functioning on a normal distribution curve. This is in direct contrast to the CPQ B Factor variable in Table 6 ($p = 0.0001$), which also measures intelligence. The difference might be attributable to the fact that the CPQ measures the application of cognitive skills while the Intelligence tests measure the basic cognitive skills themselves. This leads to the interpretation of intelligence in its functional capacity as opposed to in its statistical or quantitative role. This very important factor receives further attention in the discussion.

The mean for each of the following variables revealed a significant difference between the groups at the 0.05 level of significance:

- interaction with father ($p = 0.0001$)
- interaction with peers ($p = 0.0000$)
- attitude toward school ($p = 0.0001$)
- attitude toward the community ($p = 0.0000$)
- the ability to exercise self-control ($p = 0.0000$)
- the ability to cope with crisis ($p = 0.0000$)
- the integration of self-concepts ($p = 0.0000$)
- the ability to evaluate themselves and their skills accurately ($p = 0.0000$)

Table 8: Mean scores, standard deviations and p-values of variables measuring the Affective Functioning of both the Experimental and Control Groups

Variable (7-point scale)	Means and Std. Deviations of Experimental Group N: 42 children Mean	Std Dev.	Means and Std. Deviations of Control Group N: 30 Children Mean	Std Dev.	p-value
AFFECTIVE FUNCTIONING					
INTERACTION					
Father	3.38	1.36	4.36	.76	.0001
Mother	4.26	1.16	5.00	.90	.0052
Siblings	4.20	1.41	4.73	.86	.5082
Peers	3.23	1.20	4.56	.81	.0000
ATTITUDE TO					
School	3.69	.78	4.53	.89	.0001
Community	3.64	1.28	4.96	.71	.0000
SELF-CONTROL	3.38	1.20	4.83	.53	.0000
COPE WITH CRISIS	2.80	.99	4.26	.73	.0000
CONSCIENCE	3.95	1.16	4.93	.52	.0000
SELF-CONCEPT	3.40	.93	4.60	.81	.0000
SELF-EVALUATION	3.66	.95	4.83	.64	.0000
REALISM	3.52	.89	4.83	.64	.0000
RESPONSIBILITY	3.85	1.09	5.13	.57	.0000
PRESENCE OF PURPOSE	3.16	.85	4.40	.72	.0000
MODE OF APPROACH	3.69	1.11	4.93	.63	.0000
ATTITUDE TO					
the Unknown	3.57	1.06	4.56	.77	.0000
the Formless	3.54	1.25	4.60	.72	.0000
QUALITY OF RESPONSE	3.92	1.15	5.06	.86	.0000

- their level of realism (p = 0.0000)
- their awareness of responsibility (p = 0.0000)
- the level of purposefulness in their attitude and behaviour (p = 0.0000)
- the mode of approach to tasks (p = 0.0000)
- attitude to the Unknown (p = 0.0000)
- attitude to the Formless (p = 0.0000)
- quality of response (p = 0.0000)

Without exception, the means of the C group are consistently higher. This suggests a more adequate overall level of affective functioning in this group. However, it is important to note that standard deviations in the E group are generally greater, reflecting both a wider range of scores and greater variance.

5.4 Intercorrelation Matrices

To facilitate clinical interpretation, the profiles of significantly interrelating variables WITHIN each group and BETWEEN groups are presented in the form of intercorrelation matrices. In view of the exploratory nature of this study, a matrix of all significant intercorrelations in the results at the 0.05 level of significance is presented in Table 9. As the quantity of significant associations is so great, it was decided to discuss the results primarily at a 0.0001 level of significance. The latter step should only be regarded in the light of Table 9 so as to avoid overlooking important interrelationships at the lower level of probability. Tables 10, 11 and 12 represent these matrices and provide profiles of all the significant intercorrelations in the results at a 0.0001 level of significance. Clusters of significant variables are then later

extracted from these matrices and a more detailed statistical breakdown of the various levels of significance is provided. The matrices each contain 60 variables and therefore 3600 cells. The ratings in the matrices represent positive and negative associations between variables. The positive correlations between variables describe significantly high associations between certain factors which are positive, i.e. the higher the score on variable A, the higher the score on variable B. Negative correlation coefficients indicate that a significantly high score on variable A is associated with a significantly low score on variable B.

The variables in the correlation matrix are grouped as shown in Figure 8. Correlations are indicated as positive or negative in the cell common to both variables as shown by the arrows. Cell A would indicate an association between an area of family functioning (e.g. Systems Management) and an affective factor (e.g. Interaction with Father).

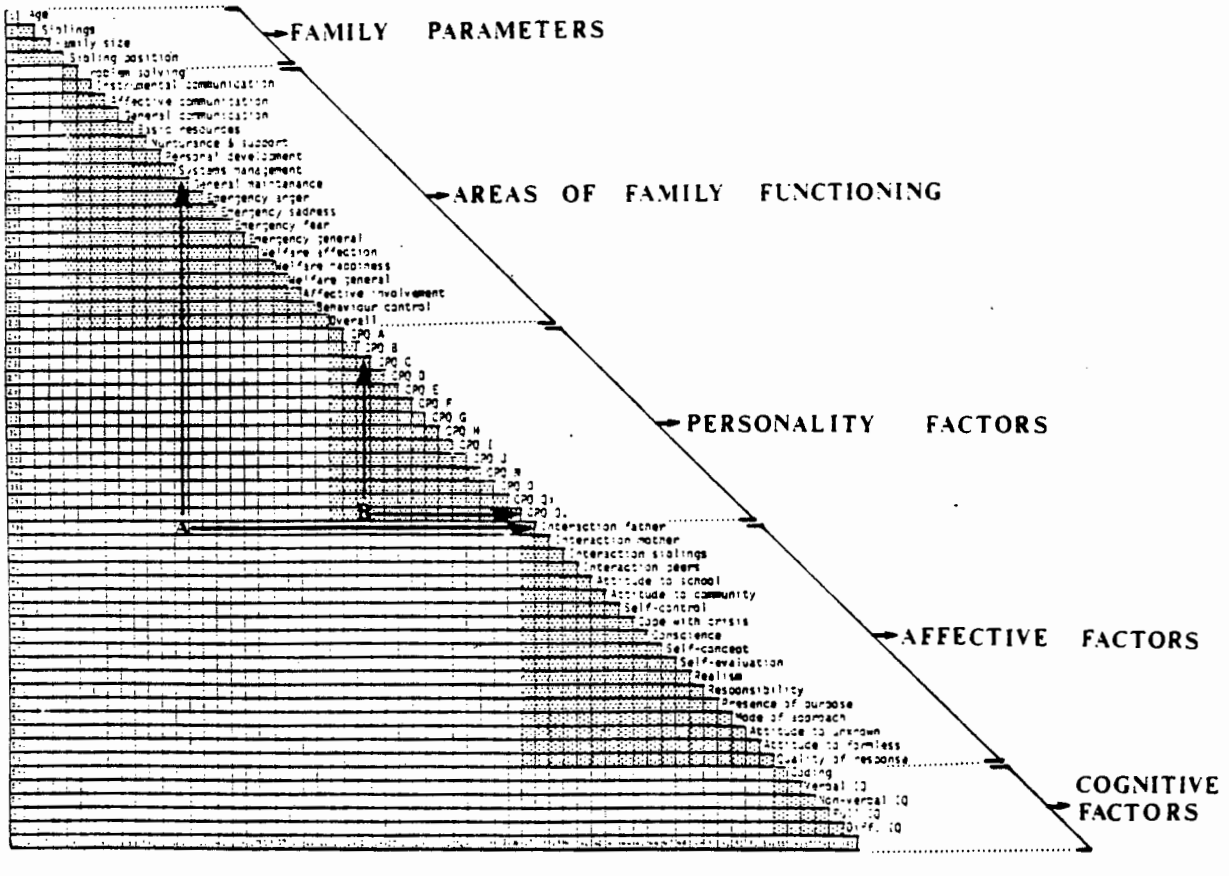


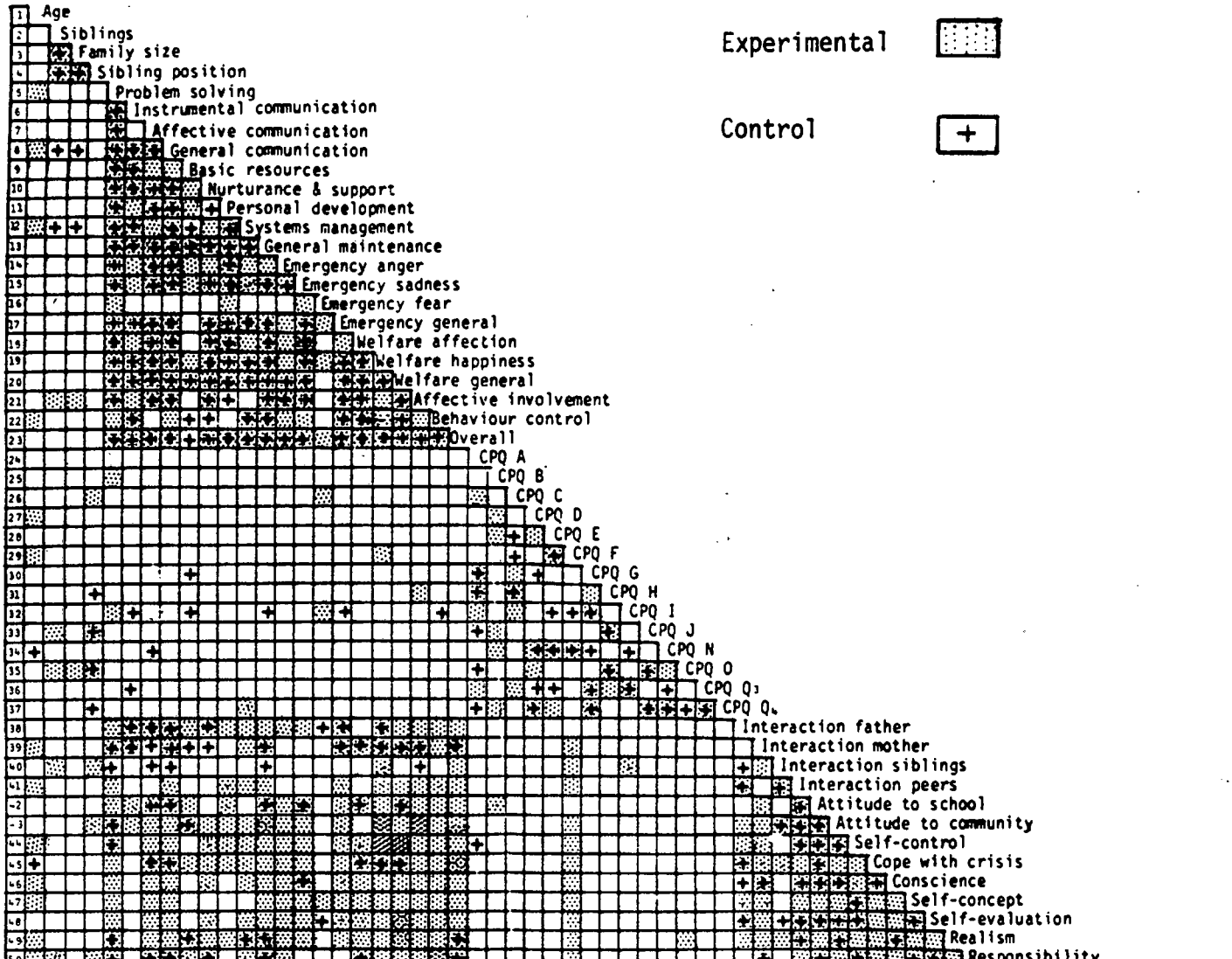
Figure 8 Correlation Matrix

Note this is ONLY an association between the organisation within a family unit and the way in which the child interacts with his father. It would NOT indicate that a well-structured home would necessarily provide for good child-father relations. The reverse would also hold true. Cell B, on the other hand, would indicate positive or negative associations between different Personality Factors (e.g. CPQ B - Intelligence level, and CPQ Q_4 - Level of Tension). It should therefore again be stressed that these multivariate analyses do not provide direct links between variables, but associations only. The analysis of associations cannot therefore be taken to be indicative of causality.

From Table 9 it is clear that in both the E and C groups there are numerous significant intra-group correlations between variables. Dominant clusters emerge for both groups and are manifest mainly in the two areas of family interaction and affective functioning. Intergroup correlations involving these two groups are evident. In this regard there does, however, appear to be a greater number of significant associations in the E group, particularly where interaction occurs between aspects of the family and certain emotional factors in the learning disabled child.

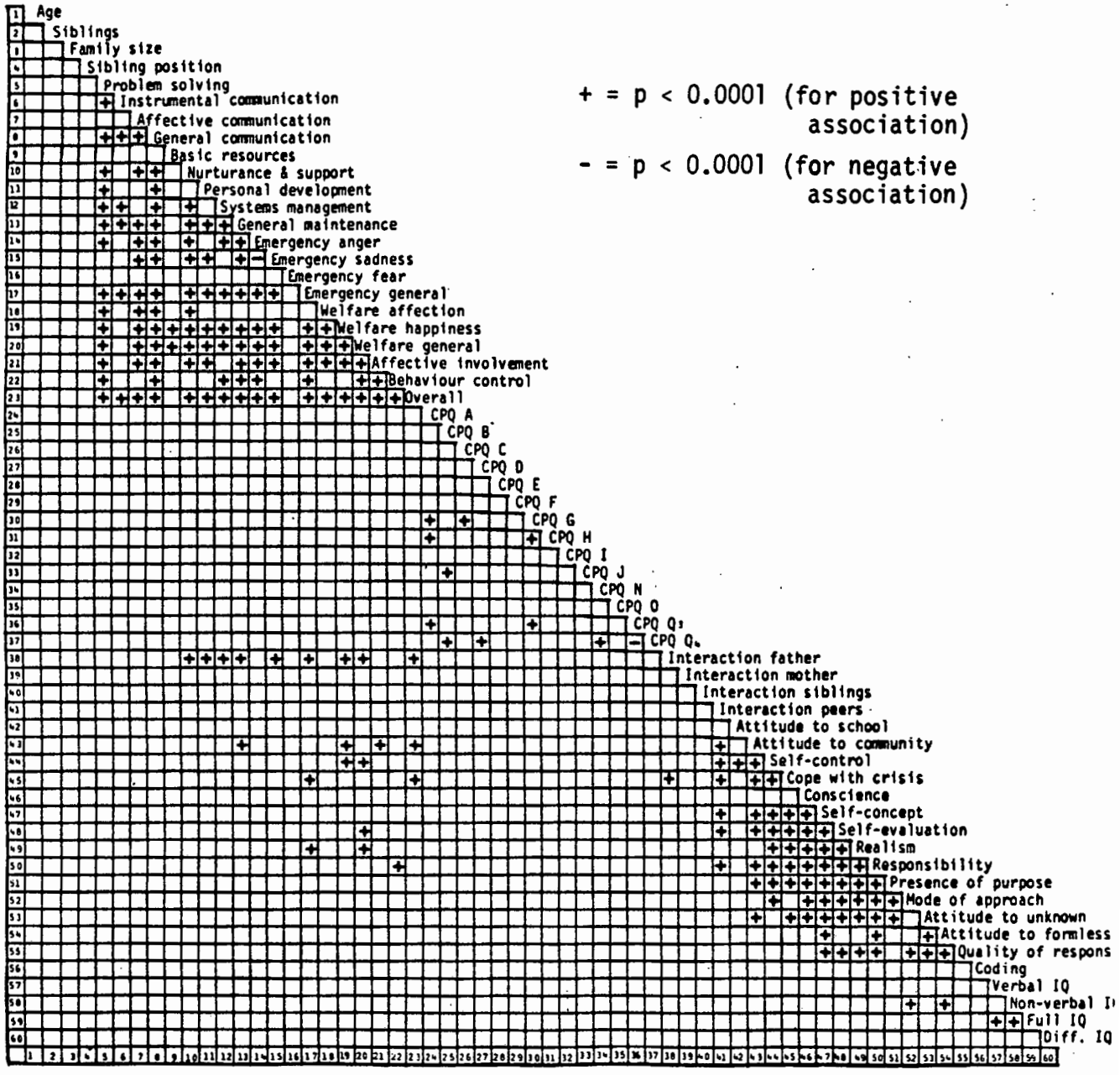
It is clear that there is a high quantity of associations which are significant at the 0.05 level. This finding motivated the decision to work with the higher probability level of 0.0001, where relationships between variables may be established with a high degree of certainty. These associations are then investigated in detail in the ensuing tables.

Table 9: Associations between variables at the 0.05 significance level for both the Experimental and Control groups



From Table 10 it can be seen that clusters of interrelating variables emerge in particular in the areas of family interaction and affective functioning. This indicates that in each of these areas there is a general trend towards problematic functioning in most of the aspects

Table 10: Associations between variables at the 0.0001 significance level for the Experimental group



under discussion. The implication of this finding is that within each area there might well be a so-called "ripple-effect" - namely, a compounding effect where various areas of functioning are inter-related to a certain stimulus. Intra-area associations such as these are examined in detail in Tables 13 to 20.

There is also evidence of association between areas. In Table 10, the E group has clear associations between areas of family functioning and various affective factors. This indicates that marked behavioural and affective characteristics are related to specific patterns of family interactions. Inter-area associations such as these are examined in detail in Tables 21 to 24.

Table 11: Associations between variables at the 0.0001 significance level for the Control group

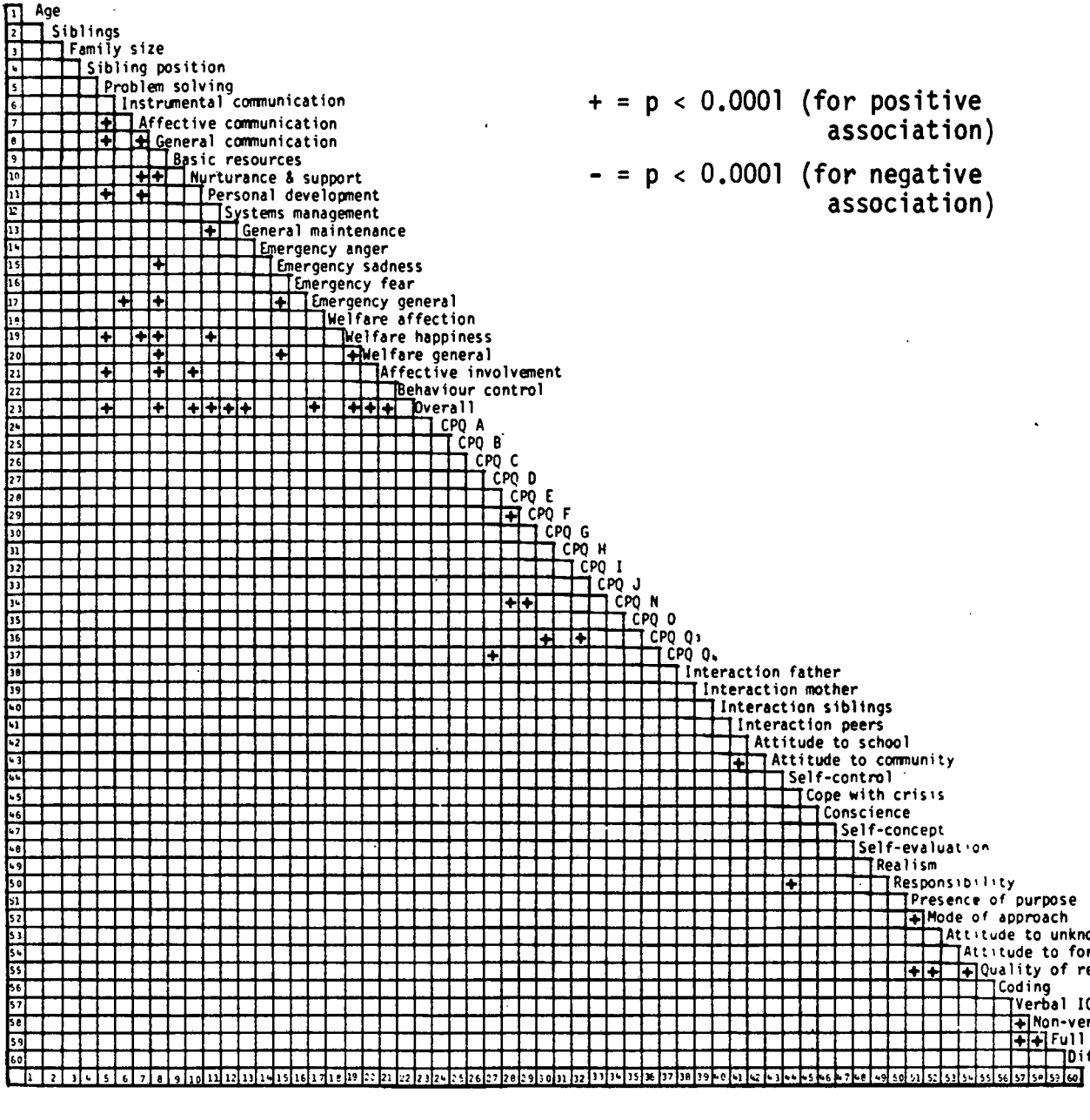
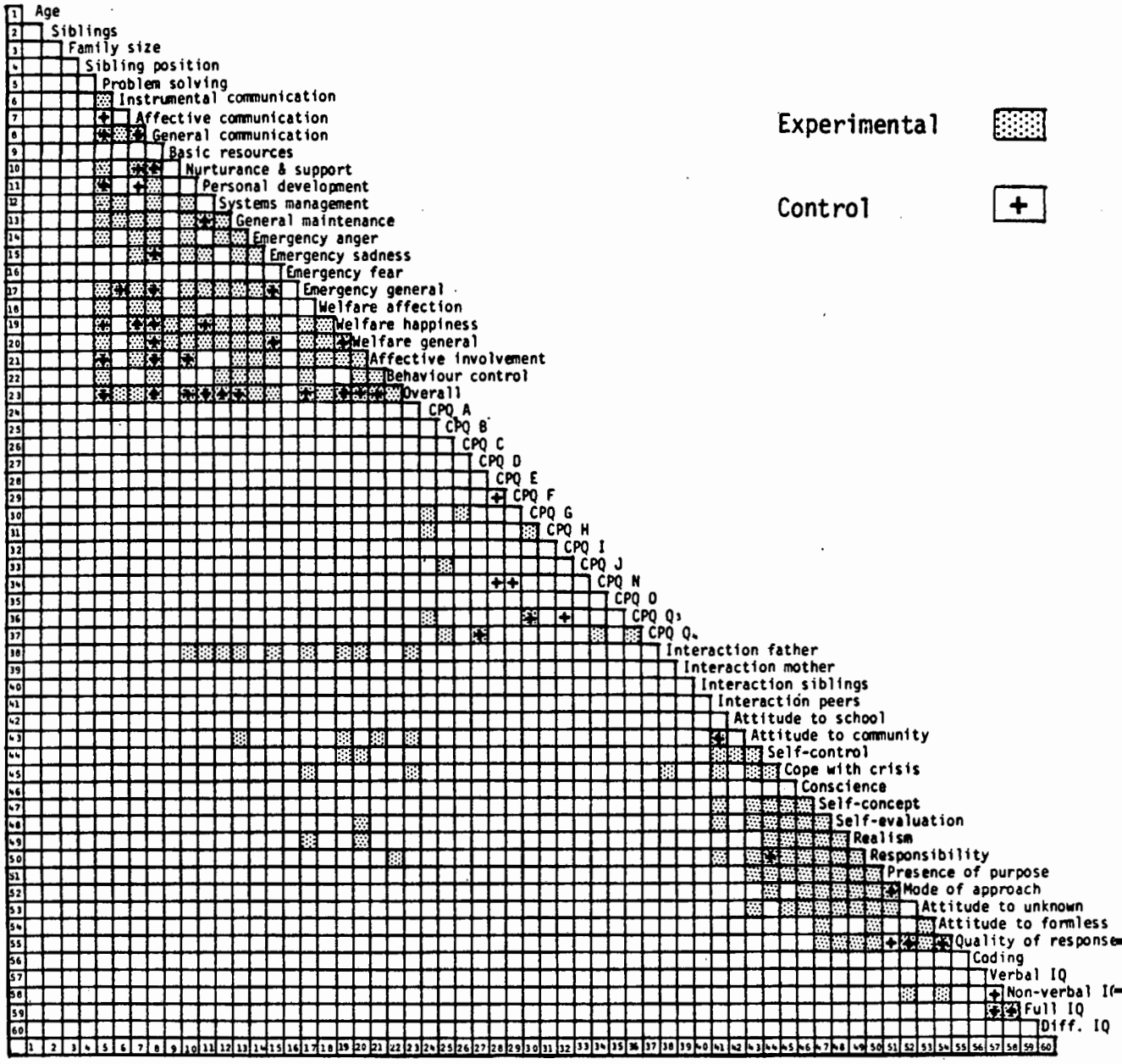


Table 11 shows strikingly weaker intra-area associations in the C group. In fact, only in the areas of Family Functioning does a marked cluster emerge. The associations of Personality, Affective and Cognitive Factors are minimal. At the 0.0001 level of significance the inter-area associations as found in the E group (Table 10) are absent. This suggests that the C group has clearly defined areas of functioning with little carry-over. This cardinal difference between the groups is well illustrated in Table 12, where the results of both groups have been combined for the purpose of comparison. In addition, reference to the combined profile of associations significant at the 0.05 level in Table 9 provides additional food for thought. A comparison between the two profiles with differing levels of significance results in the following deductions:

- although there is not parity between the groups at the 0.05 level, there is a greater number of significant relationships between variables for the control subjects than at the 0.0001 level;
- associations tend to present similarly for both groups - the difference appears to be in the greater strength of the relationship between variables in the E group;
- inter-group associations are present for both E and C groups and these are largely between the areas of family interaction and affective functioning;
- the p-values quoted in Tables 5, 6, 7 and 8 indicate the significance of the differences between the means for the E and C groups for each of these variables. It is to be noted that these differences are highly significant in these areas of family interaction and affective functioning.

The nature of these differences between the groups emerges in more detail in subsequent results.

Table 12: Associations between variables at the 0.0001 significance level for both the Experimental (Table 10) and the Control (Table 11) groups



5.5 Significant Intra-area Correlations

5.5.1 Family Functioning

The variables in family functioning can be subdivided as shown in the diagrammatic illustration below.

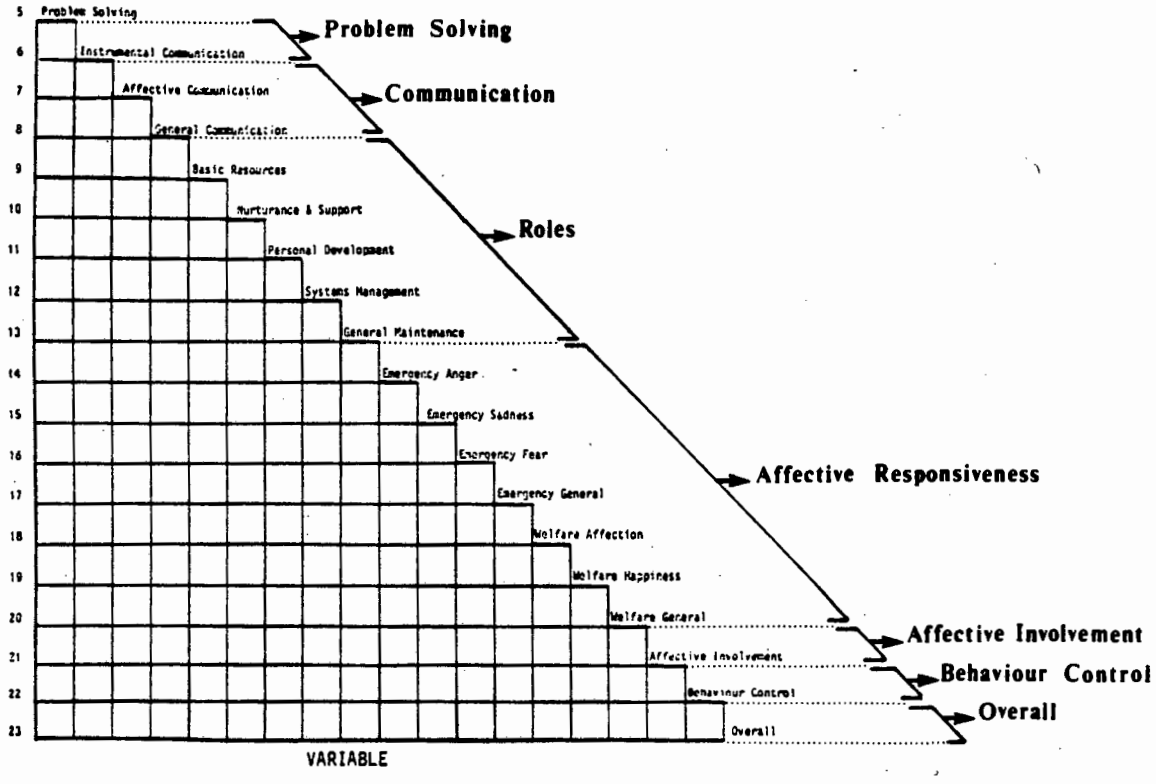
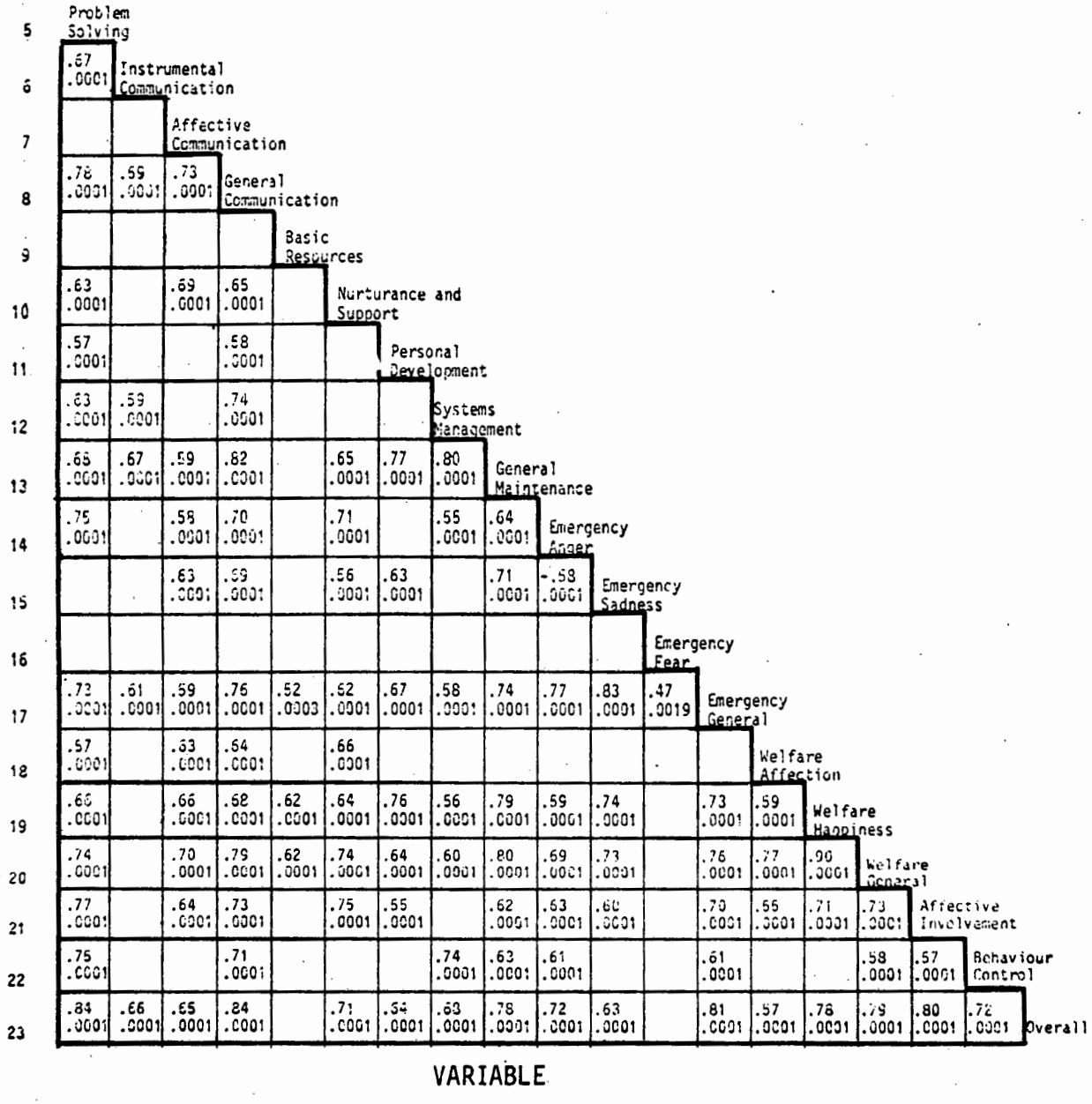


Figure 9 Diagrammatic illustration of dimensions and subdimensions of areas of Family Functioning

The analysis of Tables 13 and 14 reveals striking differences between the E and C groups. A comparison is made between the two groups by examining the areas in which the results differed, i.e. only those correlations which are exclusive to one group are noted below. The differences between the two groups are:

Table 13: Associations between variables of Family Functioning at the 0.0001 significance level for the Experimental group



VARIABLE

Table 14: Associations between variables of Family Functioning at the 0.0001 level of significance for the Control group.

5	Problem Solving															
6		Instrumental Communication														
7	.69 .0001		Affective Communication													
8	.71 .0001		.79 .0001	General Communication												
9					Basic Resources											
10			.73 .0001	.75 .0001		Nurturance & Support										
11	.69 .0001		.71 .0001				Personal Development									
12								Systems Management								
13							.64 .0001		General Maintenance							
14										Emergency Anger						
15				.63 .0001							Emergency Sadness					
16												Emergency Fear				
17		.70 .0001		.67 .0001							.66 .0001		Emergency General			
18														Welfare Affection		
19	.64 .0001		.65 .0001	.68 .0001			.72 .0001								Welfare Happiness	
20				.65 .0001							.63 .0001				.80 .0001	Welfare General
21	.65 .0001			.65 .0001		.65 .0001										Affective Involvement
22																Behaviour Control
23	.71 .0001			.74 .0001		.73 .0001	.72 .0001	.68 .0001	.77 .0001			.74 .0001		.79 .0001	.71 .0001	.58 .0001	Overall

VARIABLE

a. the clear lack of intercorrelating significant variables in the C group;

b. the strikingly high incidence of significant associations between variables in the E group;

c. the emergence of a pattern of recurring associations in certain areas of family functioning in the learning disabled families (Group E). These are in the dimensions of

   - Problem-solving
   - Roles - Nurturance and Support
     Systems Management
     General Maintenance
   - Affective Responsiveness - Emergency Anger
     Emergency General
     Welfare Happiness
     Welfare General
   - Affective Involvement
   - Behaviour Control;

d. an isolated significant correlation in the C group which differs from the E group is in the area of Problem-solving and Affective Communication.

5.5.2 Age, Family Structure and Cognitive Factors

Tables 15 and 16 illustrate the results of the E and C groups on the variables of Age (of the child), Family Structure, and Cognitive Factors (Intelligence). Due to the fact that the associations are far fewer, a lower level of significance was used ($p < 0.01$). The varying levels of significance indicate the different strengths of associations between variables.

Table 15: Associations between the variables of Age, Family Structure and Cognitive Factors and significance levels for the Experimental group ($p < 0.01$)

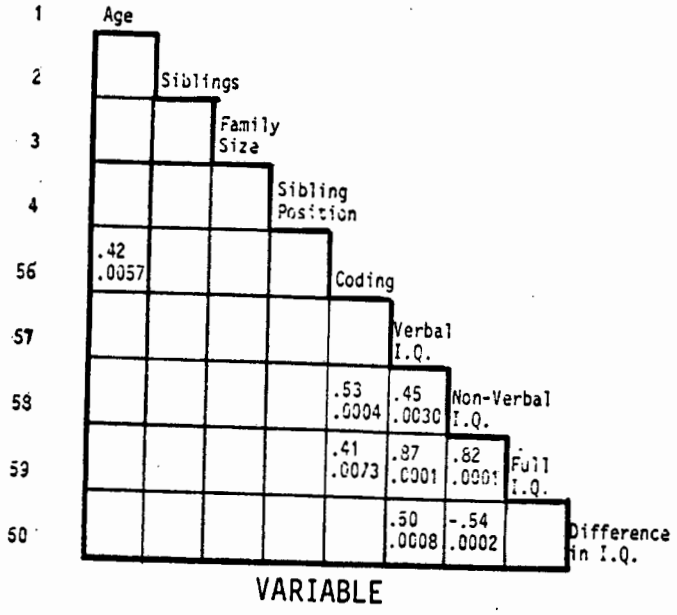
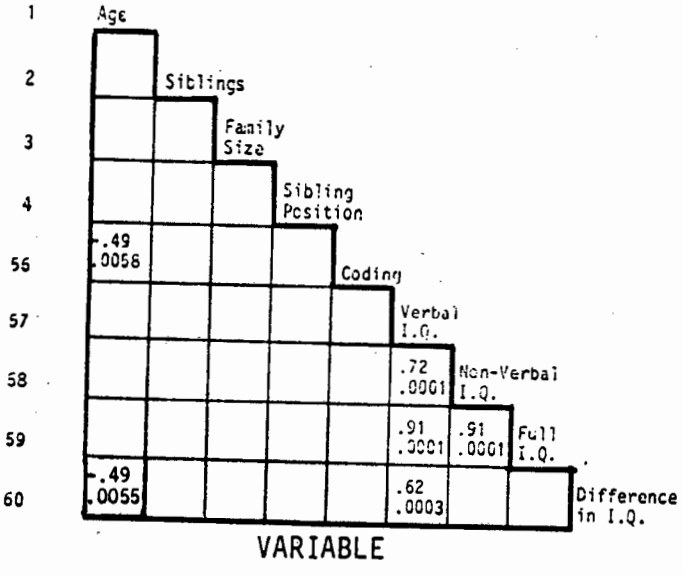


Table 16: Associations between the variables of Age, Family Structure and Cognitive Factors and significance levels for the Control group ($p < 0.01$)



The results of both the Experimental (Table 15) and the Control (Table 16) groups indicate relatively few significant associations between variables ($p < 0.01$). There is also a markedly low incidence of very high intercorrelations ($p < 0.0001$) in both groups. This stands in contrast to the significant correlations in areas of Family Functioning (Tables 13 and 14) and in areas of Affective Functioning (Tables 19 and 20). In a comparison of the two groups, the following principal points emerge:

a. Age In both the E and C groups there is a significant correlation ($p < 0.01$) between AGE and CODING. However the C group has a NEGATIVE correlation. This reveals that younger non-learning disabled children have better Coding scores, whereas older children perform more poorly on Coding.

In the E group the younger learning disabled children had lower scores on Coding, the older children had higher scores. Difference between the means was however not significant (Table 7).

In the C group alone there is a NEGATIVE correlation (p ($p < 0.0001$) between AGE and DIFFERENCE IN IQ. Again this indicates that the younger the non-learning disabled child, the greater the difference between the Verbal and Non-verbal IQ test scores. The converse is also true.

b. NO significant correlation coefficients for EITHER the E or C groups were found on Family Structure.

c. Positive significant correlations between CODING and NON-VERBAL and FULL IQ's were found ONLY in the E group. A particularly high significance level was found between Coding and Non-verbal IQ in the learning disabled children.

d. A SIMILARITY between the E and C groups was found in the significant correlations between Verbal IQ and other IQ scores. There was no significant difference between the means for each group on these variables (Table 7).

e. The groups differed with regard to Non-verbal IQ scores. The E group revealed a HIGH NEGATIVE correlation between Non-verbal IQ and Difference in IQ scores. This suggests that higher non-verbal ability of learning disabled children was associated with greater discrepancies in IQ scores. An important point to note is the association between Non-verbal IQ and Coding in the E sample. This is to be expected since Coding itself is a non-verbal cognitive skill.

5.5.3 Personality Factors

Significant intercorrelations between Personality Factors at the 0.0001 level of significance are recorded in Table 17 for the Experimental group and in Table 18 for the Control group.

Table 17: Associations between variables of Personality at the 0.0001 significance level for the Experimental group

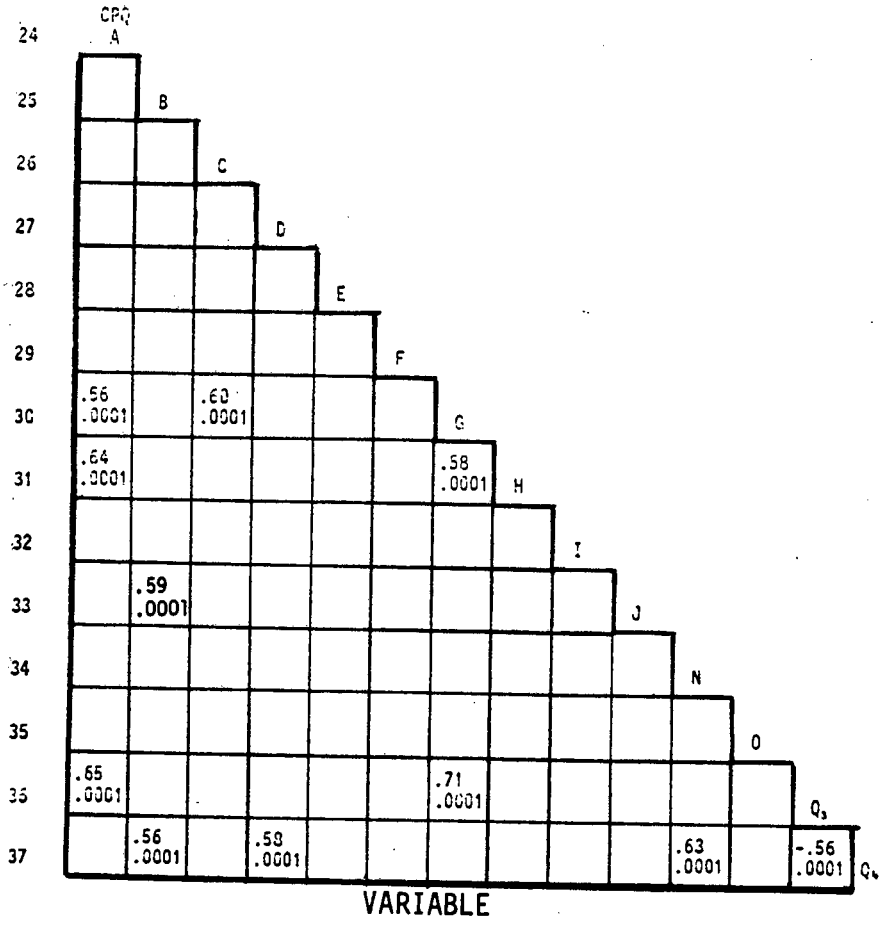
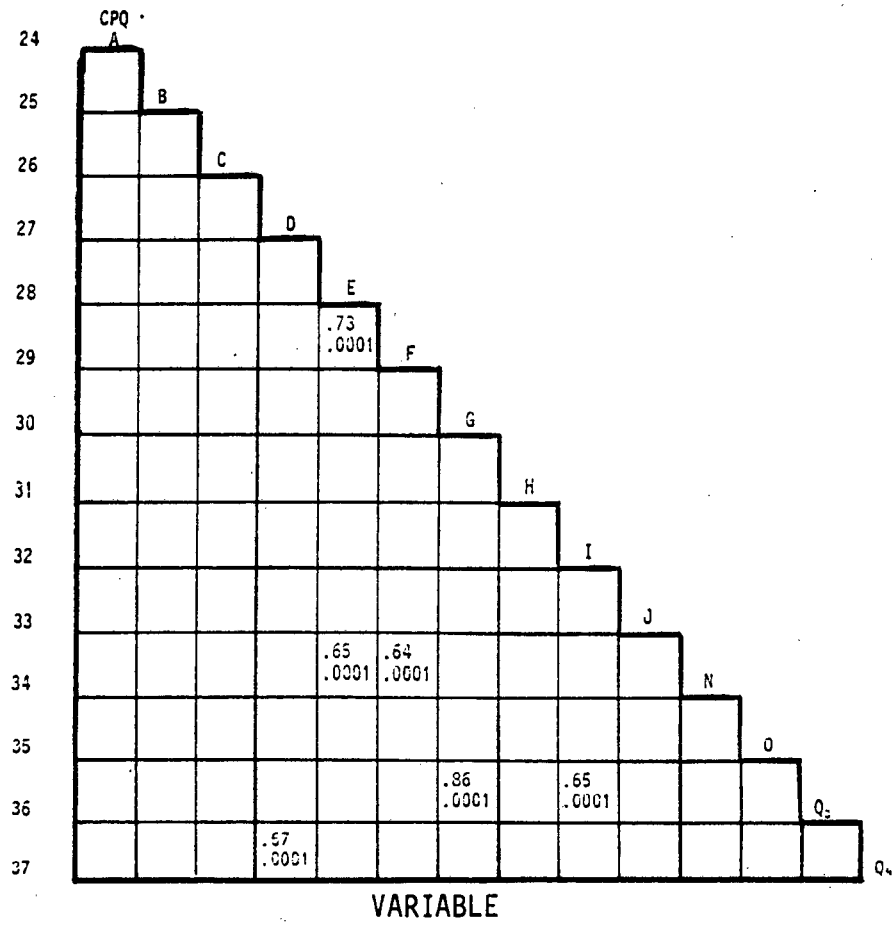


Table 18: Associations between variables of Personality at the 0.0001 level of significance for the Control group



Both tables reveal a markedly low incidence of highly significant correlations. In the analysis of the differences between the E and C groups the following points emerge:

a. The E sample has more significant correlations than the C sample. All correlations are positive except for Q_3 (undisciplined self-conflict - controlled) and Q_4 (relaxed - tense) in the Experimental groups. The latter negative correlation suggests an imbalance between the Q_3 and Q_4 factors. However, Table 6 points to no significant difference between the groups on these variables.

b. The principal variables in the E group which reveal positive significant correlations are:

Factors A (reserved-outgoing)

B (levels of general intelligence) - There is also a significant difference between the means of the two groups ($\bar{p}$ = 0.0001, Table 6)

G (expedient-conscientious)

Q_3(undisciplined self-conflict-controlled)

Q_4(relaxed-tense)

c. CLUSTERS of significant associations between Personality Factors may be identified in the E group. The frequency of occurrence of matching pairs was used in determining clusters. Main correlations are between

- Factprs B, J (vigorous-doubting) and Q_4. This suggests that the more intelligent learning disabled children tend to be more doubting and have higher levels of tension.
- Factors B, Q_3 and Q_4 . This combination of personality characteristics is found in the E children and denotes associations between a higher level of general intelligence, greater self-control, a higher level of tension and frustration and a willingness to be more co-operative and outgoing.
- A single NEGATIVE significant correlation was found between Factors Q_3 and Q_4 in the E sample. This suggests that undisciplined self-conflict in the learning disabled child is associated with a higher level of anxiety or, conversely, the greater the self-control, the lower the level of tension.

d. CLUSTERS which emerge in the C group are the following:

- Factors E (submissive/dominant), F (sober/happy-go-lucky) and N (naive/shrewd). This points out that the non-learning disabled children reveal an association between dominance, a cheerful disposition and being both personally and socially insightful.

- Factors I (tough-minded/tender-minded), G and Q_3. This cluster points to the combination of personality characteristics in C children being more sensitive, conscientious and self-disciplined.

The results of Tables 17 and 18 reveal a similarity in significant correlations between the E and C groups. The DIFFERENCE in significant correlations between the groups however lies in the various combinations of factors which emerge as significant.

5.5.4 Affective Functioning

Figure 10 provides a diagrammatic illustration of the general areas of the matrix which cover Affective Functioning.

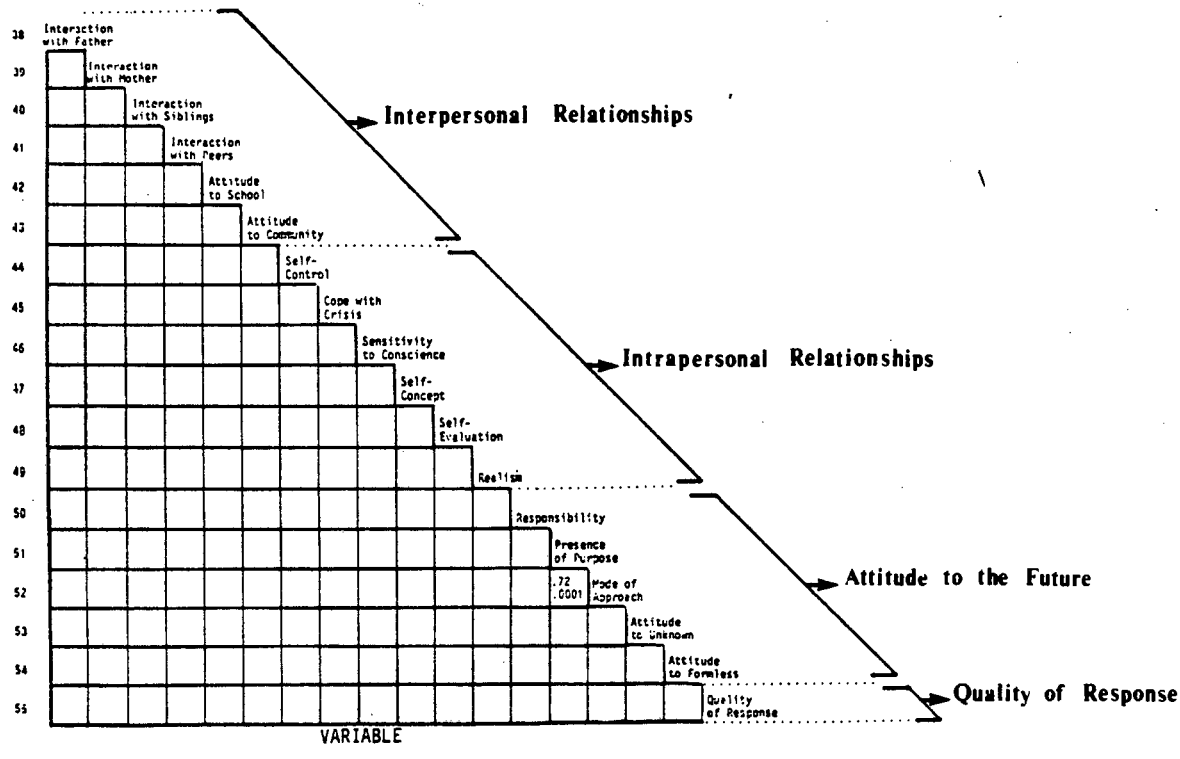


Figure 10: General areas of Affective Functioning

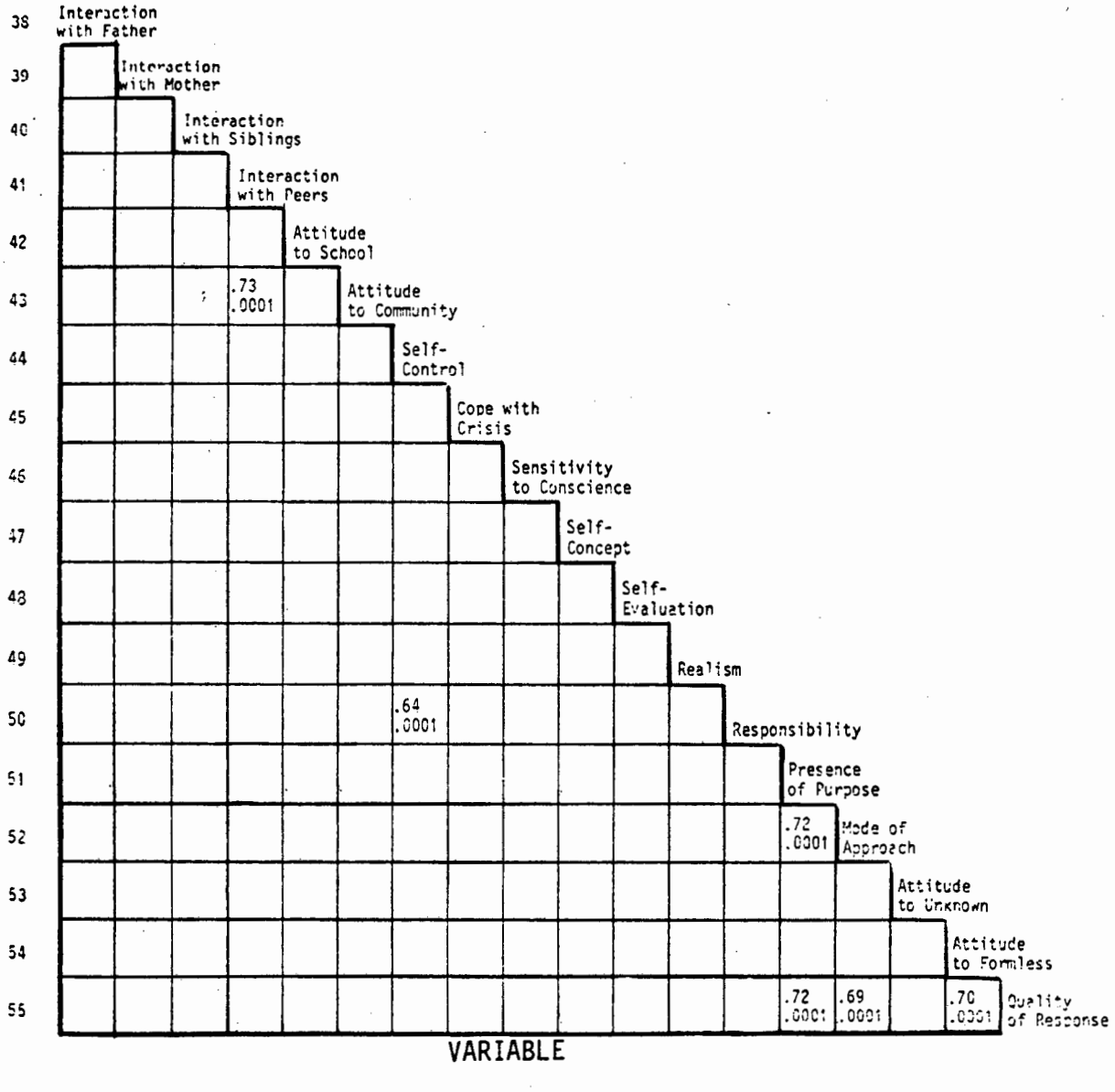
The significant correlations ($p < 0.0001$) of areas of Affective functioning are presented in Table 18 for the E group and in Table 20 for the C group.

Table 19: Correlation coefficients and levels of significance of the Affective Factors for the Experimental group ($p < 0.0001$)

	Interaction with Father	Interaction with Mother	Interaction with Siblings	Interaction with Peers	Attitude to School	Attitude to Community	Self-Control	Cope with Crisis	Sensitivity to Conscience	Self-Concept	Self-Evaluation	Realism	Responsibility	Presence of Purpose	Mode of Approach	Attitude to Unknown	Attitude to Formless	Quality of Response
38																		
39																		
40																		
41																		
42																		
43				.76 .0001														
44				.52 .0001	.56 .0001	.63 .0001												
45	.56 .0001			.58 .0001		.69 .0001	.81 .0001											
46																		
47				.60 .0001		.72 .0001	.82 .0001	.79 .0001	.61 .0001									
48				.60 .0001		.57 .0001	.76 .0001	.75 .0001	.57 .0001	.75 .0001								
49							.67 .0001	.72 .0001	.63 .0001	.67 .0001	.72 .0001							
50				.61 .0001		.62 .0001	.59 .0001	.60 .0001	.58 .0001	.65 .0001	.70 .0001	.60 .0001						
51						.56 .0001	.62 .0001	.58 .0001	.59 .0001	.73 .0001	.66 .0001	.62 .0001	.62 .0001					
52							.65 .0001			.65 .0001	.65 .0001	.60 .0001	.58 .0001	.72 .0001				
53						.58 .0001		.56 .0001	.35 .0001	.66 .0001	.62 .0001	.57 .0001	.57 .0001	.59 .0001	.58 .0001			
54										.55 .0001			.57 .0001			.76 .0001		
55										.56 .0001	.59 .0001	.60 .0001	.66 .0001		.72 .0001	.70 .0001	.73 .0001	

VARIABLES

Table 20: Correlation coefficients and levels of significance of the Affective Factors for the Control group ($p < 0.0001$)



The results in Tables 19 and 20 reveal marked differences between the E and C groups. These are described below.

In the Experimental Group

a. a high incidence of significant correlations between variables in the learning disabled children

b. the emergence of clusters of significant interrelating variables.

These clusters might be noted as follows:

- Inter-personal Relationships	interaction with peers attitude toward the community
- Intra-personal Relationships	self-control the ability to cope with crisis self concept self evaluation level of realism
- Attitude to Tasks and to the Future	awareness of responsibility presence of purpose attitude to the unknown.

The greatest number of associations is in the area representing INTRA-PERSONAL relationships.

In the Control Group

a. a general lack of significant correlation coefficients between variables in the non-learning disabled children
b. isolated significant associations found in the C group were no different from those present in the E group, but for Quality of Response interrelating with the Presence of Purpose.

5.6 Significant Inter-area Correlations

5.6.1 Correlationsbetween areas of Family Functioning and Affective Factors

Table 21 illustrates the significant associations at the 0.0001 level of significance between the areas of Family Functioning and Affective Factors for the learning disabled sample. Although there were NO significant correlations between the same variables for the

Table 21: Associations between areas of Family Functioning and Affective Factors for the Experimental group ($p < 0.0001$)

AREAS OF FAMILY FUNCTIONING			AFFECTIVE FACTORS: Interaction with: father	mother	sibling	peers	Attitude to: school	community	Self-control	Cope with Crisis	Conscience	Self-concept	Self-evaluation	Realism	Responsibility	Presence of purpose	Mode of approach	Attitude to: Unknown	Formless	Quality of response
PROBLEM-SOLVING				.56 .0001				.60 .0001		.55 .0001	.57 .0001	.62 .0001	.55 .0001		.61 .0001	.60 .0001				
COMMUNICATION	Instrumental																			
	Affective																			
	General																			
ROLES	Basic Resources																			
	Nurturance & Support		.59 .0001																	
	Personal Development		.62 .0001																	
	Systems Management		.55 .0001																	
	General Maintenance		.64 .0001					.57 .0001												
AFFECTIVE RESPONSIVENESS	Emergency	Anger																		
		Sadness	.57 .0001																	
		Fear																		
		General	.56 .0001							.58 .0001			.56 .0001	.57 .0001						
	Welfare	Affection																		
		Happiness	.63 .0001					.56 .0001	.56 .0001											
		General	.57 .0001						.56 .0001					.59 .0001						
AFFECTIVE INVOLVEMENT								.60 .0001												
BEHAVIOUR CONTROL															.55 .0001					
OVERALL			.58 .0001					.59 .0001		.55 .0001										

non-learning disabled group at either the 0.0001 or the 0.001 levels of significance, at the 0.05 level (Table 9) a greater number of significant associations emerged for both groups. The lack of associations at the higher probability levels in the C group indicates that the areas of Family Functioning and the Affective Factors of children without learning disorders tend to function more independently of each other and that each variable is relatively stable and self-sufficient. In addition the differences between the E and C groups on the means for the majority of the family and affective variables were highly significant (Tables 5 and 8). At this stage the analysis of the findings is therefore focussed on the interrelationships in the learning disabled children and their families.

In the E group a significant number of correlations was found in the following areas of Family Functioning: (p-values for the differences between the means of the E and C groups are quoted (Table 5)

- Problem solving ($p = 0.0000$)
- The expression of General Welfare Emotions ($p = 0.0000$)
- The expression of General Emergency Emotions ($p = 0.0041$)
- The expression of General Welfare Emotions of Happiness ($p = 0.0004$)
- Overall Family Functioning ($p = 0.0000$)
- General Maintenance of roles ($p = 0.0002$).

A significant number of correlations occurred in the following areas of Affective Functioning of the learning disabled child: (p-values for the differences between the means of the E and C groups are given (Table 8)

- Interaction with Father ($p = 0.0001$)
- Attitude toward the Community ($p = 0.0000$)
- The ability to exercise Self-Control ($p = 0.0000$)

- The ability to Cope with Crisis ($p = 0.0000$)
- Self-evaluation ($p = 0.0000$)
- The Level of Realism ($p = 0.0000$)
- The Awareness of Responsibility ($p = 0.0000$)

From the number of correlations in Table 21 it can be seen that the two most important variables are (i) Problem Solving in the areas of Family Functioning and (ii) the Interaction with Father in the areas of Affective Functioning.

i) The problem-solving ability of the family unit is strongly associated with the following Affective Factors of the learning disabled child:
   - the interaction with his mother
   - his attitude toward the community
   - his ability to cope with crisis
   - his sensitivity to conscience
   - his self-concept and self-evaluation
   - his awareness of responsibility
   - his presence of purpose

ii) The interaction with father in the learning disabled child is strongly associated with the following aspects of family functioning:
   - nurturance and support
   - personal development
   - systems management
   - general maintenance
   - emergency sadness and general
   - welfare happiness and general
   - affective involvement

In summary, when combining the variables into clusters, the principal areas to emerge in the E sample are

- in the family dimensions of Problem-solving and Affective Responsiveness
- in the affective areas of paternal and community interaction and in aspects of intrapersonal relationships of the learning disabled child.

5.6.2 Correlations between Cognitive Functions and Affective Factors

Tables 22 and 23 illustrate the significant associations at the 0.01 level of significance between the cognitive and affective variables for the Experimental and Control groups respectively.

The results of Tables 22 and 23 reveal marked differences in the significant correlations between the E and C groups. The main points characterising the learning disabled children (E) are:

- an increased incidence of significant associations between variables;
- a number of highly significant associations - $p < 0.0005$;
- a relatively EVEN distribution of significant associations involving most areas of Affective Functioning of the learning disabled child;
- CODING and NON-VERBAL IQ scores are the main cognitive areas involved in significant interaction with Affective Factors;
- the associations between CODING and Affective Factors are EXCLUSIVE to the E group children;
- NO associations occur with Verbal IQ at the 0.01 level of significance.

The main points characterising the non-learning disabled children

Table 22: Associations between Cognitive and Affective variables for the Experimental group ($p < 0.01$)

COGNITIVE FACTORS	AFFECTIVE FACTORS: Interaction with Peers	Attitude to School	Attitude to Community	Cope with Crisis	Conscience	Self-concept	Self Evaluation	Realism	Responsibility	Presence of Purpose	Mode of Approach	Attitude to Unknown	Attitude to Formless	Quality of Response
AGE														
CODING	.43 .0049			.40 .0095	.49 .0011	.42 .0057	.41 .0083	.54 .0003		.44 .0039	.46 .0023	.42 .0057	.46 .0022	.53 .0004
V IQ														
NV IQ	.46 .0020		.45 .0023	.45 .0026	.39 .0091	.40 .0080		.44 .0030	.44 .0032		.55 .0001	.40 .0078	.56 .0001	.53 .0003
FULL IQ											.42 .0045	.49 .0009	.52 .0004	.40 .0079
DIFF. IQ														

Table 23: Associations between Cognitive and Affective variables for the Control group ($p < 0.01$)

COGNITIVE FACTORS	AFFECTIVE FACTORS: Interaction with Peers	Attitude to School	Attitude to Community	Cope with Crisis	Conscience	Self-concept	Self Evaluation	Realism	Respon-sibility	Presence of Purpose	Mode of Approach	Attitude to Unknown	Attitude to Formless	Quality of Response
AGE														
CODING														
V IQ		.54 .0018								.50 .0040	.55 .0014			
NV IQ										.47 .0074		.49 .0054		
FULL IQ		.48 .0066								.54 .0010	.50 .0042			
DIFF. IQ														

(C) are:

- FEW and SPECIFIC associations between variables;
- significance levels are low and are ALL at the 0.01 level;
- the DISTRIBUTION of significant associations is RESTRICTED to four specific areas of Affective Functioning which involve mainly the child's Relationship to the Future. Cognitive Factors involved are the tested Verbal, Non-verbal and Full IQ scores;
- NO significant associations were found between CODING and any Affective Factors.

In summary, there are clear differences in the correlations between variables in the two groups. This is evident in the recurrent association between CODING ability and various AFFECTIVE Factors which is only found in the E group. In addition, Table 7 indicates that the means on coding for the two groups do not differ significantly - on most of the Affective factors there are significant differences between the means (Table 8). The importance of this finding lies in the fact that the two groups differ in the relationships between variables, namely, the interaction is significant, rather than in the Coding skill itself.

Added to this, in the E group there is a high incidence of inter-correlation between Non-verbal Intelligence and the Affective Functioning of the learning disabled children. Again, the means for Intelligence in the two groups do not differ significantly (Table 7). This suggests that the association itself between cognitive and affective function of learning disabled children is the important issue and that these functions mutually affect each other. As mentioned earlier, it should also be pointed out that Coding is

essentially a non-verbal ability and that it plays a significant part in the form the learning disorder takes.

5.6.3 Correlations between Cognitive and Affective Functions and Personality Factors

In both the E and C groups the Affective and Cognitive Factors were analysed in conjunction with Personality variables. The results which are presented illustrate the significant correlation coefficients at the 0.01 level of significance. As NO significant correlations were found in the C sample, ONLY the findings for the E sample are given in Table 24.

Levels of significance are relatively low in Table 24 and therefore indicative of weaker associations between the areas of Cognitive and Affective Functioning of the learning disabled child and Personality Factors. Of the fourteen personality dimensions, only Factors F (sober/happy-go-lucky), N (Naive/shrewd) and Q_4 (relaxed/tense) emerge as significant. These factors relate to a combination of Affective Factors and to the three IQ test scores.

The main findings reveal the following:

- personality factors are only significantly associated with areas of cognitive and affective functioning in the learning disabled children;
- ONLY Factor F is associated with affective factors. This indicates that in the E group children the more forthcoming, carefree personality trait is positively associated with
  - good maternal, peer and community interaction
  - a more adequate ability to cope with crises
  - a more stable self-concept
  - a better ability to deal with more abstract tasks

Table 24: Associations between the areas of Affective and Cognitive Functioning and Personality Factors and significance levels for the Experimental group ($p < 0.01$)

		Personality Factors (CPQ)		
	Variables	F	N	Q_4
AFFECTIVE FACTORS	Interaction with Mother	.40 .0078		
	Interaction with Peers	.41 .0038		
	Attitude to Community	.41 .0065		
	Cope with Crisis	.42 .0054		
	Self Concept	.40 .0072		
	Attitude to Formless	.42 .0048		
COGNITIVE FACTORS	V I Q		.45 .0029	
	NV I Q			.40 .0086
	FULL I Q	.41 .0068		

- factor F is positively associated with the Full IQ score
- personal and social structure (Factor N) is associated with higher Verbal IQ scores
- a higher level of anxiety (Factor Q_4) is associated with higher Non-verbal IQ scores.

The results of Table 24 therefore suggest that in the non-learning disabled children the associations between Personality Factors and areas of Cognitive and Affective Functioning are of no apparent

significance. Even at the 5% level of significance (Table 9) there are very few significant associations between variables in this group of children. In the learning disabled children, however, there are specific, but relatively weak, associations. The recurring nature of Factor F is noteworthy in that this personality trait along with Factor Q_4 very often forms part of the symptomology in the learning disability syndrome.

5.6.4 Correlations between areas of Family Functioning and Personality Factors

Personality Factors and areas of Family Functioning were analysed. No correlations were found at the 0.0001 level of significance in either the Experimental or Control groups. At the 0.05 level too, associations were few for both groups (Table 9). Tables 21 to 24 cover the intercorrelations of the areas of Family, Cognitive and Affective Functioning and Personality Factors of the E and C groups. The outstanding points evident in the findings might be summarised as follows:

Significant inter-area correlations are MARKEDLY more frequent in the learning disabled sample and are also present with HIGHER LEVELS OF SIGNIFICANCE.

The principal areas involved in the significant associations in the LEARNING DISABLED SAMPLE are as follows:

In the Areas of Family Functioning

- Problem-solving
- Affective Responsiveness

In the Areas of Affective Functioning

- Parental Relationships
- Intrapersonal Relationships

In the Areas of Cognitive Functioning

- Coding
- Non-verbal Intelligence

5.7 One-way Analysis of Variance

After the analysis of the correlation coefficients WITHIN and BETWEEN groups, three discrete variables were selected and the groups were compared statistically using one-way analyses of variance. The incidence of working mothers, levels of income and marital upheaval in the family had frequently been mentioned in the family interviews. These three significant variables were then selected for investigation.

Results are presented in Tables 25 (effects of a working mother), 26 (effects of marital upheaval) and 27 (effects of the income level of the family). The presentation of significant interrelating variables is based on a significance level of 0.0001 on the Welch one-way analysis of variance between groups. If significant at this level, a further one-way analysis of variance illustrates the type of interaction between variables. In this further analysis various characteristics of the associations were elucidated. The following were possible characteristics typifying the interaction:

- a straightforward difference between groups (B)
- a significant difference due to the type of child - learning disabled or non-learning disabled (Patient Type)
- a significant difference as a function of the particular variable being investigated
- a difference between the groups as a function of the interaction between the Patient Type and the particular discrete variable (interaction).

Table 25: Comparison between the Experimental and Control groups of the effects of a Working Mother. One-way analysis of variance ($p < 0.0001$)

Variable	DF	F Value	p	Type of Interaction
Problem-solving	3	10.95	.0001	B
	1	15.97	.0002	Patient Type
Behaviour Control	3	13.18	.0000	B
	1	21.55	.0000	Patient Type
Interaction with Peers	3	13.57	.0000	B
	1	17.89	.0001	Patient Type
Attitude toward Community	3	11.71	.0000	B
	1	20.22	.0000	Patient Type
Self-control	3	20.90	.0000	B
	1	26.76	.0000	Patient Type
Cope with Crisis	3	16.60	.0000	B
	1	34.99	.0000	Patient Type
Self-concept	3	11.06	.0000	B
	1	24.31	.0000	Patient Type
Self-evaluation	3	12.78	.0000	B
	1	25.80	.0000	Patient Type
Level of Realism	3	17.41	.0000	B
	1	38.74	.0000	Patient Type
Awareness of Responsibility	3	16.84	.0000	B
	1	23.13	.0000	Patient Type
Presence of Purpose	3	15.89	.0000	B
	1	29.34	.0000	Patient Type
Mode of Approach	3	11.95	.0000	B
	1	21.97	.0000	Patient Type

5.7.1 Working mother

Chi-squared distribution tests revealed that 66.6% of the Control mothers worked and 73.7% of the Experimental mothers were employed. The working mother was either part-time or full-time employed on a temporary or permanent basis before or at the time of the family assessment. Table 25 presents the results of the comparison between the groups of the effects of a working mother.

Table 25 indicates that the difference between groups at a 0.0001 level of significance are functions of the type of child, and not directly related to the fact that the mother works. The affected variables are only in the areas of Family and Affective functioning. In the former, no areas in the Role dimension or in the dimension of Affective Responsiveness were involved. In the Affective areas, the factors concerned were mainly in the peer and intrapersonal relationships, and in attitudes towards the future.

5.7.2 Marital Upheaval

Table 26 illustrates the results of the one-way analysis of variance of the effects of Marital Upheaval

Table 26: Comparison between the Experimental and Control groups of the effects of Marital Upheaval. One-way analysis of variance ($p < 0.0001$)

Variable	DF	F Value	p	Type of Interaction
General Communication	3	11.89	.0000	B
	1	11.65	.0011	Marital Upheaval
Affective Involvement	3	22.73	.0000	B
	1	7.36	.0084	Patient Type
	1	12.34	.0008	Marital Upheaval
Cope with Crisis	3	20.19	.0001	B
	1	15.27	.0002	Patient Type
	1	12.18	.0009	Marital Upheaval
Awareness of Responsibility	3	17.08	.0000	B
	1	18.40	.0001	Patient Type
Non-verbal IQ	3	39.55	.0000	B
	1	7.91	.0064	Patient Type

The results reveal differences between groups which have a variety of causes. The areas to be affected are:

- specific dimensions in the family (General Communication and Affective Involvement)
- affective functions of the learning disabled child (Cope with Crisis and Responsibility)
- the Non-verbal Intelligence score.

Firstly, differences between groups were found due to MARITAL UPHEAVAL on the following variables:

- General Communication
- Affective Involvement
- The ability to cope with crisis.

In the latter two variables the difference is also due to the fact that there is a learning disabled child. This suggests that both marital upheaval and the fact that the family has a learning disabled child is related to these variables. The association of the latter two may be illustrated diagrammatically as follows, where the width of the connections symbolizes the strength of the associations between variables:

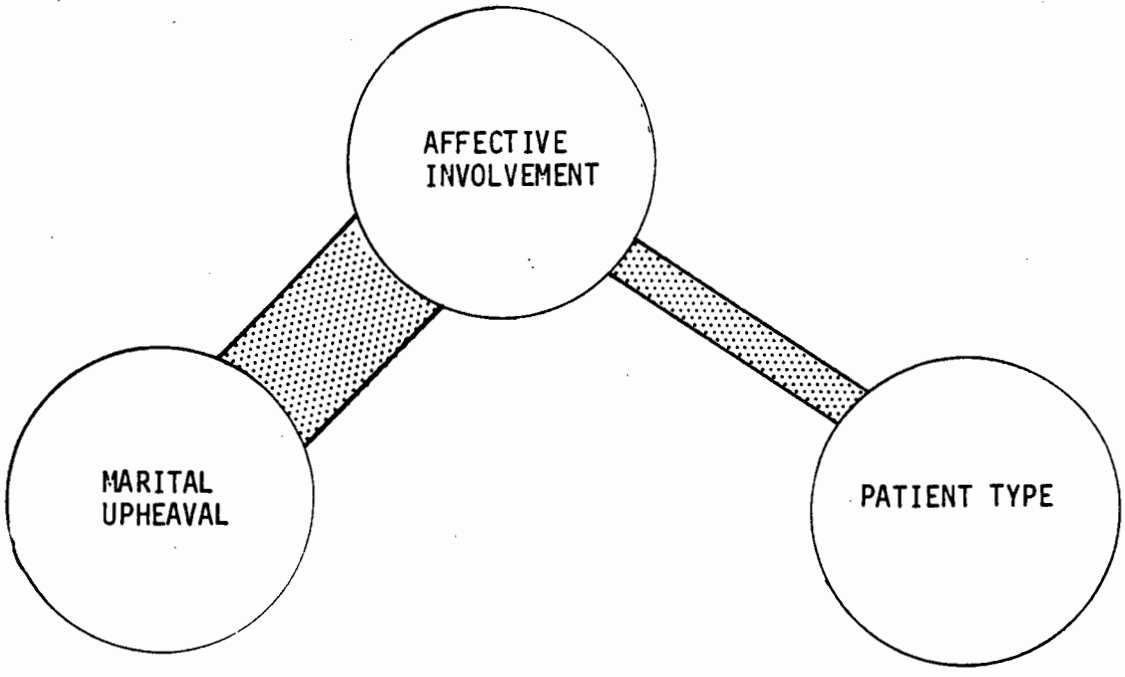


Figure 11: Diagrammatic illustration of the interacting variables of Marital Upheaval, Affective Involvement and Patient Type

In the case of General Communication, however, there was no association with Patient Type and the difference between groups was due to Marital Upheaval, irrespective of the presence of a learning disability.

Secondly, differences between groups were found due to Patient Type, namely learning disabled (E) or non-learning disabled (C), in the effects of Marital Upheaval on the remaining two variables. This may be illustrated as follows:

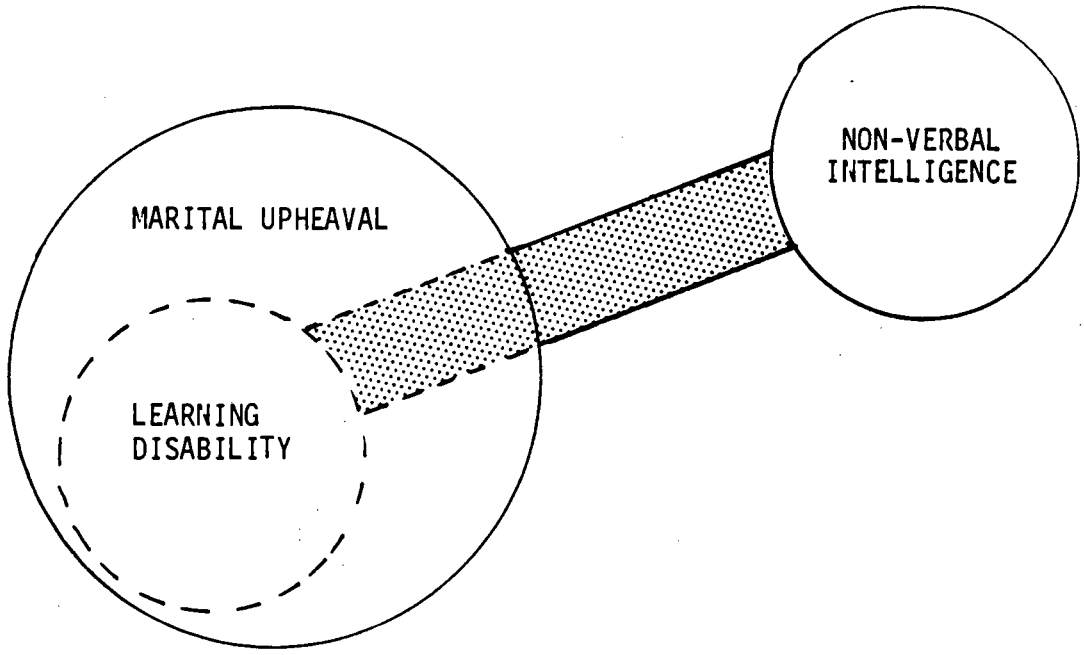


Figure 12: Diagrammatic illustration of the interaction of Non-verbal Intelligence, Learning Disability and Marital Upheaval

It emerges from the results of Table 26 that although the effects of marital upheaval are strong in certain areas, the effects of the learning disability syndrome tend to dominate in causing differences between groups. It is however important to note the variables of Affective Involvement, and the Ability to Cope with Crisis once again recur in these results. The presence of the learning disability syndrome and marital upheaval in the home affect and/or are affected

by these areas of functioning.

5.7.3 Income

The third discrete variable selected for analysis is the level of income of the family. Table 27 presents the results of the comparison between the Experimental and Control groups by means of a one-way analysis of variance. The level of income was established by means of two classes which were drawn up utilising the categories described by Müller (1966) in a diagnostic test designed to include learning disabled children.

Table 27: Comparison between the Experimental and Control groups on Income Level. One-way analysis of variance ($p < 0.0001$)

Variable	DF	F Value	p	Type of Interaction
Basic Resources	3	17.92	.0000	B
	1	11.51	.0012	Patient Type
	1	19.77	.0000	Income
Attitude toward Community	3	11.04	.0001	B
	1	15.12	.0002	Patient Type
Self-control	3	15.80	.0000	B
	1	25.25	.0000	Patient Type
Cope with Crisis	3	18.15	.0000	B
	1	38.21	.0000	Patient Type
Self-concept	3	12.07	.0001	B
	1	19.94	.0000	Patient Type
Self-evaluation	3	12.76	.0000	B
	1	24.51	.0000	Patient Type
Level of Realism	3	18.31	.0000	B
	1	26.56	.0000	Patient Type
Awareness of Responsibility	3	13.89	.0000	B
	1	26.38	.0000	Patient Type
Presence of Purpose	3	14.21	.0000	B
	1	27.02	.0000	Patient Type
Mode of Approach	3	14.34	.0000	B
	1	15.29	.0002	Patient Type

Table 27 illustrates all the variables where significant differences between groups were primarily due to the Patient Type. The only exception is for Basic Resources. This variable, which belongs to the Role dimension of Family Functioning and describes the provision of basic requirements, was significantly different when related or compared to income and patient type. This suggests that there is an association between these variables and that basic resources in the family are related to both.

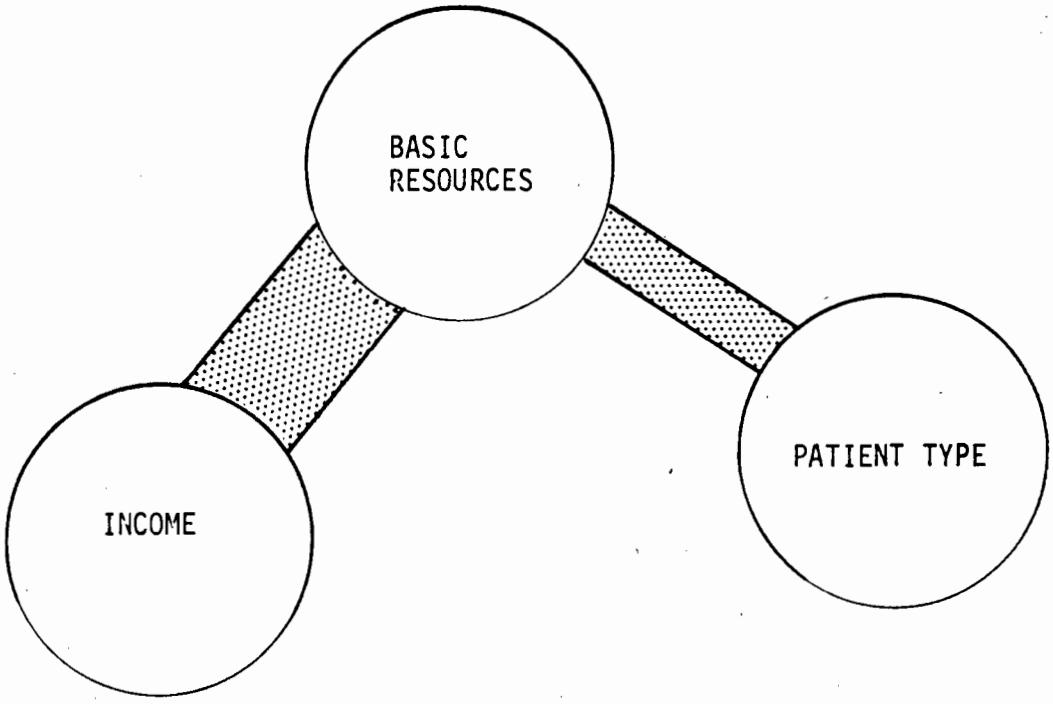


Figure 13: Diagrammatic illustration of the interaction of the Income Level, provision of Basic Resources and Patient Type

The significant variables in Table 27 fall mainly into two areas. These are in

1. The areas of Family Functioning - Basic Resources
2. The areas of Affective Functioning - Community Interaction
   - Intrapersonal Relationships
   - The attitude toward the Future.

These results indicate that the difference between groups is largely a function of the learning disability syndrome present in the E children. Although when investigating the effects of the level of income of the family, these variables emerge as significant, there is NO DIRECT relationship between Income and these variables.

5.7.4 Summary of One-way Analyses of Variance

The one-way analyses of variance of the differences between the learning disabled and the non-learning disabled groups on variables of a Working Mother (Table 25), Marital Upheaval (Table 26) and the Income Level (Table 27) have the following findings in common:

- The effect of each of these variables is markedly more significant in learning disabled families. This suggests that the interplay of these variables in the Experimental families is more profound.
- The significant differences appear to be more a function of the presence of the learning disorder (Patient Type) rather than directly related to the particular variable.
- Of the three variables, the highest incidence of direct associations is with the variable of MARITAL UPHEAVAL.
- The affected areas are recurrent and are mainly in the areas of
  i) Family Functioning - Affective Involvement
  ii) Affective Functioning - Self-control
  The Ability to Cope with Crisis
  The Level of Realism
  The Awareness of Responsibility

  ALL these variables are strongly associated with Marital Upheaval.
- The significant differences between the groups emerge in association with the learning disability syndrome. The variables

which reveal significant p-values make up CLUSTERS which highlight specific problem areas, namely symptoms. The variables which do not show significant differences between groups are equally important in that they indicate more independent resources in the family and affective functioning of the learning disabled child.

5.8 Inter-rater Reliability Tests

This study is an exploratory piece of research. The results of the inter-rater reliability tests in Appendix F are presented in the form of Means and Standard Deviations. The ratings on the variables of Family Functioning (Appendix F_A) and on the Affective Factors (Appendix F_B) point to general agreement between the independent clinician and the researcher. The Affective Factors of Self-control, Coping with Crisis and Sensitivity to Conscience revealed slight differences between the ratings ($p < 0.01$) and these findings are taken into consideration in the discussion. Similarly the variable of General Communication as an area of Family Functioning was also found to reveal a small discrepancy ($p < 0.01$). It is essential that these discrepancies be taken into account when interpreting the results.

CHAPTER 6 DISCUSSION

6.1 Introduction

The results of this thesis have proved both informative and enlightening. The learning disabled child within the family unit was closely analysed from as many angles as was possible, and the numerous factors contributing to the syndrome were elucidated. The difficulties encountered in the interpretation of the large quantity of variables were partially reduced by the emergence of profiles and interrelating clusters within the various areas of functioning. Although the significant variables tended to recur and become repetitive, this served to reinforce a clear picture of the principal areas in the role of family functioning in childhood learning disorders of the twentieth century.

Before commencing with the general discussion of the results of this piece of work, I feel I should address myself to two possibly contentious aspects which have crept into the research. They are the related aspects of sample selection and inter-rater reliability.

Ideally it would have been the most suitable arrangement from the point of view of tester subjectivity and sample selection if the researcher could have been blind as to the diagnostic status of the children. However this was not possible since the researcher, by virtue of working with learning disabled children, was familiar with the children at the local remedial educational units.

It is for this reason that tester subjectivity was calculated by means of an inter-rater reliability assessment. In this assessment a qualified and independent clinician, unfamiliar as to the diagnostic

status of the families and children, rated the tape-recorded interviews. As can be seen in Figure 1 and Figure 2 of Appendix F, there is a general agreement between the independent clinician and the researcher. Unfortunately, however, due to the high number of variables (i.e. 19), the number of families cross-checked was limited to only nine. This might constitute a fairly serious methodological limitation to the thesis since one would have hoped to be absolutely assured of the subjectivity of the researcher. Instead one is left in the position where, on judging nineteen different variables in nine families, it appears as if the researcher has been subjective. Although this is not conclusive, it would be a pity to negate all the interrelationships and differences found in the rest of the thesis on the strength of this possible bias in the researcher. For this reason I have taken the liberty to discuss the results on their face value, having considered the possibility of a sample or subjectivity bias.

In this research the so-called Learning Disability Syndrome prevalent at present emerges as a related symptom of family change rather than an accepted malaise. The quality of family interaction appears to be related to the learning process of the child, or vice versa. Specific deficiencies peculiar to the family functioning appear similar to the symptoms found in the learning disabled child. Patterns within the family were identified, and emerge as the main areas consisting of a number of factors interacting around a central pivot. They involve

a) the problem-solving ability of the family
b) the structural components of the family
c) the quality and level of emotion in the family
d) the non-verbal cognitive functioning of the learning disabled child.

Within these areas a specific variable was found to be cardinal and was identified as being recurrent. The areas will be discussed in sections 6.1, 6.2, 6.3 and 6.4 respectively.

6.2 Problem-solving

In the literature frequent mention is made of the importance of family interaction in the diagnosis and treatment of learning disabilities (McLoughlin, Edge & Strenekcy 1978, Zolman & Webster 1978, Klein, Altman, Dreizen, Friedman & Powers 1981a). To date no studies have clearly identified the specific areas of family interaction which characterise these families, nor have the family influences which relate to the syndrome been elucidated.

The decision-making ability of learning disabled families emerges recurrently in this research as one of the most problematic areas of family functioning. As can be seen in Table 5, the differences between the two groups on problem-solving is highly significant ($p = 0.0000$) and also reflects a greater variance ($SD = 1.02$). The difference in this ability is marked, both in its clinically low level of functioning in these families, and in the widespread association it has with most other aspects of family interaction (Table 12). This aspect is further elaborated upon in the one-way analysis of variance where the difference between the groups in relation to working mothers was significant. This difference was primarily related to the fact that the child was learning disabled and not directly related to the fact that the mother worked ($p = 0.0002$) (Table 25).

Problem-solving involves both the accuracy in identifying the specific problem and the systematic steps taken toward resolution. The abundance

of highly significant intercorrelations in the E families (Table 13) signifies poorly delineated areas of functioning and emphasises the prevalence of generalised lower levels of interaction. This effect is facilitated by the lack of boundaries between areas which could enable the problem-solving variable to permeate other family areas. In the E families, not only is the ability poor, but the associations with family members (Table 13) and with the learning disabled child (Table 21) are substantial.

Within the family unit, it is apparent that the poor problem-solving ability of learning disabled families is related to the dimensions of family communication, role-allocation, both emotional involvement and responsiveness of the members, and the overall quality of family functioning (Table 13). In contrast, few of the above correlations occur in the control group (Table 14), and the level of family decision-making in these families is situated above the clinical norm ($\bar{x}$ = 5.13, Table 5). This would suggest that problem-solving in the non-learning disabled families is a more self-sufficient dimension and that this family aspect functions relatively independently of other areas. In contrast to the E group families, the problem-solving ability in the non-learning disabled families does not assume the same importance in family interaction so there is not the possibility of perpetuating a ripple-effect. A specific difficulty in one area does NOT permeate other areas as there are few interrelationships with other aspects (Table 14).

The numerous correlations in the learning disabled families between problem-solving and other variables might suggest that there is a heightened sensitivity to stimuli in the E group. This might be related to the fact that decision-making is ineffective, slow and

inconsistent in these families. It is also related to poor communication, to changing roles and to the frequently unstable emotional climate in the home.

It is difficult to pinpoint the specific cause of the poor problem-solving in families where a child is learning disabled. Klein, Altman, Dreizen, Friedman and Powers (1981b) state that the dysfunctional attitudes of the parents play a substantial part in creating conflict. There is a tendency to abdicate responsibility in decision-making and also to avoid overt family upheaval. Parents tend to hold discrepant views regarding learning and control, and appear to find it particularly difficult to process their child's lack of academic success. In turn, this ambivalence tends to reinforce the emotional instability in the family and the members become particularly susceptible to change. The presence of a learning disabled child is found in conjunction with certain aspects of family functioning and his dysfunctioned cognitive and affective abilities might well be related to the specific form of family interaction. It might be feasible to state then that the mode of handling in the home is closely associated with the dysfunctioned cognitive and affective abilities of the child.

6.2.1 The relationship between family problem-solving and the learning disabled child

Inadequate family decision-making is highly associated with numerous emotional factors in the learning disabled child (see top row of Table 21). These affective areas all have low mean scores and significant p-values (Table 8), and are mainly concerned with the interpersonal relations, with the intrapersonal factors, and with the awareness of responsibility and purpose in learning disabled children.

Coping with Crisis

A significant discrepancy was noted on this variable in the inter-rater reliability test ($p < 0.01$, Appendix F). This must be borne in mind when interpreting the learning disabled child's ability to cope with crises. This variable reveals the lowest mean score ($\bar{x} = 2.80$) and differs markedly ($p = 0.0000$) from the non-learning disabled group (Table 8). This would seem to indicate that the learning disabled children generally have a poor ability to deal with change and that they lack flexibility to adjust. It is also clear that associations exist with the facts that their coping mechanisms are limited and that in situations where change or crises occur, disorientation and anxiety prevail. The further strong association with problem-solving in the family suggests that learning disabled children are frequently associated with a poor level of decision-making and are perhaps less adequately equipped to deal with change when compared with the controls (Table 21). Their basic abilities to analyse and synthesise situations are limited and this inadequacy is in direct relation to the generally low level of problem-solving in the whole family unit. Just as the child struggles to systematically approach situations requiring decision-making, the family unit as a whole has difficulty putting principles into practise. It would appear from the correlations (Table 21) that they struggle to utilise available behavioural tools such as authority, leadership, commands and aptitudes to facilitate more consistent functioning.

At this point it is necessary to refer to the contextual situation of the parents in the unit since decision-making usually rests primarily with this dyad. The learning disabled child's limited ability to cope with crisis ($\bar{x} = 2.80$), which is significant at the 0.0001 level,

is strongly related to marital upheaval ($p = 0.0008$, Table 26). This family disorganisation, which Harris (1966) feels has a profound influence on the child's learning, is directly associated with the learning disabled child's poor coping mechanisms and is also characterised by limited communication, emotional discord and ineffective problem-solving within the parental dyad (Table 26). The learning disabled child thus appears to be particularly sensitive to this adult conflict which could either aggravate or compound his learning disability. Due to this possible susceptibility he is also forced to rely more heavily on his inadequate coping mechanisms whereby a vicious circle is created. He over-reacts to family change, attempts to recover but flounders due to inadequate and inappropriate compensatory skills. In addition he reacts strongly to the emotional imbalance of the family and anxiety and lability are increased. It must be remembered however, that these affective symptoms in the learning disabled child may in turn also serve to aggravate or compound fragile marital states since the correlations could have dual directionality. Table 21 indicates that this inability to cope with change in the learning disabled child is strongly related to how general emergency emotions are expressed in the home. In addition, the overall level of family interaction is also related. It might therefore be assumed that poor family problem-solving and marital discord are strongly associated with the learning disabled child's limited coping mechanisms. This, in turn, could perpetuate the dysfunctioned family cycle.

Other emotional aspects in the learning disabled child which, from the results, relate very strongly to his poor coping ability involve his interaction with his father, peer and community interaction, his level of self-control, his self-concept and self-evaluation, his level of

realism, his awareness of responsibility and purposefulness, and his attitude to unknown and abstract tasks (Table 19). From Table 21 it can also be seen that all these affective areas, but for paternal and peer interaction, level of self-control, level of realism and the attitude to the unknown, also correlate highly with the problem-solving ability of the family. All the means for these variables also differ significantly from the Controls. Furthermore, in each of these areas the mean score is lower in the E children (Table 8). This implies a poorer level of functioning than in the non-learning disabled children. In a number of them, the standard deviations are also greater - indicative of greater variance in affective functioning. The E children have poorly integrated self-concepts, and have difficulty evaluating their own abilities accurately, they struggle in social situations, they have limited concepts of responsibility and they lack purpose in their actions. Although these emotional aspects are found in conjunction with the syndrome itself, they appear to be indirectly related to the quality of family interaction. Many authors have been prepared to adopt these symptoms as representative only of the Learning Disability Syndrome and not of a broader family context (Siperstein, Bopp & Bak 1978, McGlannan 1977, Stewart, Crump & McLean 1979). However, research done by Chapman and Boersma (1979) and Shelton (1977) suggests that the emotional aspects of the learning disabled child reflect more than just his own turmoil, and that parent-child interactions are significantly related to the quality of his emotional and cognitive development.

In the results of this thesis, the reappearance of the association between the affective areas of the learning disabled child and the family problem-solving ability reinforces the significance of family dynamics in being related to the abilities of the children and could perhaps throw light on the possible aetiology of the Learning Disability

Syndrome. It is no longer sufficient to just accept the symptomology of the syndrome. What is now required is that attention be focussed on the decision-making ability of the entire family unit as possibly being instrumental in the manifestation of learning disabilities themselves.

Interaction with Mother

At this point, it is important to identify both the stage in the problem-solving process and the specific family member responsible for family decision-making. Table 21 throws light on the latter issue. Of all the possible interpersonal relations in the affective functioning of the learning disabled child, the only significant relationship to emerge in association with family problem-solving is the learning disabled child's interaction with his mother. Although this is the only time in which this correlation emerges at the 0.0001 significance level, both groups have significant intercorrelations between these variables at the 0.05 level (Table 9). As problem-solving is a family dimension, it appears that the mother is the most closely related to it. In both groups therefore the interrelationship is important - the difference lies in the degree. Although the mean score for maternal interaction in Table 8 in the E group ($\bar{x} = 4.26$) differs significantly ($p < .0052$) from that of the C group ($\bar{x} = 5.00$), and of all the possible interpersonal relations the E group mean score on this variable is the highest, it is still below the clinical norm, whereas that for the C group is rated as "normal". Although it appears that all forms of behavioural interaction in the learning disabled child are clinically lower (Table 8), only his interaction with his mother appears to be very strongly related to the quality of family decision-making (see correlation in Table 18), but she does generally emerge as the focal person in the relationship between the child and the problem-solving ability in the family unit.

Although the mother has traditionally filled the more expressive role in family interaction and has tended to be more responsible for the care-taking activities, role allocation within the parent dyad is changing at present (Mead & Rekers 1979) and it appears that the quality of the mother's decision-making also plays an important role in the child's learning process. The quality of her interaction with the learning disabled child is of particular importance at this point. A tendency toward symbiotic involvement (Klein, Altman, Dreizen, Friedman & Powers 1981a), difficulty differentiating between academic success and child-care (Zussman 1980), and strong feelings of ambivalence and frustration (Chapman & Boersma 1979) are characteristics of this relationship. In addition, there is an increasing incidence of working mothers which appears to be in accordance with the changing values and roles in society (Stanford Research Institute 1980).

There are many reasons underlying mothers' employment. The most important appear to be changing roles (Mead & Rekers 1979), increased job satisfaction, or a greater need for financial luxury (Stanford Research Institute 1980). An added reason, gleaned from personal clinical observation, was that mothers tended to work due to handling difficulties in the home where a learning disabled child was present. They found it extremely difficult to come to terms with the child's inability to cope and his behavioural and emotional inconsistencies. His listening deficits caused much harassment and appeared to accentuate parental difference regarding discipline. This is borne out in the results (Table 25) where there were significant differences between the means of the two groups with regard to working mothers. Within the family, decision-making ability of the mother is important and numerous emotional aspects of the learning disabled child emerge as

being related to her working (Table 25). Although the fact that the mother works does not appear directly responsible for these family and emotional problems, it is clear that there is a strong association between the two. It might be assumed that it is the quality of her interaction which plays a role in family dynamics and involves the learning disabled child, rather than whether she be employed or not. This finding is in agreement with Rutter (1981), Anderson (1980) and Schubert, Bradley-Johnson and Nuttal (1980) who emphasise the quality of maternal interaction and found that maternal sensitivity and responsiveness to the child's signals are vital aspects of mother-child interaction.

Although the incidence of working mothers is high amongst learning disabled children, it is not markedly higher than in the non-learning disabled families. The fact that it is marginally higher might be attributed both to the recent increase in working mothers and to the original difficulties encountered in her role as mother and perhaps that her employment is the result of an avoidance mechanism. The additional problems which might emerge due to the tendency to deal with symptom-alleviation rather than treating the cause only compounds inadequate home handling. The complexity of this family interaction is best illustrated diagrammatically. In Figure 14 the significance of the quality of family problem-solving in learning disabled families is highlighted. The numerous associations which this ability has with other aspects within the family (A) and the learning disabled child (B, C, G) elucidate a complex network involving decision-making.

Although the mother emerges as the significant figure in association with family decision-making, it is clear that the contextual setting within which she interacts is of extreme importance. As a vital member of the spouse dyad, the marriage relationship provides this

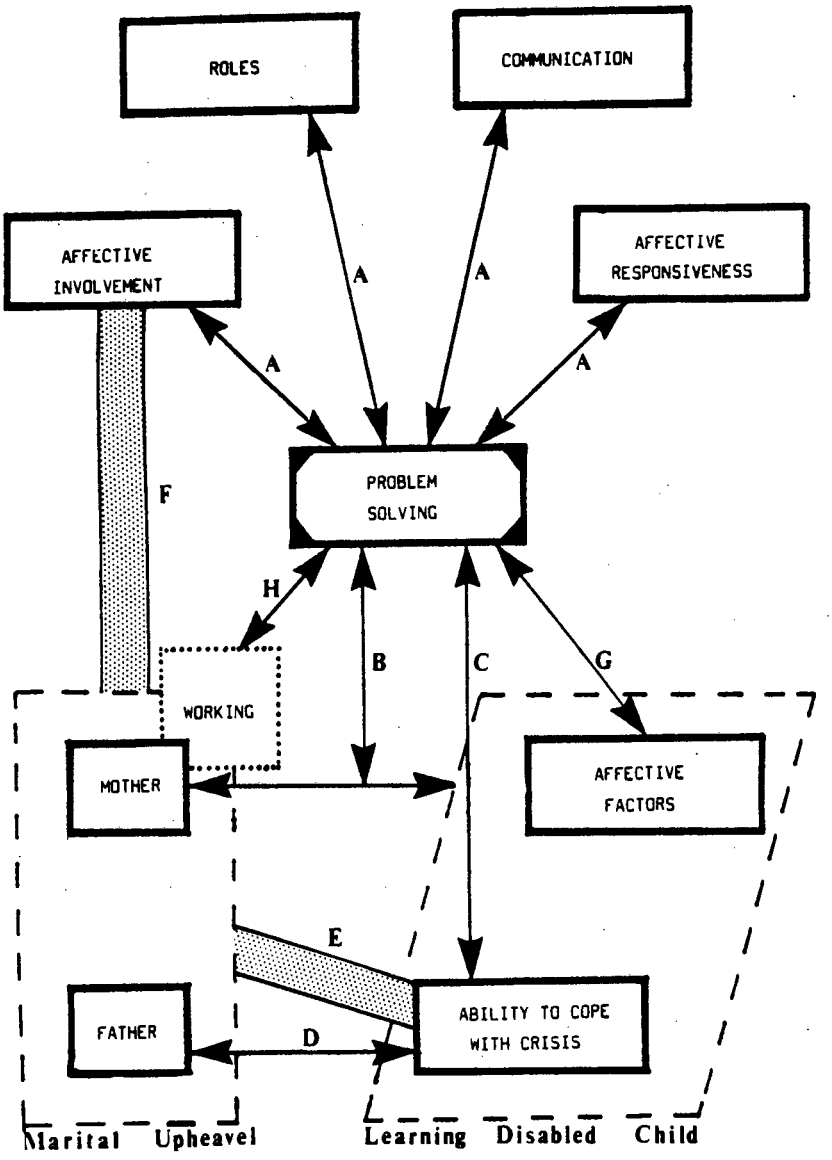


Figure 14: Illustration of the multiple associations with poor Family Problem-solving in learning disabled families

setting. The emotional climate of the home is directly associated with the quality of spouse interaction (F) which, in turn, is reciprocally related to the effectiveness of family problem-solving. This too relates to the fact that the mother may work (H). In addition, the presence of marital conflict is related to the emotional development of the learning disabled child (E) which also relates to family decision-making (G). At this point the influence of the father emerges and he is strongly associated with the learning disabled child's limited coping mechanisms (D). Although the mother's role appears to be more evident

in this aspect of family interaction, it is clear that the parental roles are not exclusive. Both parents have a profound influence on family interaction but the degree and quality differ.

The effects of marital upheaval on the emotional development of children have been researched frequently (Sandberg, Rutter & Taylor 1978, Harris 1966, Rollins & Galligan 1978). However, the nature of the spouse/parent interaction in association with the Learning Disability Syndrome within the family unit has never been specifically analysed. Similarly, the course of developing behavioural patterns has not been traced. From this research it has been possible to achieve a greater understanding of the factors at play in what appears to be a complicated set of interrelating variables. From this clearer understanding of interrelationships it might be possible to intervene therapeutically even possibly at the level of aetiology.

6.3 Family Structure

The second major area to emerge in the results concerns the structural components of the family unit.

The structural components of the family unit involve the maintenance and management of the family system, and the adaptation of appropriate behavioural patterns by the members. They are covered by the variables of Systems Management, General Maintenance and Behaviour Control in Table 5. The means for the learning disabled families in these three areas of family functioning were significantly different from those in the control families. Furthermore, E group mean scores for General Maintenance ($\bar{x}$ = 4.14) and Behaviour Control ($\bar{x}$ = 3.66) reveal functional levels which are below the norm and differ by 0.76 and 1.30

from the control group respectively. The greater standard deviations also reveal greater variance in the scores. This implies inconsistencies amongst the learning disabled families. These findings also indicate that there is limited structure in the learning disabled families and that the consistent maintenance of the family system is poor. Boundaries are not clear and roles are nebulously defined. The allocation of responsibilities and the amount of accountability for tasks are limited. A system is not actively reinforced in the unit due to the lack of clearly stipulated roles. Limits fluctuate and are inconsistent. The particular pattern adopted by the family as a unit to regulate behaviour between family members is also lacking in constancy and tends to vacillate depending upon the circumstances. In order to maintain a certain style of behaviour control, the family unit develops specific functions to enforce it. A particular member in the family is also responsible for this enforcement initially. This system forms part of Systems Management and General Maintenance in the role dimension of family functioning. In learning disabled families it is found that the variables concerned with the structural components in the family are closely interwoven with the problem-solving dimension and that they frequently emerge as significant in conjunction with one another (see Table 13). The variables also correlate highly singificantly ($p < 0.0001$) with two other family dimensions:

i) Communication, and

ii) the expression of Emergency Feelings of Anger (Table 13).

These associations indicate that the maintenance of the family system, and the patterns of behavioural interaction are related to the ability to solve problems in the family and to the communication between family members. But, although these interrelationships at the 0.0001 level of significance are exclusive to the E group families, BOTH

groups of families have significant associations between these variables at the 0.05 level (Table 9). It appears therefore that the probability of such correlations occurring in families with learning disabled children can be established with a greater degree of certainty (Table 14).

The lack of a constant structure and the incidence of inappropriate explosive anger in the family units of learning disabled children are characteristics which appear to be associated with the emotional characteristics in the learning disabled children (Table 21). To date, the lack of structure in the learning disabled child has been attributed primarily to the nature of the syndrome. No reference has been made in the literature to the possibility of the family unit itself lacking in structure and that this could be related to the dearth in the child. Although the view is propogated that the family is a system and requires family laws and consistent behaviour patterns for effective functioning (Satir, Stachowiak & Taschman 1979, Gantman 1980), the effects of carry-over to the child of this vital aspect have largely been overlooked. Attention has also been given in isolation to parental techniques regarding behaviour control, discipline and locus of control (Chapman & Boersma 1979, Gordon & McKinlay 1980, Shelton 1977, Copeland & Weissbrod 1980, Friedman 1978, Hetrick 1979, McLoughlin, Edge & Strenecky 1978, Adams, Lerner & Anderson 1979, Sloman & Webster 1978) with no consideration of the context of family functioning. Furthermore, it has also been assumed that the learning disability is a syndrome which exists, and that the removal of the symptoms is of prime importance. The family context has only been regarded as providing supplementary information.

From these results it has now become important to also view this syndrome

in the reverse and to perhaps regard it as a possible symptomatic reflection of the problematic family interaction.

Interaction with Father

At this point, attention is focussed on a family member who is closely associated with the formation and maintenance of family structure. From the correlations in Tables 9 and 21 the father emerges as the more influential adult in association with these structural components. His role in this area of family functioning should be seen in the context of his interaction with the learning disabled child. In society, the father tends to fulfil a more instrumental role in the family and effective family interaction depends largely upon a clear power structure with definite paternal leadership (Gantman 1980, Mead & Rekers 1979).

In this research, however, the E families appeared to be lacking in clearly defined structure and the roles were nebulously defined. The father is significantly associated with family structure, and from the correlations (Table 21) the relationship between him and the learning disabled families (SD = 1.36) and is significantly different from the non- is poor ($\bar{x}$ = 3.38), varies substantially in the learning disabled families (SD = 1.36) and is significantly different from the non-learning disabled families (p = 0.0001, Table 8). In contrast to this, the non-learning disabled group reveals greater constancy of father interaction (SD = 0.76) and a higher level of clinical functioning ($\bar{x}$ = 4.36). Personal clinical observation also gave the impression that the fathers in the C group were far more actively involved with their sons and participated in decision-making and the allocation of responsibility far more freely. In the learning disabled families,

the fathers frequently expressed impatience, frustration and anger toward their sons and toward what they believed to be the inefficient social and educational system which had prevented earlier diagnosis and treatment. This tendency was also noted by Klein, Altman, Dreizen, Friedman and Powers (1981a, 1981b) in the parental attitudes encountered regarding their learning disabled children. These attitudes were seen as strongly related to the manifestation of the Learning Disability Syndrome itself. It might also be assumed that the poor relationship between the learning disabled child and his father (which is characterised by a lack of acceptance of the learning difficulty, as well as irritation and disappointment) plays an extremely important part in the structure of the entire family unit. The converse is also true. From the correlations, therefore, we see that the lack of structure and the lack of positive paternal dominance in this area of family functioning is associated with the poor interaction between the father and the learning disabled child. On no account, however, can this aspect be regarded as causative regarding the cognitive dysfunction in the learning disabled child - the research merely elucidates an association between the paternal interaction and the learning disabled child on the one hand, and the lack of structure within the family on the other.

The associations between the structural components of the family and other areas of interaction are illustrated diagrammatically in Figure 15.

In Figure 15 the relationship between the learning disabled child and his father is presented as a critical pivot in family interaction with far-reaching associations with numerous aspects of family functioning (B, C, D). The areas of family interaction which are indirectly related to this relationship include problem-solving, communication

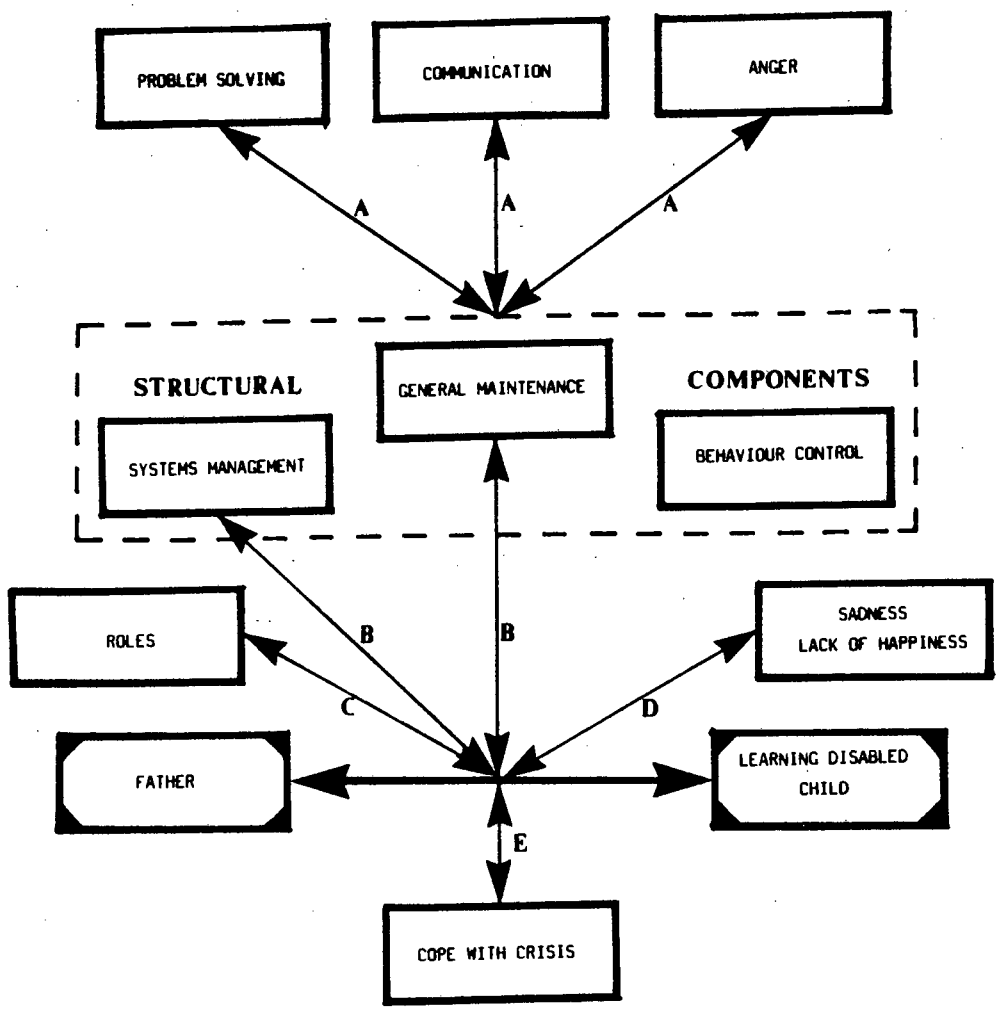


Figure 15: Illustration of the interaction between inadequate family structure and other areas of functioning in learning disabled families

and the expression of anger amongst the members (A). More directly related is the general emotional climate in the home. This is characterised by a lack of happiness and misdirected sadness (D) (Table 21). In addition, the learning disabled child's limited ability to cope with change and trauma is strongly associated with the poor relationship which he has with his father.

From this diagram the following principal facts emerge:

- the father-learning disabled child interaction might be an important and powerful relationship within the entire family unit and might serve as both the activator and recipient in

family upheaval;

- change appears to occur mainly through the vacillating structural components and the poorly maintained role dimensions of the family unit. The close association with the father-learning disabled child relationship suggests that this role dimension is very sensitive to changes occurring within the unit and could therefore manifest the consequences most blatantly;
- the lack of family structure, the limited amount of paternal dominance and the general family disorganisation found in learning disabled families appear to be associated with frequent outbursts of anger, a lack of happiness and an ambivalent emotional climate in the home.

Limited Self-control

The level of self-control emerges as a prevalent intrapersonal aspect (Table 19) of the learning disabled child. As this was found in spite of a discrepant rating on this variable in the inter-rater reliability test (Appendix Fb), it should therefore be regarded with reservation.

The low mean score ($\bar{x}$ = 3.83) for Self-control in Table 8 reveals the inadequate ability in the learning disabled child to exercise self-control and to inhibit responses appropriately, indicating a lack of both structure and consistent limits. He struggles to institute systematic plans and action, and cannot rely upon an inner discipline. This is a structural component in the child which, in principle, has the same pre-requisites for adequate functioning as those found in the family unit as a whole. The difference between the means (1.45) of the two groups is significant (p = 0.0000) and the E group is clearly functioning well below the clinical norm. Once again, the standard

deviation for the learning disabled children is 1.20 which is more than twice as great as that of the controls (SD = 0.53), emphasising the variance on the self-control variable in learning disabled children. This clinical finding is frequently mentioned in the literature and is usually regarded as part of the symptomology (Schiff, Kaufman and Kaufman 198o, Kaufman 1981b, Decker & De Fries 1981, Bryan 1977, Shelton 1977, Cunningham & Barkley 1978, Bruinicks 1978, McGlannan 1977, Copeland & Weissbrod 1980, Wiener 1980). The lack of inner discipline which often manifests itself in an attentional deficit, plays an extremely important part in most areas of functioning of the learning disabled child. There are numerous associations with affective aspects in the learning disabled children (Table 19) where the mean scores all reflect extremely low levels of clinical functioning. These variables, together with their mean scores and p-values signifying differences between the groups (Table 8), are as follows:

- peer interaction ($\bar{x}$ = 3.23, p = 0.0000)
- their attitudes towards school ($\bar{x}$ = 3.69, p = 0.0001) and the community ($\bar{x}$ = 3.64, p = 0.0000)
- their ability to cope with crisis ($\bar{x}$ = 2.80, p = 0.0000)
- the integration of the self-concept ($\bar{x}$ = 3.40, p = 0.0000)
- their ability to evaluate themselves accurately ($\bar{x}$ = 3.66, p = 0.0000)
- their level of realism ($\bar{x}$ = 3.52, p = 0.0000)
- their awareness of responsibility ($\bar{x}$ = 3.85, p = 0.0000) and purposefulness ($\bar{x}$ = 3.16, p = 0.0000)
- their approach to tasks ($\bar{x}$ = 3.69, p = 0.0000).

These areas of affective functioning which are associated with the learning disabled children thus reflect the repercussions of limited inner discipline and a lack of self control which, in turn, manifest

themselves in a variety of symptoms. It might also be suggested that the level of quality of parental control within the family unit relates strongly to the self-control in the learning disabled child. Research done by Chapman and Boersma (1979) and Ollendick (1979) into the relationship between parental locus of control and the locus of control found in children indicate that the parental disciplinary structures influence the controlling mechanisms in the children themselves. In fact, the results of their research indicate that parents who are both high in external locus of control have children who have less inner discipline, are more anxious and lower in intelligence. These externally controlled children tend to have more behavioural and emotional difficulties which are intensified by inconsistent disciplinary structures and parental differences regarding home handling.

The ramifications of both the lack of family structure and lack of self control which are associated with the learning disabled child are clearly illustrated in Figure 16.

Figure 16 illustrates the powerful association which the learning disabled child's limited ability to exercise self-control has with family interaction. These diverse associations, which are either direct or indirect, are related to the emotional responsiveness of the family and clearly relate to the limited expressions, or even absence, of happiness and affection in the home (Table 5)(A). In contrast to this, the non-learning disabled families are characterised by appropriately expressed happiness and affection which is indicative of greater emotional stability.

Interesting associations relating to the learning disabled child's limited self-control are those with the working mother (B) and the

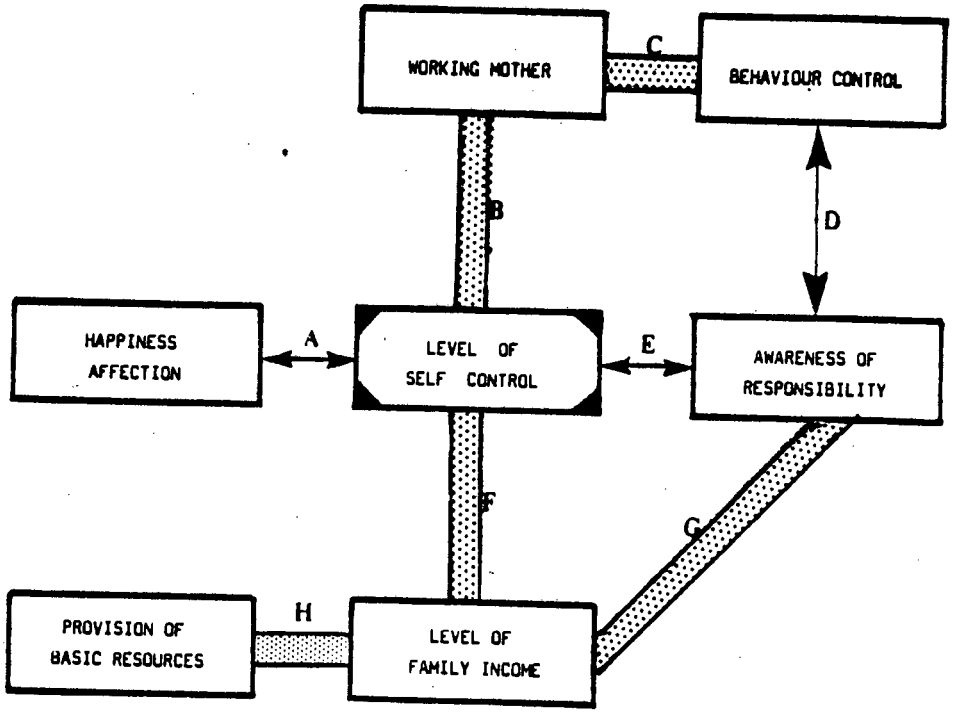


Figure 16: Diagrammatic illustration of the significant associations with low level of Self-control in the learning disabled child

level of family income (F) (Tables 25 and 27). Although there were many working mothers in both the E and C groups, it appears that only in the learning disabled children does the ability to exercise self-discipline become sensitive to the employment of the working mother. In addition, there is a relationship between the fact that the mother works and the very limited behaviour control in these learning disabled families (C). It might be deduced then that the poor self-control in the learning disabled child and the inconsistent system of behaviour control adopted in the family unit are related to the fact that the mother works. In fact, in many cases it appears as though the mother's employment might be an escape from a situation which is too complex to handle. The role of the mother here appears to be important in the teaching of self-discipline and the reinforcement of appropriate behavioural controls. When the mother works, it might be suggested that the lack of self-control in the learning disabled child is

associated with her absence. Furthermore, the inconsistent controlling mechanisms in the home, as well as the learning disabled child's limited self-discipline, are both associated with his poor concept of responsibility (D).

The general profile gained from Figure 16 at this stage is one of complexity in the learning disabled families. One would expect working mothers to encourage greater personal and social responsibility, more decision-making and more freedom of choice in their children. However, the converse appears to occur where weaknesses in the learning disabled children are strongly associated with absent or more ineffectual parents.

A further association which throws light on the learning disabled child's inadequate inhibitory mechanisms is the emergence of the level of family income as significant. This result indicates that lower levels of self-control (F) as well as limited concepts of responsibility in learning disabled children (G) are related to lower levels of family income. These relationships can be seen in Table 27. This level of family income, in turn, relates to family interaction in that the provision of basic resources is directly related to it (H). Although all the families in this research were of middle class status and poverty was therefore not a variable, it appears that the significance of this finding lies in the emphasis upon the appropriate distribution of resources and the order of priorities within these units. Once again, there is evidence that problems are not being dealt with at the core but that avoidance mechanisms are more comfortable. Similar results were found by Klein, Altman, Dreizen, Friedman and Powers (1981a, 1981b) and Bryan (1977).

The principal points to emerge from Figure 16 are:

a) There is a relationship between the limited self-control and immature concepts of responsibility in the learning disabled child on the one hand, and the fact that the mother works and the ineffectual behaviour control in the home on the other.

b) The provision of basic resources in the family is indirectly related to the learning disabled child's low level of self-discipline and might be an indication of the quality of priorities and of the distribution of resources in these learning disabled families rather than the absence of finances.

6.4 The Level and Quality of Family Emotion

The third major area to emerge as significant in the family interaction of the learning disabled child involves the dimensions of affective involvement and responsiveness. The differences between the means of the two groups on all of these variables are highly significant (Table 5). In addition, Tables 9 and 12 illustrate the differences between the learning disabled and non-learning disabled families on the correlations with these variables. Particularly at the 0.0001 level of significance, there is an abundance of significant associations in the former group and a marked lack of intercorrelations in the latter. However, correlations at the 0.05 level of significance are evident in both the E and C groups. This points to the important roles these variables play in both families, irrespective of the presence of a learning disabled child or not. However, at the 0.0001 level the increased correlations in the learning disabled families revolving around emotional factors indicate the extremely important part that feelings play in these families and emphasise the amount

of influence emotions have on other areas of family interaction. With greater certainty one might state that these families are particularly sensitive to the emotional climates and the members respond noticeably more intensely to these situations.

In contrast to this, at the 0.0001 level of significance the non-learning disabled families reveal fewer associations around family affect which indicates greater emotional stability and independence. Emotions in these control families tend to be more specific and pertain more to the relevant situation. They are, however, equally important and only differ from the E group by degree. But it might be suggested that there is comparatively little transfer to other areas of family functioning and the feelings and emotional outbursts do not assume the exaggerated importance as was found in the experimental group families.

In the research review, mention was made of possible differences between the learning disabled and the non-learning disabled families. Frequent reference was made in the literature to the needs of families of learning disabled children and parental involvement, the family school concept and the awareness of familial learning difficulties was emphasised (Abrams & Kaslow 1977, Friedman 1978, Decker & De Fries 1981, Shelton 1977, McGlannan 1977, Jayasekara & Street 1978, Lansdown 1978, Idol-Maestas 1981, Dembinski & Mauser 1977). However, the differences between the learning and the non-learning disabled families have mainly focussed on improving parental understanding of the syndrome, on equipping families with tolerance as well as with the techniques to help the learning disabled child himself become more scholastically and socially acceptable. The emotional quality of the

learning disabled families has long since been regarded as a function of the learning disabled child's problems and not as the contextual setting preceding the emergence of the learning disability. Only recently has family affect become a potentially important factor in learning difficulties and been thought of as instrumental in perpetuating the syndrome (Klein, Altman, Dreizen, Friedman & Powers, 1981a, 1981b).

In this research it became evident that the quality of emotional interaction in learning disabled families in particular (Table 5) is of cardinal importance. This affective interaction was not only significant in the intensity and in the diversified expression in these families, but also in the type of recurring emotional patterns which presented in the units.

In analysis, family emotion is divided into two sections. Firstly, there is the dimension of affective involvement which denotes the degree and quality of interest and concern for each other amongst members. Secondly, there is the area of affective responsiveness which covers the responses of the family members to emotional stimuli in certain situations. Both these areas are extremely important in the learning disabled families and will be discussed together.

In the learning disabled families, the level of affective involvement was situated well below the clinical norm ($\bar{x}$ = 3.64, p = 0.0000, Table 5). From this, it might be deduced that these families are NOT characterised by a healthy empathic form of emotional concern for each other, and that there is a tendency toward either a lack of involvement, or an over-involvement amongst the family members. This might manifest itself in the forms of neglect on the one hand, or

over-protection on the other. In addition, personal clinical observation revealed that some of these families were inclined toward symbiotic involvement. This involved mainly the mother and the learning disabled son. This inadequate emotional care for each other within the unit is in direct contrast to the overt show of concern for the remediation of the learning disabled child often encountered in these parents. The results point to exaggerated emotion with regard to the child's condition which is detectable in the high incidence of angry outbursts and little show of affection and happiness amongst the members.

Numerous other aspects of family interaction are related to the emotional imbalance and these involve problem-solving, communication, roles behaviour control and the overall quality of family functioning (Table 13). The reverse relationship is equally feasible, in that poor emotional involvement and a difficult child are associated with other areas of family functioning being inadequate.

In the learning disabled families it appears that the troubled emotional climate in the unit is the context for much of the family interaction. The spasmodic outbursts and labile behaviour might be related to this inconsistent concern, and these characteristics present as the symptoms of an inadequately functioning family unit.

Certain emotions which are particularly prevalent in these learning disabled families will be discussed as they relate to the affective involvement in the home. They are the lack of happiness, the exaggerated expressions of anger, the absence of fear and the learning disabled child's poor community interaction.

6.4.1 The Lack of Happiness

A striking feature both in the results (Table 13) and in clinical observation was

the connection between the learning disabled families and the inability to express or to communicate happiness. The low mean score ($\bar{x}$ = 4.26, p = 0.0004, Table 5) reinforces this finding in the learning disabled families and the numerous correlations with the emotional aspects of the learning disabled child point to the way this dearth of happiness manifests itself. The relationship between the father and the learning disabled child, the learning disabled child's unhappy attitude toward community interaction and his low level of self-control are strongly associated with family happiness (Table 21).

6.4.2 Inappropriate Anger

The second most prominent emotion associated with the learning disabled families is anger (Table 13). Anger influences many other aspects of family interaction and the low mean score ($\bar{x}$ = 4.52, p = 0.0011, Table 5) indicates that the expression of this emotion in these families is inadequate in frequency, intensity and in duration. The large standard deviation (0.96) also indicates that ratings fluctuated between families and that they ranged from well below the clinical norm to just above the average. Anger is also negatively associated with the expression of sadness in the home which suggests that where anger is appropriate, sadness is often misdirected (Table 13). In contrast to this, the non-learning disabled families appear to be characterised by markedly high mean scores for anger ($\bar{x}$ = 5.33) and happiness ($\bar{x}$ = 5.16) and there are frequent healthy expressions and communications of feelings of affection and joy amongst the members.

6.4.3 The Absence of Fear

In neither of the two groups of families does the emotion of fear emerge as significant at the 0.0001 level. Both mean scores are

similar, are situated below the clinical norm and do not differ significantly from one another (Table 5). The absence of correlation implies either a lack of fear-provoking situations in the families or merely that this emotion does not relate strongly to family interaction.

From these findings it is evident that learning disabled families are characterised by inappropriately expressed happiness and anger. These emotions are also related to the distorted quality of the emotional involvement between the members.

6.4.4 Poor Community Interaction

Although the quality of emotional involvement amongst members of the learning disabled families is associated with many aspects of family interaction, at the 0.0001 level of significance this emotional concern only relates to the learning disabled child's poor community interaction (Table 21). The low mean score ($\bar{x}$ = 3.64, p = 0.0000, Table 8) describes the learning disabled child's ostracism, his feelings of being threatened, and also his susceptibility to becoming disorientated and rejected when involved in social interaction outside of the family unit. However, at the 0.05 level of significance (Table 9) many correlations between this family variable and the affect of the learning disabled child emerge. Similar tendencies are emphasised by Bryan (1977, 1978), Soenksen, Flagg and Schmits (1981) Morison (1981) and Siperstein, Bopp and Bak (1978).

In conjunction with these findings on affective responsiveness, the one-way analysis of variance of the effects of marital upheaval provides additional information (Table 26). The level of affective involvement in the family unit is directly associated with marital upheaval (p = 0.0008) and is also related to the presence of a learning

disability in the family. The level of significance for marital upheaval is high and indicative of a strong connection between this variable and the lack of empathic involvement between family members in the E group. It would appear that it is the spouse dyad, and not the learning disabled child, which is primarily concerned with establishing a healthy emotional climate in the family. In addition, limited communication between members is also directly related to marital upheaval and might be seen as indirectly associated with the low level of affective involvement in learning disabled families (Table 26).

6.5 Cognitive Manifestations

Only in the E sample did the learning disabled child's emotional aspects relate significantly at the 0.01 level to non-verbal cognitive ability (Table 22). Also at the 0.05 level many more correlations were found in this group between the affective and cognitive variables (Table 9). Despite the fact that the mean scores for the recognised non-verbal IQ's in both groups were similar ($E\bar{x}$ = 108.85; $C\bar{x}$ = 113.83, Table 7), there was a marked difference between the groups in the intercorrelations between the cognitive and affective areas (Tables 9, 22 and 23). In the learning disabled children, non-verbal and coding cognitive skills were directly related to their inter-personal emotional aspects and work attitudes. This was found despite the fact that there was no significant difference between the mean scores for coding for the two groups, with the learning disabled children scoring below the norm ($E\bar{x}$ = 8.50) and the control children well above the norm ($C\bar{x}$ = 12.00) as shown in Table 7. From this result it might be deduced that there was a great variance in scores and that the

value of the findings rests on the significant associations that the coding skill has with other variables in learning disabled children. They tend to struggle to apply coding skills which entail a systematic approach and rapid analysis and synthesis. Hence there are sequential reversals in word structure (hostipal for hospital), vowel confusions (pot for put), omissions (dlk for black) and reversals (on for no, was for saw). Frequently a depressed score for coding in assessment is clinically regarded as a diagnostic indication of a learning disability. This subtest, in conjunction with the Wechsler range of Intelligence tests, has received much attention in the recent literature (Kaufman 1981b) and is often regarded as indicative of a cognitive dysfunction (Oettinger, Majovski & Gauch 1978, Schiff, Kaufman & Kaufman 1981, Moore & Wielan 1981, Vance, Singer & Engin 1980). The underlying learning skills necessary for effective sequential thought and reading are similar to those required for coding with the emphasis on the organisation and the matching of the correct sound to symbol link (Jorm 1981, Bradley 1981). This finding should be viewed with reservation as both groups presented with a wide range of scores and, in isolation, coding ability CANNOT be viewed as a definite indication of disability. It must be viewed rather in its interaction with other variables as the difference between the learning disabled and non-learning disabled child lies in the greater number of relationships coding has with other areas of functioning (Table 9).

From these results it emerges that, despite similar test scores signifying similar cognitive abilities, there are a number of intervening factors which impede the effective application of these abilities in learning disabled children. The way children perceive emotion, their own reactions to specific emotional situations either facilitate or inhibit both social behaviour and task performance (Harris, Olthoff

& Terwogt 1981, Bryan 1977, Bruinicks 1978, Siperstein, Bopp & Bak 1978). In the learning disabled child, their emotional structure and work attitudes are directly related to the inadequate utilisation of cognitive ability. In fact, it appears that the emotional imbalance characterising these children and their families reinforces this inadequacy and manifests itself as the dominant part of the learning disabled child's functional intelligence.

In addition, certain correlations with personality variables were also found to be more prevalent in learning disabled children (Table 24). These variables were indicative of high levels of anxiety, a lack of self-discipline and of a poor ability to apply intellectual principles effectively ($p = 0.0001$, Table 6). Also, there was a strong correlation between anxiety and non-verbal cognitive ability in these children. However, although these traits are common to all children (Carey, McDevitt & Baker 1979), it appears that they are intensified by learning difficulties and other environmental influences (Howarth 1980, Buss, Block & Block 1980, Lyon & Plomin 1981, Lowman 1980).

From these findings it might be stated that the emotional aspects characteristic of learning disabled children are not exclusive to them as a group, but that they merge more strongly with the cognitive skills of the learning disabled child and thereby could impede spontaneous cognitive development in certain areas. All these interacting variables are illustrated in Figure 17.

Figure 17 illustrates the powerful association of marital upheaval on the family functioning of learning disabled children. The areas of family interaction which are most sensitive to this discord are the dimensions of affective involvement (A) and communication (B) (Table 26). Marital difficulties relate to both the levels of emotional

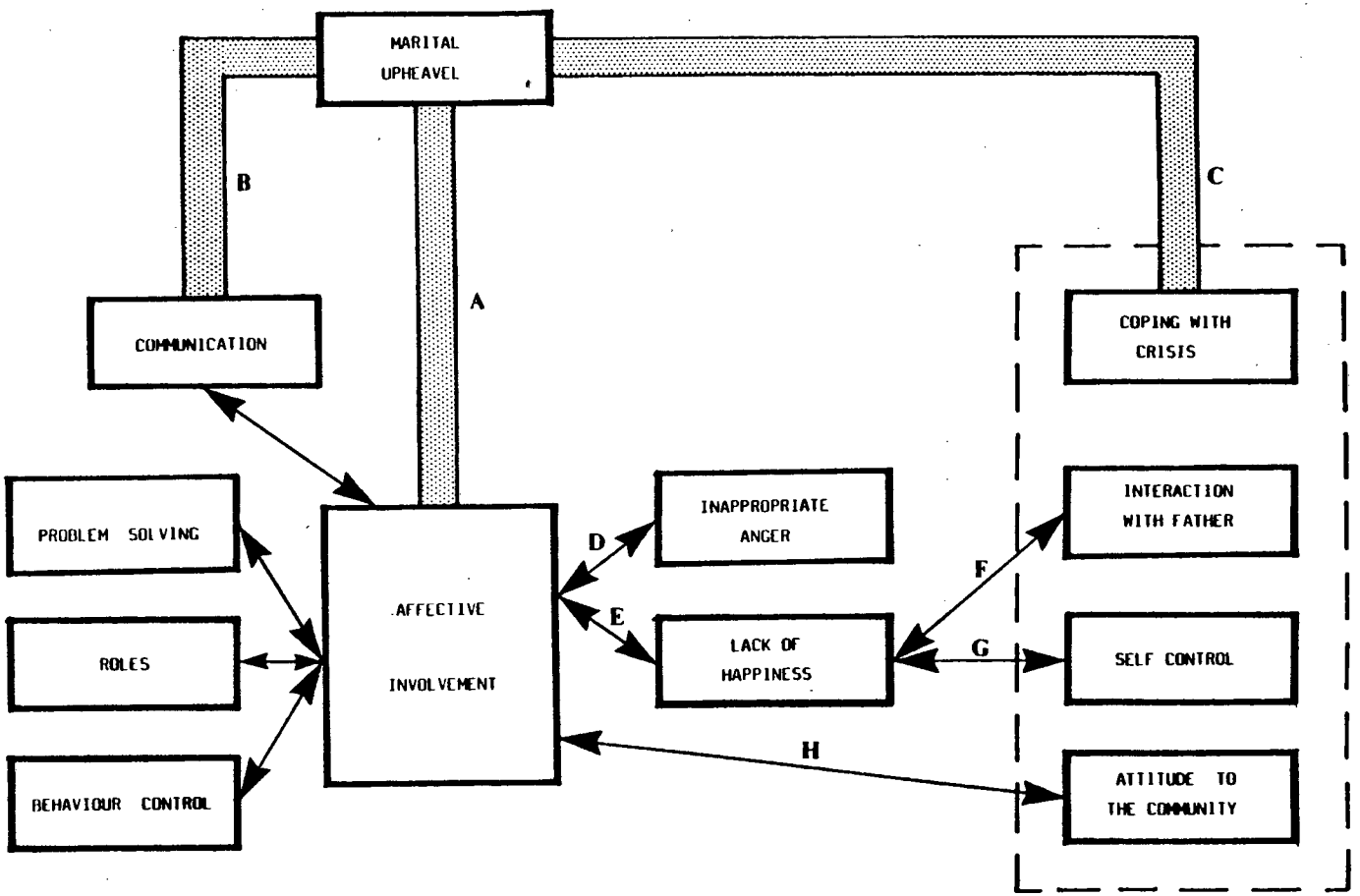


Figure 17: Illustration of effects of Marital Upheaval on both family functioning and on the learning disabled child

concern and communication in the home where the climate is already characterised by the learning disabled child's behavioural problems. In these families, problems within the spouse dyad could disorientate the members particularly strongly as it appears from the correlations that the emotional resources within the unit are more fragile than in non-learning disabled families. In addition, the learning disabled child's ability to cope with change (6.1.1) is closely related to this trauma (C). Uncontrolled anger (D) and the limited expression of happiness (E) emerge as indirect symptoms of this disturbed affect. As shown in sections 6.2.1 and 6.2.2, this lack of happiness is, in turn, strongly related to the poor father-learning disabled child relationship, the learning disabled child's low level of self-control (G) and his poor community involvement (H) (Table 21). In addition, the learning disabled child's poor self evaluation, his lack of realism and his poor concept of responsibility are related to family discord and, in fact, constitute much of the symptomology of the Learning Disability Syndrome.

The cognitive skills in the child involve strong and diverse influences and appear to merge in the form of the learning disorder. The principal family characteristic concerned appears to be marital upheaval which directly influences the emotional climate of the home. As seen in Table 26 and Figure 18, this domestic discord is strongly associated with Non-verbal IQ (A).

Closely allied to this area of family affect are the intra-personal emotions of the child. These emotions are shown in Table 22 to be related to both the general non-verbal intelligence (C) and the specific coding abilities (B). Also, higher levels of anxiety were found to correlate with better non-verbal cognitive ability (C) - Table 24.

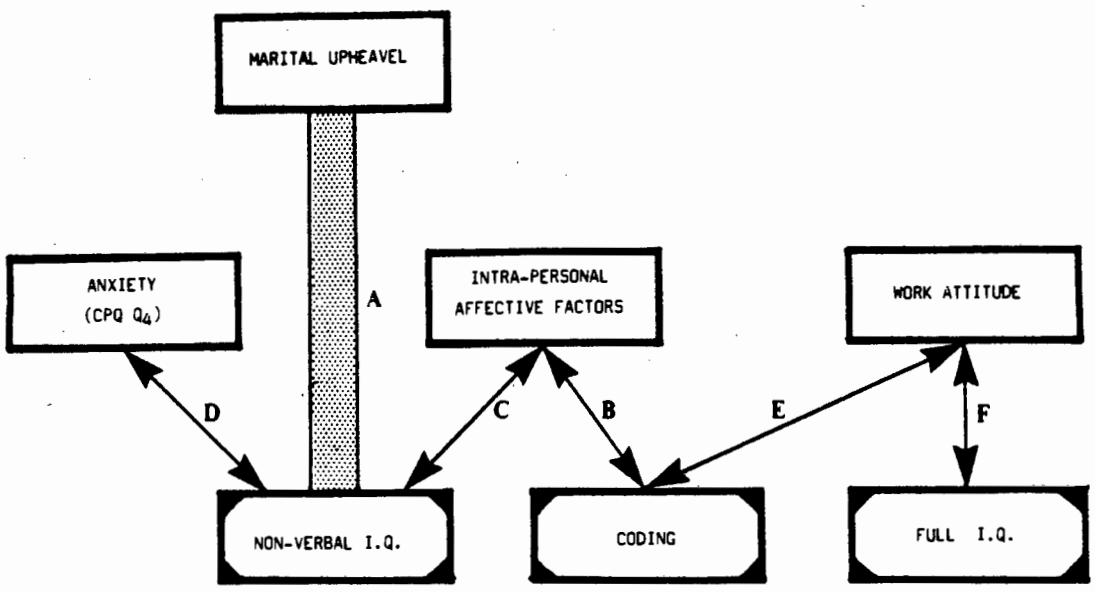


Figure 18: Illustration of the interaction between the Affective and Cognitive functions of the learning disabled child

It should be noted that pathway D is linked to pathway B and C. In addition, Table 22 also shows that the learning disabled child's work attitude and approach to abstract tasks are directly associated with his coding skill (E) and is also associated with his overall intelegence score (F).

It emerges from these results that the learning disorder appears to mirror specific emotional family climates, and that the quality, and level of non-verbal cognition is associated with the accumulation of all these penetrating stimuli in the learning disabled child. Anxiety, emotional difficulties and unsystematic work attitudes are related to limited and distorted cognitive skills. These distorted cognitive skills are possibly magnified by marital upheaval.

6.6 Possible Aetiological Factors

From the correlations given in sections 6.1 to 6.4, the composite

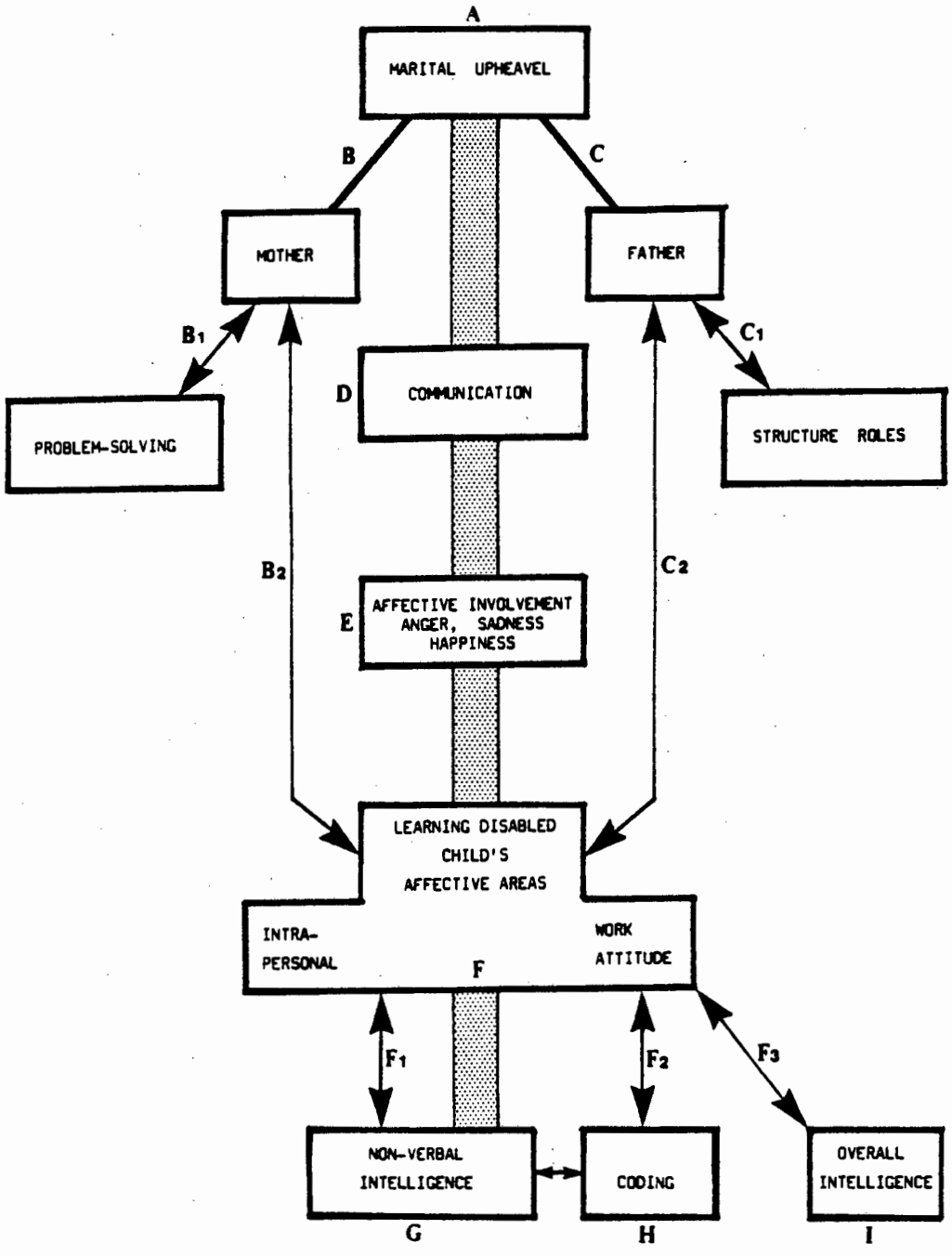


Figure 19: Illustration of the principal areas of family interaction which are strongly associated with the Learning Disability Syndrome

diagram shown in Figure 19 was compiled, and describes the principal areas of family interaction which are associated with the Learning Disability Syndrome in children. Three alternative patterns may be identified. These patterns denote a certain form of interaction and are as follows:

1. The relationship between marital upheaval and family change.
2. The role of the mother within the family.
3. The role of the father within the family.

6.6.1 The Role of Marital Upheaval

In Figure 19, marital change within the family (A) appears to relate most strongly to the learning process of the child. Marital upheaval which in essence concerns the spouse dyad and therefore incorporates the roles of spouse and parent, is associated with most aspects of family interaction with the eventual focus being on the non-verbal cognitive skills of a certain child within the unit. This occurs either directly or indirectly. Marital change involves altering parental roles, differing working patterns, adaptive behaviour controls in the home, increased enquiry amongst siblings, greater emotional needs, more environmental stress. Difficulties within the spouse dyad are associated with the effectiveness of both the maternal (B) and paternal (C) roles. Communication within the family is linked to marital discord, irrespective of whether there be a learning disability or not (D). The emotional climate is characterised by an imbalance with the dominant emotions being anger, a lack of happiness and sadness (E).

Strongly associated with these family emotions, are the feelings of the learning disabled child. Mainly his intra-personal aspects and

attitude toward work are related to the quality of the family affect (F1, 2 and 3). It might be suggested that this marital and emotional change is strongly related to a cognitive disability (G, H, I).

6.6.2 The Role of the Mother

As a member of the spouse dyad, the mother as parent plays a significant role in the learning process of the child. She is closely linked with the decision-making ability of the family (B1) (Table 21) which is one of the most important areas of family functioning (Table 13). The quality of family problem-solving in turn relates strongly to many affective areas in the learning disabled child (B2) (Table 21). This implies therefore that the mother is indirectly associated with certain emotional aspects in the child which occur through her powerful role in the family decision-making processes.

6.6.3 The Role of the Father

The position of the father in the learning disabled family concerns both his role as family organiser and his paternal relationship with the learning disabled child. As family organiser, the association is with the formation and the maintenance of the structural components of the unit (C1) (Figure 19). He emerges as the member responsible for the role dimension of family, the functioning of which in turn is related to other aspects of family interaction (Table 13). In his paternal capacity his role is equally important. The quality of his interaction with the learning disabled child plays an important role in the child's ability to cope with crisis and change (C2). This ability is extremely limited in the learning disabled child and is also directly related to his non-verbal and coding cognitive skills (F1, F2, F3).

CHAPTER 7 CONCLUSION

In this thesis the complexity of the Learning Disability Syndrome and the heterogeneity of the population in which it manifests itself do not so much emerge as impediments to its understanding, but rather more as explanations for its existence. The variety of symptoms and the universality of the incidence reflect the vast number of different social and family systems in which the origins lie.

As a contemporary problem, the learning disability does exist. The incidence of learning disabled children has escalated over the past thirty years in Western countries in accordance with the increase in societal and family changes. This is in contrast to the belief that it has increased due to the recent recognition of the syndrome.

Changes in society in order to incorporate speed, efficiency, jet-lag, tension, noise, advertisements and so on, have altered the learning environments and the educational requirements for present day children. Simultaneously, the family structure and family functioning have changed so as to adapt to these escalating societal demands. Environments are no longer characterised by constant systematisation, regularity, emotional stability and timely caring.

Children with learning difficulties have always been in existence. In the past, however, their dysfunctioned learning patterns were not as incongruent with the currently highly differentiated educational criteria. There were far fewer societal pressures magnifying neural susceptibility to learning difficulties and the need to slot children into the economic market was far less urgent. Selective attention,

perceptual speed, accurate conceptualisation, verbal alacrity, continuous and rapid logic, and emotional strength are now in the forefront in the quest for cognitive success. Mediocrity is slated. Adequacy has taken second place.

The learning disabled child embodies the current changes in societies and families. Born into this rapidly changing, volatile world, he is not yet equipped with coping mechanisms. Through his naiveity, the child is particularly susceptible to altering stimuli, and some children are inherently more competent to cope. The cognitive imbalance which is manifest in the learning disabled child, reflects both the limited compensatory mechanisms, and the arid resources being utilised in the family unit. Families have been compelled to alter in order to adjust to the powerful societal demands. Parent involvement in family units is mainly focussed upon the urgent education of their offspring to comply with the enforced criteria for social and educational success and to fit into this brittle society. Emotional health is precariously balanced in families and the fundamental nurturance of children has given way to desperate stimulation, ambition and success. Inadequate decision-making, fluctuating roles, emotional stress, inconsistent behaviour patterns and limited coping mechanisms characterise the modern day families.

The concept of intelligence has assumed an inflated significance and the Learning Disability Syndrome has become a household term. Spontaneous learning is being partially replaced by specialised and remedial stimulation, or by "institutionalising" certain talents in order to produce a prodigy. More than ever before, measured intelligence has become a passport to potential success.

It is unfortunate that the analysis of intelligence has largely been

restricted to recognised tests. The concept of cognitive dysfunctions in intelligent children appears to reflect societal and family changes - furthermore, the cognitive disabilities are not illnesses. They represent the changing environments which are not successfully integrated in the learning disabled child. In addition, the current stressful life-style does not facilitate learning, but rather serves to impede the process.

The effective diagnosis of these cognitive dysfunctions is dependent upon the clinical experience and the competence of the diagnostician and upon the criteria for educational placement within a particular social system. The diagnosis can only take place when the diagnostician is familiar with the educo-political system and is fully aware of, and can rise above, the changing contextual setting, both societally and universally. It might be suggested that therapeutic intervention should be focussed on the family unit - perhaps with the consideration of this as the level of aetiology. Specific learning difficulties we see from the foregoing to be inextricably tied to a combination of cognitive and emotional imbalances in the child who is enmeshed in a family system.

This syndrome is the reflection of contemporary change. It is hoped that this thesis has contributed to our knowledge of it.

APPENDIX A : EXPERIMENTAL RAW DATA

SUBJECT NO	PATIENT NO	AGE	SIBLINGS	FAM SIZE	SIB POS	MAR PROB	INCOME	WORK NUM	HRS NUM WK	PROB SOLV	INSTRUMC	AFFECTC	GENERALC	BASIC RES	NUTURANC	PERSONOV	SYSTEMAN	GENERALM	EMANGER	EMSADNES	EMFEAR	EMGENERL	WELAFFEC	WELHAPPY	WELGENER	AFFECINV	BEHAVCON	OVERALL
31	1	12	3	5	3	no	high	2	2	3	4	3	3	4	4	2	3	2	3	2	5	3	4	2	3	2	3	3
32	2	8	3	5	2	no	low	1	8	5	3	5	4	4	6	3	5	4	5	4	3	4	6	5	5	5	5	5
33	3	7	2	4	2	yes	low	2	1	2	3	2	2	4	4	4	3	4	2	3	5	3	2	4	3	2	3	3
34	4	12	2	4	1	no	high	2	.	4	5	5	5	5	4	4	6	5	4	5	5	4	4	5	5	3	4	4
35	5	9	2	4	2	no	high	2	.	3	3	4	3	5	4	4	2	3	3	5	5	4	3	5	4	3	2	4
36	6	12	5	7	5	no	high	1	8	6	6	4	5	6	5	6	6	6	6	4	5	5	4	6	5	5	6	6
37	7	8	2	4	2	yes	high	2	1	4	5	2	4	4	4	3	4	4	3	2	2	3	5	3	4	2	5	4
38	8	11	2	4	1	yes	high	2	1	4	4	6	5	4	5	4	5	5	4	5	4	4	5	5	5	4	4	4
39	9	12	3	6	1	no	low	2	1	5	5	4	5	4	6	4	5	5	6	5	5	5	6	4	5	4	5	5
40	10	11	3	5	1	yes	low	2	2	5	4	4	4	4	5	5	4	5	5	5	4	5	6	5	5	4	4	4
41	11	9	2	4	2	yes	high	1	8	3	4	2	3	5	4	4	3	4	3	4	5	3	4	4	4	2	3	2
42	12	11	2	3	1	yes	low	2	1	4	4	3	4	4	4	4	3	4	4	5	5	4	3	4	4	3	3	4
43	13	11	2	4	1	no	high	2	1	4	4	5	4	5	5	4	3	4	5	4	5	4	5	5	5	3	3	4
44	14	10	1	2	1	yes	low	2	2	4	4	5	4	3	6	3	3	4	4	3	3	3	5	3	4	4	4	4
45	15	12	2	4	1	no	high	2	2	5	5	3	3	5	4	4	2	3	4	3	3	4	5	4	4	3	3	4
46	16	9	5	7	3	no	high	1	8	5	5	3	5	4	4	5	5	5	4	4	5	5	5	5	5	5	5	5
47	17	13	3	4	2	no	high	2	2	6	6	4	5	5	6	5	5	5	4	5	5	5	4	5	5	6	4	5
48	18	14	2	4	2	yes	low	1	8	3	3	2	3	4	3	2	4	3	2	3	4	3	4	3	4	3	4	3
49	19	8	4	6	2	yes	low	2	1	3	3	3	3	3	2	3	2	3	2	3	5	3	2	3	3	2	2	3
50	20	12	2	4	2	no	high	2	1	5	5	4	4	6	4	5	5	5	3	4	3	4	5	6	5	4	4	5
51	21	12	1	3	1	yes	low	1	8	6	6	6	6	5	5	5	6	6	5	6	4	6	6	6	6	4	6	6
52	22	9	2	4	1	no	low	2	2	4	5	4	4	5	6	4	6	5	4	4	3	4	4	4	4	4	3	4
53	23	7	2	4	1	yes	high	2	1	4	5	3	4	5	4	4	3	4	3	5	4	4	6	5	5	4	3	4
54	24	11	3	5	1	no	low	1	8	5	5	6	5	5	5	5	4	5	4	5	5	5	6	5	5	5	5	5
55	25	10	2	4	2	no	high	2	2	3	4	5	4	5	5	5	4	5	3	5	5	4	6	5	5	3	2	4
56	26	8	3	5	3	no	high	1	8	4	4	4	4	6	4	5	3	5	4	5	5	5	6	6	6	4	3	4
57	27	10	2	4	1	no	high	2	2	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	6	6	6	6
58	28	11	2	4	1	no	high	2	2	5	5	4	4	6	6	4	3	4	4	5	5	5	5	5	5	6	4	5
59	29	7	1	3	1	yes	low	2	1	3	3	4	3	4	3	4	3	3	3	4	5	4	3	3	3	3	3	3
60	30	13	4	5	2	yes	low	2	1	3	2	3	3	3	2	2	2	2	1	2	2	2	4	2	2	2	3	2
61	31	10	3	5	3	no	low	2	2	4	4	6	5	4	6	5	5	5	4	5	5	5	6	6	5	5	5	5
62	32	10	2	4	2	no	high	2	1	4	6	5	5	5	6	6	5	5	4	5	5	5	6	5	5	5	4	5
63	33	7	2	4	1	yes	high	1	8	3	4	3	3	5	3	4	2	3	2	2	3	2	4	3	3	3	2	3
64	34	10	9	11	9	no	high	2	1	5	4	6	5	6	6	4	3	4	6	5	5	5	6	6	6	6	4	5
65	35	8	3	5	2	yes	low	2	1	3	3	3	3	3	3	4	2	3	2	3	4	2	4	3	3	3	2	3
66	36	8	2	4	1	yes	low	1	8	3	5	3	4	5	3	3	3	4	3	5	5	4	3	3	3	3	2	4
67	37	9	4	6	1	no	low	2	1	4	5	3	4	3	3	4	4	4	3	3	5	3	4	4	4	3	4	4
68	38	11	2	4	2	no	high	1	8	4	5	3	4	5	4	3	4	4	4	4	.	4	3	4	4	5	4	4
69	39	7	1	3	1	yes	low	2	1	3	3	2	3	3	3	4	3	3	3	4	4	4	3	3	3	2	4	3
70	40	9	2	4	2	yes	high	2	1	3	5	2	3	3	2	3	3	3	4	3	5	4	2	2	2	2	3	3
71	41	7	2	4	2	no	high	2	2	4	5	4	4	6	4	4	3	4	4	4	4	5	3	4	3	3	3	3
72	72	7	2	4	1	yes	low	2	1	3	4	3	4	4	4	3	2	4	3	4	5	4	5	4	4	3	3	4

APPENDIX A EXPERIMENTAL RAW DATA (continued)

SUBJECT NO	INTFATHR	INTMOTHR	INTSIBLG	INTPEERS	ATSCHOOL	ATCOMMUN	SELFCONT	COPECRIS	CONSCIEN	SELFCONS	SELFEVAL	REALSIM	RESPONSB	PRESPURP	MODEAPPR	ATTUNKNO	ATTFORML	QUALRESP
31	3	4	2	2	3	1	3	2	4	2	3	4	4	2	4	3	3	6
32	4	5	3	3	4	3	5	4	5	4	5	4	5	5	5	5	4	5
33	3	2	5	4	3	4	3	2	2	3	3	3	3	3	5	4	3	4
34	4	4	3	3	4	4	4	3	4	4	4	3	5	3	4	4	4	4
35	5	1	3	3	4	4	3	3	4	3	4	4	4	3	4	4	3	4
36	4	5	6	6	4	6	5	4	5	5	5	4	6	4	5	4	4	5
37	3	5	4	2	3	3	2	2	3	3	4	3	4	3	2	3	3	3
38	5	5	4	5	4	5	5	4	5	4	5	4	4	4	4	5	4	4
39	4	4	4	5	5	6	6	4	5	5	5	5	5	4	5	5	4	5
40	5	4	5	5	3	4	5	4	5	4	5	4	4	3	4	5	4	4
41	3	4	2	2	4	2	4	2	5	4	3	3	3	3	4	4	4	4
42	3	4	5	2	4	2	4	4	5	4	5	4	4	3	4	4	4	5
43	4	3	5	3	3	3	3	3	4	4	4	4	3	4	4	3	4	5
44	1	3	0	2	3	2	2	1	4	3	3	2	3	2	3	2	3	3
45	3	5	5	3	4	4	4	3	5	4	3	4	3	4	4	4	3	3
46	4	5	5	6	5	6	5	5	5	5	5	5	6	4	5	4	4	5
47	4	6	5	4	3	5	2	3	5	4	3	4	5	4	3	5	6	5
48	1	4	6	4	3	4	3	2	5	3	3	3	5	3	4	3	5	4
49	1	4	5	4	3	3	3	2	2	3	3	2	3	2	3	2	2	3
50	4	6	5	4	4	5	4	3	5	4	5	4	5	4	6	4	5	5
51	4	5	4	5	5	4	5	3	5	4	5	5	5	5	5	3	3	4
52	5	4	5	4	2	5	3	3	4	3	3	4	3	2	3	4	6	4
53	2	6	5	3	5	4	3	2	3	3	4	3	3	3	3	3	4	3
54	5	5	5	4	5	4	4	4	5	4	4	4	5	4	4	4	3	3
55	5	5	3	2	3	2	3	2	4	3	3	4	3	3	4	3	2	3
56	3	5	3	2	4	3	3	3	3	3	3	4	3	3	3	2	2	3
57	5	5	6	4	5	5	4	3	6	4	4	4	4	4	5	4	4	5
58	4	5	5	4	4	5	5	4	3	5	4	4	5	3	3	5	5	5
59	2	5	.	3	5	4	4	4	5	4	4	4	4	3	3	3	3	3
60	1	5	6	4	3	3	2	2	5	3	4	4	4	3	4	5	6	5
61	4	5	5	3	4	5	5	4	3	4	4	4	3	3	3	3	3	3
62	5	4	5	2	4	3	2	3	3	2	3	3	3	2	2	2	2	3
63	4	2	2	4	4	3	2	2	2	2	3	2	4	3	2	3	3	3
64	3	5	5	2	3	4	3	2	5	3	4	4	5	3	3	5	5	5
65	1	4	5	2	3	2	2	1	3	2	2	2	3	3	3	2	2	3
66	4	2	3	2	3	2	2	2	2	2	3	2	2	2	3	3	2	3
67	4	5	6	3	3	4	4	3	2	3	3	3	4	3	4	3	3	3
68	3	5	4	3	4	4	3	3	3	3	3	3	4	3	4	4	3	5
69	3	2	.	2	3	1	1	1	2	1	2	3	2	1	1	1	1	1
70	1	3	2	1	3	2	1	1	3	2	1	1	1	2	1	2	1	1
71	3	4	2	2	4	4	3	3	5	4	4	4	5	4	5	4	5	6
72	3	5	5	3	3	4	3	3	3	4	4	4	3	4	5	5	5	5

APPENDIX A (continued)

Children's Personality Questionnaire (CPQ)

FACTORS

	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4
31	5	5	6	7	6	3	5	5	9	6	5	5	6	7
32	4	8	3	9	9	10	1	7	3	4	9	4	1	10
33	4	4	1	5	7	3	2	5	6	4	8	6	2	8
34	9	9	9	9	9	9	9	9	9	9	9	9	9	9
35	4	2	5	2	8	5	4	6	6	3	5	3	6	4
36	7	4	5	7	6	9	4	6	7	1	7	3	3	7
37	7	3	1	8	1	1	7	5	5	9	5	9	9	3
38	3	2	4	7	5	4	5	6	6	7	4	5	3	8
39	5	2	5	8	6	7	3	5	3	7	6	5	4	7
40	5	4	4	8	7	10	3	5	4	6	7	7	6	7
41	1	5	2	8	6	5	2	1	5	8	9	10	2	9
42	3	4	3	6	5	5	3	5	3	7	7	7	2	7
43	6	1	7	6	5	7	7	6	4	1	4	2	5	5
44	1	2	4	9	6	4	1	1	4	10	7	7	2	7
45	4	4	6	5	4	8	4	6	3	4	8	4	4	6
46	6	4	4	5	8	10	1	4	5	9	6	5	4	8
47	6	5	6	6	5	9	4	7	2	5	8	3	7	5
48	2	7	6	8	8	8	3	4	5	4	7	8	2	8
49	5	1	7	9	7	6	6	4	5	6	8	8	5	7
50	3	5	3	7	8	8	2	4	2	6	8	6	3	8
51	5	1	1	6	4	6	2	2	4	7	8	9	4	7
52	2	8	2	10	9	8	2	6	2	9	9	4	1	10
53	4	1	7	1	5	8	5	6	4	4	6	3	7	4
54	4	2	5	8	5	5	2	3	4	10	7	6	3	10
55	2	5	5	7	6	5	4	1	3	10	8	8	2	10
56	4	3	4	4	5	7	4	4	5	6	7	5	6	7
57	1	6	5	7	4	3	3	4	5	5	7	5	2	10
58	1	2	3	7	5	4	5	4	4	7	7	7	5	5
59	5	1	6	5	3	7	5	6	6	7	6	5	6	6
60	2	7	2	10	8	9	2	4	2	5	10	4	2	10
61	6	2	6	6	7	7	2	5	2	3	7	4	4	6
62	6	2	5	10	6	7	5	5	4	5	6	10	3	8
63	6	4	5	7	5	4	2	5	4	6	7	7	6	7
64	6	5	7	5	7	6	7	8	4	2	5	2	5	6
65	3	6	5	7	3	6	4	3	7	4	7	7	7	6
66	5	5	5	5	5	3	4	8	6	4	9	7	4	8
67	5	3	3	5	4	5	3	6	3	5	6	5	3	6
68	3	6	4	10	9	5	1	2	3	5	9	9	2	9
69	4	5	5	7	6	4	2	4	6	7	8	7	2	8
70	4	4	5	6	6	4	4	5	6	3	5	6	5	4
71	6	3	5	3	5	3	4	5	6	4	6	5	6	6
72	9	9	9	9	9	9	9	9	9	9	9	9	9	9

COGNITIVE FACTORS

CODING	VIQ	NVIQ	FULLIQ	DIFFIQ
8	91	111	101	-20
7	120	120	122	0
8	107	115	112	-8
7	103	105	105	-2
6	109	102	107	7
10	92	105	97	-13
5	104	90	97	14
12	107	115	112	-8
10	102	98	100	4
8	117	113	117	4
.	116	120	120	-4
10	104	95	99	9
16	92	110	101	-18
6	99	97	98	2
9	103	97	100	6
12	133	139	140	-6
10	136	120	132	16
9	95	126	110	-31
5	95	95	95	9
12	109	137	124	-28
11	107	117	113	-10
12	121	131	128	-10
6	103	97	100	6
10	105	111	109	-6
8	123	87	108	36
7	92	101	94	-9
8	123	116	122	7
7	113	114	115	-1
10	123	122	125	1
10	131	112	125	19
7	94	104	101	-10
5	86	108	94	-22
7	95	92	93	3
10	100	95	98	5
7	105	99	102	6
7	130	111	124	19
4	106	106	107	0
15	112	117	115	-5
7	115	99	108	16
4	100	83	92	17
8	114	122	119	-8
.	120	118	120	2

Children's Personality Questionnaire (CPQ)

	FACTORS														COGNITIVE FACTORS				
	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4	CODING	VIQ	NVIQ	FULLIQ	DIFFIQ
31	5	5	6	7	6	3	5	5	9	6	5	5	6	7	8	91	111	101	-20
32	4	8	3	9	9	10	1	7	3	4	9	4	1	10	7	120	120	122	0
33	4	4	1	5	7	3	2	5	6	4	8	6	2	8	8	107	115	112	-8
34	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	103	105	105	-2
35	4	2	5	2	8	5	4	6	6	3	5	3	6	4	6	109	102	107	7
36	7	4	5	7	6	9	4	6	7	1	7	3	3	7	10	92	105	97	-13
37	7	3	1	8	1	1	7	5	5	9	5	9	9	3	5	104	90	97	14
38	3	2	4	7	5	4	5	6	6	7	4	5	3	8	12	107	115	112	-8
39	5	2	5	8	6	7	3	5	3	7	6	5	4	7	10	102	98	100	4
40	5	4	4	8	7	10	3	5	4	6	7	7	6	7	8	117	113	117	4
41	1	5	2	8	6	5	2	1	5	8	9	10	2	9	.	116	120	120	-4
42	3	4	3	6	5	5	3	5	3	7	7	7	2	7	10	104	95	99	9
43	6	1	7	6	5	7	7	6	4	1	4	2	5	5	16	92	110	101	-18
44	1	2	4	9	6	4	1	1	4	10	7	7	2	7	6	99	97	98	2
45	4	4	6	5	4	8	4	6	3	4	8	4	4	6	9	103	97	100	6
46	6	4	4	5	8	10	1	4	5	9	6	5	4	8	12	133	139	140	-6
47	6	5	6	6	5	9	4	7	2	5	8	3	7	5	10	136	120	132	16
48	2	7	6	8	8	8	3	4	5	4	7	8	2	8	9	95	126	110	-31
49	5	1	7	9	7	6	6	4	5	6	8	8	5	7	5	95	95	95	9
50	3	5	3	7	8	8	2	4	2	6	8	6	3	8	12	109	137	124	-28
51	5	1	1	6	4	6	2	2	4	7	8	9	4	7	11	107	117	113	-10
52	2	8	2	10	9	8	2	6	2	9	9	4	1	10	12	121	131	128	-10
53	4	1	7	1	5	8	5	6	4	4	6	3	7	4	6	103	97	100	6
54	4	2	5	8	5	5	2	3	4	10	7	6	3	10	10	105	111	109	-6
55	2	5	5	7	6	5	4	1	3	10	8	8	2	10	8	123	87	108	36
56	4	3	4	4	5	7	4	4	5	6	7	5	6	7	7	92	101	94	-9
57	1	6	5	7	4	3	3	4	5	5	7	5	2	10	8	123	116	122	7
58	1	2	3	7	5	4	5	4	4	7	7	7	5	5	7	113	114	115	-1
59	5	1	6	5	3	7	5	6	6	7	6	5	6	6	10	123	122	125	1
60	2	7	2	10	8	9	2	4	2	5	10	4	2	10	10	131	112	125	19
61	6	2	6	6	7	7	2	5	2	3	7	4	4	6	7	94	104	101	-10
62	6	2	5	10	6	7	5	5	4	5	6	10	3	8	5	86	108	94	-22
63	6	4	5	7	5	4	2	5	4	6	7	7	6	7	7	95	92	93	3
64	6	5	7	5	7	6	7	8	4	2	5	2	5	6	10	100	95	98	5
65	3	6	5	7	3	6	4	3	7	4	7	7	7	6	7	105	99	102	6
66	5	5	5	5	5	3	4	8	6	4	9	7	4	8	7	130	111	124	19
67	5	3	3	5	4	5	3	6	3	5	6	5	3	6	4	106	106	107	0
68	3	6	4	10	9	5	1	2	3	5	9	9	2	9	15	112	117	115	-5
69	4	5	5	7	6	4	2	4	6	7	8	7	2	8	7	115	99	108	16
70	4	4	5	6	6	4	4	5	6	3	5	6	5	4	4	100	83	92	17
71	6	3	5	3	5	3	4	5	6	4	6	5	6	6	8	114	122	119	-8
72	9	9	9	9	9	9	9	9	9	9	9	9	9	9	.	120	118	120	2

APPENDIX B : CONTROL RAW DATA

SUBJECT NO	PATIENT NO	AGE	SIBLINGS	FAM SIZE	SIB POS	MARPROB	INCOME	WORKMUM	HRSMUMWK	PROBSOLV	INSTRUMC	AFFECTC	GENERALC	BASICRES	NUTURANC	PERSONOV	SYSTEMAN	GENERALM	EMANGER	EMSADNES	EMFEAR	EMGENERL	WELAFFEC	WELHAPPY	WELGENER	AFFECINV	BEHAVCON	OVERALL
1	42	11	7	9	4	no	high	1	8	6	5	6	5	6	5	6	4	5	5	6	5	5	6	6	6	5	5	5
2	43	7	4	6	4	no	high	1	8	5	4	4	4	5	3	4	4	4	4	4	5	4	6	4	5	4	5	4
3	44	14	3	5	1	no	high	1	8	6	6	6	6	5	6	4	4	5	4	4	5	5	6	5	5	5	5	5
4	45	12	3	5	3	no	high	1	8	6	5	6	6	5	6	6	6	6	6	6	4	5	6	6	6	5	5	6
5	46	7	3	5	1	no	high	1	8	6	6	5	5	6	5	5	6	5	4	5	4	5	4	5	5	5	4	5
6	47	7	4	6	4	no	high	1	8	6	6	5	6	6	6	5	6	5	5	6	4	5	6	6	6	5	6	6
7	48	11	4	6	2	no	high	1	8	5	5	4	5	5	4	4	4	5	6	5	4	5	5	4	5	6	5	5
8	49	10	3	5	3	no	high	1	8	4	5	3	4	5	4	4	5	4	4	3	5	4	4	4	4	4	4	4
9	50	10	2	4	1	no	high	2	2	6	6	5	6	6	5	6	6	6	5	5	.	5	5	6	6	5	6	6
10	51	7	2	4	2	no	high	2	2	6	5	6	6	6	7	6	6	6	4	5	5	5	6	6	6	6	6	6
11	52	8	4	6	4	no	high	2	2	4	5	3	4	5	3	3	3	4	4	4	5	4	4	5	5	4	4	4
12	53	9	4	6	1	no	high	2	1	4	3	4	4	4	5	4	3	4	4	4	4	4	4	4	4	4	4	4
13	54	10	4	6	4	no	high	1	8	6	4	6	5	6	4	6	4	5	5	4	5	4	6	6	6	5	3	5
14	55	7	3	5	2	no	low	2	1	4	4	5	5	5	4	4	3	4	5	4	5	4	6	5	5	4	4	4
15	56	11	3	5	1	no	low	2	1	4	4	4	4	5	4	5	5	5	4	4	.	4	4	5	5	4	5	5
16	57	14	4	6	4	no	low	2	2	4	5	5	5	4	6	4	4	5	4	5	5	5	6	5	5	4	5	5
17	58	9	4	6	3	yes	high	1	8	5	4	4	4	5	4	4	4	5	4	4	3	4	5	4	4	4	4	4
18	59	9	4	6	4	no	high	1	8	6	7	4	5	6	6	5	5	5	4	4	5	5	5	6	5	6	6	6
19	60	11	3	5	1	yes	high	2	2	5	5	3	4	6	4	4	6	5	4	4	5	5	4	4	5	4	6	5
20	61	12	3	5	1	no	low	1	8	5	5	4	5	5	4	3	4	5	4	4	5	4	6	5	5	5	4	5
21	62	12	3	5	2	no	low	1	8	5	4	5	5	6	6	4	5	5	5	4	5	4	5	4	5	5	6	5
22	63	9	4	6	1	yes	high	2	2	4	4	3	4	6	3	4	6	5	4	4	4	4	6	5	5	4	5	5
23	64	8	2	4	1	no	low	2	1	5	4	5	5	4	5	4	4	4	4	5	5	5	6	6	6	6	5	5
24	65	12	3	5	3	no	high	2	2	5	5	5	5	6	6	6	5	6	4	5	5	5	7	6	6	6	6	6
25	66	11	2	4	2	no	high	1	8	4	6	4	5	6	4	4	6	5	4	5	5	5	4	5	5	4	5	5
26	67	13	2	4	1	no	high	1	8	6	6	6	6	5	6	5	6	5	5	5	5	5	6	6	6	6	5	6
27	68	10	3	5	3	no	high	1	8	6	6	4	5	6	5	5	6	5	4	4	4	5	6	6	6	4	6	6
28	69	10	4	6	2	no	high	1	8	6	5	6	5	5	6	6	5	5	5	4	5	5	5	6	5	6	5	6
29	70	8	2	4	1	no	high	2	2	6	5	6	6	5	6	7	5	5	5	5	5	5	6	6	5	6	5	6
30	71	13	4	6	3	no	high	1	8	4	4	3	4	5	3	3	4	4	3	4	4	4	4	4	4	4	5	4

APPENDIX B CONTROL RAW DATA (continued)

SUBJECT NO	PAT NO	INTFATHR	INTMOTHR	INTSIBLG	INTPEERS	ATSCHOOL	ATCOMMUN	SELFCONT	COPECRIS	CONSCIEN	SELFCONS	SELFEVAL	REALISM	RESPONSB	PRESPURP	MODEAPPR	ATTUNKNO	ATTFORML	QUALRESP
1	42	5	6	6	6	6	6	5	5	6	4	5	5	5	5	5	5	5	5
2	43	3	4	4	5	5	6	5	4	5	4	5	5	5	5	6	4	4	6
3	44	6	6	6	6	6	6	6	6	6	6	6	5	6	5	5	5	5	6
4	45	4	5	5	4	5	5	5	4	5	4	4	5	5	4	5	4	4	4
5	46	5	5	5	5	4	5	5	4	5	4	4	5	5	4	5	4	4	4
6	47	4	6	4	5	5	5	5	4	5	6	5	5	6	6	6	5	5	6
7	48	4	5	5	5	4	5	5	4	5	5	4	4	5	4	5	4	4	5
8	49	4	5	4	4	4	5	5	3	4	4	5	4	5	4	4	4	4	4
9	50	6	5	6	5	6	6	5	5	6	5	6	6	6	6	6	5	6	6
10	51	5	6	6	6	6	6	5	4	5	5	6	5	6	5	6	4	5	6
11	52	4	5	4	4	3	4	4	3	5	5	4	4	4	4	5	4	4	4
12	53	4	3	4	4	4	5	5	4	5	5	4	5	5	4	5	4	5	5
13	54	4	6	5	5	5	6	5	5	5	5	5	5	5	5	5	6	6	6
14	55	5	4	5	4	4	4	4	5	5	2	4	4	4	3	4	4	3	3
15	56	4	4	4	4	4	4	4	5	4	5	5	4	5	4	4	4	4	4
16	57	5	6	3	4	6	4	5	5	5	5	5	4	6	5	5	6	5	5
17	58	3	3	5	4	5	4	5	3	4	4	5	4	5	3	4	4	5	4
18	59	4	5	6	4	4	5	5	4	4	5	5	4	5	4	5	4	4	5
19	60	4	5	5	6	4	6	5	3	5	5	5	6	5	5	6	4	5	6
20	61	5	6	6	5	4	5	5	4	5	5	5	5	6	5	5	5	5	6
21	62	4	6	5	5	4	5	5	4	5	4	5	5	5	4	4	4	5	5
22	63	3	5	3	3	5	4	4	4	5	4	4	5	5	4	5	6	4	5
23	64	5	4	4	4	4	5	5	4	5	5	5	4	5	4	4	4	4	4
24	65	5	6	5	4	4	5	4	5	5	4	4	5	5	4	5	4	4	5
25	66	5	4	4	5	5	5	4	5	5	5	5	5	4	5	5	6	6	6
26	67	4	5	4	4	5	4	6	5	4	5	5	6	6	5	5	4	4	5
27	68	4	6	4	3	4	5	5	4	5	4	4	5	5	4	5	6	5	6
28	69	5	5	5	5	5	5	5	5	5	6	6	6	5	4	5	5	5	6
29	70	4	5	5	4	3	4	4	4	5	4	5	5	5	4	4	5	5	5
30	71	4	4	5	5	3	5	5	4	5	4	5	5	5	4	5	4	4	5

APPENDIX B CONTROL RAW DATA (continued)

Children's Personality Questionnaire (CPQ)
FACTORS

SUBJECT NO	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4
1	7	8	5	6	10	10	3	5	2	6	8	4	3	6
2	2	4	2	8	4	6	2	2	6	7	7	9	2	9
3	10	6	4	5	4	4	7	9	6	3	8	4	5	6
4	1	5	3	7	5	2	6	3	7	10	6	10	6	9
5	4	5	3	7	7	7	3	6	5	7	7	6	4	8
6	1	4	3	7	3	4	4	4	4	8	7	6	3	6
7	6	7	5	6	8	7	5	5	2	5	7	5	5	6
8	4	6	5	9	8	6	2	1	2	5	10	10	1	8
9	4	9	7	8	9	10	4	6	1	5	8	4	3	7
10	7	6	4	7	2	1	7	7	4	4	3	6	7	5
11	3	5	2	7	3	5	3	5	7	7	8	7	4	9
12	9	5	6	4	6	5	8	9	6	4	5	3	7	1
13	5	9	4	7	7	2	3	5	7	6	6	6	4	7
14	4	7	3	5	2	1	6	5	7	5	6	6	6	5
15	7	5	5	7	5	7	3	6	7	8	6	5	6	5
16	2	7	4	8	5	4	4	1	4	10	8	7	3	10
17	6	7	2	10	7	5	2	2	4	7	8	6	3	9
18	5	3	3	7	6	5	2	3	2	7	8	8	3	9
19	7	10	3	5	5	4	4	5	2	7	8	3	4	5
20	5	5	3	9	5	4	3	5	5	7	7	5	4	8
21	5	1	5	6	7	5	3	6	5	6	7	3	5	7
22	3	7	6	9	4	2	4	2	7	6	5	5	5	8
23	8	6	5	5	6	7	7	8	6	4	7	5	7	5
24	8	6	6	10	9	10	2	6	1	4	9	3	2	7
25	1	7	8	10	10	5	1	9	3	6	9	5	1	8
26	8	6	5	8	9	5	4	7	4	4	8	4	2	7
27	6	6	9	6	9	10	1	9	3	5	10	3	1	8
28	3	8	6	6	3	3	4	1	4	7	4	7	4	4
29	3	7	8	5	4	3	5	5	9	8	4	4	6	5
30	9	9	9	9	9	9	9	9	9	9	9	9	9	9

COGNITIVE FACTORS

CODING	VIQ	NVIQ	FULLIQ	DIFFIQ
15	118	125	123	-7
14	133	133	136	0
12	118	124	121	-6
6	105	99	102	6
12	124	114	121	10
15	131	122	130	9
12	97	106	101	-9
11	98	93	95	5
10	145	125	135	20
13	133	111	117	22
12	105	108	107	-3
16	119	100	111	19
12	117	121	120	-4
11	105	99	103	6
11	97	111	104	-14
9	116	122	119	-6
13	120	127	125	-7
12	100	108	104	-8
11	120	127	125	-7
12	92	105	108	-13
11	91	104	96	-13
15	131	129	132	2
12	110	108	110	2
11	102	97	100	5
9	116	123	121	-7
9	120	118	120	2
16	120	118	121	2
12	101	106	103	-5
14	123	125	126	-2
.	93	107	101	-14

APPENDIX C THE McMASTER MODEL OF FAMILY FUNCTIONING - FAMILY CATEGORIES ASSESSMENT FORM

Family Name ..... Date .....

Rater .....

		Very disturbed				Normative		Superior	Insufficient information
1.	Problem Solving Communication:	1	2	3	4	5	6	7	II
2.	" - Instrumental	1	2	3	4	5	6	7	II
3.	" - Affective	1	2	3	4	5	6	7	II
4.	" - General	1	2	3	4	5	6	7	II
	Roles:								
5.	" - Providing Basic Resources	1	2	3	4	5	6	7	II
6.	" - Nurturance and Support	1	2	3	4	5	6	7	II
7.	" - Personal Development	1	2	3	4	5	6	7	II
8.	" - Systems Management	1	2	3	4	5	6	7	II
9.	" - General	1	2	3	4	5	6	7	II
	Affective Responsiveness:								
10.	" " - Emergency-Anger	1	2	3	4	5	6	7	II
11.	" " - Emergency-Sadness	1	2	3	4	5	6	7	II
12.	" " - Emergency-Fear	1	2	3	4	5	6	7	II
13.	" " - Emergency-General	1	2	3	4	5	6	7	II
14.	" " - Welfare-Affection	1	2	3	4	5	6	7	II
15.	" " - Welfare-Happiness	1	2	3	4	5	6	7	II
16.	" " - Welfare-General	1	2	3	4	5	6	7	II
17.	Affective Involvement	1	2	3	4	5	6	7	II
18.	Behaviour Control	1	2	3	4	5	6	7	II
19.	Overall	1	2	3	4	5	6	7	II

APPENDIX C

BASIC DEFINITIONS OF RATING SCALES

PROBLEM SOLVING - INSTRUMENTAL

Severely Disturbed

1. Doesn't recognize existence of problems
2. Misidentifies problems, denies problems.
3. Vague awareness of problems, but no discussion or communication.
4. Presence of unresolved long-standing instrumental problems even though resources are available to solve problem.
5. Much conflict generated by any attempt to solve problems.

Normative

1. Handles most instrumental problems well.
2. one or more members recognize problems when they arise, but occasionally mislabel the problem.
3. When one member of the family identifies a problem this is communicated to other family members.
4. For 70 to 80% of the problems identified alternative solutions are clearly specified and a decision is taken.
5. 70 to80% of the problems that arise are dealt with quickly and effectively Satisfactory problem solving frequently accurs in the remaining 20 to 30%, but the process of problem solving is relatively inefficient (haphazard).

Superior

1. Quickly recognizes the developing problems in instrumental area.
2. Attacks problems systematically.
3. Clearly defines alternatives and course of action.
4. Regularly evaluates outcome or problem solve.
5. Evidences of history of success with problems.

PROBLEM SOLVING - AFFECTIVE

Severely Disturbed

1. Doesn't recognize existence of problems.
2. Misidentifies problems, denies problems.
3. Vague awareness of problems, but no discussion or communication regarding their feelings.
4. Much conflict generated by any attempt to solve problems.

Normative

1. May have some slight difficulty with affective problems.
2. One or more members recognize problems when they arise, but occasionally mislabel the problem.
3. When one member of the family identifies a problem this is communicated to other family members.
4. For 70 to 80% of the problems identified alternative solutions are clearly specfied and a decision is taken.
5. 70 to 80% of the problems that arise are dealt with quickly and effectively. Satisfactory problem solving frequently occurs in the remaining 20 to 30%, but the process of problem solving is relatively inefficient (haphazard).

Superior

1. Quickly recognizes the developing problems in affective areas.
2. Attacks problems systematically.
3. Clearly defines alternatives and course of action.
4. Regularly evaluates outcome or problem solve.
5. Evidences of history of success dealing with problems.

COMMUNICATION - INSTRUMENTAL

Severely Disturbed

1. A complete lack of communication for whatever reason (e.g. silence, chaotic talking, irrelevant talking).

Normative

1. Most of the necessary information is transmitted without any hidden messages. However, the efficiency and clarity of the message would be less than optimum.

Superior

1. Messages are transmitted (not inhibited) when called for.

2. When expressed, the messages are clear and direct, such that there is no misunderstanding.

3. The message is transmitted efficiently (that is, without excessive, irrelevant information). The message is concise.

COMMUNICATION - AFFECTIVE

Severely Disturbed

1. Affect is communicated in a very masked and indirect manner, such that the content of the communication is not understood by other family members.

2. Affect is communicated in a clear direct manner, but other members of the family are not sensitive to or understand the message.

Normative

1. In 90% of the situations where communication of affect is required, it is communicated clearly and directly and received appropriately. In the remaining 10% of the cases, adequate clarification of communication is not obtained.

Superior

1. All communication of affect is clear, direct, and understood by relevant members of the family. On those few occasions when a message is not completely understood, clarification is immediately requested and obtained.

PROVIDING BASIC RESOURCES

Severely Disturbed

1. Basic resources are not being provided. Even if primary resources are being provided, family could be classed as being very disturbed if:
2. Allocation of responsibility is inappropriate.
3. There is no collaboration or co-operation in fulfilling the role functions.
4. No open and honest discussion of the role function.
5. There is insufficient power to accomplish the function.

Normative

1. Basic resources are adequately provided.
2. Allocation is appropriate.
3. Collaboration and co-operation occurs in 90% of the situations.
4. In 90% of the time there is flexibility in role allocation, particularly in areas of importance to the family.
5. In 90% of the cases an appropriate amount of authority is allocated to go along with responsibility.
6. In the 10% of situations in which authority is inadequate, the problem is quickly recognized and resolved.

Superior

1. Roles for the provision of alternate and secondary resources are clearly defined. (responsibilities identified agreed upon)
2. The allocation of roles is appropriate.
3. There is co-operative collaboration in fulfilling roles.
4. There is flexible reallocation when when necessary.
5. Adequate authority is given for allocation of roles.

NURTURANCE AND SUPPORT

Severely Disturbed

1. Practically no nurturance and support for any member of the family.

2. Excessive nurturance and support to the extent that it smothers (drowns) the recipient and prevents normal growth and development.

Normative

1. In 70% of the time an appropriate blend of nurturance and support with challenges that promote growth and development. In the remaining 30% of the time there is either inadequate nurturance and support or there is an over-provision of nurturance and support.

2. The inappropriate provision of nurturance and support (too little or too much) does not severely disturb the family system or the individuals within the system.

3. Allocation is appropriate. If allocation becomes inappropriate (i.e. provision of nurturance and support becomes inadequate), this is quickly recognized and resolved. An example; if mother is out of town, father becomes the total source of nurturance and support. If provision of nurturance and support is inadequate, outside help is sought from grandparents, inlaws, etc.

Superior

1. The superior family provides a blend of nurturance and support along with the necessary frustrations to foster growth and development of independent functioning. Total gratification of desires for nurturance and support can be debilitating in that it does not provide for the appropriate challenges.

PERSONAL DEVELOPMENT

Severely Disturbed

1. Personal development almost totally (95%) lacking.

2. The presence of incest, sexually seductive behaviour toward the children.

Normative

1. Some areas are covered in breadth and depth, but others are neglected or covered only superficially. If more than one or two areas are seriously neglected, then it is less than a normative family.

2. There can be some degree of discomfort (anxiety) in the system regarding the developing sexuality of the children but this does not lead to complete inhibition of the children, nor does it lead to exaggerated anxiety in the children.

3. There is very little overstimulation of the children.

Superior

1. All areas of responsibility and activities are well covered.

2. There may be priority areas, but nothing is neglected.

3. All areas are covered without apparent overloading of the family system.

4. Responds appropriately to the age and culturally appropriate developing sexuality of the children.

SYSTEMS MANAGEMENT

1. Complete absence of family boundaries, or

2. Extremely rigid (non-porous) boundaries.

3. No attention at all to physical aspects of the systems environment.

4. The home is unhygenic.

5. The aesthetics are depressing.

6. One receives the impression of physical chaos.

7. Members of the family can hardly wait to get out (separate from the family), are ashamed of the family, are angry and depressed about being members of that family, have nothing positive to say about the family.

1. Boundaries are generally clear and distinct.

2. General satisfaction with membership in the family, although there may be an occasional desire to leave. Distinguished from the superior category by the less than total enthusiasm for membership in the family.

3. The parents may be a bit possessive of the children, but not to the point of inhibiting growth.

4. Physical environment is maintained in a satisfactory fashion.

5. Differs from superior in that the care can be a little obsessive or a bit untidy.

6. The aesthetics of the physical environment are not as nice as in the superior category, but the environment is clearly not depressing.

1. Boundaries are clear and distinct.

2. As and when appropriate, members of the family are allowed to separate.

3. A great deal of satisfaction and pride associated with being a member of that family - a high degree of esprit de corps.

4. Physical aspects of maintaining the family system are taken care of, appropriate allocation of power and responsibility along with flexible reallocation when necessary.

5. Makes the best of available resources

6. Physical environment is comfortable.

7. There is not excessive caretaking or concern regarding physical environment.

8. The aesthetics of the environment create a feeling of comfort and pleasure.

AFFECTIVE RESPONSIVENESS - EMERGENCY (Anger)

Severely Disturbed	Normative	Superior
1. Either anger is avoided entirely except for occasional outbursts of irrational (inappropriate) destructive rage.	1. In general, a normative family expresses anger to anger-producing situations; however, tje intensity of expression is not always appropriate to the situation.	1. Anger is expressed in the appropriate strength when the appropriate situations arise.
2. Or, continual anger (i.e., a very high frequency of outbursts of anger elicited by a very wide variety of situations).	2. There is a tendency to back away (suppress) from the expression of anger (i.e., show less an ger than is appropriate) in most situations, and to occasionally show explosive anger (stronger than appropriate for stimulus).	2. Never responds inappropriately with anger.
	3. Explosive anger is usually followed by a fair level of anxiety.	3. Shows little or no anxiety over the expression of anger.

AFFECTIVE RESPONSIVENESS - EMERGENCY (Sadness)

1. Complete inability to express sadness or total denial of sadness even when culturally appropriate to express sadness.	1. Generally feels sadness and wxpresses it in a culturally appropriate manner when confronted with a sadness-producing situation.	1. Culturally appropriate expression of sadness in its quantity and quality in immediate response to the sadness-producing event.
2. Overwhelming and completely incapacitating sadness in the absence of appropriate stimuli (endogenous sadness).	2. Sadness that occurs when remembering a sadness-producing situation. In contrast to superior, members in a normative family can experience periodic breakthrough of sadness that interferes with a person's functioning. Such a breakthrough should not occur more than 3 or 4 times a year and should not last more than a day or two at a time.	2. Has occasional sadness when remembering sadness-producing event, but this does not interfere with daily routine.
3. An excessive amount of sadness in response to a sadness-producing stimulus.		

AFFECTIVE RESPONSIVENESS - EMERGENCY (Fear)

Severely Disturbed	Normative	Superior
1. Either feels no fear at all (i.e. cannot perceive fear under any circumstances total repression of fear and anxiety).	1. Shows appropriate expression of fear a good part of the time, but on some occasions there is some immobilization and/or some other interference with appropriate behaviour (e.g. over-reaction, displacement) by fear.	1. Appropriate in frequency, duration and intensity.
2. Or, completely flooded (overwhelmed) by fear and rendered immobile by this fear (extreme excessiveness in frequency duration, or intensity in the expression of fear).		2. Feeling of fear, in fact, mobilizes the family to take appropriate action.

AFFECTIVE RESPONSIVENESS - WELFARE (AFFECTION) - includes concepts of warmth, tenderness, support, consolation.

1. Complete absense of affectionate response.	1. Fails to express affection up to 25% of the occasions which should elicit affection. On the other 75% of the occasions, expression of affection is appropriate.	1. Affection is expressed with the appropriate intensity and duration when called for by the situation.
2. Over-intrusive expression of affection to the point that it is irritating to the receiver and/or becomes controlling or interfering with the receiver's functioning.		

AFFECTIVE RESPONSIVENESS - WELFARE (HAPPINESS) - includes joy

Severely Disturbed	Normative	Superior
1. Complete absence of the expression of happiness.	1. On 90% of the occasions, expression of happiness is appropriate in quality and quantity.	1. Happiness is expressed with the appropriate intensity and duration when called for by the situation.
2. Manic expression of happiness (continuous euphoric happiness).		

AFFECTIVE INVOLVEMENT

1. Total non-involvement.	1. There is empathic involvement in at least 70-80% of the situations. Lack of involvement, narcissistic, or over-involvement in 20-30% of situations can be tolerated, but not symbiotic involvement.	1. Legitimate, meaningful concern with one another; appropriate sensitivity to the feelings of others - good, total, empathic involvement.
2. Total over-intrusive involvement.		

BEHAVIOUR CONTROL

Severely Disturbed	Normative	Superior
1. The behaviour control within the family can be characterized as: a. completely absent - the approach to behaviour control is laissez-faire. That is, anything goes. b. chaotic - what appear to be family rules are applied in a chaotic manner (i.e. the rules and/or consequences for infraction of rules change without apparent reason. For example, an infraction might be ignored on one occasion and followed by explosive rage on another).	1. The family rules (standards of behaviour) and consequences for infraction of the rules are generally understood although not necessarily made explicit.	1. The family rules and the consequences regarding infraction of the rules are clearly spelled out and understood by all members of the family.
2. There is complete absence of a concensus regarding family rules and standards of behaviour. This can be reflected as chaos in behaviour control and/or extensive conflict regarding family rules and standards.	2. The family has achieved a working consensus regarding family rules and consequences for rule infraction that functions in most (90 %) of the situations. In the remaining (10%) situations, mild to moderate conflict may arise over behaviour control issues (or an attempt is made to ignore the issue). This conflict, however, does not unduly disrupt family function.	2. The family has reached and maintains a working consensus regarding rules and consequences for infraction of rules.
3. The standards of behaviour are totally inappropriate for one or more members of the family if: a. the standards are extremely detrimental to the growth and development of that family member or members. b. the standards are a central issue in major family dysfunction.	3. The standards can be mildly inappropriate (a little too high or too low) or idiosyncratic as long as (a) working consensus has been reached within the family (see Item 2 above), or (b) the standards are not extremely detrimental to the growth and development of one or more family members.	3. The standards for behaviour and consequences for infraction of the standards are appropriate for all family members.

BEHAVIOUR CONTROL cont.

Severely Disturbed

4. The rules are completely inflexible and rigid. ,

Normative

4. There is consistency in the application of consequences for infraction of rules which the family holds as central to their function (i. e. major rules). However, infraction of minor rules occasionally goes unpunished.

5. There is sufficient flexibility in the rules, such that rules can be modified when there is good reason to do so (special circumstances).

6. In general the standards of behaviour and consequences for infraction of family rules, while being the basis for occasional mild to moderate conflict, are not a central issue within a "normative" family.

Superior

4. There is consistency in the application of consequences for infraction of the rules (i. e. each infraction of a rule reliably elicits a punishment).

5. There is sufficient flexibility in the rules such that rules can be modified when there is good reason to do so (special circumstances).

APPENDIX D

PERSONALITY RATING SCALE

CHILDREN'S PERSONALITY QUESTIONNAIRE

Pupil (surname and initials).....

Date of birth...../...../19.....
Age.....yrs.....mths
Sex.....
School.....
Tester.....

Date of testing.....
Standard.....
Home language.....
Place.....
Scored by.....

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4
A1														
A2														
A1+A2														
B1														
B2														
B1+B2														
A + B														

Standard Score

Profile in Stens

10														10
9														9
8														8
7														7
6														6
5						NORM								5
4														4
3														3
2														2
1														1

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4

Remarks.....

.....

APPENDIX D

DESCRIPTION OF CPQ FACTORS

FACTOR A

STENS 1, 2, 3	STENS 8, 9, 10
RESERVED	OUTGOING
stiff	easy-going
aggressive, critical	good-natured, warm
obstructive, resists adult direction	ready to co-operate
cool, aloof	sociable, attentive to others
suspicious, jealous	trustful
rigid	adaptive, careless
cold	warm-hearted
prone to sulk and cry	laughs readily

FACTOR B

STENS 1, 2, 3	STENS 8, 9, 10
LESS INTELLIGENT	MORE INTELLIGENT

FACTOR C

STENS 1, 2, 3	STENS 8, 9, 10
EASILY AFFECTED BY FEELINGS	EMOTIONALLY STABLE
emotionally unstable	emotionally mature
gets emotional when frustrated	emotionally stable
fickle in attitudes and interests	stable in attitudes and interests
excitable, overactive	calm, phlegmatic
evasive of responsibilities	realistic, well-adjusted

FACTOR C (Contd.)

worrying	placid
gets into fights and accidents	does not easily get into difficulties

FACTOR D

STENS 1, 2, 3	STENS 8, 9, 10
PHLEGMATIC	EXCITABLE
placid	demanding, impatient
self-sufficient	attention-seeking
deliberate	overactive, excitable
not easily jealous	prone to jealousy
self-effacing	self-assertive, egotistic
constant	distractible
not restless	shows nervous symptoms

FACTOR E

STENS, 1, 2, 3	STENS 8, 9, 10
SUBMISSIVENESS	DOMINANCE
submissive	assertive
dependent	independent-minded
kindly, soft-hearted	hard, stern
expressive	solemn
conventional, conforming	rebellious, unconventional
self-sufficient	attention-getting

FACTOR F

STENS 1, 2, 3	STENS 8, 9, 10
SOBER	HAPPY-GO-LUCKY
serious	happy-go-lucky
silent, introspective	talkative
depressed	cheerful
brooding, concerned	serene
incommunicative, sticks to inner values	frank, expressive
languid, slow	quick, alert

FACTOR G

STENS 1, 2, 3	STENS 8, 9, 10
EXPEDIENT	CONSCIENTIOUS
frivolous	persevering, responsible
quitting, fickle	determined
demanding, impatient	emotionally mature
undependable, delinquent	conscientious
disregards obligations to people	attentive to people and rules
relaxed, indolent	consistently ordered

FACTOR H

STENS 1, 2, 3	STENS 8, 9, 10
SHY	VENTURESOME
withdrawn	likes meeting people
retiring in the presence of the opposite sex	overt interest in the opposite sex
aloof, cold, self-contained	responsible, genial
apt to be embittered	friendly
careful, considerate	carefree

FACTOR H (Contd.)

quick to see danger	does not see danger signals
restrained, conscientious	impulsive and frivolous

FACTOR I

STENS 1, 2, 3	STENS 8, 9, 10
TOUGH-MINDED	TENDER-MINDED
realistic, expects little	demanding, subjective, impatient
self-reliant	dependent
taking responsibility	seeking help
hard	kindly, gentle
few artistic responses	affected
practical, logical	sensitive, intuitive
self-sufficient	attention-seeking, frivolous
physically tough	hypochondriachal

FACTOR J

STENS 1, 2, 3	STENS 8, 9, 10
VIGOROUS	DOUBTING
vigorous	internally restrained
likes to go with the group	acts individualistically
accepts common standards	evaluates intellectually
acts	slow to act

FACTOR N

STENS 1, 2, 3	STENS 8, 9, 10
NAIVE	SHREWD
socially unalert	socially skillful
vague and sentimental	exact and realistic
company-seeking	cool, aloof
credulous	insightful regarding others
lacking self-insight	insightful regarding self

FACTOR O

STENS 1, 2, 3	STENS 8, 9, 10
PLACID	APPREHENSIVE
compliant	self-reproaching, guilt-prone
self-confident	worrying, cautious
cheerful, resilient	depressed, cries easily
impenitent, placid	sensitive, easily touched
expedient	strong sense of duty
does not care	exacting, fussy
rudely vigorous	hypochondriachal
no fears	phobic symptoms
given to simple action	moody, lonely, brooding

FACTOR Q_3

STENS 1, 2, 3	STENS 8, 9, 10
UNDISCIPLINED SELF-CONFLICT	CONTROLLED
lax, follows own urges	self-controlled, exacting
lack of integration	self-disciplined
careless of protocol	socially precise

FACTOR Q_4

STENS 1, 2, 3	STENS 8, 9, 10
RELAXED	TENSE
composed, tranquil	driven, over-tense
unfrustrated	frustrated

APPENDIX E

THE COLUMBUS : PICTURE ANALYSIS OF GROWTH TOWARDS MATURITY : AFFECTIVE FUNCTIONING ASSESSMENT FORM

A	1	Interaction with father	1	2	3	4	5	6	7
	2	Interaction with mother	1	2	3	4	5	6	7
	3	Interaction with siblings	1	2	3	4	5	6	7
	4	Interaction with peers	1	2	3	4	5	6	7
	5	Attitude towards school	1	2	3	4	5	6	7
	6	Attitude towards community	1	2	3	4	5	6	7
B	7	Ability to exercise self control	1	2	3	4	5	6	7
	8	Ability to cope with crisis	1	2	3	4	5	6	7
	9	Sensitivity to conscience	1	2	3	4	5	6	7
	10	Integration of self-concept (sense of identity)	1	2	3	4	5	6	7
	11	Self-evaluation i.r.t. other	1	2	3	4	5	6	7
	12	Level of realism	1	2	3	4	5	6	7
C	13	Awareness of responsibility	1	2	3	4	5	6	7
	14	Presence of purpose	1	2	3	4	5	6	7
	15	Mode of approach	1	2	3	4	5	6	7
	16	Attitude towards unknown (Incompletely known)	1	2	3	4	5	6	7
	18	Attitude towards Formless	1	2	3	4	5	6	7
	18	OVERALL QUALITY OF RESPONSE	1	2	3	4	5	6	7
			POOR/INADEQUATE				NORMATIVE		GOOD/ADEQUATE

BASIC DEFINITIONS AND ILLUSTRATIONS FOR RATING SCALES

A : RELATIONSHIP TO THE PRESENT/IMMEDIATE ENVIRONMENT

This determinant covers personal interrelationships, with father, mother, siblings, peers, school-or-work environment and the reality of these relationships, the degree of integration within these relationships and attitude towards them in general.

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
1 Exaggerated feelings of rejection aggression, defiance		Security, Belonging criticality
1 Presence of dependence, symbiosis passive participation disregard for and ignoring of relevant persons		Autonomy creative participation identification with relevant persons
3 Feelings of being 'sucked in' self-involved over-controlled over-emotional too formal		Freedom of movement reciprocity balanced emotion realistic structure spontaneity
4 Amoeboeus		Definite
5 Authority-rejected		Operative system
6 Unpredictability		Constancy

B : RELATIONSHIP TO ONESELF, OTHERS, THE WORLD OF OBJECTS

This determinant covers personal intrarelationships, personal abilities to encounter resistances and the ability to interpret them, quality of social conscience, sense of identity and self-concept, personal evaluation of ability to interact socially and the attitude towards the general environment.

7 Ability to exercise self-control

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Exaggerated repression		Appropriate regulation
carried away		
Destructive		Balanced/Ordered
Fragmented		Appropriate complexity, integrated
Admissive-restraining		Self-indulgent
Frustration-tolerance low		Stable

8 Ability to cope with crisis

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Evasive, flight		Facing up to things
Wild, impetuous		Orderly, systematic
disinhibited in approach		

9 Sensitivity to conscience

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Authority-bound/fear		Independent
Inflexible/rigid		Tolerant
Lack of awareness of norms		Self-reliance

10 Integration of self-concept

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Alienation		Integration
Anxiety/Easily disorientated by change		Equilibrium
Immaturity		Age-appropriate
Unrealistic		Accurate self-awareness

11 Self-Evaluation in relation to others

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Over-involved in self		Balanced self-analysis/awareness
Easily disoriented by others		Sensitive/Confident self-sufficiency
Threatened		Apt level of competition

12 Level of Realism

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Isolated coccooned existence		Integrated, free-moving
		feeling of belonging
Denial of/Dissatisfaction		Acceptance of level of learning
with level of learning		
Indifference		Purposeful analysis and synthesis
Scared		Exploratory

C : RELATIONSHIP TO THE FUTURE

This determinant refers to the child's outlook on the future - the quality thereof, the mode of approach to the future, the attitude to the incompletely known and the formless. Incorporated in this section in particular are the concepts and values, responsibility, personal potential, life-expectations and freedom of expression. The quality of abstract thought is of significance here.

13 Awareness of Responsibility

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Self-involved, dissocial opts out, avoids		Community-awareness, sharing accepts responsibility

14 Presence of Purpose

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
diffuse, undefined inappropriate, unrealistic		specific, clearly defined relevant, appropriate, realistic

15 Mode of Approach

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
negative indirect, evasive anxious, apprehensive		positive self-confident, direct reflectively purposeful

16 Attitude towards Unknown (Incompletely Known)

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Unrealistic self-protective/defensive lacking initiative		careful evaluation exploratory, autonomous imaginative

17 Attitude towards Formless

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE
Unproductive Fearful		Productive Confident

18 OVERALL QUALITY OF RESPONSE

POOR/INADEQUATE	NORMATIVE	GOOD/ADEQUATE

APPENDIX F

Inter-rater Reliability Analysis A

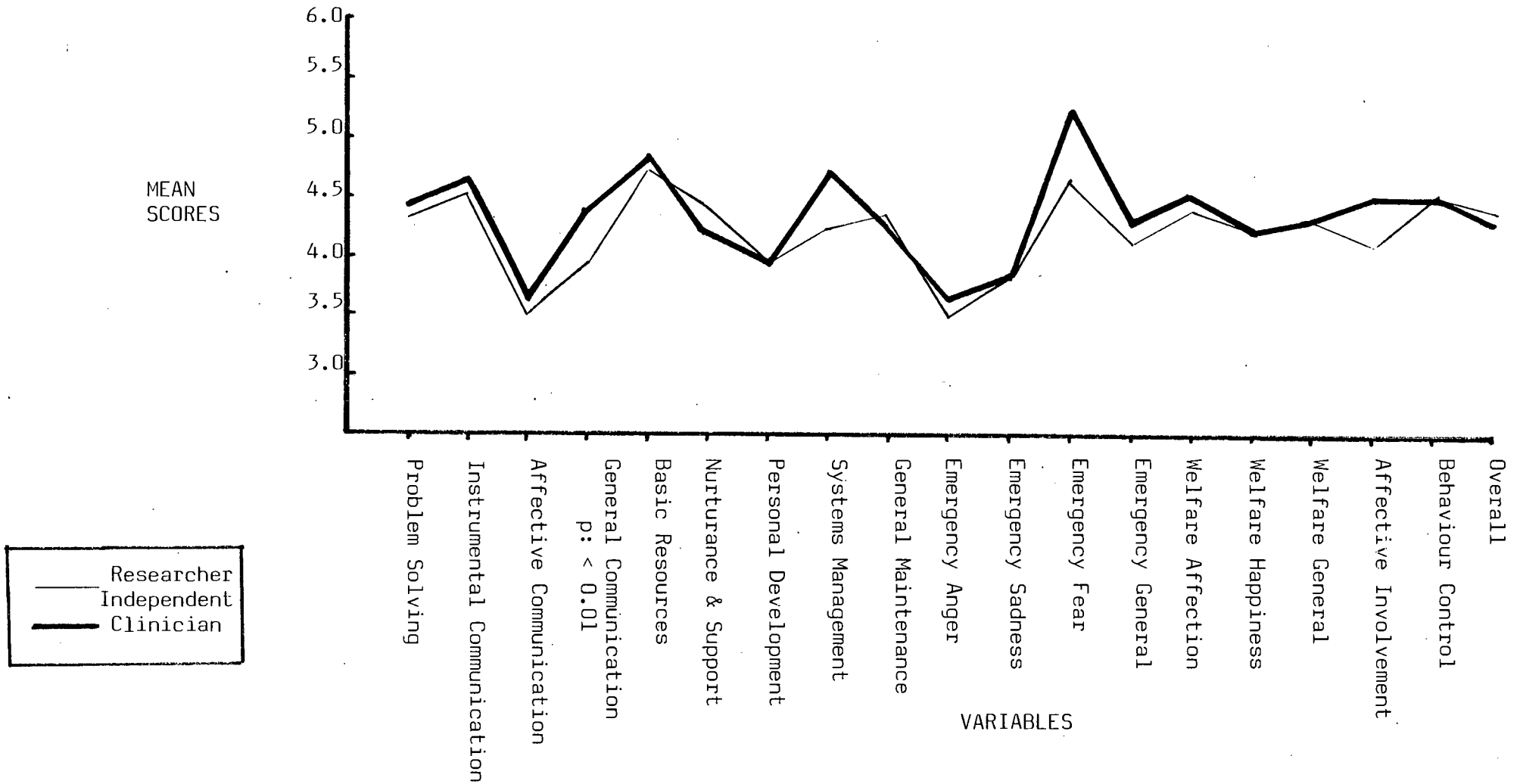


Figure 1: Pilot illustration of comparison of mean scores of ratings for family functions

Inter-Rater Reliability Analysis A

Means and Standard Deviations of Ratings on Areas of Family Functioning

CASE No.	VARIABLE	MEAN	STANDARD DEVIATION
1	PROBSLV1	4.333331	1.224745
2	PROBSLV2	4.444443	1.740050
3	INSTRUM1	4.555553	1.589898
4	INSTRUM2	4.666665	1.581139
5	AFFECT1	3.555553	1.236033
6	AFFECT2	3.666665	1.870829
7	GENERLC1	3.999998	1.224745
8	GENERLC2	4.444443	1.509232
9	BASICRS1	4.777776	1.201851
10	BASICRS2	4.888886	1.054092
11	NUTURAN1	4.444443	1.509231
12	NUTURAN2	4.222220	1.301708
13	PERSNDV1	3.999998	1.224746
14	PERSNDV2	3.999998	1.802775
15	SYSTEMN1	4.222220	1.394434
16	SYSTEMN2	4.777776	1.481366
17	GENERLM1	4.333332	1.414213
18	GENERLM2	4.222220	1.394433
19	EMANGER1	3.555553	1.333334
20	EMANGER2	3.666665	1.870829
21	EMSADNS1	3.888886	1.054092
22	EMSADNS2	3.888886	1.691482
23	EMFEAR1	4.666665	2.061552
24	EMFEAR2	5.222221	2.728451
25	EMGENRL1	4.111109	1.166667
26	EMGENERL	4.333331	1.414213
27	WELAFFC1	4.444443	1.013794
28	WELAFFC2	4.555553	1.130388
29	WELHAPP1	4.222221	1.394433
30	WELHAPP2	4.222221	1.563472
31	WELGENR1	4.333331	1.224745
32	WELGENR2	4.333331	1.414213
33	AFFCINV1	4.111109	1.536590
34	AFFCINV2	4.555553	1.589898
35	BEHAVCN1	4.555553	1.013794
36	BEHAVCN2	4.555553	1.424001
37	OVERALL1	4.444443	1.509231
38	OVERALL2	4.333331	1.414213

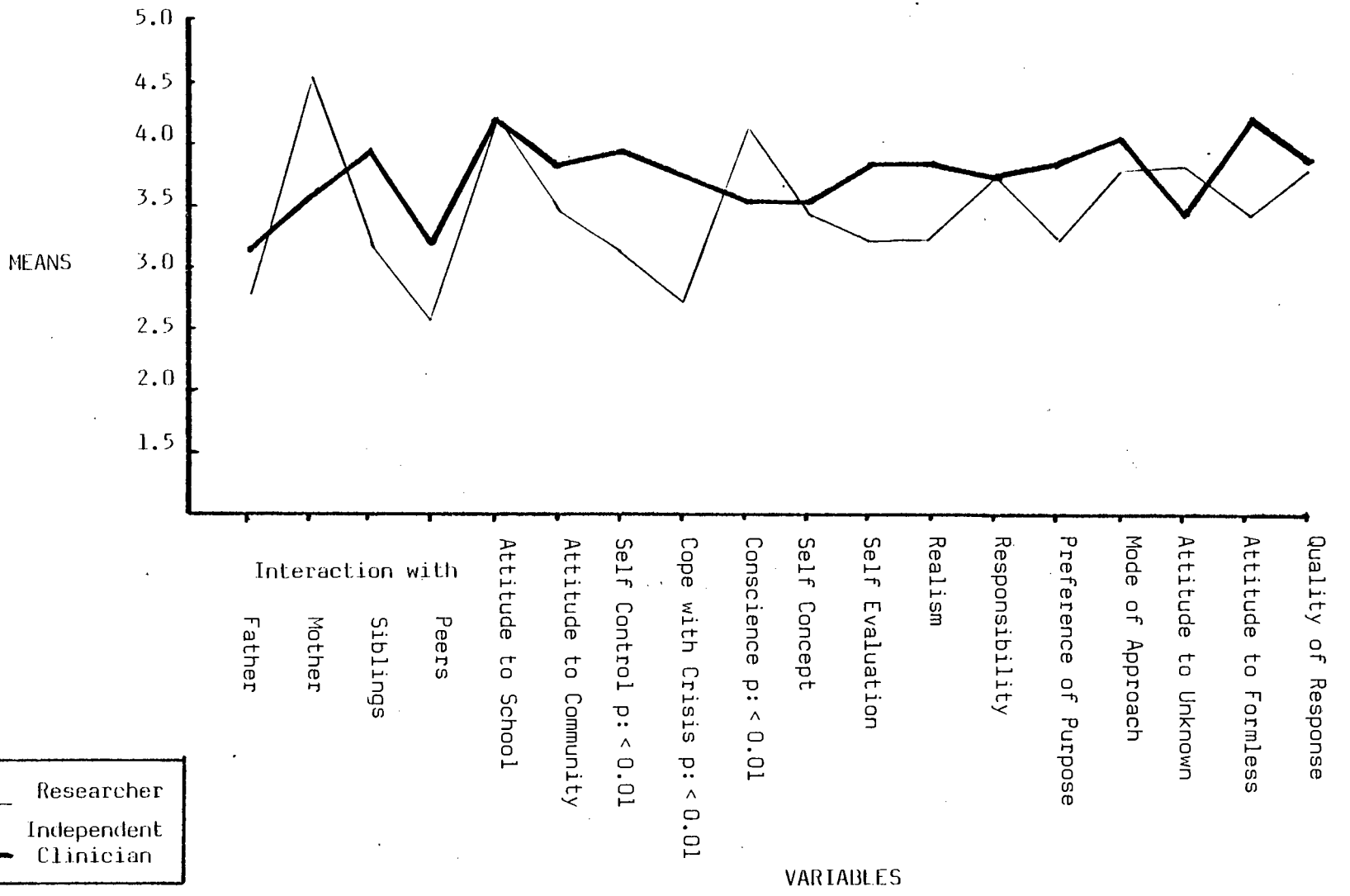


Figure 2: Pilot Study: Graphic illustration of mean scores of ratings for affective functioning

Inter-rater Reliability Analysis B

Means and Standard Deviations of Ratings on Affective Functioning

CASE No.	VARIABLE	MEAN	STANDARD DEVIATION
1	INTFTHR1	2.857141	1.214985
2	INTFTHR2	3.142856	1.345185
3	INTMTHR1	4.571427	0.975900
4	INTMTHR2	3.571427	0.975900
5	INTSBLG1	3.285713	1.380131
6	INTSBLG2	3.999998	0.816495
7	INTPERS1	2.571426	0.975899
8	INTPERS2	3.285713	0.755929
9	ATSCHOL1	4.285713	0.755928
10	ATSCHOL2	4.285713	0.487950
11	ATCOMMN1	3.428571	0.975900
12	ATCOMMN2	3.857141	0.690065
13	SLFCONT1	3.142856	1.069044
14	SLFCONT2	3.999999	1.290995
15	COPCRIS1	2.714285	1.112697
16	COPCRIS2	3.714285	1.380131
17	CONSCEN1	4.142856	1.069045
18	CONSCEN2	3.571427	1.272418
19	SLFCONS1	3.428570	0.786795
20	SLFCONS2	3.571427	0.975900
21	SLFEVAL1	3.285712	1.112697
22	SLFEVAL2	3.857141	1.463850
23	REALISM1	3.285713	1.253566
24	REALISM2	3.857141	1.069044
25	RESPNSB1	3.714284	1.496026
26	RESPNSB2	3.714284	0.755929
27	PRESPRP1	3.285712	0.755929
28	PRESPRP2	3.857141	1.069044
29	MODAPPR1	3.857141	1.463850
30	MODAPPR2	3.999999	0.577350
31	ATUNKNO1	3.857141	1.214985
32	ATUNKNOW2	3.428570	1.133893
33	ATFORML1	3.428570	1.272418
34	ATFORML2	4.142856	1.069045
35	QUALRSP1	3.857141	1.676163
36	QUALRSP2	3.857141	1.345185

BIBLIOGRAPHY

AARON, P.G. 'A Neuropsychological Key Approach to Diagnosis and Remediation of Learning Disabilities'. Journal of Clinical Psychology, 35(2), 326-335, 1979.

ABRAMS, J.C. & KASLOW, F. 'Family Systems and the Learning Disabled Child: Intervention and Treatment'. Journal of Learning Disabilities, 10(2), 86-90, 1977.

ADAMS, R.R., LERNER, L. & ANDERSON, J. 'Children with Learning Problems: A Developmental View for Parents'. Journal of Learning Disabilities, 12(5), 315-319, 1979.

ALLMOND, B.W., BUCKMAN, W. & GOFFMAN, H.F. The Family is the Patient: An Approach to the Behavioural Paediatrics for the Clinician. St. Louis, U.S.A. : The C.V. Mosby Company, 1979.

ALLPORT, G.W. Personality: A Psychological Interpretation. New York : Holt, 1937.

ALLPORT, G.W. Becoming: Basic Considerations for a Psychology of Personality. New Haven : Yale U.P., 1955.

ANDERSON, C.W. 'Attachment in Daily Separations: Reconceptionalizing Day Care and Maternal Employment Issues'. Child Development, 51, 242-245, 1980.

ANDOLFI, M. Family Therapy. New York : Plenum Press, 1979.

ARNOLD, M.B. (Ed.) Personality and Psychopathology: A Series of Monographs, Texts and Treatises. London : Academic Press, 1970.

AYRES, J. Sensory Integration and Learning Disorders. L.A. California : Western Psychological Services, 1980.

BANE, M.J. 'Family Policy: Government and Families in Fourteen Countries edited by S.B. Kamerman and A.J. Kahn'. Harvard Educational Review, 49(1), 390-393, 1979.

BERLER, E.S. & ROMANCZYK, R.G. 'Assessment of the Learning Disabled and Hyperactive Child: An analysis and critique'. Journal of Learning Disabilities, 13(9), 536-539, 1980.

BOWLEY, A.H. & GARDNER, L. The Handicapped Child: Educational and Psychological Guidance for the Organically Handicapped. London : Longmans Group, 1972.

BRABNER, G. Jnr. 'Learning Disabilities or Instructional Problems?'. In J.K. Dissinger and C.R. Arnold (Eds.) Studies in the Foundations of Exceptionality. California : Wadsworth Publishing Co., 1975.

BRUINICKS, V.L. 'Peer Status and Personality. Characteristics of Learning Disabled and Non-Disabled Students'. Journal of Learning Disabilities, 11(8), 484-489, 1978.

BRUNO, R.M. 'Interpretation of Pictorially Presented Social Situations by Learning Disabled and Normal Children'. Journal of Learning Disabilities, 14(6), 350-352.

BRYAN, T.H. 'Peer Popularity of Learning Disabled Children: A Replication'. Journal of Learning Disability, 9(5), 301-311, 1976.

BRYAN, T.H. 'Learning Disabled Children's Comprehension of Non-verbal Communication'. Journal of Learning Disabilities, 10(8), 501-506, 1977.

BRYAN, T.H. 'Social Relationships and Verbal Interaction of Learning Disabled Children'. Journal of Learning Disabilities, 11(2), 107-115, 1978.

BUCKLEY, W.F. (Ed.) Modern Systems Research for the Behavioural Scientist: a sourcebook. Chicago : Aldine, 1968.

BUSS, D.M., BLOCK, J.H. & BLOCK, J. 'Pre-School Activity Level: Personality Correlates and Developmental Implications'. Child Development, 51, 401-408, 1980.

CAREY, W.B., McDEVITT, S.C. & BAKER, D. 'Differentiating Minimal Brain Dysfunction and Temperament'. Developmental Medicine and Child Neurology, 21, 765-772, 1979.

CATTELL, R.B. A Guide to Mental Testing. 3rd edition. London : University of London Press, 1953.

CATTELL, R.B. The Scientific Analysis of Personality. Suffolk : Chaucer Press, 1966.

CHADWICK, O., RUTTER, M., THOMPSON, J. & SHAFFER, D. 'Intellectual Performance and Reading Skills after Localised Head Injury in Childhood'. Journal of Child Psychology and Psychiatry, 22, 117-139, 1981.

CHAPMAN, J.W. & BOERSMA, F.J. 'Learning Disabilities, Locus of Control and Mother Attitudes'. Journal of Educational Psychology, 71(2), 250-258, 1979.

COLTON, T. Statistics in Medicine. Boston : Little, Brown & Co., 1974.

CONNOLLY, K.J. 'Dyslexia: An Appraisal of Current Knowledge'. Developmental Medicine and Child Neurology, 22, 412-413, 1980.

COPELAND, A.P. & WEISSBORD, C.S. 'Effects of Modeling on Behaviour Related to Hyperactivity'. Journal of Educational Psychology, 72(6), 875-883, 1980.

COPELAND, A.P. & WISNIEWSKI, N.M. Learning Disability and Hyperactivity: Deficits in Selective Attention. In K.J. Connolly and H.F.R. Prechtl (Eds.) Maturation and Development. U.S.A. : Academic Press, 1981.

CUNNINGHAM, C.E. & BARKLEY, R.A. 'The Role of Academic Failure in Hyperactive Behaviour'. Journal of Learning Disabilities, 11(5), 274-280, 1978.

DANIEL, W.W. Biostatistics: A Foundation for Analysis in the Health Sciences. 2nd edition. New York : John Wiley & Sons, 1978.

DECKER, S.N. & DE FRIES, J.C. 'Cognitive Ability Profiles in Families of Reading-disabled Children'. Developmental Medicine and Child Neurology, 23, 217-227, 1981.

DEMBINSKI, R.J. & MAUSER, A.J. 'What Parents of the Learning Disabled Really Want from Professionals'. Journal of Learning Disabilities, 10(9), 578-584, 1977.

DIAMOND, B. 'Myths of Mainstreaming'. Journal of Learning Disabilities, 12(4), 246-250, 1979.

DINNAGE, R. The Handicapped Child. A Research Review. London : Longmans, 1970.

DISSINGER, J.K. & ARNOLD, C.R. (Eds.) Studies in the Psychological Foundations of Exceptionality. California : Wadsworth Publishing Co., 1975.

DOEHRING, D.C. Evaluation of Two Models of Reading Disability. In R.M. Knights and D.J. Bakker (Eds.) The Neuropsychology of Learning Disorders: Theoretical Approaches. Baltimore : University Park Press, 1979.

DOUGLAS, J. 'Behavioural Work with Families'. Journal of Family Therapy, 1, 371-381, 1979a.

DOUGLAS, J. 'Behavioural Family Therapy and the Influence of a Systems Framework. Journal of Family Therapy, 3, 327-339, 1981.

DOUGLAS, V.I. Perceptual and Cognitive Factors as Determinants of Learning Disabilities. In R.M. Knights and D.J. Bakker (Eds.) The Neuropsychology of Learning Disorders: Theoretical Approaches. Baltimore : University Park Press, 1979b.

DU TOIT, L. & MADGE, E.M. Manual for the Children's Personality Questionnaire (C.P.Q.). Pretoria : Human Sciences Research Council, 1972.

EPSTEIN, N.B. & BISHOP, D.S. 'Problem Centred Systems Therapy of the Family'. Journal of Marital and Family Therapy, Jan., 23-31, 1981.

EPSTEIN, N.B., BISHOP, D.S. & LEVIN, S. McMaster Model of Family Functioning. Unpublished Paper, McMasters University, Canada, 1977.

EYSENCK, S.B.J. A New Scale for Personality Measurements in Children. In H.J. Eysenck Readings in Extraversion-Introversion 1. Theoretical and Methodological Issues. London : Staples Press, 1970.

EYSENCK, H.J. Dimensions of Personality. London : Routledge & Kegan Paul, 1947.

EYSENCK, H.J. Readings in Extraversion-Introversion 1. Theoretical and Methodological Issues. London : Staples Press, 1970.

FLETCHER, J.M. & SATZ, P. 'Unitary Deficit Hypotheses of Reading Disabilities: Has Vellutino led us astray?' Journal of Learning Disabilities, 12(3), 155-159, 1979.

FRIEDMAN, R. 'Using the Family School in the Treatment of Learning Disabilities'. Journal of Learning Disabilities, 11(6), 378-382, 1978.

FRUDE, N. 'Methodological Problems in the Evaluation of Family Therapy'. Journal of Family Therapy, 2, 29-44, 1980.

FRY, G.W. 'Schooling, Development and Inequality: Old myths and New realities'. Harvard Educational Review, 51(1), 107-108, 1981.

GADDES, W.H. Prevalence Estimates and the Need for Definition of Learning Disabilities. In Knights, R.M. and Bakker, D.J. (Eds.) The Neuropsychology of Learning Disorders: Theoretical Approaches. Baltimore : University Park Press, 1979.

GANTMAN, C.A. 'A Closer Look at Facilities that Work Well'. International Journal of Family Therapy, 2(2), 106-119, 1980.

GICKLING, E.E. & ARMSTRONG, D.C. 'Level of Instrumental Difficulty as Related to On-Task Behaviour, Task Completion and Comprehension'. Journal of Learning Disabilities, 11(9), 559-566, 1978.

GOH, D.S. & YOUNGQUIST, J. 'A Comparison of the McCarthy Scales of Children's Abilities and the WISC-R'. Journal of Learning Disabilities, 12(5), 344-348, 1979.

GORDON, N. & McKINLAY, I. (Eds.) Helping Clumsy Children. New York : Churchill Livingstone, 1980.

HAIGHT, S.A. 'Learning Disabilities - The Battered Discipline'. Journal of Learning Disabilities, 13(8), 452-455, 1980.

HARRIS, I.D. Emotional Blocks to Learning. A study of the reasons for failure in school. New York : The Free Press, 1966.

HARRIS, P.L., OLTHOF, T. & TERWOGT, M.M. 'Children's Knowledge of Emotion'. Journal of Child Psychology and Psychiatry, 22(3), 247-261, 1981.

HALEY, J. Problem-Solving Therapy. London : Jossey Bass Publishers, 1977.

HELLBRÜGGE, T., LAJOSI, F., MENARA, D., SCHAMBERGER, R. & RAUTENSTRAUCH, T. Münchener Funktionelle Entwicklungsdiagnostik Band 1-4. München : Urban and Schwarzenberg, 1978.

HERTZIG, M.E. 'Neurological "Soft" Signs in Low-birthweight Children'. Develop. Med. Child. Neurol., 23, 778-791, 1981.

HETRICK, E.W. 'Training Parents of Learning Disabled Children in Facilitative Communicative Skills'. Journal of Learning Disabilities, 12(4), 275-277, 1979.

HARMER, W.R. & ALEXANDER, J. 'Examination of Parental Attitudes within the Diagnostic Intervention Process. Journal of Learning Disabilities, 11(9), 590-593, 1978.

HOFFMAN, L.W. & MANIS, J.D. Influences of Children on Marital Interaction and Parental Satisfaction and Dissatisfactions. In Lerner, R.M. and Spanier, G.B. A Dynamic Interactional View of Child and Family Development, 165-214, 1978.

HOFMEISTER, A.M. 'Assessment and Treatment Validity'. Journal of Learning Disabilities, 12(3), 206-208, 1979.

HOWARD, J. The Influence of Children's Developmental Dysfunctions on Marital Quality and Family Interaction. In Lerner, R.M. and Spanier, G.B. A Dynamic Interactional View of Child and Family Development, 275-298, 1978.

HOWARTH, E. 'Birth Order, Family Structure and Personality Variables'. Journal of Personality Assessment, 44(3), 299-301, 1980.

HOWELLS, J.G. (Ed.) Theory and Practice of Family Psychology. Edinburgh : Olivier & Boyd Ltd., 1968.

HENRY, S.A. & WITTMAN, R.D. 'Diagnostic Implications of Bannatyne's Recategorized WISC-R Scores for Identifying Learning Disabled Children'. Journal of Learning Disabilities, 14(9), 517-520, 1981.

IDOL-MAESTAS, L. 'Behaviour Patterns in Families of Boys with Learning and Behaviour Problems'. Journal of Learning Disabilities, 14(6), 347-349, 1981.

JACOBSON, E. Biology of Emotions. Illinois : Charles C. Thomas, 1967.

JAYASEKARA, R. & STREET, J. 'Parental Age and Parity in Dyslexic Boys'. Developmental Medicine and Child Neurology, 26, 834-835, 1978.

JOHNSON, D.J. & MYKLEBUST, H.R. Learning Disabilities. Educational Principles and Practices. New York : Grune & Stratton, 1967.

JORM, A.F. 'Children with Reading and Spelling Retardation: Functioning of whole-word and correspondence mechanisms'. Journal of Child Psychology and Psychiatry, 22, 171-178, 1981.

KASLOW, F. Family Therapy Workshop. University of Cape Town Child Guidance Clinic, Cape Town. August, 1980.

KAUFMAN, A.S. 'Assessment: The Wechsler Scales and Learning Disabilities'. Journal of Learning Disabilities, 14(7), 397-399, 1981a.

KAUFMAN, A.S. 'The WISC-R and Learning Disabilities Assessment: State of the Art'. Journal of Learning Disabilities, 14(9), 520-525, 1981b.

KINSTON, W., LOADER, P. & STRATFORD, J. 'Clinical Assessment of Family Interaction: A Reliability Study'. Journal of Family Therapy, 1, 291-312, 1979.

KLEIN, R.S., ALTMAN, S.D., DREIZEN, K., FRIEDMAN, R. & POWERS, L. 'Restructuring Dysfunctional Parental Attitudes Toward Children's Learning and Behaviour in School: Family-Oriented Psychoeducational Therapy. Part 1'. Journal of Learning Disabilities, 14(1), 15-19, 1981a.

KLEIN, R.S., ALTMAN, S.D., DREIZEN, D., FRIEDMAN, R. & POWERS, L. 'Restructuring Dysfunctional Parental Attitudes Towards Children's Learning and Behaviour in School: Family-Oriented Psychoeducational Therapy. Part 11. Journal of Learning Disabilities, 14(2), 99-101, 1981b.

KNIGHTS, R.M. & BAKKER, D.J. (Eds.) The Neuropsychology of Learning Disorders: Theoretical Approaches. 2nd edition. Baltimore : University Park Press, 1979.

KRATOCHWILL, T.R., BRODY, G.R. & PIERSEL, W.C. 'Time Series Research: Some comments on design methodology for Research in Learning Disabilities'. Journal of Learning Disabilities, 12(4), 258-263, 1979.

LANGEVELD, The Columbus: Picture Analysis of Growth Towards Maturity. A Series of 24 Pictures and a Manual. 2nd edition. Basel : S. Karger, 1976.

LANSDOWN, R. 'The Learning Disabled Child : Early Detection and Prevention'. Developmental Medicine and Child Neurology, 20, 496-497, 1978.

LENKOWSKY, L.K. & SAPOSNEK, D.T. 'Family Consequences of Parental Dyslexia'. Journal of Learning Disabilities, 11(1), 47-53, 1978.

LERNER, R.M. & SPANIER, G.E. (Eds.) Child Influences on Marital and Family Interaction: A life-span perspective. London : Academic Press, 1978.

LILIENFELD, R. The Rise of Systems Theory. An ideological analysis. New York : John Wiley & Sons, 1978.

LOWMAN, J. 'Measurement of Family Affective Structure'. Journal of Personality Assessment, 44(3), 130-141, 1980.

LYON, M.E. & PLOMIN, R. 'The Measurement of Temperament using Parental Ratings'. Journal of Child Psychology and Psychiatry, 22, 47-53, 1981.

MANN, L. 'The Wax Block Metaphor: Plato's Views on Learning Disabilities'. Journal of Learning Disabilities, 13(8), 420-424, 1980.

MARX, M.H. 'Psychology of the Scientist: XL. Flexibility in Data Analysis and Group Data Collection'. Psychological Reports, 45, 105-106, 1979.

McGLANNAN, F. 'Empathy in Learning Disabled Children'. Journal of Learning Disabilities, 10(8), 507-508, 1977.

McLEOD, J. 'Educational Underachievement: Toward a Defensible Psychometric Definition'. Journal of Learning Disabilities, 12(5), 322-330, 1979.

McLOUGHLIN, J.A., EDGE, D. & STRENECKY, B. 'Perspectives on Parental Involvement in the Diagnosis and Treatment of Learning Disabled Children'. Journal of Learning Disabilities, 11(5), 291-296, 1978.

MEAD, S.L. & REKERS, G.A. 'Role of the Father in Normal Psychosexual Development'. Psychological Reports, 45, 923-931, 1979.

MEICHENBAUM, D. 'Cognitive Functional Approach to Cognitive Factors as Determinants of Learning Disabilities'. In Knights, R.M. and Bakker, D.J. (Eds.) The Neuropsychology of Learning Disorders. Baltimore : University Park Press, 1979.

MICHAYLUK, J.O. 'Recategorization of WPPSI Scores for Kindergarten Children with Learning Difficulties'. Journal of Learning Disabilities, 14(7), 408-411, 1981.

MICHELSON, K., YLINEN, A. & DONNER, M. 'Neurodevelopmental Screening at 5 Years of Children who were at Risk Neonatally'. Developmental Medicine and Child Neurology, 23, 427-433, 1981.

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

MOORE, D.W. & WIELAN, O.P. 'WISC-R Scatter Indexes of Children Referred for Reading Diagnosis'. Journal of Learning Disabilities, 14(9), 511-514, 1981.

MORRISON, G. 'Sociometric Measurement: Methodological Consideration of its Use with Mildly Learning Handicapped and Non-handicapped Children'. Journal of Educational Psychology, 73(2), 193-201, 1981.

MÜLLER, R. Deutsche Schultests. Diagnostischer Rechtschreibtest. Weinheim : Juluis Beltz Verlag, 1966.

MURRAY, C.H. DE C. Verslag van die Komitee van Ondersoek na die Opvoeding van Kinders met Minimale Brein-Disfunksie. Pretoria : Die Staatsdrukker, 1969.

MYKLEBUST, H.R. 'What is the Future for Learning Disabilities?' Journal of Learning Disabilities, 13(9), 468-471, 1980.

NEYHUS, A.I. & NEYHUS, M. 'Relationship of Parents and Teachers in the Identification of Children with Suspected Learning Disabilities'. Journal of Learning Disabilities, 12(6), 379-382, 1979.

OETTINGER, L., MAJOVSKI, L.V. & GAUCH, R.R. In the Psychologist, the School and the Child with MBD/Learning Disability. New York : Grune & Stratton, 1978.

OLLENDICK, D.G. 'Parental Locus of Control and the Assessment of Children's Personality Characteristics'. Journal of Personality Assessment, 43(4), 401-404, 1979.

OMELICH, C.L. & CORINGTON, M.V. 'Effort: The Double-edged Sword in School Achievement'. Journal of Educational Psychology, 71(2), 169-182, 1979.

PARKINSON, C.W., WALLIS, S. & HARVEY, D. 'School Achievement and Behaviour of Children who were Small-for-dates at Birth'. Developmental Medicine and Child Neurology, 23, 41-50, 1981.

PESESCHKIAN, N. Positive Familientherapie. Eine Behandlungs-methode der Zukunft. Frankfurt : Fischer Verlag Gmb. H., 1980.

PETERSON, D.R. The Age Generality of Personality Factors Derived from Ratings. In H.J. Eysenck Readings in Extra-version-Introversion. 1. Theoretical and Methodo-logical Issues. London : Staples Press, 1970.

PHINNEY, J.S. 'Social Interaction in Young Children: Initiation of Peer Contact'. Psychological Reports, 45, 489-490, 1979.

PINKERTON, P. 'Parental Acceptance of the Handicapped Child'. Developmental Medicine and Child Neurology, 12, 207-212, 1970.

REGER, R. 'Learning Disabilities: Some attempts at a simplistic Definition'. Journal of Learning Disabilities, 12(6), 529-532, 1979.

RICHEY, D.D. & McKINNEY, J.D. 'Classroom Behavioural Styles of Learning Disabled Boys'. Journal of Learning Disabilities, 11(5), 297-302, 1978.

ROLLINS, B.C. & GALLIGAN, R. The Developing Child and Marital Satisfaction of Parents. In Lerner, R.M. and Spanier, G.B. (Eds.) Child Influences on Marital and Family Interaction. London : Academic Press, 1978.

RUBIN, R.A. & BALOW, B. 'Infant Neurological Abnormalities as Indicators of Cognitive Impairment'. Developmental Medicine and Child Neurology, 22, 336-343, 1980.

RUTTER, M. The Handicapped Child - A Research Review. In R. Dinnage (Ed.) The Handicapped Child: A Research Review. London : Longman, 1970.

RUTTER, M. Maternal Deprivation Reassessed. 2nd edition. Suffolk, U.K. : Richard Clay Ltd., 1981.

RYCKMAN, D.B. 'Searching for a WISC-R Profile for Learning Disabled Children: An Inappropriate Task?' Journal of Learning Disabilities, 14(9), 508-510, 1981.

SALOMON, G. 'Media and Symbol Systems as Related to Cognition and Learning'. Journal of Educational Psychology, 71(2), 131-148, 1979.

SANDBERG, S.T., RUTTER, M. & TAYLOR, E. 'Hyperkinetic Disorder in Psychiatric Clinic Attenders'. Developmental Medicine and Child Neurology, 20, 279-299, 1978.

SANDBERG, S.T., WIESELBERG, M. & SCHAFFER, D. 'Hyperkinetic and Conduct Problem Children in a Primary School Population: Some Epidemiological Considerations. Journal of Child Psychology and Psychiatry, 21, 293-311, 1980.

SARAVIO-CAMPOS. J. 'Minimal Brain Dysfunction: An Over-Simplification? Developmental Medicine and Child Neurology, 18, 246-247, 1976.

SATIR, V.M. Symptomatology: A family production. In Howells, J.G. Theory and Practice of Family Psychiatry. Edinburgh : Olivier and Boyd Ltd., 1968.

SATIR, V., STACHOWIAK, J. & TASCHMAN, H.A.(Eds.) Helping Families to Change. New York : Jason Aronson Inc., 1979.

SCHIFF, M.M., KAUFMAN, A. & KAUFMAN, N. 'Scatter Analysis of WISC-R Profiles for Learning Disabled Children with Superior Intelligence'. Journal of Learning Disabilities, 14 (7), 400-404, 1981.

SCHUBERT, J.B., BRADLEY-JOHNSON, S. & NUTTAL, J. 'Mother-infant Communication and Maternal Employment'. Child Development, 51, 246-249, 1980.

SCHWARTZ, E.M. & ELONEN, A.S. 'IQ and the Myth of Stability. A 16 Year Longitudinal Study of Variations in Intelligence Test Performances'. Journal of Clinical Psychology, 31, 687-693, 1975.

SERRANO, V.M. & WILSON, N.J. Family Therapy in the Treatment of the Brain-damaged Child. In Howells, J.G. (Ed.) Theory and Practice of Family Psychiatry. Edinburgh : Olivier and Boyd Ltd., 1968.

SHAPERO, S. & FORBES, R. 'Parents of Learning Disabled Children'. Journal of Learning Disabilities, 14(9), 499-504, 1981.

SHELTON, M.N. 'Affective Education and the Learning Disabled Student'. Journal of Learning Disabilities, 10(10), 618-623, 1977.

SHERMAN, J.L., KRUG, S.E. & BIRENBAUM, M. 'Checking the Reliability and Validity of HSPQ Profiles'. Journal of Personality Assessment, 43(6), 644-647, 1979.

SINGER, M. 'Further Comment of Reading, Language, and Learnings'. Harvard Educational Review, 49(1), 110-112, 1981.

SIPERSTEIN, G., BOPP, M.J. & BAK, J.J. 'Social Status of Learning Disabled Children'. Journal of Learning Disabilities, 11(2), 98-102, 1978.

SLOMAN, L. & WEBSTER, C.D. 'Assessing the Parents of the Learning Disabled Child. A Semi-structured Interview Procedure'. Journal of Learning Disabilities, 11(2), 37-39, 1978.

SMITH, B. & PHILLIPS, C.J. 'Age-related Progress among Children with Severe Learning Difficulties'. Developmental Medicine and Child Neurology, 23, 465-476, 1981.

SMITH, J.D. & POLLOWAY, E.G. 'Learning Disabilities: Individual Needs or Categorical Concerns?' Journal of Learning Disabilities, 12(8), 525, 1979.

SNIZEK, W.E. & FUHRMAN, E.R. 'Theoretical Observations on Applied Behavioural Science'. Journal of Applied Behavioural Science, 17(1), 98-112, 1981.

SOBOLOFF, H.R. 'Early Intervention - Fact or Fiction?' Developmental Medicine and Child Neurology, 23(2), 261-265, 1981.

SOENKSEN, P.A., FLAGG, C.L. & SCHMITS, D.W. 'Social Communication in Learning Disabled Students: A Pragmatic Analysis'. Journal of Learning Disabilities, 14(5), 283-286, 1981.

STANFORD RESEARCH INSTITUTE. Vals Typology. California : Stanford University, 1980.

STERNBERG, R.J. 'Nothing Fails Like Success: The Search for an Intelligent Paradigm for Studying Intelligence'. Journal of Educational Psychology, 73, 142-155, 1981.

STEWART, D.J., CRUMP, W.D. & McLEAN, J.E. 'Response Instability on the Piers-Harris Children's Self-Concept Scale'. Journal of Learning Disabilities, 12(5), 351, 1979.

STONE, N.W. & LEVIN, H.S. 'Neuropsychological Testing of Developmentally Delayed Young Children. Problems and Progress'. Journal of Learning Disabilities, 12 (4), 271-274, 1979.

STRASSER, S. Feelings as Basis of Knowing and Recognising the Other as an Ego. In Arnold, M.B. (Ed.) Personality and Psychopathology: A Series of Monographs, Texts and Treatises. London : Academic Press, 1970.

SZASZ, T. The Myth of Psychotherapy : Mental Healing as Religion, Rhetoric and Repression. Oxford : Oxford University Press, 1979.

TASCHMAN, H. Developments in Family Therapy. In Satir, V., Stachowiak, J. and Taschman, H.A. (Eds.) Helping Families to Change. New York : Jason Aronson Inc., 1979.

THOMPSON, A.C. 'Some Counter Thinking about Learning Disabilities'. Journal of Learning Disabilities, 14(7), 394-396, 1981.

TOFFLER, A. Future Shock. Bucks : Watson & Viney Ltd., 1970.

TOMKINS, S.S. & ISARD, C.E. Affect, Cognition and Personality. New York : Empirical Studies Springer Publ. Co. Inc., 1965.

TORGESEN, J.K. & DICE, C. 'Characteristics of Research on Learning Disabilities'. Journal of Learning Disabilities, 13(9), 531-535, 1980.

TRITES, R.L. & FIEDOROWITZ, C. Follow-up Study of Children with Specific (or Primary) Reading Disability. In Knights, R.M. and Bakker, D.J. (Eds.) The Neuropsychology of Learning Disorders: Theoretical Approaches. Baltimore : University Park Press, 1979.

TROTTER, S. Labelling: 'It Hurts More than it Helps'. Journal of Learning Disabilities, 8(3), 191-193,

VANCE, H.B., SINGER, M.G. & ENGIN, A.W. 'WISC-R Subtest Differences for Male and Female Learning Disabled Children and Youth'. Journal of Clinical Psychology, 36(4), 953-957, 1980.

VELLUTINO, F. 'A Reply to Singer'. Harvard Educational Review, 49(1), 113-117, 1979.

VON BERTALANFFY, L. Robots, Men and Minds: psychology in the modern world. New York : George Braziller, 1967.

VON BERTALANFFY, L. General Systems Theory: A Critical Review. In Buckley, W.F. (Ed.) Modern Systems Research for the Behavioural Scientist: a sourcebook. Chicago : Aldine, 1968.

WAGNER, E.E., MALONEY, P. & WALTER, T. 'Efficacy of Three Projective Techniques in Brain Damage Among Subjects with Normal IQ's'. Journal Clinical Psychology, 36(4), 968-972, 1980.

WALKER, E. 'Emotion Recognition in Disturbed and Normal Children. A Research Note'. Journal of Child Psychology and Psychiatry, 22(3), 263-268, 1981.

WALLACE, G. & McLAUGHLIN, J.A. Learning Disabilities - Concepts and Characteristics. Columbus, Ohio : Charles E. Merrill Publ. Co., 1975.

WALTERS, P.B. 'Educational Chance and National Economic Development'. Harvard Educational Review, 51(1), 94-106, 1981.

WELLS, M.G. & PETERSON, G.V. 'Kindergarten Behaviour Rating as a Predictor of a First-Grade Achievement'. Journal of Learning Disabilities, 11(6), 344-347, 1978.

WIENER, J. 'A Theoretical Model of the Acquisition of Peer Relationships of Learning Disabled Children'. Journal of Learning Disabilities, 13(9), 506-511, 1980.

WILKES, H.H., BIRCLEY, M.K. & SCHULTZ, J.S. 'Criteria for Mainstreaming the Learning Disabled Child in the Regular Classroom'. Journal of Learning Disabilities, 12(4), 251-256, 1979.

WONG. B. 'The Role of Theory in Learning Disabilities Research. Part I. An Analysis of Problems'. Journal of Learning Disabilities, 12(9), 585-593, 1979a.

WONG, B. 'The Role of Theory in Learning Disabilities Research. Part II. A selection review of current theories of learning and reading disabilities'. Journal of Learning Disabilities, 12(10), 649-658, 1979b.

WRIGHT, B. Physical Disability - A Psychological Approach. New York : Harper and Row, 1960.

YULE, W. & RUTTER, M. Epidemiology and Social Implications of Specific Reading Retardation. In Knights, R.M. and Bakker, D.J. (Eds.) The Neuropsychology of Learning Disorders: Theoretical Approaches. Baltimore, University Park Press, 1979.

ZULAIKA, A. & LOWRY, M. 'Early Maternal-Child Contact: Effects on later behaviour'. Developmental Medicine and Child Neurology, 23, 337-345, 1981.

ZUSSMAN, J.U. 'Situational Determinants of Parental Behaviour: Effects of Completing Cognitive Activity'. Child Development, 51, 792-800, 1980.