

UNIVERSITY OF LONDON: INSTITUTE OF EDUCATION

**PREVALENCE OF EBD (EMOTIONAL AND
BEHAVIOUR DIFFICULTIES) IN KOREAN CHILDREN AND
ASSOCIATIONS WITH ENVIRONMENTAL FACTORS:
THE 'SITUATION-SPECIFICITY' OF EBD**

This thesis submitted for the degree of Doctor of Philosophy

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January, 1995

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ABSTRACT

In the socio-ecological perspective, human behaviour is regarded as determined by the characteristics of an individual, the characteristics of his/her environment and their reciprocal interactions. This perspective assumes that situational factors play a significant part in these interactions.

The present study was based on this perspective and sought to investigate environmental factors associated with EBD (emotional and behavioural difficulties). It aimed to provide evidence of the need to take EBD seriously in Korea and to find out environmental factors in families and schools which are associated with EBD. The low agreement usually found between parents' and teachers' ratings of children's EBD has been explained in terms of the 'situation-specificity' of EBD. Another aim was, therefore, to explore the extent of the situation-specificity of EBD.

Two studies were carried out. The first study was to investigate the prevalence rate of EBD through an epidemiological approach in Korean primary school children and to examine the relationships of EBD to structural factors in family and school. The second study examined relationships of EBD to family and classroom psychosocial functioning in conjunction with the exploration of the low agreement between parents' and teachers' ratings.

There were 840 children aged from 7 to 12 in the first study and 448 12-year-old children in the second study. Children's behaviour was rated by their parents and teachers using Rutter's Child Behaviour Questionnaire (CBQ) in the first study, using a Korean version of CBQ in the second study. Family functioning was assessed by children and their mothers using a Korean version of Family Adaptability and Cohesion Evaluation Scale-III. Classroom functioning was assessed by children and their teachers using a Korean short version of Classroom Environment Scale. The Korean versions of CBQ, FACES-III and CES were developed in the pilot study for the second study.

A significant number of Korean children were screened as having EBD: 29% with English cut-off points, 17% with Korean cut-off points. However, children with EBD pervasively in both settings were relatively few: 4.3% and 2.1% respectively. More boys showed EBD than girls. EBD was associated with children's academic achievements, existence of siblings, family style, fathers' education, parents' involvement in their child's education, and class size.

EBD tended to be higher with lower levels of family cohesion, adaptability and classroom interpersonal relationships; and the relationships appeared to be stronger when EBD was severe or environmental functioning was extreme. However, no relationship was found between EBD and classroom control.

Teachers' behaviour ratings were more consistently and highly related to family functioning as well as classroom functioning in comparison with mothers' ratings. This finding supports the concept of open systems, which assumes that what happens in one context may affect behaviour in other systems, and the view that there may be some

continuity across situations as well as some specificity to a certain situation in children's behaviour. Furthermore, this finding calls into question a strong version of situation-specificity in regard to the low agreement between teachers' and parents' behaviour ratings. It might be due partly to the difference in the validity of ratings rather than due only to the 'situation-specificity' of EBD. The possibility of higher validity of teachers' ratings was also found in the first study: the percentage of children who were identified as having EBD on CBQ and as needing professional help was much higher by teachers than parents.

Compared with adults, children's perceptions of environmental functioning were more consistently and highly associated with EBD. This finding may suggest that how children perceive their environment is as important for their emotional and social development as the actual functioning. Children with EBD would like their families to be more cohesive than non-EBD children.

This study leads to further questions about the validity of FACES-III and CES as instruments to assess family and classroom functioning in Korea. The necessity of investigating whether there are other aspects of family and classroom psychosocial functioning which are more related to children's EBD than the affective and control aspects was also suggested. In addition, the results indicate the importance of examining the threshold of EBD when an instrument is used in different cultures. This study also underlines the need to examine environmental factors associated with EBD jointly in both family and school settings.

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ACKNOWLEDGEMENTS

I am very thankful to the teachers, parents and children who participated in the data collection. This research would not be possible without their tremendous help.

My very sincere thanks go to Dr. Brahm Norwich who supervised this research. He has given me continuous support, invaluable advice and critical feedback during the entire course of this work.

I am grateful to Haelin Song for her enthusiasm and responsibility with administrating and sorting the questionnaires for the first study and to Fred Murphy, Avril Irving and Glynis Benbon who proof-read the draft of this thesis.

I owe a big 'thanks' to my parents for all their endless support and encouragement throughout the period of this research.

Finally, I would like to thank my husband, Hanil Park, for his enormous help and patience, and I owe my daughter, Somin, for all the time I spent away from her doing this work.

CHAPTER 1

INTRODUCTION

1.1 The Research Rationale

As children grow up, they learn what they are supposed to do and what behaviours are prohibited in their society or culture. So, they are willing to behave and deal with their emotions in socially or culturally acceptable ways. However, some children show difficulties in doing so and have trouble with other people around them. For example, they may fight with the other children, disobey their teacher, or in contrast, they may appear insecure, unhappy or be isolated from others. Such behaviours or symptoms can be shown at a certain time or to a minor degree in normal children. But if those are shown over a markedly prolonged period and are serious enough to cause distress or disturbance to the children themselves and/or others, the children may be referred to as having emotional and/or behavioural difficulties (EBD).

There is now convincing evidence from studies in various countries that a significant proportion of children show EBD during their early childhood which disrupt their functioning. Examples are the study in the U.S.A. by Achenbach and Edelbrock (1981), in Hong Kong by Luk, Leung and Lee (1988), in New Zealand by McGee, Silva and Williams (1984), in the U.K by Rutter, Cox, Tupling, Berger and Yule (1975) and by Rutter, Tizard and Whitmore (1970), in far east countries, Korea, China and Japan, by Matsuura, Okubo, Kojima, Takahashi, Wang, Shen and Lee (1993).

Once children show EBD, their interactions with environments tend to set off a downward spiral, that is, inappropriate behaviour elicits negative responses from others, and such negative reactions further increase the chance to behave in an undesirable way (Coie, 1990; Reid, Taplin & Loeber, 1981). The fact that a considerable number of children who showed EBD at their early ages continue to show EBD into later years can be explained due in part to this negative cycle interaction. It has also been found that there is great possibility for children with EBD to develop problems later in life such as dropping out of school, alcoholism, drug abuse, juvenile delinquency, adult crime, marital disruption or interpersonal problems (Kazdin, 1985; Stott & Wilson, 1977; West & Farrington, 1973), so these psychological difficulties might be one of the most costly to society. Therefore, attention to EBD is indeed important for a healthy society.

It has been reported that efforts to intervene for EBD in later years had short-term effects and residential treatments of children with EBD showed to be relatively ineffective (Kazdin, 1987; Scholte, 1992; Wilson & Herrnstein, 1985). These negative results were interpreted as showing that EBD has already progressed too far to respond successfully to treatment (Scholte, 1992). In contrast, successful outcomes of early interventions for children with EBD have been reported (Bronfenbrenner, 1975; Kazdin, 1987; Loeber, 1986; Loeber & Dishion, 1983; Scholte, 1988; Scholte & Smit, 1988). The effectiveness of early intervention can be explained on the ground that it is given at a point when EBD has not yet materialised or is in a developing state. This view implies that we need to know the factors usually associated with EBD in children to plan effective intervention. With the recognition of which difficulties will arise in which children at a certain time, the difficulties can be prevented from arising (Scholte, 1992).

As one set of factors associated with EBD, environmental variables were the focus of in the present study. In the socio-ecological perspective, EBD is regarded in terms of the interaction between children and their environment. That is, EBD is seen as the outcome of transactional processes between at-risk traits in the personality of the child and at-risk rearing and socializational conditions in the child's social environment (Rutter, 1985; Sameroff & Chandler, 1975; Scholte, 1992). Scholte (1992) described these processes in the following way:

Whenever a problematic personality disposition in the child is accompanied by difficult educational and socialization conditions in the child's social environment, there is a heightened risk that the child will develop EBD in the near future. (p. 249)

This concept has been supported by the finding that EBD is entirely or at least partially specific to certain situations; some children show difficulties only at school, while others show difficulties only at home. Children, for example, may be aggressive and disruptive at school but not at all with their family, or vice versa (Achenbach, McConaughy & Howell, 1987; Bierman & Smoot, 1991; Loeber, Green, Lahey & Southamer-Loeber, 1989; Verhulst & Akkerhuis, 1989).

As the interactional contexts with EBD, both family and school settings were looked at in the present study. Until recently, research on the association of EBD with environmental factors has mainly been focused on family pathology; but with the recognition of school being a crucial socialising environment of children as well as home, there is a growing attention to school variables which may exacerbate or even cause EBD (Finlayson & Loughran, 1976; Reynolds, 1976; Reynolds & Murgatroyd, 1974; Rutter,

1983; Rutter, Maughan, Mortimore, Ouston & Smith, 1979). There are still, however, few studies which concern both family and school variables associated with EBD together (Dowling & Osborne, 1985; Scholte, 1992).

As the primary social environment of children, the family plays a critical role in the development of children. Under the guidance of the primary caretakers, usually parents, children develop their first motor and cognitive skills. Children also develop first emotional bonds with their primary caretakers which will affect later interpersonal relationships with others and relate to their attitudes in new situations. School also makes an important contribution to the healthy development of children. At school, children can acquire the knowledge and skills for adjusting in society. Furthermore, behaviour, value and norm patterns which generally regulate social life are transferred to children in the school. Also, children may feel fairly secure in their peer group to explore social roles, behaviours, norms, and values without responsibility which would be held in the adult world (Scholte, 1992).

In conclusion, giving attention to EBD is important for a healthy society and EBD should be seen in conjunction with the context in which it occurs. Therefore, this study is designed firstly to investigate the prevalence rate of EBD through an epidemiological approach in Korean primary school children; and secondly to test the situation-specificity of EBD by comparing the relationship of family factors and school factors with EBD at home and school. In addition, the environmental factors which are associated with EBD are concurrently explored in family and school. These attempts have important implications since there have been few studies which investigate the prevalence rate of

EBD in Korea; and involve both family and school settings simultaneously to look at the relationship of EBD with environmental variables, even though there have been several studies which focused on either settings.

1.2 Purposes of This Study

The first purpose of the present study was to investigate how many Korean primary school children are showing EBD at home and/or in school. This investigation was carried out with both parents' and teachers' behaviour ratings. Assessing children's behaviour in both settings is important, because it has been found in many studies that children who were identified as having EBD by their parents were not considered so by their teachers. Moreover, the parents' behaviour ratings were correlated with the teachers' rating at a low level. This low agreement between parents' and teachers' ratings on children's behaviour has been interpreted in terms of the 'situation-specificity' of EBD.

The second purpose was to find out the factors associated with EBD in both family and school settings. Many studies have shown that children with various kinds of EBD tend to come from homes or schools that are disadvantaged or deviant in some respects (Hinde, 1980; Rutter, 1981, 1982, 1984; Rutter & Giller, 1983; Rutter & Madge, 1976). However, there are relatively few empirical studies testing the risk factors in family and school together.

The following factors within families were looked at in this study: existence of siblings, family style (i.e. extended/ nuclear), marital status (i.e. divorced or not), father's occupation, father's education, family income, parents' involvement in their child's education and family psychosocial functioning. The area where a school serves, classroom size and classroom psychosocial functioning were considered as at-risk factors of school. The affective and control aspects in the environments were the focus of environmental psychosocial functioning. In addition, the relationships of EBD to children's age, sex and academic achievements were examined.

The third purpose was to examine why parents' and teachers ratings of children's behaviour were related at a low level. For this investigation, the relationship of EBD to family psychosocial functioning was compared with the relationship to classroom psychosocial functioning. It was hypothesized that if the low agreement between parents' and teachers' ratings reflects the 'situation-specificity' of EBD, the relationship of EBD to environmental functioning would be stronger in the same context than in another context. That is, parents' behaviour rating may be more related to family functioning than classroom functioning and teachers' behaviour rating may be more related to classroom functioning than family functioning.

The fourth purpose was to test the type of relationship between EBD and psychosocial functioning: whether it is linear or curvilinear. There is a hypothesis that a moderate level of cohesiveness and adaptability in families is better than either extreme level for emotional and social development in children. However, the curvilinear relationship has been supported in some studies but not in others.

The fifth purpose was to explore parents' and teachers' perceptions of the reason why their child has EBD, their perceptions of what methods are helpful for children with EBD, and what type of behaviour from aggression, impulsiveness, depression to immaturity is the most difficult for teachers to deal with.

1.3 Research Design

This study was carried out in two stages. The prevalence rate of EBD and some factors relevant to EBD were looked at in the first study. In addition, parents' and teachers' perceptions of causes and ways of helping children with EBD, and the most difficult behaviour to deal with were investigated. The second study tested relationships of EBD to psychosocial functioning within environments in conjunction with the exploration of the low agreement between parents' and teachers' ratings of children's behaviour.

Children's behaviour was rated by their parents and teachers using Rutter's Child Behaviour Questionnaire (CBQ) in the first study, and using a Korean version of CBQ in the second study. Family psychosocial functioning was assessed by the perception of children and their mothers using a Korean version of Family Adaptability and Cohesion Evaluation Scale-III (FACES-III). Classroom psychosocial functioning was measured by the perception of children and their teachers using a Korean short version of Classroom Environment Scale (CES). These Korean versions of CBQ, FACES-III and CES were developed in a pilot study for the second study. Children aged 7 to 12 were involved for the first study and children aged 12 were subjected to the second study.

1.4 Outline of This Thesis

The chapters in this thesis can be grouped into three sections: the first section commences with the literature review; the second part describes the first and second studies; the final part was an overview of this research and conclusion.

In Chapter 2, terminologies and definitions which have been used to refer to children with dysfunctioning in their psychosocial development are looked at. In this study, the term emotional and/or behavioural difficulties (EBD) is used to refer to the children. In addition, previous epidemiological studies of the prevalence rate of EBD are summarised in this chapter. In Chapter 3, the socio-ecological approach of EBD is discussed. In this perspective, it is assumed that behaviour needs to be seen in the context in which it occurs. As the contexts, both family and school settings are looked at in this study, so that the roles of family and school on children's psychosocial development are addressed. In Chapter 4, relevant factors to EBD in family and schools are described, which are divided into structural and psychosocial. As structural factors, the social disadvantages of family, parents' divorce, the area where a school serves and classroom size are looked at; and as psychosocial factors, the affective and control aspects are focused on. Assessment of psychosocial functioning in the human environment is described in Chapter 5. Family and classroom functioning were assessed by a Korean version of FACES-III and some subscales of CES, so description of these scales and their validation are also discussed in this chapter. Research methods and results of the first and second studies are outlined in Chapters 6 and 7, respectively. An overview of this research and conclusions is given in Chapter 8.

CHAPTER 2
PREVALENCE OF
EBD (EMOTIONAL AND BEHAVIOURAL DIFFICULTIES)

2.1 Introduction

There are many different terms to designate children who show behaviours or symptoms that are socially unacceptable. In this thesis, the term emotional and behavioural difficulties (EBD) is used to refer to such children. So, in this chapter, the reason why this term is used and the definitions which have been commonly used to refer to such children will be looked at. Also, previous epidemiological studies related to the prevalence rate of EBD will be summarized.

2.2 Terminology and Definition of EBD

Various terminologies and definitions have been used to describe the children whose emotional and/or social behaviour are not socially acceptable, and are detrimental to their intrapersonal and/or social-interpersonal development. The lack of consensus regarding terminology and definition to identify such children can be explained in part by different theoretical views of how such behaviours develop.

Abnormal behaviours or mental disturbances were interpreted until medieval times in terms of superstitious beliefs such as possession by demons or witches, victims of fate,

or inherent badness. So, such behaviours were pervasively treated by rites of exorcism such as beating, ostracism, death or elevation to priesthood. Then, there were a number of sociological changes which led to a new awareness of children: children as individuals with rights (Coleman, 1986). From this awareness, the conceptual frameworks of the dysfunction in social and emotional development were developed and children who showed deviant behaviour were treated in different ways.

The views of etiology of deviance differ from one theory to another but can be broadly grouped into two categories: internal views within the individual and interactional views between the individual and the environment. The biophysical or psychodynamic theory is an example of internal oriented views, and behavioural or ecological theory is an example of interactional oriented views.

Cooper, Smith and Upton (1994) regarded that almost all of the terms which have been used to describe difficulties in emotional and/or social development implied problems within the child and treatment oriented on the child. Examples are children described as maladjusted, disturbed, disruptive or psychiatrically ill. However, there are some exceptional cases. Focusing on the interactional influence on the development of the difficulties, Galloway and Goodwin (1987) used the term disturbing to refer to such children. They viewed that a child's behaviour can be defined as deviant because of the effects of the behaviour on others rather than psychological or social characteristics in the child. From this view, they criticised labelling the child as maladjusted or disturbed because these terms do not include the cases when the disturbance is in others around the child rather than in the child. That is, the child may be identified as maladjusted or

disturbed because s/he has disturbed others. Within the same context, Ravenette (1972) made a criticism of the term maladjustment because a child can be labelled as maladjusted from the perspective of the school's need rather than the child's own needs. Reinert (1980) also described such children as children in conflict.

The use of terminology tends to be also different according to the professionals and agents who identify and serve children who need special help. The same child, for instance, may be labelled as mentally ill by a psychiatrist, emotionally disturbed by a psychologist and as behaviour disordered by a special educator (Hobbs, 1975).

Different terminologies, however, were not regarded as referring to different types of difficulties even though there are differences in the theoretical orientations and emphasis given to certain points. From this viewpoint, Hallahan and Kauffman (1991) suggested that children having difficulties in their intrapersonal and/or interpersonal developments could be labelled simply by matching any word from emotional, social, behavioural or personal with disturbance, disorder, maladjustment, handicap or impairment, and adding other qualifiers such as seriously or severely.

One of terms which has often been used to refer to the dysfunction in social and emotional development is maladjustment. This term was the official term to refer to problems related to social and emotional behaviour in Britain from 1944 to 1981 (Cooper et al., 1994). In the Statutory Rules and Orders (1945), maladjustment was defined as "emotional instability or psychological disturbance" which needs "special educational treatment in order to effect their personal, social or educational readjustment." (p.3) This

definition was regarded as very vague and no clinical expression, so children could not be appropriately identified for special educational placement and treatment (Upton, 1983). Therefore, Upton (1983) stated that this term is exclusively used in Britain.

The other terms which have been widely used are emotional disturbance or behaviour disorder. In the Public Law 94-142 of the U.S.A, children who need special attention due to their social and/or emotional behaviour are labelled as emotionally disturbed. According to Coleman (1986), the term emotional disturbance has been used in the U.S.A. to refer to various pathologies including schizophrenia, autism, psychosomatic disorders, phobias, withdrawal, depression, anxiety, elective mutism, and aggression. The official term in the majority of states in the U.S.A. which refers to children with difficulties in their social and emotional development is emotionally disturbed or a similar one such as emotionally impaired or emotionally handicapped. The term behaviour disorder is also officially used in a few states (Mack, 1980).

The terms maladjustment, emotional disturbance or behaviour disorder seem to have been frequently used interchangeably. But Kirk (1962) and Rabinovitz (1960) distinguished emotional disturbance from maladjustment. They considered emotional disturbance referring to inappropriate expression of inner tensions or feelings, whereas maladjustment referring to deviant behaviour from social or cultural norms. Coleman (1986) also made a distinction between emotional disturbance and behaviour disorder. He viewed behaviour disorder, compared with emotional disturbance, as being more adaptable for less severe, more socially acceptable and more objective behaviour, so that educators being more likely to use the term behaviour disorder because it seems to be

more plausible to deal directly with disordered behaviour than with disturbed emotion.

These distinctions seem to imply the division of dysfunctions according to the location of the detrimental effects of the dysfunction: internalised or externalised. The internalised dysfunction is more likely to link to the detrimental effects on personal satisfaction such like loneliness, social withdrawal, anxiety or depression or on appropriate social interaction. The externalised dysfunction is more likely to link to the detrimental effects on appropriate social interaction like aggression, hyperactivity, bullying, lying or stealing. According to Smets and Hartup (1988), the internalised dysfunction is the overcontrol of emotions and their expression, and the externalised dysfunction is the undercontrol of impulses and aggressiveness, and the use of external attribution for failure, acting-out or similar characteristics. The dysfunctions in social and emotional development have been grouped into either internalised or externalised in most studies in this field, although a number of children showed mixed dysfunction (Achenbach & Edelbrock, 1983; Laing & Chazan, 1987; Scholte, 1992; Smets & Hartup, 1988).

Therefore, the term of choice in the present study is emotional and/or behavioural difficulties (EBD). Choice of emotional and/or behavioural cover any form of dysfunction in social and emotional development. Choice of difficulties was determined on the basis of the current change in this field from disorder or problem to difficulties. The term difficulties is increasingly used to refer to such dysfunction in current literature, particularly in Britain (Cooper, Smith & Upton, 1994; Croll & Moses, 1985; Laing & Chazan, 1987; Provis, 1992; Varma, 1990). In the circular (No. 23/89) of Department

of Education and Science for England and Wales (DES, 1989), the pupils who need special education due to their emotional and/or social behaviour were labelled as children with emotional and behavioural difficulties. Another example of the trend using the term difficulties is provided by the name of an association changed in 1991 from The Association of Workers for Maladjusted Children to The Association of Workers for Children with Emotional and Behavioural Difficulties.

The term difficulties seems to less reflect the view of distortion or abnormality and more involve the concept of continuity of dysfunction. The term difficulties gives us the impression of a quantitatively different condition from normality rather than a qualitative difference compared with the terms disordered or problematic. This impression is consistent with the view that the abnormality could be found to some extent in almost all children, but some children need special treatment and help because the abnormality or deviance is markedly severe and frequently shown to be detrimental to their own development and/or others.

The next question is who may be identified as having EBD. Children are officially defined as having EBD in Britain if they "have developed a range of strategies for dealing with day-to-day experiences that are inappropriate and impede normal personal and social development, and make it difficult for them to learn" (Circular 23/89, DES, 1989, p.391). Inappropriate, aggressive, bizarre or withdrawn behaviour were stated as the examples which interfered their learning.

According to the Underwood Report (DES, 1955), a child may be identified as

maladjusted if his/her development has a bad effect on the child itself or others around the child which needs a specialist's treatment. As the characteristic of maladjusted children, the followings were suggested: (1) showing insecure and unhappy; (2) having poor interpersonal relationships; (3) showing difficulties in receiving as well as giving, and responding to love, comfort and reassurance.

In the U.S.A., the federal definition of such children by Public Law 94-142 was based on the definition of emotionally disturbed children developed by Bower (1982). He described a child as emotionally disturbed if (s)he shows more than one of the following characteristics to a marked degree over a period of time: (1) an inability to learn although there is potential to learn; (2) having no satisfied interpersonal relationship; (3) behaving in unacceptable way; (4) showing unhappiness or depressed; (5) developing physical symptoms such as illnesses or phobias.

There are several other ways to describe such children. Rutter and his colleagues (1970) identified a child as psychiatrically disordered if s/he shows a sufficiently marked and prolonged abnormality of behaviour, emotion or relationship which disturbs the child himself and/or others. Herbert (1975) described emotional disturbance as emotional responses to the stress and crises which disrupt the child own growth and the relationship with his environment. Kirt (1962) considered behaviour deviant if the behaviour is detrimental to the child's own development and adjustment and/or interferes others' lives. Whitmore (1975) defined behaviour problem as "any form of behaviour, emotional or otherwise which is sufficiently marked or prolonged to cause a handicap or distress to the child himself and/or distress or disturbance in the family or community."(p.65)

According to Reinert (1980), children whose behaviour has a deleterious effect on the personal or educational development of themselves or their peers were described as children in conflict.

Although EBD has been defined in different ways with different terminologies, some common features can be extracted from the definitions. Basically, the behaviour may be identified as EBD if the behaviour is not socially or culturally acceptable, and is detrimental to the child own development and/or others' lives. However, such behaviour could be found in almost all children to some degrees and at a certain stage, but when a child shows such behaviour frequently, or the behaviour is very different from the usual (i.e. severe), and it does not quickly disappear (i.e. chronic), the child may be identified as having EBD.

2.3 Prevalence Rate of EBD

Many studies of prevalence of EBD have been done using the epidemiological approach which is to look at the distribution of EBD in the general population. From epidemiological studies, it has been found that EBD is quite common in school age children. Another finding was that for most cases, EBD was not a disease or illness which is 'qualitatively' different from normality, but 'quantitatively' different from the normal in terms both of severity and of associated impairment. This finding implied that many normal children could show minor degrees of the same difficulties; but children would be identified as having EBD when difficulties are so serious that interfere with

their own development and/or others' lives (Graham, 1978).

The other important finding was that few children were identified as having EBD by both their parents and teachers (Matsuura et al., 1993; McGee et al., 1984; Rutter et al. 1970). That is, most of children who were identified as having EBD by their parents were not by their teachers, or vice versa. This finding could be regarded in terms of the difference in the perception of EBD between parents and teachers or the difference in the validity of screening children with EBD between the parents and teachers ratings. However, it has been strongly regarded as evidence of the situational specificity of EBD. In the other words, the exhibition of EBD in part relies on the situation or environment (Rutter et al., 1970). Children may, for instance, show EBD at home, but not in school or vice versa. This interpretation was based on the socio-ecological view. In the socio-ecological theory, the development of EBD is explained in terms of the interaction with the context in which it occurred rather than the characteristics within the child. In this viewpoint, it is necessary to obtain reports of the child's behaviour in different settings.

Using the epidemiological approach, Rutter and his colleagues (1970) examined the prevalence rate of EBD in 2,199 children aged 10 to 11 living in the Isle of Wight, England. They developed the questionnaire for parents and for teachers to screen children with EBD, which was named as Child Behaviour Questionnaire (CBQ) in the present study. Using CBQs for parents and for teachers, 12.3% of sample children were selected as having EBD (6.0% by parents, 7.1% by teachers, 0.8% by both). More boys than girls were identified as having EBD, but no difference was found according to social

class or marital status (living with both natural parents or not).

From their study, it was revealed that a few children were identified as having EBD by both their parents and teachers (0.8% in all subjects, 7% in all children screened as having EBD by either or both CBQs). The correlation between parents' and teachers' rating was also very low ($r=0.18$). Some further analyses were performed to find out the reason of low agreement between the parents' and teachers' ratings. They considered one possibility that teachers may be more likely to report EBD in the dull or backward child. So, reading retardation of the children selected on the parents' CBQ was compared with that on the teachers' CBQ. However, no significant differences was found (24.6% in the parents' scale group, 34.8% in the teachers' scale group).

The low agreement was also considered in terms of the validity of the two scales as screening instruments for EBD. Therefore, the proportion of children finally diagnosed as having EBD by a specialist was compared between the two groups based on the questionnaire. However, the proportions were quite similar between the two groups (19.2% among children selected on the parents' CBQ, 19.6% on the teachers' CBQ). Also, there was no significant difference in the proportion between two groups who were finally diagnosed as having EBD on the basis of all information available from the intensive investigation (50.4% in the parents' scale group, 40.8% in the teachers' scale group). Accordingly, both scales were considered as having equal effectiveness in the selection of children with EBD.

The other possibility was considered: teachers may be more likely to report

behavioural difficulties rather than emotional difficulties in children and parents may be vice versa. Of children who were finally diagnosed as having EBD, a majority of girls had emotional difficulties, while behavioural difficulties were much more common in boys. Many more boys with behavioural difficulties were selected on the teachers' CBQ compared with the parents' CBQ, but there was no difference in the proportion of girls with emotional difficulties between the two groups. From this result, Rutter and his colleagues (1970) suggested that there was a significant tendency for parents to miss boys with behavioural difficulties but no significant tendency for teachers to miss girls with emotional difficulties. So, they concluded that the low agreement between two ratings was evidence of the 'situation-specificity' of EBD.

In a later study, Rutter and his colleagues (1975) investigated the prevalence rate of EBD of similar aged children living in Inner London. The rate in Inner London was higher than that in the Isle of Wight. It was 19.1% by the teachers' CBQ only, and 25.4% by both an interview with parents and the teachers' CBQ together. A higher rate of EBD in Inner London compared with the Isle of Wight was interpreted, in part, by the differences in the environmental background. They compared the environmental background associated with EBD in the Isle of Wight and in Inner London. In both areas, the percentage of children with EBD was higher in broken homes, in families with marital discord, with mothers' psychiatric disorder, with fathers' criminality, and with fathers' unskilled jobs. However, most of these background factors were higher in Inner London than in the Isle of Wight.

The prevalence rate of EBD in Dunedin, New Zealand was reported by McGee

and his colleagues (1984). Using Rutter's CBQs and applying the cut-off points suggested in the study of Rutter and his colleagues (1970), 30.7% of 951 7 year-old children were identified as having EBD by the parent and/or teacher (17.3 % by parents only, 8.9% by teacher only, 5.5% by both). A significant sex difference was found (boys was 17.1%, girls was 13.1%), but it was not very different except in the group selected by both CBQs. The ratio of boys and girls was 1.2 to 1 in the parents only group, 1 to 1 in the teachers only group, but it was 2.1 to 1 in both groups. In addition, there were differences in the ratio of boys and girls according to the type of difficulties. In the group of children selected as EBD, more boys were identified as having behavioural difficulties compared with girls (22.6% of boy vs 14.2% of girls). But no significant difference was found in the percentages of boys and girls having emotional difficulties or mixed.

McGee and his colleagues (1984) also tested the validity of parents' and teachers' rating for screening EBD by means of independent ratings of behaviour during psychological testing. Children identified by both parents and teachers showed higher levels of over-activity than non-identified children during psychological testing. Moreover, children identified by both parents and teachers had been referred for professional services much more frequently than non-identified children. From these findings, the parents' and teachers' rating were considered valid.

Using Rutter's CBQ and adopting Rutter's cut-off points, Wang, Shen, Gu, Jia and Zhang (1989) evaluated the prevalence rate in urban areas of Beijing, China. In 2432 primary children aged 7-14 (1267 boys, 1165 girls), 8.3% were rated as showing

EBD by their teachers (7.4% behaviour difficulties, 0.62% emotional difficulties and 0.33% mixed difficulties). The rate of EBD was significantly higher in boys (13.5%) than in girls (2.75%). In addition, behavioural difficulties were dominant in boys (12.9%) compared with girls (1.5%), but emotional difficulties were less frequent in boys (0.5%) than in girls (0.8%).

Environmental factors associated with EBD were also examined in the Beijing study. It was found that the prevalence of EBD was lower in harmonious families than in quarrelling families; in extended families than in nuclear families; in families where parents were more involved in their child's education; in families where the father's education was higher. But no difference was found between families with one child and with more children. The lower frequency of EBD in extended families than nuclear families was interpreted in terms of a stronger support system in extended families. In the extended families, for example, grandparents may be strongly involved in the children's education, but in nuclear families where the parents are usually both employed, much less time may remain for them to be involved in their children's education.

There was an interesting cross-national study of prevalence rate of EBD in Korea, Japan and China (Matsuura et al., 1993). In that study, Rutter's CBQs were completed by the parents and the teachers of children aged 6 to 12 and Rutter's cut-off points were adopted. There were 1975 children in Korea, 2638 in Japan and 2432 in China. Wang and his colleagues' study (1989) mentioned above was a part of the cross-national study.

The prevalence of EBD was higher in Korea compared with China or Japan. The prevalence of EBD by the teachers' ratings was 14.1% in Korea (9.0% behavioural difficulties, 3.8% emotional difficulties, 1.2% mixed), 8.3% in China (7.4%, 0.6%, 0.3%, respectively) and 3.9% in Japan (3.1%, 0.5%, 0.3%, respectively). The prevalence of EBD by the parents' ratings was 19.1% in Korea (7.5% behavioural difficulties, 8.3% emotional difficulties, 3.4% mixed), 12.0% in Japan (6.8%, 3.7%, 1.5%, respectively) and 7.0% in China (4.4%, 1.6%, 1.0%, respectively). The higher prevalence of EBD in Korea compared with the other two far east countries could not be explained by the data of the cross-national study. It would be worth studying why the prevalence of EBD was higher in Korea than in the other countries. On the other hand, the proportion of children with EBD by both ratings was small in all three countries (1.4% in Japan, 2.1% in China and 4.5% in Korea).

A significant sex difference in the prevalence of EBD was found in all three countries. Based on teachers' ratings, there were six times more boys than girls with EBD in Japan and in China, and two times more boys with EBD in Korea. By the parents' ratings, twice as many boys with EBD were found in Japan and in China, but no sex difference was found in Korea. In Japan, the prevalence of EBD became lower with higher age in school and at home, but no age difference in the range of 6 to 12 years old was found in Korea and in China. The association of EBD with siblings was only found in a school setting in Korea. Korean children without siblings showed higher EBD at school than children with siblings, but this difference did not appear at home. In China and Korea, the prevalence of EBD was related to marital status. Less EBD was found in children living with both parents than in those living with a single parent; but,

no difference was found in Japan. In Japan and China, strong negative correlation between EBD at school and school achievement was found. In these countries, the prevalence of EBD was greater in children with low achievement than in those with high achievement. In Korea, the correlation between these two factors was not examined.

One epidemiological study in Norway was reported by Vikan (1985). Vikan estimated the prevalence of EBD in 10-year-old rural Norwegian children using symptom checklists for parents and teachers, which were developed on the basis of Rutter's CBQs. The prevalence rate was 4.6%. The rate was estimated only on the basis of the parents' information. In the study, the parents' report was considered as more valid than the teachers' because better agreement for parents and psychiatrists was revealed than that for teachers and psychiatrists.

The prevalence rate of EBD has been also reported in some other studies: of the sample children aged 7, about 14% were identified as maladjusted on the basis of questionnaire ratings, and a further 22% as unsettled in the National Child Development Study in the U.K. (Davie, Butler & Goldstein, 1972); of the sample children aged 10 in Newcastle upon Tyne, U.K, about 19% were identified as maladjusted on the basis of parental information or observation and a further 12% as having severe and pervasive problems (Miller, Court, Knox & Brandon, 1974); of sample children aged 7 to 8 in Newcastle, England, about 20% were screened as having behavioural problems by their teachers (Kolvin, Garside, Nicol, MacMillan, Wolstenholme & Leitch, 1981); of 3,600 children aged 7 to 11 in west Midlands areas of England, 17% were described by their teachers as disruptive (11%) or withdrawn (6%) (Merrett & Wheldall, 1984); of 12,310 children aged 7-11 in England, about 8% were nominated as having behavioural

difficulties by their teachers (Croll & Morses, 1985).

In summary, even though the prevalence rate of EBD varied according to countries, geographical areas even in a same counties (e.g. urban/rural), techniques for identifying children with EBD, and settings in which occurred the behaviour (e.g. home/school), it was indicated that a significant proportion of children show EBD during their early schooling. However, children identified as having EBD by both their parents and teachers were relatively quite few in general. In addition, a higher prevalence rate was consistently found in boys than in girls. This higher rate in boys than in girls may be attributed in part to the fact that the most common type of difficulties in childhood is behavioural difficulties, and behaviour difficulties are much more frequently reported in boys than in girls. Emotional difficulties tend to be slightly more exhibited in girls than in boys, but this tendency was only found in some studies. In the examination of factors relevant to EBD, the following variables have been included: social class, marital status, family style, existence of siblings, children's academic achievement, and parents' involvement in their education. So, the relationships of these factors to EBD were examined in the present study even though the significant associations were not found consistently in different studies.

In the present study, Rutter's CBQs for parents and for teachers were used with primary school children. The prevalence rate was estimated adopting Rutter's cut-off points (English cut-off points) and Korean Cut-off points (developed in the present study). Therefore, the previous prevalence studies of EBD using the CBQs and adopting Rutter's cut-off points are summarised in Table 1.

Table 1 Prevalence Rate of EBD in School Age Children Using CBQs, Adopting Rutter's Cut-off Points

Study	Sample	Source			
		Parent	Teacher	Both	Other
Kolvin et al. (1981)	7-8 years, Newcastle, England		20%		
Matsuura et al. (1993)	6-12 years, metropolitan areas 1975 in Korea	19.1%	14.1%	4.5%	
	2638 in Japan	12.0%	3.9%	1.4%	
	2432 in China	7.0%	8.3%	2.1%	
McGee et al. (1984)	7 years, 951, New Zealand	17.3%	8.9%	5.5%	
Morita et al. (1990)	12-15 years, 600, rural areas in Japan				parent and/or teacher : 17%
Rutter et al. (1970)	10 -11 years, 2,199, Isle of Wight in England	6.0%	7.1%	0.8%	psychiat. : 6.8%
Rutter et al. (1975)	10 years, 1,689, Inner London		19.1%		parents' interview & teachers' CBQ : 25.4%

2.4 Conclusion

The term of choice in the present study to refer to any type of behaviour or symptom which is not accepted in the society and has a detrimental effect on the children's own development and others' lives is emotional and/or behavioural difficulties (EBD). The choice of EBD was determined on the basis of a current trend to use the

term difficulties instead of maladjustment, disturbance, disorder or problem (Cooper, et al., 1994; Circular 23/89, DES, 1989; Varma, 1990), and the fact that dysfunctions in emotional and/or social development have been divided into internalised and externalised difficulties in most studies in this field (Achenbach & Edelbrock, 1983; Laing & Chazan, 1987).

In epidemiological studies, it has been found that a significant proportion of children may have EBD while school age. EBD was more often exhibited in boys than in girls, and behavioural difficulties are more common, particularly in boys, than emotional difficulties. Emotional difficulties tend to be shown slightly more frequently in girls than in boys, but this tendency was found only in some studies, not in the others. As factors associated with EBD, social class, marital status, family style, existence of siblings, children's academic achievement, and parents' involvement in their education have been examined.

Another significant finding from epidemiological studies was that the prevalence rate of the children who were identified as having EBD by both their parents and teachers was relatively very low, and the parents' rating was correlated to the teachers' at a low level. Even though it could be considered in terms of the difference in the perception of EBD between parents and teachers and in the validity of screening EBD between parents' and teachers' ratings, this low agreement has been strongly regarded as evidence of the situational specificity of EBD. That is, children may show EBD only in a certain situation or environment, so the children who have difficulties in school may not have them at home, or vice versa. This view is based on the socio-ecological theory. In the socio-ecological theory, the development of EBD is explained by the interactional aspect

between the child and the environment, so that EBD should be seen in the context in which it occurs. In the following chapter, the socio-ecological perspective will be looked at.

CHAPTER 3

SOCIO-ECOLOGICAL APPROACH TO EBD

3.1 Introduction

Traditionally, EBD tended to be understood as a pathology within a child and to be treated with the focus on the child on the basis of a medical approach. However, this view has been changed to the interactional perspective between the child and the environment since the 1960s. This change resulted in part from the awareness of the subjectivity of identifying EBD. That is, EBD cannot be identified objectively but subjectively because the perception of behaviour relies on the world view of an individual. This means that whether a child is identified as having EBD or not would be different according to the perceivers' standards for, expectations of, and tolerance of the behaviour (Cooper, Smith & Upton, 1994).

From the interactional view, a new orientation to the etiology and treatment of EBD has been developed, which was the socio-ecological approach. According to the socio-ecological theory, an individual's behaviour needs to be seen in relation to the environmental conditions of the person and be understood contextually in terms of the purposes served by the behaviour. This view has been supported by the fact that EBD is likely to be associated with specific situations. That is, it is not unusual for a child to behave very differently at home from school, nor in one situation from another (Achenbach et al., 1987; Bierman et al., 1991; Loeber et al., 1989; Cooper et al., 1994;

Verhulst et al., 1989). Furthermore, a considerable number of studies has shown that children with various kinds of EBD tend to come from homes or schools that are disadvantaged or in some way deviant (Hinde, 1980; Rutter, 1981, 1982, 1984; Rutter & Giller, 1983; Rutter & Madge, 1976). These findings imply an interaction between EBD and the context in which it occurs. This view, of the importance of context in EBD, is the focus of this chapter.

It has been recognized that family and school are two of the most influential systems in an individual's development. This recognition is by no means new; but there have been few attempts to deal with these two systems together in relation to EBD. So, family and school are dealt with together in the present study.

3.2 Socio-Ecological Perspective to EBD

Humans' mental health and adjustment were mainly interpreted in terms of intrapsychic factors from the early to the middle of the twentieth century. That is, dysfunctions in social and emotional development used to be explained by the symptomatic characteristics within an individual, and environmental variables were deemphasized. Accordingly, strategies to change individuals were oriented to work with the individuals, and less often to modify environmental conditions. However, humans' mental illness and maladjustment were not explained satisfyingly by intrapsychic factors such as personality or intelligence.

Therefore, the importance of physical and social aspects of environment for human development and adjustment has been increasingly acknowledged since the 1960s. This interest did arise in part from the awareness that EBD can be accounted for by situational and environmental variables. This awareness reflects social force in identifying children with EBD. A child could be labelled as having EBD because s/he disturbed other people around him/herself. In this view, the child may not be identified as having EBD in another place or by another perceiver according to the perceivers' standard for normality and tolerance of the behaviour, which are socially or culturally influenced. This view implies that EBD needs to be seen in the social context, because it is identified and described subjectively rather than objectively. Furthermore, numerous studies demonstrating that the behaviour of the same individuals varied with settings have also served to strengthen the claim that behaviour cannot be explained purely in terms of intrapsychic phenomena.

From this viewpoint, a new way of understanding and dealing with EBD was suggested: the interactional view of EBD between child and environments. EBD is understood as the transactional results between at-risk traits in the personality and at-risk conditions in the environment. This is the basic concept of the socio-ecological approach to EBD, which has been increasingly accepted and applied to understand and deal with EBD since the early of 1970s (Cooper et al., 1994; Coleman, 1986; Fine, 1984).

According to the cognitive social learning theory, human behaviour is shaped by processes of negative and positive reinforcement. Positive reinforcement encourages the repetition of a behaviour, which develops a behaviour pattern; but negative reinforcement

or nonreinforcement discourages any repetition of a behaviour, which leads to the behaviour diminishing. Reinforcement may be either, on the one hand, external or environmental when it comes from the child's social environment such as punishment or reward; or, on the other, internal or ego-control which is operated on the basis of the reward expectations formed personally by the child him/herself (Bandura, 1977).

From the social learning point of view, the risk factors in environment can be interpreted as external impulses and the risk factors related to the child him/herself as the internal impulses which lead a child to develop EBD. These concepts are the core ideas of the socio-ecological perspective to EBD. The influence of environment on human behaviour is assumed in several theories, mainly in behavioural, sociological, and socio-ecological theories. But there are differences between these theories: in the behavioural theory, events in the environment maintaining EBD are focused on; in the sociological theory, EBD is viewed as a label given by social forces in the environment; in the socio-ecological theory, it is assumed that both child and environment actively contribute to the development of EBD (Coleman, 1986).

The socio-ecological theory was developed from the view that a human being is a social animal, and his/her behaviour is developed from and aims at the interaction with the environment. So, a human's mental well-being relies on the social environment as his/her physical survival relies on the physical environment. From this point of view, the importance of interpersonal relationships are emphasized along with the value of behavioural analysis. Therefore, this theory was considered a new way of thinking about EBD. It combined the traditional view of EBD based on the medical approach and the

sociological view (Cooper et al., 1994).

The origin of the socio-ecological view came from the general system theory of von Bertalanffy (1950), who underscored the connection between subsystems within a system and between systems in which an individual was involved. Changes in one subsystem (e.g. between parents) would lead to changes in another subsystem (e.g. between parents and children) and in associated systems (e.g. school) (Cooper et al., 1994). This idea provided a useful alternative to the linear approach to the identification of the causal factors of EBD. The alternative is the circular approach: the child's characteristics affect the environment and his/her environment's conditions affect the child.

The basic assumption of the socio-ecological theory is that EBD must be seen in its interactional context. EBD is viewed as being caused by complex and differential interactions within and among biological, psychological and social phenomena. This means that EBD is developed by the characteristics of the individual, the characteristics of the environment and their reciprocal interactions. Therefore, the socio-ecological approach emphasized the analysis and manipulation of the reciprocal interactions for understanding and intervening in EBD. So, this approach applies a transducer data system in which conditions in situations are simultaneously assessed while the individual is being examined, and then seeks beneficial changes in the nature of the total system (Gordon, 1982).

The definition of emotional disturbance of Rhodes (1970) reflects the socio-

ecological view.

Disturbance is constituted from a reverberating circuit between the disturbing individual and various significant individuals within the environmental setting The disturbance resides in the agitated exchange which takes place between individual and environment. This exchange takes both at the behavioural level and the psycho-dynamic level. The so-called disturbed individual and his surrounding resonators are 'in it together'. It is their disturbing exchange which create the problem. . . . the environment must be given attention equal to that shown to the individual who has been singled out as 'disturbed.' (p.44)

Therefore, the intervention from the socio-ecological perspective may include: (1) teaching of social behaviour to children and helping children gain skills necessary for their daily lives; and (2) changing the nature of social interactions in the environment by modifying environmental elements, attitudes and behaviours of the adults and children in the system (Apter, 1982). This means that the intervention needs to be designed to create a more propitious match between child and environment instead of the concept of cure.

From the socio-ecological theory, the family system theory was developed, which has been rapidly increasing its popularity within the psychotherapeutic area since the early 1970s (Coleman, 1986; Cooper et al., 1994; Fine, 1984; Haley, 1980; Madanes, 1981; Minuchin & Fishman, 1981; Miles, 1990; Ninness, Glenn & Ellis, 1993). Bateson (1972; 1979; Bateson, Jackson, Haley & Weakland, 1956) was considered one of the first to apply the socio-ecological perspective to the development of mental health and family functioning (Cooper et al., 1994; Dowling & Osborne, 1985).

The following five concepts were suggested as key concepts of general systems theory (Dowling & Osborne, 1985). The basic concept of the system theory is the match

of child to environment and the contextual understanding of behaviour. This idea makes up a shift of attention towards the interpersonal from the intrapsychic. The second concept is circular thinking of causality of EBD: rather than A being seen merely as causing B, A was seen as both affecting and being affected by B and C. This view replaces the question 'why' (linear, cause-effect model) to 'how' (the phenomenon occurs), and focuses attention on the sequences of interaction and repetitive patterns which surround the event. The third concept is punctuation which is closely related to the notion of circular causality. Bateson (1972) said that any experience or behaviour can be either a stimulus or a response according to the way of the total sequence being punctuated. The fourth concept is equifinality. According to Katz and Kahn (1969), "a system can reach the same final state from differing initial conditions and by a variety of paths". (p. 100) This concept implies what happens in one system may effect the behaviour in other systems. The implication of this concept is that children's main socializing systems, family and school, need to be looked at not in isolation but integrally to understand and deal with EBD: how they influence not only the development of EBD but also reciprocally one another. The fifth concept is homeostasis. Within any systems, like living organisms, there is homeostatic force to maintain the existing nature of the system and resist changes to persist in a steady state of equilibrium (Fine, 1984).

The homeostatic process was described in the following ways: (1) In the family context, the improvement in one family member would require a change in another, so a new problem might be developed in other family members to maintain a certain overall family balance (Gorell Barnes, 1984); (2) In the school setting, the continued classification of a certain proportion of children with EBD may contribute to the

maintenance of the school's status: more specifically, by locating EBD in one particular sector, the rest of the school could be preserved and the equilibrium maintained (Dowling & Osborne, 1985). In this connection, Gillham's (1981) question, 'What in the school is helping to maintain the behaviour?', seems very pertinent. He asserted that the school itself can act to maintain or even develop EBD because the good or bad behaviour is partially kept going by the task and role demands in a well-defined school.

Further concern is given to the role of the system which is related to the successful adjustment of human beings to their environment. Within any system, there are roles, interpersonal relationships, rules and hierarchies based on age and position. So, there are particular behaviour patterns to act out the power, control the relationships, and support the rules of the system. Those patterns provide both supportive and restrictive forces, which facilitate or interfere with the reception of the life resources, and thereby place human beings at various degrees of risk (Dowling & Osborne, 1985; Fine, 1984).

As discussed early, the main socializing systems of children, the family and school settings, need to be looked at together for therapeutic strategies to deal with EBD based on the system perspective, (Cooper et al., 1994; Dowling and Osborne, 1985; Fine, 1984; Rutter, 1985; Scholte, 1992). Therefore, the influences of family and school on children's psychosocial development are discussed in the following sections.

3.3 Family and Children's Psychosocial Development

The family plays a crucial role in the development of children. Through the family, children first learn about physical world, interpersonal relationships and social life. Rutter (1990) identified the following six psychological mechanisms in family as being important in relation to EBD:

1. Provision of emotional bonds or relationships. The way which parents interact with their children and the extent to which they are responsive to their signals and needs would contribute to the development of the children's emotional bonds and interaction with others.
2. Acting as a secure base. When children have successfully developed emotional bonds with their parents, they feel less anxiety in new or stressful situations.
3. Models of behaviour and of attitudes: children imitate their parents' behaviour and attitudes. The children are more likely to follow the models when they have a warm and loving relationship with their parents.
4. Provision of life experiences. Life experiences are related not only to intellectual development and education but also to social and emotional development. For instance, the child who has been 'tied to his mother's apron strings' is likely to be much less able to cope with going to school compared with the child who used to play with friends and stay with relatives in happy circumstances. Social skills are learned just as other skills:

a child's experiences in being with and playing with other children will help determine how easy s/he will find it to make friends. Children who used to be in a wide range of situations, and have learned to cope with and enjoy many social experiences would adapt more easily and be more likely to enjoy changes of environment or moves of house.

5. Shaping of behaviour by means of their selective encouragement and discouragement of particular behaviours, by their discipline, and by the amount of freedom which they allow. At least in the early years, children mainly learn from their parents what they are supposed to do and what behaviours are forbidden. In this mechanism, there are two chief elements: one is the parental choice regarding the behaviours they want to encourage and discourage, and another is the efficiency of their discipline in bringing about the desired aim.

6. Provision of communication network, by which children can set their standards, establish their norms, develop their expectations, and let their ideas grow. The conversations with family members are very important not only for trying out children's ideas but also for working out the relationships with others. The conversations involve the transmission of feelings and attitudes by gesture, facial expression and posture. The children's development would be influenced by the extent to which there are good opportunities for free communications, by the content of communications, and by the clarity of communications in the home.

3.4 School and Children's Psychosocial Development

As another crucial socialising environment of children, the school has been considered. Children spend a vast amount of their waking hours at school. According to Rutter and his colleagues (1979), children spend 15,000 hours in the school by the end of secondary school. The school's influences were traditionally examined in relation to academic achievement and other valued learning outcomes. However, the school is a social institution which reflects the culture, and transmits to children an ethos and a world view as well as specific skills and knowledge.

As members of a small society in which there are tasks to be done, people to relate to, and rules to control behaviour, children would be influenced by school in respect to personal and social development: the sense of self, the belief in one's own competence, views of justice and morality, and conceptions of how a social system beyond the family functions and of how self and system interact (Mussen, 1983). Therefore, school psychologists began to pay attention to the school's effect on children's social and emotional development and found the association of the development of EBD with school variables (Brookover, Beady, Flood, Schweitzer & Wisenbaker, 1979; Galloway, 1980; Galloway et al., 1987; Reynolds, 1976; Rutter et al., 1979).

Evidence of the relationship between EBD and school variables would be the difference between schools in their rates of disruption and delinquency even though the characteristics of their pupils' intake are taken into account. Pioneer studies of this relationship were provided by Power and his colleagues (1967, 1972; Phillipson, 1971).

They found large differences between secondary schools in delinquency rates, which could not be attributed solely to the schools' catchment areas. Therefore, they concluded that some of the schools might have helped to prevent delinquency while others might have actually contributed to its development. This marked variability between schools in behavioural deviance was also found in primary schools (Rutter, 1983).

There was a criticism of Power and his colleagues's conclusion on the grounds that they did not adequately control for differences in catchment areas. However, the differences both in delinquency rates and in the numbers of children referred to child guidance clinics were found between London schools which were in broadly similar catchment areas (Gath, Cooper & Gattoni, 1972, 1977). In another study with twelve Inner London secondary schools (Rutter et al., 1979), significant differences between the schools in their pupils' delinquency rates and misbehaviour within the school were also reported after controlling for pupil intake.

3.5 Conclusion

In this chapter, the socio-ecological perspective, and the role of family and school on children's psychosocial development were addressed. In the socio-ecological perspective, the development of EBD is explained by the continuous reciprocal interaction between children and their controlling conditions.

Family and school have been considered as the most influential systems in an

individual's development. Children develop first emotional bonds with their primary caretaker which will affect later interpersonal relationships with other people. When children have successfully developed emotional bonds with their primary caretaker, they feel secure, which encourages them to explore new situations. Parents' behaviour and attitudes, and life experiences provided by parents have influences on the development of their children. Parents also act to shape children's behaviour by means of their selective encouragement and discouragement of particular behaviours, by their discipline and by the amount of freedom which they allow. Finally, the home provides a communications' network, by which children can set their standards, establish their norms, develop their expectations and let their ideas grow.

As a social institution, the school transmits to children an ethos and a world view as well as specific skills and knowledge. As members of a small society in which there are tasks to be done, people to relate to, and rules to define acceptable behaviours, children would be affected by school in aspects of personal and social development. Some factors in family and school which seem to be related to children's social and emotional behaviour will be reviewed in the next chapter.

CHAPTER 4

FACTORS ASSOCIATED WITH EBD IN FAMILY AND SCHOOL

4.1 Introduction

In Chapter 3, the importance of family and school conditions in children's psychosocial development was outlined on the basis of the socio-ecological perspective. Factors associated with EBD in family and school are looked at in this chapter in terms of structural and psychosocial factors. As structural factors, the social disadvantages of family, parents' divorce, the area where a school serves and classroom size are discussed. The psychosocial functioning is reviewed with the focus on the affective aspect which is related to the emotional bonding between members within the same environments; and the control aspect which is related to the clarity of rules, the number of rules, the consistency of discipline, and the flexibility to change its rules, members' roles and power structure.

4.2 Structural Factors in Environment Associated with EBD

4.2.1 Social Disadvantage of Family

Social disadvantage is usually defined by quality of housing, income, level of parents' education, and type of parents' jobs. These variables may effect children's

development directly by limiting opportunities available to the children and indirectly by their effect on parents. Parents stressed by their social circumstances, for example, may have more physical and emotional problems and less patience to deal with their children's needs. Marital discord and maternal depression, which have been shown to be associated with children's EBD, appeared to be more common in stressed families (Richman & Lansdown, 1990).

An association of EBD with father's job has been found in some studies. EBD was more common in children whose fathers have a labouring or semi-skilled manual job than those whose fathers have a skilled manual or non-manual job (Davies et al., 1972; ILEA, 1986; Lefkowitz, 1977; Rutter et al. 1979). Docking (1987) reviewed the views of this tendency: (1) EBD may be more acceptable in working-class families. For example, 'hitting back' was more approved in working-class than in middle-class families (Newsons, 1963); (2) EBD may be a reaction against criteria of status and power in the middle-class. That is, children from working-class families may not be able to succeed in terms of middle-class values such as ambition, planning, control of physical aggression, deferred gratification and the cultivation of manners; (3) EBD may be a trait in the working-class rather than a reaction to the middle-class values. This view pointed out subcultural differences. For example, toughness, masculinity and searching for excitement may be more commonly used in the working-class to relieve dull routines.

However, the higher exhibition of EBD in socially disadvantaged families has been mainly demonstrated in the extreme bottom end of the social scale. Moreover, this tendency was only found in some studies but not in the others, and the degree of the

association was usually moderate. From these findings, Rutter (1990) suggested the secondary association of social disadvantage with the development of childhood EBD. The secondary association was explained in the following ways: (1) social disadvantage may contribute to the development of EBD when it is associated with factors such as family discord, inconsistent discipline, or variables such as personal overcrowding which have been found to be associated with EBD; (2) social disadvantage may be related to a lower IQ and to a poorer educational attainment, which are both known to be quite strongly associated with a higher rate of EBD; (3) there could be more complications during pregnancy in lower social classes due to poorer maternal health, poorer living conditions and poorer provision and utilization of medical services; so if prenatal complications lead to brain damage and impaired intelligence, there would be higher risk of EBD.

The secondary contribution of social disadvantage to the development of EBD was found in the study of Richman, Stevenson and Graham (1982). From a multiple regression analysis between behaviour problems and adverse factors including poor marital functioning, maternal warmth and depression, developmental delay of the child, and poor housing, it emerged that (1) factors showing the strongest influence were quality of the marriage, maternal warmth and maternal criticism; and (2) the effects of these factors were maximized in socially disadvantaged families. Shaw, Vondra, Hommerding, Keenan and Dunn (1994) also found this pattern of results, and concluded that the quality of parenting seems to be more related to the development of childhood pathology, and its negative impact is more likely to be increased when it is further linked with social adversity.

4.2.2 Parents' Divorce

It has been known that EBD is more common in children from broken families (Patterson, 1982). Higher risk of EBD in broken families can be explained by the lack of effective parenting practices and negative parental attitudes, which lead to a negative circular effect on their children and themselves; the effect may be more applicable to custodial mothers and their sons. The circular effect is explained in the following ways (Hetherington, Cox & Cox, 1982; Patterson, 1982):

- (1) additional stresses and responsibilities of custodial parents make them less psychologically and physically supportive of their children; and
- (2) low self-esteem, anxiety and depression in custodial parents tend to be associated with inconsistent and punitive discipline;
- (3) these poor parenting skills accelerate a noncompliant, demanding and coercive behaviour in children;
- (4) the behaviour of children, in turn, accelerates the feelings of helplessness and low self-esteem and the ineffective parenting in custodial parents.

On the other hand, Herbert (1991) asserted that an atmosphere of conflict in the family before it is broken is one of the most harmful influences of parents' divorce on children's development. Rutter and Giller (1983) also argued that it is the family discord rather than the separation from parents which seems to be associated with EBD. This argument can be supported by the finding that EBD appeared higher in children whose parents were divorced or separated than in those whose parent died (Rutter, 1990). From this view, Rutter (1990) suggested that EBD may be commoner in unbroken but unhappy

homes than in broken but harmonious one.

Higher risk of EBD in broken families can be also seen in terms of financial difficulties. It is much more common that children stay with their mothers than fathers. Mothers left alone may have financial problems and need to work, so that they may not be able to give special attention and care to their children. In the National Child Development Study (Davie, et al., 1972) and in the study of London schools (Mortimore, Davies, Varlaam & West, 1983), no higher risk of EBD in children from broken families was found in comparison with those from unbroken families if economic circumstances have been taken into account. In the study of Herbert (1974), no difference in the rate of EBD was also found between unbroken families and broken (divorced or separated) families but having no financial difficulties.

Richman and Lansdown (1990) suggested three factors in relation to higher rates of EBD in children from divorced families: (1) long periods of discord and unhappiness which would precede the divorce; (2) financial difficulties over housing, money, work and child care with single parents, usually mothers, looking after their children; and (3) adverse relationships between divorced or separated parents which may make the children witnesses of continuous rows, or be the recipient of complaints from the parents about each other.

In addition, the effect of parents' divorce on their children needs to be seen on the ground of the disruption of bonds between parents and children. Most children may regard the marital separation as their parents not accounting for their wishes because they

do not want the separation. Consequently, the children can question their own relationships with their parents and the nature of all social relationships. In particular, preschool children usually show very sadness and fright when their parents separated, and became clinging, demanding or aggressive towards other children (Herbert, 1991). Richards and Dyson (1982) regarded many childish reactions as expressions of the child's fear of being abandoned by one or both parents.

However, Richards and Dyson (1982) also pointed out that such reactions may be more acute if contact with a parent is lost, while those disappear if relationships with both parents remain intact and supportive. In the study of Hetherington and his colleagues (1982), the difference in the detrimental effect of parents' divorce on the children's development was also reported according to the relationship with noncustodial parent. Children showed better adjustment and self-control if there were little conflict between parents, a positive attitude toward the spouse, high agreement in childrearing and frequent visiting by noncustodial parents. In addition, there was a finding that adverse effects of one-parent families were weak when there were supportive persons other than a father such as grandparents. This finding supports the argument that aloneness rather than lack of a father may be the critical factor in mother-headed families (Kellam, Ensminger & Turner, 1977).

In this viewpoint, Herbert (1991) suggested three factors which would be significant to reduce adverse effects of divorce on children: (1) communication about separation; (2) a continued good relationship with at least one parent; and (3) satisfaction with custody and access arrangements.

4.2.3 Area Where a School Serves

It has been found that the rate of various kinds of social problems differs according to geographical areas, but reasons for the difference have not been clearly explained. It may reflect the difference in characteristics of the people who live there or the influence of community on the people living there. The difference in the rate of EBD according to geographical areas has been also considered in terms of their social status, which means a relative standard of an area in comparison with other areas rather than an absolute standard like housing or any other feature. In disadvantaged areas such as poor, overcrowded, or new housing areas, EBD has been found more frequently. Higher rate of EBD has been also reported in large cities than in industrial towns, and in both of these than in non-industrial towns or country areas (Rutter, 1990).

The study of Rutter and his colleagues (1975), mentioned in Chapter 2, provides an example of the area difference in the rate of EBD. They compared the prevalence rate of EBD between a small town in a countryside (Isle of Wight) and an area in a metropolis (Inner London). EBD was twice as common in the metropolis as on the Island. This different rate of EBD was attributed in part to the difference in the environmental factors which were associated with EBD. In both areas, EBD was more common in the families having family discord, mothers' mental disorder, fathers' criminality, social disadvantage, or poor living conditions. However, the proportion of families in these conditions was higher in London than in the Island.

The difference in the rate of EBD according to geographical areas can be

explained in part by overcrowding, which has been considered as an important source of stress in humans. When individuals have insufficient social space and cannot escape, their frustration could easily turn to violence. Rutter (1990) explained the association between overcrowding in the home and higher rate of EBD as follows: (1) parents are more likely to become tense and irritable in such an environment; (2) it would be less easy for children to play at home with other children, so that they are more likely to seek activities outside; if meeting places and play facilities in the neighbourhoods are limited, this may push them into street-corner or building-site activities which are conducive to EBD; (3) parental discipline and control may be more problematic in an overcrowded home.

Sollenberger (1968), however, found a relatively low rate of juvenile delinquency in Chinatown, New York, which is a high density area. This finding was interpreted in terms of the following fact: even though the area is overcrowded, an abundance of nurture is supplied and trust is built up. This interpretation is consistent with Freedman's (1975) suggestion: overcrowding may serve to strengthen a person's typical reaction to a situation rather than directly lead to EBD, e.g. the people having an aggressive trait may react even more aggressively in overcrowded circumstances.

As an attempt to examine the influence of areas on behaviour of children living there, Rutter and his colleagues (1979) compared the rate of EBD between the areas where schools served, but no significant difference was found in their study.

4.2.4 Classroom Size

The size of classroom (number of students in a class) may have effects on activities and persons in the classroom. McKeachie (1963) reported that resources of knowledge and experience in a group and a leader's dominance tended to increase in a larger discussion group while individual contributions decreased. The correlation of classroom size with quality of performance and group productivity was also found in the study of Thomas and Fink (1963). In smaller groups, expression of disagreement and dissatisfaction was more inhibited while opportunities for interaction between members were higher and more leadership was given to each member. In larger groups, in contrast, organization was more rigid and group cohesiveness was lower, so that there were more divisions of labour, which increased cliques and factions.

Walberg (1969) discussed the mechanisms of classrooms which might lead to different effects according to classroom sizes.

- 1) The teacher and the pupil are opposing forces: the teacher strives for discipline and adult standards and the pupil strives for childish interests. Therefore, a larger class may be more organized, formal and goal directed, but less satisfied and intimate.

- 2) The classroom is a social system, so organisational forms of a classroom may shift from 'collegial' and 'charismatic' to 'bureaucratic' when its' size and complexity are increased. That is, there may be greater need for coordination of group efforts in large classes. For this, the teacher may act uniformly toward individual students, and thus



bring about conformity to the standards of the school.

3) In a larger classroom, the need for communication and resources may be increased, which may lead to the development of sub-groups, cliques or factions with various degrees of conformity to teacher or overall group standards. Therefore, individual students may have less opportunity to communicate in a large class and have a greater need to exchange ideas and feelings with others. From this situation, students may initiate active or passive modes for communicating and behaving in their class. Such activities like note passing, grapevines, leadership coups or juntas were suggested as the active modes; and daydreaming or turning off were suggested as passive modes.

There was a finding that a larger class was more formal and diverse, but less intimate and difficult to control (Walberg, 1969; Anderson & Walberg, 1972). In the study of Cannon (1966), using the same program and procedures in the same room with the same equipment, smaller classes with 23-28 children were described as more relaxed and permissive than larger classes with 34-39 children. In the smaller classes, children were more patient, friendly, helpful and independent. They also felt more secure, showed better adjustment, and exhibited more variety and creativity in their play. That is, children in the smaller classes were more spontaneous, creative and happy. Furthermore, their teachers were more satisfied, and had more time with children individually. Better behaviour in smaller classes was also reported in the London Junior School Project. This result was interpreted in terms of more opportunities for teachers to deal with individual problems in the smaller classes (ILEA, 1986).

However, there are studies in which no difference according to classroom size is found. Buczek (1981) examined the differences in children's attitudes and self-concepts according to classroom size, but no difference was found between the smaller classes with less than 15 children and the larger classes with more than 25 children. Also, no significant association between classroom size and behaviour was also reported in the study of Rutter and his colleagues (1979).

Inconsistent findings about the effect of classroom size can be explained, in part, by the different criteria of classroom size. A classroom with the same number of students can be grouped into smaller classes in one study, but into larger classes in another. For example, a class with more than 25 students was grouped into larger classes in Buczek's (1981) study, whereas it was into smaller classes in Cannon's (1966) study.

4.3 Psychosocial Functions in Family and Classroom

As central psychosocial functions in family systems, Olson, Sprenkle and Russell (1979) suggested cohesion and adaptability. Cohesion was referred to as the degree of emotional closeness between family members. Emotional bonding, boundaries, affiliation, time, space, friends, decision-making and recreation were suggested for the measurement of this dimension. Adaptability was referred to as the degree of flexibility and ability to change rules, roles and power structure in response to situational and developmental stress. For the measurement of this dimension, family power (assertiveness, control, discipline), negotiation styles, role relationships and relationship

rules were suggested (Olson et al., 1979).

From the review of family therapy and research literature, Olson and his colleagues (1979) asserted that over 50 concepts describing family functioning in the literature were related to one or both of these dimensions. Examples from the study were (1) emotional boundaries of family members (cohesiveness) and family adaptation to developmental and external pressures (adaptability) were suggested as important parameters for evaluating family functioning in Minuchin's family system theory (Minuchin, 1974); (2) affect and control were identified as the central dimensions of parent-child relationships by Maccoby and Martin (1983); (3) affective involvement (cohesiveness) and behavioural control, problem solving and roles (adaptability) were used in the McMaster Model of Family Functioning developed by Epstein, Bishop and Levin (1978); (4) affect and power were suggested by Kanto and Lehr (1975), which were similar to cohesion and adaptability, respectively.

L'Abate (1985) also considered that the concepts related to cohesion and adaptability have been used in much of literature related to family functioning. In addition, Hetherington and Martin (1986) focused on two dimensions in parent-child interaction which were very close to cohesiveness and adaptability. One dimension was about emotional relationships, which was ranged from warm, responsive, child-centred behaviour to rejecting, unresponsive behaviour. Another dimension was related to demandingness/control, which ranged from restrictive demands and control based on parents' power to undemanding, permissive and low control.

In a considerable number of studies, characteristics of cohesion (the affective aspect) and adaptability (the control aspect) were related to childhood psychopathology. The characteristics were: (1) parents' rejection and lack of parental monitoring (Patterson & Bank, 1986); (2) lower in cohesion and independence, and higher in conflict and control (Fox, Rotatori, Macklin, Green & Fox, 1983); (3) infrequent positive or neutral parent-child interaction (Hinde & Tamplin, 1983); (4) parents' rejection (French & Waas, 1985); (5) less time spent with children (Canter, 1982) (6) cold and harsh (West, 1982); (7) strict and rigid rules, and discipline (Kogan, 1980); (8) lack of parental supervision (Jensen & Eve, 1976); (9) childrearing disagreement (Gardner, 1994); (10) higher conflict but lower cohesion, expressiveness, independence and intellectual and recreational orientation (Tyerman & Humphrey, 1981).

Parents' affection for their children and their control of the children's behaviour were also related to the children's concern for others (Hoffman, 1970). Children aged 12 who showed higher concern for others tended to have parents who expressed their affection to their children more frequently, showed more various means of control according to the situations, and gave more reparation whenever possible. This finding can be interpreted in terms of better development of social behaviour with high cohesion and adaptability. In the study of Lefkowitz (1977), boys whose parents were moderately punitive towards their aggression showed the least violence, whereas the boys with permissive or harshly punitive parents showed the most violence. The relationship of EBD with parent-child bonding, family communication and type of parental discipline was also reported in the studies of Gove and Crutchfield (1982), Patterson (1982) and West and Farrington (1973).

In addition, there was a finding that parents' concern about where their children are going, whom they are with, and what they are doing was positively related to the degree of children sharing their life outside of home with their parents (Riley & Shaw, 1985). The parents' concern would be used to measure the degree of cohesiveness in the family.

The importance of relationships between members within a system was also supported by a consistent finding that EBD was frequently shown among children reared from infancy in a good quality institution but with multiple changing caretakers (Quinton & Rutter, 1984; Rutter, Quinton & Liddle, 1983; Roy, 1983). In the institution, there may be no discordance and quarrelsomeness but children are less likely to form close bonds and attachments with their caretakers compared with those brought up in a family. In addition, there was the finding that less EBD was found in children from families in which there was a good relationship with one parent despite general family discord (Rutter, 1971; Rutter et al., 1983).

In the past the focus on the control aspect was given to the use of specific practices, on the severity of discipline and on matters of consistency. But it has been shifted to the parents' concern about what their children are doing, the process of disciplinary management, the efficiency of the techniques to control their children, and the problem-solving method (Maccoby et al., 1983). In addition, concern has been focused on the potential to change system's rules, roles or power structures according to situations within a system since Speer (1970) and Wertheim (1975) asserted the need of both stability and change within systems. Patterson (1982) suggested the following

dimensions to be most important in relation to the control aspect within a family: (1) lack of house rules, so that there is no clear expectation of what children may and may not do; (2) lack of parental monitoring of their children's behaviour, so that parents cannot be adequately informed about children's acts or emotions, and hence cannot respond appropriately; (3) lack of effective discipline, so that parents nag and shout, but have no disciplinary plan and proper punishment for EBD; and (4) lack of techniques for dealing with family crises or problems, so that conflicts are not solved, and tension and dispute develop.

Focusing on affective and control aspects within family systems, Perry, Perry and Boldizar (1990) pointed out the parents' practices which tend to be related to aggression: (1) rejection; (2) parental indifference and lack of supervision of their children's whereabouts, activities and social contacts; (3) permissiveness; (4) inconsistent discipline; and (5) lack of techniques for dealing with family crises or problems, low verbal communication, rare discussion to solve problems, and rare use of reasoning with discipline. Little love and care, and too much freedom (permissiveness) in childhood also contributed to the development of aggression (Olweus, 1994).

Family dysfunctions interrupting healthy social and emotional development were also suggested by Lask (1980) on the basis of the systemic view: (1) overcloseness as well as lack of closeness. The former prevents the development of individuality, while the later does not support emotional and physical needs of children; (2) inability to resolve conflicts or problems, and make decisions; (3) poor organization as well as too rigid organization. The former leads to chaotic responses to change or stress, while the

latter develops an inability to respond at all to change or stress, and therefore develops stereotyped and impoverished reactions; and (4) failure of parents to work together and lead open communication.

Dowling and Osborne (1985) emphasized the importance of parents being in charge, making consistent rules and communicating them clearly to their children. When parents do so, children can feel secure, learn limits of behaviour and expect what are the consequences of breaking rules, and make decisions and take the responsibility of the decisions. They also considered that how rules are made, who makes them and how they are to be negotiated are related to healthy psychosocial development. This consideration underscored the importance of potential of changes within systems.

Getzels and Thelen (1960) suggested institutional role expectations and individual personality dispositions in relation to classroom psychosocial functioning. Walberg (1968) identified the role expectations as the structural dimension and the personal dispositions as the affective dimension. The structural dimension is referred to as the structure or organization of student roles within a classroom such as goal direction or stratified and democratic policy. The affective dimension is related to how individual's needs are fulfilled such as satisfaction, intimacy or friction in a classroom.

One of the well-known and widely used conceptualizations of classroom psychosocial functioning was developed by Trickett and Moos (1974). They suggested three basic dimensions: (1) interpersonal relationships which involve affective aspects of student-student and teacher-student interactions; (2) system maintenance/change which

involve aspects of the constitution of a classroom and teaching innovations; (3) personal development which focuses on academic style in a classroom.

In the present study, children's EBD in one setting (e.g. home) is linked to both psychosocial functioning in the same setting (e.g. home) and in the other (e.g. school). Therefore, similar functions across both environments are focused on in the present study. Of the three basic dimensions conceptualized by Trickett and Moos (1974), interpersonal relationships and system maintenance/change are similar across environments, but personal development is not: it is specific to classroom environments, particularly in the high school. For this reason, the dimension of personal development is not included for the examination of classroom psychosocial functioning in the present study.

Furthermore, the interpersonal relationships and system maintenance/change dimensions were identified as central functions to discriminate between classrooms' psychosocial environments (Moos, 1978). Also, it has been found that psychological outcomes such as attitude, mood or satisfaction were mainly related to these two dimensions (Galluzi, Kirby & Zucker, 1980; Humphrey, 1986; Martin-Reynolds & Reynolds, 1983; Trickett et al., 1974; Wright & Cowen, 1982; Wright, Cowen & Kaplan, 1986).

From the study of Reynolds (1976) with modern secondary schools in a Welsh mining valley, it was found, in successful schools, that rules were clear and were enforced for younger age-groups, but as children got older teachers were willing to negotiate with them, the teachers' expectations were flexible, and children generally felt

enabled to compromise with authority. However, in less successful schools, relationships between children and teachers were characterised by lack of flexibility on both sides.

Finlayson and Loughran (1976) also described social interaction between children and teachers which led to EBD. They compared four schools in similar catchment areas which differed in delinquency rates. As teachers of schools with low delinquency rates, teachers of schools with high delinquency rates were caring towards children as individuals. But there were differences in teachers' interactions with the class as a whole. Teachers of the high delinquency schools tended to be more defensive and authoritarian in their relationships with children. The authority was relevant to the way of structuring and organizing of classroom, as well as the process and potential for changes in classroom functioning.

A successful intervention to reduce bullying at school also provided evidence of the importance of interpersonal relationships and behaviour management in school (Olweus, 1994). The basic principles of the intervention were to create the atmosphere of warmth, positive interest and involvement from adults, on one hand, and firm limits to unacceptable behaviour, on the other.

Cole and Jordan (1989) viewed Olson's cohesion as being related to Moos' interpersonal relationships, and adaptability as being related to system maintenance/change. Cohesion and interpersonal relationships can be conceptualized as the affective aspect in environments, and adaptability and system maintenance/change as the control aspect. Table 2 presents the summary of dimensions which are examined in

the present study in relation to psychosocial functioning of family and classroom.

Table 2 **Dimensions of Psychosocial Functioning of Family and Classroom Focused on the Present Study**

	family	classroom
affective aspect	cohesion : emotional bonds	interpersonal relationships : affiliation & teacher support
control aspect	adaptability :ability to change	system maintenance : rule clarity & teacher control

4.4 Conclusion

Some variables in family and school which are related to children's emotional and behavioural development were discussed in this chapter. The variables are social class of family, parents' divorce, area where a school serves, classroom size and psychosocial functioning in the systems. The affective and control aspects within systems were considered as central dimensions related to children's psychosocial development. In the next chapter, the instruments to assess psychosocial functioning, FACES-III for family and CES for classroom, and their validations will be addressed.

CHAPTER 5

ASSESSMENT OF PSYCHOSOCIAL FUNCTIONING IN FAMILY AND CLASSROOM

5.1 Introduction

In the previous chapter, the affective and control aspects were discussed as central dimensions of psychosocial functioning in systems and as important for children's emotional and behavioural development. These aspects were assessed by persons in the environments (a shared perceptual measure) in this study: by children and their mothers for family, and by children and their teachers for classroom. Therefore, the shared perceptual technique is firstly addressed in this chapter. In this study, family psychosocial functioning was assessed using a Korean version of Family Adaptability and Cohesion Evaluation Scale-III (FACES-III), and classroom psychosocial functioning was assessed using a Korean short version of Classroom Environment Scale (CES). The Korean versions of FACES-III and CES were developed in the pilot study for the second part of the present study. FACES and its revisions were developed, on the basis of the Circumplex Model, by Olson and his colleagues (1979), and CES was developed by Moos (1974). The Circumplex Model, FACES instruments and CES are looked at in the next section. The following section commences with the validation of these two scales.

5.2 Technique for Assessing Psychosocial Functioning: Shared Perceptual Measure

As a technique to measure environmental variables, the shared perceptual measure has been contrasted with direct observation. It has been widely recognized that direct observation is an objective approach, and the shared perceptual measure is subjective (Jessor & Jessor, 1973). Rosenshine (1970) distinguished environment measures as 'low inference' and 'high inference'. According to Fraser (1986), psychological significance of events in an environment for people in that environment would be better obtained by high inference measures than low inference measures. The high inference measurement tends to demand respondent's judgement about the meaning of the events such as the degree of a teacher's friendliness; while the low inference measurement tends to tap specific explicit phenomena such as the number of student questions. Fraser (1986) regarded direct observation as the low inference, and the shared perceptual measure as the high inference.

Until the late of 1960s, the psychosocial functioning of environment was mainly assessed by direct observation with detailed naturalistic description, and rarely assessed by the shared perceptual measure (Anderson & Walberg, 1968; Fraser, 1987; Fraser & Walber, 1991; Olson et al., 1979, 1983; Smets & Hartup, 1988). In contrast to observation which relies on an outside observer, the perceptual measure is done by persons in an environment. Therefore, what an outside observer could miss or consider unimportant can be captured by the perceptual measurement. Also, better judgement about the environment can be made because persons in the environment have encountered many different situations, and have had enough time to form accurate impressions.

Focused particularly on the classroom environment, Fraser and Walberg (1981) summarized some advantages of the shared perceptual measures: (1) the perceptual method is more economical compared with observation which needs expensive training for observers; (2) the perceptual measure is based on students' experiences over many lessons, whereas observation is usually restricted to a limited time; (3) the perceptual measure involves pooled judgements of several persons in the environment, whereas observation typically involves only a single observer; and (4) children's perceptions are likely to be as important as observed characteristics because they are determinants of children's behaviour. This suggestion was based on the finding that perceptual measures of the classroom environment were more strongly related to children's learning outcomes compared with directly observed variables. Fraser and Walberg (1981) also underscored the merits of direct observation, and suggested that more information would be yielded by both observation and the perceptual technique than by either method alone.

There have been a few studies which examined the convergent validity of different environmental measurements. When teachers' support and control were assessed by three different methods, there was a convergence between the different assessment methods. The different methods were students' rating, outside observers' rating using some of scales in the Classroom Environment Scale (Moos & Trickett, 1974), and the observation and classification of classroom interactions (Kaye, Trickett & Quinlan, 1976). Significant associations between a direct observation and children's perceptions were also reported in the study of Greene (1983) and Schell (1984). In addition, Lacy, Tobin and Treagust (1984) compared children's written responses to a classroom environment instrument with their oral responses obtained from interviews, and

found a similarity between written and oral responses.

5.3 Assessment of Psychosocial Functioning

5.3.1 Assessment of Family Psychosocial Functioning: Circumplex Model and Family Adaptability and Cohesion Evaluation Scale III (FACES-III)

On the basis of the Circumplex Model, the FACES and its revisions were developed by Olson and his colleagues (Olson, Bell & Portner, 1978, FACES-I; Olson, Portner & Bell, 1982, FACES-II; Olson, Portner & Lavee, 1985, FACES-III). These instruments have been widely used in clinical research to assess family psychosocial functioning (Carnes, 1985; Cole & Jordan, 1989; Edman, Cole & Howard, 1990; Garbarino, Sebes & Schellenbach, 1985; Olson & Killorin, 1984; Prange, Greenbaum, Silver, Friedman, Kutash & Duchnowski, 1992; Rodick, Henggeler & Hanson, 1986; Smets & Hartup, 1988).

In the Circumplex Model, three dimensions are assumed as basic psychosocial functioning in the family. The first dimension is family cohesion, which is defined as emotional bonding between family members, and divided into four levels ranging from disengaged (very low), to separated (low to moderate), to connected (moderate to high), to enmeshed (very high). The second dimension is family adaptability, which focuses on the extent of flexibility and ability to change within a family system. Four levels of this dimension range from rigid (very low), to structured (low to moderate), to flexible

(moderate to high), to chaotic (very high). The third dimension is daily communication between family members, which is a facilitating dimension for a family's movement along the cohesion and adaptability dimensions (Olson et al., 1983).

The four levels of the cohesion and adaptability dimensions are combined, and 16 family types are described in the Circumplex Model. The communication dimension is not graphically included in the model along with cohesion and adaptability because it is a facilitating dimension. It is hypothesized that optimal family functioning is related curvilinearly to the degree of cohesion and adaptability. That is, a moderate degree of both cohesion and adaptability was considered better than either extreme for the most functional family. Hence, the 16 family types are further grouped into three basic family system types; balanced, midrange and extreme. Balanced families are moderate on both dimensions, midrange families are moderate on only one dimension, and extreme families are extreme on both dimensions (Olson, 1986; Olson et al., 1979, 1983).

Highly cohesive families may promote overidentification of family members with one another and prevent differentiation and individuation between them. Whereas, in extremely low cohesive families, family members may feel insecure, less responsibility to one another and there may be less autonomy. Therefore, moderate cohesiveness is the best to promote good psychosocial functioning in children. On the other hand, families with extremely high adaptability are characterized as chaotic having no clear house rules, inconsistent discipline and erratic leadership. Extremely low adaptable families are thought as having rigid social rules, authoritarian modes of discipline and no negotiation in problem solving. Accordingly, moderate adaptability is expected to be associated with

better psychosocial development in children compared with either chaotic or rigid family conditions (Smets and Hartup, 1988).

Olson and his associates (1983) also hypothesized that families would function adequately if family members were satisfied with their current family system regardless of types of families in the Circumplex Model. This hypothesis is built on the assumption that it could be less important where a family falls into the Circumplex Model than how its members feel about the level of cohesion and adaptability. In relation to this hypothesis, when FACES-II and -III were developed, they were designed to measure both perceived (real) and ideal family systems. That is, family members would be asked to describe their real family system (perceived), and then how they would like it to be (ideal). The discrepancy between perceived and ideal descriptions indicates family satisfaction: the greater discrepancy means the less satisfaction. The discrepancy also provides information on the direction in which family members would like their family to change

The FACES instruments are self-report scales and can be administered to one or more family members. The original version of FACES contains 111-items, but it was reduced to 30 items in FACES-II. One advantage of FACES-II is the capability to measure both real and ideal family system. But, there are still some limitations in FACES-II: cohesion and adaptability are rather highly correlated with each other, with social desirability and with marital and family satisfaction. To overcome most of the limitations of FACES-II, FACES-III was developed from the same sample of FACES-II (Olson et al., 1985). Ideally, the two dimensions in the Circumplex Model should be

orthogonal, i.e. these should not be correlated. Cohesion and adaptability in FACES-III meet this criteria ($r=.03$). Another advantage is related to the correlation with social desirability. Because social desirability has an impact on most self-report scales, an attempt was made to minimize its impact on responses to the scale. In FACES-III, the correlation between adaptability and social desirability was reduced to zero ($r=.00$), but it was .39 with cohesion. In the present study, therefore, FACES-III was used to measure family psychosocial functioning.

FACES-III includes 20 items, 10 to measure cohesion and 10 to measure adaptability. All items are rated on a 1 (almost never) to 5 (almost always) scale. As in FACES-II, FACES-III is also designed to measure both actual and ideal descriptions of family systems.

5.3.2 Assessment of Classroom Psychosocial Functioning: Classroom Environment Scale (CES)

Since the late of 1960s, there has been considerable research to conceptualize and assess psychosocial aspects of classroom environments. In much of these research, either the Learning Environment Inventory (LEI) (Anderson & Walberg, 1974) or the Classroom Environment Scale (CES) (Moos, 1974) has been used (Fraser & Walberg, 1991). In the present study, some subscales of CES were used for assessing classroom psychosocial functioning, because the subscales are considered to be suitable to measure the dimensions of psychosocial functioning focused on in the present study. Another reason is that while there is a single form in LEI to measure classroom environment only

by students, CES can be used to measure either students' or teachers' perceptions, and to assess an ideal (preferred) classroom environment as well as a real environment. Item wording is the same for the real and the ideal forms, but instructions are different for different forms.

CES is one of the Social Climate Scales which were developed by Rudolf Moos at Stanford University to assess a variety of human environments (Moos, 1974). CES consists of 9 subscales to measure three dimensions: involvement, affiliation, and teacher support for the relationship dimension; task orientation, and competition for the personal development dimension; order/organization, rule clarity, teacher control, and innovation for the system maintenance/change dimension. There are 10 items in each subscale. The response format is True-False, and the scoring direction is reversed for half of the items in each CES subscale. The name and meaning of each subscale is presented in Table 3.

Table 3 Description of Subscales in CES

Dimension	Subscale	Description
Relationship	Involvement	Extent to which students have attentive interest, participate in discussions, do additional work and enjoy the class
	Affiliation	Extent to which students help each other, get to know each other easily and enjoy working together
	Teacher support	Extent to which the teacher helps, befriends, trusts and is interested in students
Personal development	Task orientation	Extent to which it is important to complete activities planned and to stay on the subject matter
	Competition	Emphasis placed on students competing with each other for grades and recognition
System maintenance & change	Order & organization	Emphasis on students behaving in an orderly, quiet and polite manner, and on the overall organization of classroom activities
	Rule clarity	Emphasis on clear rules, on students knowing the consequences for breaking rules, and on the teacher dealing consistently with students who break rules
	Teacher control	The number of rules, how strictly rules are enforced and how severely rule infractions are punished
	Innovation	Extent to which the teacher plans new, unusual and varying activities and techniques, and encourages students to contribute to classroom planning and to think creatively.

(Fraser, 1986, p.19)

CES was developed to assess secondary classroom environments, and was recommended to be used with children aged 11 or older due to the responses' reliability. The subjects for the second part of the present study were 12 years old, but in Grade 6

within primary schools. Thus, it was regarded that some items in CES may not be appropriate to measure primary classroom environments. Furthermore, the original CES contains 90 items, which need sizable amounts of time for an administration and scoring. For these reasons, it was considered desirable to develop a short form of CES. Therefore, a modification of CES was performed in a pilot study to develop a Korean short form of CES.

Moos and Trickett (1974) suggested a short 4-item version of each subscale. On the basis of Moos and Trickett's suggestion for a short version of CES, Fraser (1982) developed a short form of CES consisting of six 4-item subscales. In Fraser's short form, the subscales of involvement, affiliation and teacher support were included for the relationship dimension; task orientation for the personal development dimension; and order/ organization and rule clarity for the system maintenance/change dimension. Internal consistency reliability and discriminant validity for the short form were reported as adequate. However, Fraser emphasized that the short form was less reliable than the long form, and so recommended the short form be used when a classroom environment is measured by averaging perceptions of students within the class (class unit) but not be used when measured by perceptions of individual students (individual unit).

In the present study, as described earlier in Chapter 3, the focus was on the association of EBD with the affective and control aspects within family and classroom environments. Therefore, subscales for the personal development dimension in CES were not included in the pilot study. In addition, involvement subscale for the relationship dimension, and innovation and order/organization subscales for the system

maintenance/change dimension were not involved in the pilot study either, because these three subscales were considered as being more related to an academic aspect or an ordering aspect of environments, rather than the affective or control aspect. In summary, four subscales for two dimensions were used for the pilot study. For assessing the affective aspect within an environment, the affiliation and teacher support subscales from the relationship dimension were used; and the rule clarity and teacher control subscales from the system maintenance/change dimension were included for the control aspect.

5.4 Validation of FACES Instruments and CES

5.4.1 Validation of FACES Instruments

As important indexes of scale validation, an internal consistency and a discriminant validity have been commonly used. The internal consistency is examined by an alpha coefficient (Cronbach, 1951), and the discriminant validity is by intercorrelations between subscales. Because of the complication of reporting all intercorrelation matrices between subscales, the mean of correlations of one subscale with the others has sometimes been used for the description of discriminant validity. Another criteria of discriminant validity is an ability to differentiate persons' perceptions in different environments. That is, persons within the same environment should perceive it relatively similarly, while the mean of perceptions within the same environment should vary from environment to environment. This validity can be examined using one-way ANOVAs.

Olson (1986) evaluated the reliability, validity and clinical utility of FACES-III, and then reported that it is a reliable and valid scale based on family system theory and the Circumplex Model. He also said that it is designed for systematic research or clinical work, and can be used with various family styles including nuclear families, blended families and single-parent families. Some reliabilities and validities of FACES-III are summarised in Table 4.

Table 4 Reliability and Validity of FACES-III

<p>reliability</p> <p>internal consistency</p> <p>retest</p>	<p>cohesion ($r=.77$)</p> <p>adaptability ($r=.62$)</p> <p>total ($r=.68$)</p> <p>FACES-II (4-5 weeks)</p> <p>$r=.83$ for cohesion</p> <p>$r=.80$ for adaptability</p>
<p>validity</p> <p>face validity</p> <p>content validity</p> <p>correlation between scales</p> <p>correlation between social desirability (SD)</p> <p>concurrent validity with FES (Family Environmental Scale)</p> <p>Correlation between Family members</p> <p>Discrimination with symptomatic group</p>	<p>very good evidence</p> <p>very good evidence</p> <p>cohesion & adaptability: $r=.03$</p> <p>SD & cohesion ($r=.39$)</p> <p>SD & adaptability ($r=.00$)</p> <p>$r=.62$ for cohesion</p> <p>$r=.44$ for adaptability</p> <p>X=husband/wife/child ($n=370$)</p> <p>cohesion ($r=.41$)</p> <p>adaptability ($r=.25$)</p> <p>very good evidence</p>

(from Olson, 1986, p.345)

Discriminative validities of the FACES instruments to distinguish symptomatic families from nonsymptomatic have been strongly and consistently demonstrated.

However, the hypothesis that balanced family types are more functional than extreme types (curvilinear relationship) has not been consistently supported. Curvilinear relationships between family types and childhood psychopathologies have been found in some studies, but evidence of linearity of the relationships was provided in the other studies. One of the empirical studies which supported the curvilinear relationships was reported by Clarke (1984). He found that extreme types of family systems were much higher in families with schizophrenics, neurotics, or members receiving a therapy sometime in past compared with families in which there was no member receiving a therapy; whereas balanced families were higher in the no-therapy group than in the other group.

Using FACES-II, Olson and Killorin (1984) found that more alcoholic families fell into the extreme types of family systems in the Circumplex Model. Carnes (1985) also reported, using FACES-II, higher levels of extreme types in families of sex offenders. In the study of Garbarino et al. (1985), the majority of low risk families in terms of parenting, family stress and family conflict were identified as the balanced type (mainly flexibly connected), while the majority of high risk families were identified as the extreme type (mainly chaotically enmeshed).

In the study of Rodick et al. (1986), families with an adolescent juvenile offender were compared, using FACES-III, with families with adolescents who had no history of arrest or psychiatric referral. The comparison was based on the data of 58 mother-son dyads from father-absent families. Only 7% of the delinquent families were balanced, while 93% of the delinquent families were mid-range or extreme types. In contrast, 69%

of the nondelinquent families were balanced, while 31% were mid-range or extreme.

Smets and Hartup (1988) also examined relationships between family functioning and child psychopathologies. The subjects were children aged 6 to 11 and adolescents aged 12 to 16 who had been referred for clinical services. FACES-III was used. The result was that families in the balanced range had children with fewer symptoms compared with midrange or extreme families. Another finding was that the relationship was less strong in the older (adolescents) group than the younger (children) group.

To test whether family functions can be discriminated better by an assumption of linear or curvilinear relationships, Henggeler, Burr-Harris, Borduin and MaCallum (1991) compared, using FACES-III, families of adolescent offenders and young adult prisoners with nonoffenders' families. Their findings supported the curvilinear assumption of FACES-III.

However, several investigators have conversely asserted linear relationships of cohesion and adaptability to psychopathologies. The linearity was found in studies testing the linearity before conducting statistical analyses (Blaske, Borduin, Henggeler & Mann, 1989; Day & Hooks, 1987; Hanson, Henggeler, Harris, Burghen & Hare, 1989; Moore, 1989; Morrison & Zetlin, 1988; Tolan, 1988); in studies with normal families (Barnes & Olson, 1985; Olson, McCubbin, Barnes, Larsen, Muxen & Wilson, 1982); and in studies with clinical families (Fristad, 1989).

Linear vs. curvilinear relationships of cohesion and adaptability to

psychopathologies were examined among adolescents with severe emotional disturbances (SED) by Prange et al. (1992). Each of Olson's four levels of cohesion and adaptability were compared with six measures of child psychopathology on the Diagnostic Interview Schedule for Children-Child Version (DISC-C; Costello, Edelbrock, Dulcan, Kalas & Klaric, 1984) and internalizing and externalizing scores on the Child Behaviour Checklist (CBCL; Achenbach & Edelbrock, 1983). Six measures on DISC-C were conduct disorder, anxiety, depression, schizophrenia, attention deficit and alcohol/marijuana symptoms. Only 1 out of 32 comparisons demonstrated a deviation from linearity. This finding implied that the comparison between balanced, midrange and extreme family types is inappropriate.

Therefore, Prange and his colleagues tested relationships of psychopathologies to cohesion and adaptability on the basis of linearity. Externalizing and conduct disorder, depression and alcohol/marijuana symptoms were associated with low family cohesion. Both adolescents with those symptoms and their parents perceived their family relationships as less engaged and connected than did normative families. Adaptability was weakly but significantly related to anxiety and conduct disorder. Parents of adolescents with those symptoms reported less leadership, and less structure and control over family activities, whereas parents of normative samples reported more rigid and less chaotic levels in the adaptability dimension.

Linear relationships of cohesion and adaptability to family functioning were also found in the national survey with 1,000 'normal' families across the life cycle (Olson et al., 1983). Higher levels of cohesion and adaptability tended to be associated with better

family functioning. This finding was interpreted on the grounds that normal families represented only a narrow range of behaviour on these two dimensions, so that there were very few normal families which fell into extreme types. The studies of Blaske et al. (1989) and Tolan (1988) also supported the linearity. In both studies, conduct disorder of adolescents was associated with a low level of family cohesion.

On the other hand, some researchers have called into question the dimensions of family functioning and convergent validity of FACES instruments (Alexander, Johnson & Carter, 1984; Bilbro & Dreyer, 1981; Cole et al., 1989; Kuncie & Priesmeyer, 1985). Bilbro and Dreyer (1981) performed factor analyses on the FACES cohesion scale in four different samples. The factor loading varied considerably across samples. This result implied that the scale did not measure the same construct in different populations. However, there was a limitation of interpreting the finding: sample sizes for the analyses were relatively small, i.e. the instability of factor loadings across samples could be accounted for in part by the relatively small size of sample for the analyses.

Convergent validities of the FACES instruments were also questioned because discrepancies between family members' perspective on family functioning have been reported in several studies. In families of adolescent drug abusers, for example, fathers' reports of family cohesion correlated .50 with mothers'. Adolescents' reports correlated .39 with mothers' and only .26 with fathers'. The adolescent-father correlation was not significant (Friedman, Utada & Morrissey, 1987). Low correlations between family members' perception were also reported in the study of Alexander et al. (1984). Even in the FACES-III manual (Olson et al., 1985), low correlations were reported. For

cohesion, it was .44 between mothers and fathers, .38 between mothers and children, and .44 between fathers and children. For adaptability, it was .25, .13 and .21, respectively.

Cole and Jordan (1989) suggested one possible explanation of the discrepancies between family members' perspective on family functioning: family members may report qualitatively different functioning within their family. This explanation was based on Bernard's view (1982): there are two marriages in a family, 'his marriage' and 'her marriage', and there are even more perspectives where there are more family members.

There is some research which suggests that all family members are not equally cohesive or adaptable, especially in dysfunctional families. White, Brinkerhoff and Booth (1985) found that attachments of college students with their fathers was particularly affected when their parents' marriage was perceived as unhappy. When the marriage was described 'very happy', 61% of students reported being very attached to their mothers and 52% to their fathers. When the marriage was described 'not too happy', strong attachment to mothers dropped to 51%, but it fell even more to 12% to fathers. Similarly, Anderson and White (1986) found stronger, closer and more positive relationships of children with mothers than with fathers, especially in dysfunctional families. Close relations with mothers, but not with fathers, in high conflict families were also found in the study of Peterson and Zill (1986).

From the view that the discrepancy between family members' perspectives may be due in part to qualitatively different functioning according to subsystems within a family, the multitrait-multimethod (MTMM) matrix was suggested for assessing

convergent and discriminant validations. Each family member rates family functions in different family subsystems (i.e. mother-father, mother-child and father-child). Then, a convergent validity can be tested: whose perspective is the most valid for each family subsystem. Also, a discriminant validity can be examined as to whether mother-father cohesion is the same as mother-child cohesion or as father-child cohesion. From these comparisons, it can be suggested whether the assessment of families is different or equivalent according to component parts in families (Cole & Jordan, 1989).

Using the multitrait-multimethod (MTMM) approach, Cole and Jordan (1989) obtained three measures of cohesion and adaptability in three component dyads of relatively healthy families. That is, 140 college students, their mothers and their fathers reported the degree of cohesion and adaptability in the mother-student, father-student and mother-father relationships. They found significant differences in convergent validities of mothers', fathers' and students' reports. The measures of cohesion and adaptability varied considerably from one family dyad to another. For example, in the assessment of mother-child and father-child cohesion, the mothers' perspective appeared to be the most valid, the student's perspective was next highest, and the father's was the lowest. From this result, they concluded that mothers' and children's reports have much more in common than with fathers'. These differences from one family dyad to another have been found in highly dysfunctional families, but the result of Cole and Jordan's study suggested that it may be same for relatively healthy families as well.

Another significant finding from Cole and Jordan (1989) was that there were significant differences in the correlations between mother-father, mother-student and

father-student cohesion and adaptability. Both cohesion and adaptability in father-child relationships were strongly related to those in mother-father relationships. However, mother-child relationships were quite modestly correlated with mother-father relationships. From this result, Cole and Jordan speculated that the quality of father-child relationships may depend strongly on the quality of the marriage, whereas mother-child relationships may depend less on this. This speculation was based on Heider's (1958) balance theory. According to the balance theory, there are three dyadic relationships within a family (father-mother, father-child and mother-child), and each relationship effects the others to maintain a balance between dyads. For example, if a father-mother relationship becomes severely conflicted, either a father-child or mother-child relationship is adversely affected in an effort to maintain a balance. The strong correlation between mother-father relationships and father-child relationships was interpreted on the grounds that one dyad became negative, so did the other. Conversely, the weak correlation between marital relationships and mother-child relationships was interpreted as that mother-child relationships may represent relatively stable side of Heider's triangle (Cole & Jordan, 1989).

Edman and his colleagues (1990) examined convergent and discriminant validities of FACES-III in a somewhat different way, using the multitrait-multimethod (MTMM) approach. The convergent validity was examined by comparisons between family members and significant others who were not family therapists and between two instruments for measuring cohesion and adaptability: FACES-III and the Family Environment Scale (FES, Moos & Moos, 1974). The discriminant validity was also examined by testing abilities of the differentiation between cohesion and adaptability and

between these two variables and a third variable, talkativeness. Considerably high levels of convergent and discriminant validity were demonstrated. Therefore, they concluded that FACES-III has a high construct validity insofar as convergent and discriminant validities are defined as a construct validity.

5.4.2 Validation of CES

In nine subscales of CES, as mentioned early in this chapter, only four subscales (affiliation, teacher support, rule clarity and teacher control) were used in the pilot study to develop a Korean short form of CES. Thus, only information related to these four subscales is reviewed in this section.

Trickett and Moos (1974) reported some validity information for the children's real form of CES, which was obtained from 13 to 19 years old children in 22 classrooms in the U.S.A. (see Table 5). The internal consistency and retest reliability were high. Intercorrelations between subscales were low in some cases, but were not in the other. No relation was found between teacher support and rule clarity, and between rule clarity and teacher control. Affiliation was also weakly correlated to rule clarity ($r=.12$) and to teacher control ($r=-.09$). But there were stronger relations between affiliation and teacher support ($r=.34$), and between teacher support and teacher control ($r=-.48$). The discriminant validity of discriminating between different classroom environments was tested by one-way ANOVA, and then it was proved that the subscales differentiated the sample classrooms at .001 level. The overall stability of CES profile was also reported.

Average profile correlations were .94 for a two-week interval, .85 for a four-week interval and .95 for a six-week interval. Thus, it was suggested that although some subscales of CES measure somewhat moderately correlated aspects, CES measures, in general, distinct aspects of classroom environments, differentiates different classroom environments, and has a high profile stability over several weeks.

Table 5 Intercorrelations Between Subscales, Internal Consistency and Retest Reliabilities

Subscale	1	2	3	4
1.Affiliation				
2.Support	.34			
3.Rule clarity	.12	.00		
4.Teacher Control	-.09	-.48	.44	
Alpha ¹	.74	.84	.74	.86
retest reliability	.73	.89	.72	.79

¹ internal consistency reliability

(Trickett & Moos, 1974, p.98)

The validation of CES was also evaluated by Fisher and Fraser (1983) for three forms of CES (students' actual, students' preferred, teachers' actual) on the basis of both the class mean and individual as the unit of analysis. Table 6 shows the results of internal consistency reliability and discriminant validity, which were acceptable for all three forms and for both units of analysis. But, both the alpha coefficients and the mean correlations with other subscales were larger for the class mean unit than individual unit.

Table 6 Internal Consistency Reliability and Discriminant Validity for Three Forms of CES: Two Units of Analysis

Scale	Internal Consistency Reliability			Mean Correlation with Other Scales			
	Unit of analysis	Stud. actual	Stud. Ideal	Tch. Actual	Stud. actual	Stud. Ideal	Tch. Actual
Affiliation	Indiv.	.60	.63	.65	.24	.32	.31
	Class	.71	.70		.29	.39	
Teacher Support	Indiv.	.72	.67	.63	.29	.37	.25
	Class	.85	.80		.38	.39	
Rule Clarity	Indiv.	.63	.60	.70	.29	.34	.17
	Class	.76	.69		.36	.39	
Teacher Control	Indiv.	.60	.55	.57	.16	.18	.17
	Class	.71	.67		.23	.32	

(Fisher & Fraser, 1983, p.265)

Trickett and Wilkinson (1979) also reported discriminant validities of students' actual form for both the individual and class mean unit of analysis with a sample of 3,480 students from 229 classrooms in 30 high schools in the U.S.A.. The mean correlation of a subscale with the others was .22 for affiliation, .29 for teacher support, .25 for rule clarity and .25 for teacher control when individuals were used as the unit of analysis. For the class mean unit, it was .25, .42, .37 and .37 respectively, which were higher than those for the individual unit. They also investigated whether factor structures of CES varied according to the analysis units. Regardless of the analysis units, highly similar factor structures were revealed.

Another factor analysis was performed by Trickett and Quinlan (1979) on individual items of CES using the class means as the unit of analysis. Data were obtained from 3,480 students in 229 classes from 25 high schools in the U.S.A. From the factor analysis, six interpretable factors were revealed, which could be categorised into Moos' three general dimensions: friendly and easygoing teacher, innovative student-

oriented teaching and student affiliation approach for relationships; student competition for personal development; rule emphasis and order/organization for system maintenance/change.

Schultz (1979) also examined a factor structure of CES by a factor analysis on the data collected from 185 eleventh and twelfth grade science students in 10 classes from two schools. Three factors emerged: one was relationships which included involvement, affiliation, teacher support and innovation; another was orderliness/achievement which included task orientation and order/organization; and the other was control which included competition, clarity and teacher control.

On the other hand, Moos (1978) performed a cluster analysis on nine dimensions of CES. The data were obtained from 200 junior high and high school classrooms. The cluster analysis yielded five distinctive groups of classrooms: control oriented, innovation oriented, affiliation oriented, task oriented and competition oriented. The last three types were composed of both structured and unstructured subtypes, and the competition oriented classes also have a subtype characterized by an emphasis on student affiliation. Two of the clusters (task orientation, competition) emphasized personal growth or goal orientation. The third cluster emphasized student-student interactions. The other two clusters have an emphasis on system maintenance: control oriented classes emphasized stability and organization, whereas innovation oriented classes emphasized openness and change. From these results, Moos viewed personal relationships and system structure as central dimensions for discriminating psychosocial functioning of different classrooms.

Until the early of 1970s, as mentioned in Chapter 3, research on classroom environment mainly focused on the association with children's learning outcomes rather than with psychosocial development. So, there were only a few studies which investigated the association of classroom psychosocial functioning with psychosocial development in children. Nevertheless, the association between these two variables has been proved. For example, Trickett and Moos (1974) found relationships of student satisfaction and mood with classroom psychosocial environment measured by CES. Students expressed greater satisfaction in classrooms characterized as having high student involvement and affiliation, innovative teaching methods and a clarity of rules regarding classroom behaviour. Greater robustness (e.g. the level of excitement) was also found in classes perceived, using CES, as having more involvement, teacher support, affiliation, innovation and rule clarity. This finding was based on the data of 663 students in Northwest Ohio, the U.S.A (Martin-Reynolds & Reynolds, 1983). In addition, using some scales selected and adapted from CES and LEI (Learning Environment Inventory) with a sample of 414 fifth grade students and their 25 teachers in the U.S.A., Galluzi and his colleagues (1980) found that students' concepts of themselves and others were more positive in classes with greater involvement, affiliation, teacher support and satisfaction.

Students' mood, achievement, popularity and adjustment were related to classroom psychosocial environment perceived both by students and by their teachers, and the relationships were stronger for problematic students. Student popularity was greater in classes perceived by students as having higher order/organization and affiliation; and more positive mood, greater popularity and better adjustment of students were found in classes perceived by their teachers as having higher involvement, affiliation, rule clarity

and order/organization. This finding was obtained by using a short form of CES with the sample of 511 students in Grade 5 and 6 and their 23 teachers in the U.S.A. (Wright et al., 1982, 1986).

5.5 Conclusion

In the present study, family and classroom psychosocial functioning were measured by personal perceptions in the environments. Children and their mothers completed a Korean version of FACES-III, and children and their teachers completed a Korean short version of CES. Compared with direct observation, the shared perceptual measure has the dual advantages of characterising an environment through the eyes of actual participants in the environment and capturing data which an outside observer could miss or consider unimportant.

FACES-III was developed on the basis of the Circumplex Model. In the Circumplex Model, it is hypothesized that optimal family functioning is related curvilinearly to cohesion and adaptability within a family. Cohesion is defined as emotional bonding between family members, and adaptability refers to the family's ability to change its rules and power structure in response to situational and developmental stress. In addition, the satisfaction of family members with their current family system is considered as an important factor of adequate family functioning in the Circumplex Model.

FACES-III is a reliable and valid scale in terms of reliability, validity and clinical utility. It has been demonstrated that FACES-III discriminates between symptomatic and nonsymptomatic families. However, the hypothesis that moderate cohesion and adaptability are the best for children's psychosocial development (curvilinear relationships of family functioning and children's psychopathologies) has not been consistently supported. Therefore, the type of the relationship of EBD with psychosocial functioning was tested before testing the relationship between two variables in the present study.

In the original CES, there are nine subscales for assessing the relationship, personal development and system maintenance/change dimensions in classrooms. But only four subscales are used for the present study because those are considered adequate for assessing the affective and control aspects in classrooms. The subscales are affiliation, teacher support, rule clarity and teacher control. The internal consistency and discriminant validity of these subscales were acceptable.

CHAPTER 6

FIRST STUDY

6.1 Introduction

The main purpose of the first study is to investigate the prevalence rate of children with EBD in Seoul, Korea through an epidemiological approach. Rutter's Child Behaviour Checklist (CBQ) is used to rate children's behaviour by teachers and parents. The epidemiological approach is a technique for looking at the distribution of difficulties in a general population. Seoul is the capital city of Korea and a metropolitan city. Therefore, all primary school children in Seoul could not be involved in the study. Instead, some schools were selected with the consideration that the sample children would be representative of the general population.

The second purpose is to test relationships of EBD to environmental factors within family and school, which are mainly structural aspects in the environments. The factors tested in the first study are children's sex, age and academic achievement; existence of siblings, family style, marital status, fathers' occupation, fathers' education, family income and parents' involvement in their child's education; and the area where a school serves and classroom size.

The third purpose is to investigate parents' and teachers' perceptions of the reasons why children have EBD and what methods are helpful for children with EBD. This investigation is done only with the parents and teachers who judged their children

to need professional help due to their EBD.

The final purpose is to explore which behaviour among aggression, impulsiveness, depression and immaturity teachers feel to be the most difficult to deal with.

6.2 Research Questions

The first series of questions is related to the discriminative ability of items and factor structure of CBQ.

- 1) What behaviours described on CBQs are more frequently presented in Korean children?
- 2) Are behaviours described on CBQs more frequently presented in an EBD than non-EBD group?
- 3) Are the subscales of CBQs valid? That is, are behaviours described on each subscale's items presented more frequently in one group than in the other group?
- 4) What kind of factor structure is there in CBQs?

The second series of questions concerns the prevalence of children with EBD.

- 1) Is there any difference in the distribution of EBD scores estimated by parents and teachers?

- 2) What is the threshold point of EBD in Korea, when using CBQs?
- 3) How many children have EBD in Seoul, Korea ?
- 4) Are there any differences in the prevalence according to the type of difficulties (i.e. ED/ BD/ mixed)?

The third series of questions concerns correlations between identification of EBD by CBQs and judgement of parents and teachers on their children needing professional help due to their EBD.

- 1) What correlation exists between children identified as having EBD by CBQs and those who are seen as needing professional help by their parents or teachers ?
- 2) Are there any differences in such correlations according to the type of difficulties?
- 3) What percentage of children identified as having EBD by both CBQs are judged as needing professional help by their parent or teacher?

The fourth series of questions concerns relationships between EBD and in-child factors.

- 1) Is there a relationship between EBD and children's sex?
- 2) Is the above relationship affected by their teachers' sex?
- 3) Are there relationships between EBD and the children's age and academic achievement?

The fifth set of questions concerns relationships between EBD and in-family

factors: are there any relationships between EBD and existence of siblings, family style, marital status, fathers' occupation, fathers' education, family income and parents' involvement in their child's education?

The sixth set of questions concerns relationships between EBD and in-school variables.

- 1) Is there any difference in EBD scores and EBD proportions according to school?
- 2) Are there any relationships between EBD and school location, and classroom size?

The seventh series of questions concerns parents' and teachers' perceptions of why their children have EBD and what methods might be helpful for children with EBD.

- 1) Are there any differences between parents and teachers in the degree of certainty about the causes of EBD?
- 2) Are there any differences between parents and teachers in their perception of the causes of EBD?
- 3) Are there any differences between parents and teachers in the degree of certainty about the ways of helping children with EBD?
- 4) Are there any differences between parents and teachers in their perceptions of the ways of helping children with EBD?

The eighth question concerns which type of behaviour is the most difficult for

teachers to deal with: which behaviour among aggression, impulsiveness, depression or immaturity do teachers see as the most difficult to deal with?

6.3 Methods

6.3.1 Subjects

All 840 children were sampled from first to sixth grade in 14 primary schools. Seoul can be broadly divided into two areas: one is north of the Hangang River, the other is south of the river. The latter area is newly developed and commonly considered as more wealthy than the former. Six schools were randomly selected from the north area and eight schools from the south area. In each school, 6 classes were chosen, i.e. 1 class from each year. Five boys and five girls were randomly selected from each class. Data were obtained from both their parents and teachers.

Primary school age children are focused on because of the characteristics of parent-child relationships during the middle of childhood. Maccoby and Martin (1983) characterised the relationships as "coregulated" during the middle of childhood, as "parent-regulated" during the early years of childhood and as "self-regulated" during the late years of childhood (adolescence). During the middle of childhood, parents try out new patterns of supervision and support: they permit their children to be on their own and trust them to seek family support when needed. Children, at the same time, are negotiating new freedoms outside of the family and continue to expect family support and guidance at critical times.

From this view, Smets and Hartup (1988) considered the middle of childhood to require sensitive and continuing negotiations between parents and children to work out their coregulated relationships. They assumed that children's symptoms and family psychosocial functioning (cohesion/adaptability) should be more closely linked during the middle of childhood than adolescence because in the latter period, social regulation is more self-determined. To test this assumption, They compared two age groups: 6 to 11 years and 12 to 16 years. The relationships of children's symptoms to family functioning was less strong in the older than younger group.

Nearly all questionnaires were returned from parents and teachers (827 of the parental questionnaires, 839 of the teachers' questionnaires). Questionnaires in which all items were not completely answered were excluded, so that left 702 of the parental and 813 of the teachers' questionnaires for analysis. There were 680 children who were rated by both parents and teachers. There were 534 cases completed by mothers and 150 by fathers on the parental questionnaire and 97 by male teachers and 618 by female teachers on the teachers' questionnaire.

6.3.2 Measures

6.3.2.1 Identification of EBD Using Rutter's CBQ

The versions of Rutter's parental and teachers' questionnaire (Rutter et al., 1975) were slightly modified from the original ones (Rutter et al., 1970): the wording of a few

items in the original ones was changed to increase clarity. In the present study, the modified versions were used (see Appendices 1 and 2).

Overall psychiatric assessments of children need to be based on several different assessments, but as a first step, questionnaires are important especially for screening or survey purposes. Questionnaires completed by teachers are particularly useful for screening of EBD because teachers have many opportunities of observing and comparing large numbers of children (Rutter, 1967).

A recent review of epidemiological surveys of EBD conducted in the last decade (Brandenburg, Friedman & Silver, 1990) indicates that for screening purposes, Rutter's CBQ (Rutter, 1967; Rutter et al., 1970) and the Child Behaviour Checklist (CBCL) (Achenbach & Edelbrock, 1983) are the most widely used. CBQ is used in the present study because of its time efficiency. There are 26 or 31 items in CBQ, but 113 items plus more questions in CBCL. For a teacher rating 10 pupils, the teacher would need much more time if CBCL were used. Boyle and Jones (1985) evaluated several measures for assessing EBD in childhood in a general population, and commented that Rutter's scales were good for the assessment.

Rutter (1967) first developed the teachers' CBQ to meet the following needs: (1) it is not time consuming, so that a teacher could fill the scale for a whole class of children; (2) it covers the behaviour occurring in a school situation; and (3) it is useful to discriminate between different types of EBD as well as between children with and without EBD. On the basis of the teacher's CBQ, the parental CBQ was developed later

(Rutter et al., 1970). Most of behaviour items in the parental CBQ are common to the teachers' CBQ, but some additional items are included which are more likely to be observed in a home situation.

CBQs were designed for screening EBD shown by 7-13 year old children, which cover two broad types of difficulties: emotional difficulties (ED) or internalised behaviour, and behavioural difficulties (BD) or externalised behaviours. The parental CBQ contains 31 brief statements on children's behaviour, and the teachers' CBQ consists of 26 brief statements. For each behaviour description, informants are asked to mark "doesn't apply", "applies somewhat" or "certainly applies" to the child. Replies are given a weight of 0, 1 and 2 respectively: the higher score indicates a higher frequency or severity of difficulties. Then, scores for individual items are added to obtain a total score.

Rutter (1967) reported test-retest reliability and inter-rater reliability of the teachers' CBQ. The test-retest reliability was examined on 80 children aged 7 and was 0.89 at a two month interval. The inter-rater reliability was tested by getting four teachers to complete the ratings for 70 boys and girls, and it was 0.72.

Cut-Off Points of EBD

Children with scores above a certain cut-off point were identified as having EBD that needed further attention. If a child was identified as having EBD by both questionnaires, s/he was referred to as 'pervasively having EBD'; and if a child was identified by only the parental or the teachers' scale (but not both), s/he was referred to

as 'situationally having EBD'.

Two kinds of cut-off points were applied: one was English cut-off points recommended by Rutter and his colleagues (1970), the other was Korean cut-off points decided in the present study. The English cut-off points are a score of 13 on the parental scale and 9 on the teachers' scale.

In order to examine the threshold of EBD (cut-off point) in Korea, a comparison of clinical and non-clinical samples was required. It was, however, quite difficult in the practical process to separately investigate a group of children who were already referred to a clinic; and it was also difficult to have a clinical diagnosis made of a part of the sample group by a professional person such as a psychologist or psychiatrist. Therefore, the clinical group in the present study was selected on the basis of parents' and teachers' judgements on children's need for additional professional help due to their EBD: parents and teachers were asked of the question "do you think this child has difficulties which are so significant that s/he needs additional professional help?" If a child's parent and/or teacher answered "Yes" on this question the child was classified in the clinical group.

In order to obtain the Korean cut-offs, the agreement rate between the number of children in the clinical group (whose informant answered "Yes" on the question) and those having a certain total score or more was calculated using a Chi-square test. The cut-off points were decided on the score from which the best agreement was obtained (i.e. the maximum Chi-square).

This method for deciding the cut-off points can be justified by the fact that a child is usually referred to a clinic by his/her parents or teacher. Moreover, Edelbrock and Achenbach (1984) reported that teachers' assessments are fairly valid and reliable for screening of EBD. When teachers' assessments of children's behaviour were compared with specialists such as psychologists' or psychiatrists', the teachers' assessments were quite accurate.

Defining Types of Difficulties

The way of defining types of difficulties recommended by Rutter (1967; Rutter et al., 1970) is applied in the present study. Once a child is identified as having EBD, emotional and behavioural subscores are obtained. For the parental CBQ, the items B, G, V, 6 and 15 (stomach-ache or vomiting, having tears at school, sleeping difficulties, worrying, fearfulness) are used for the emotional subscore, and the items III, 3, 13, 17, 18 (stealing, destroying, disobedience, lying, bullying) are used for the behaviour subscale. For the teacher's CBQ, the emotional subscale comprises the items 7, 10, 17 and 23 (worrying, being miserable, fearfulness, having tears at school), and the behavioural subscale includes the items 4, 5, 15, 19, 20 and 26 (destroying, fighting, disobedience, lying, stealing, bullying).

If the emotional subscores exceed the behavioural subscores, children is defined as showing ED (emotional difficulties). On the other hand, children whose behavioural subscores exceed the emotional subscores are designated in the BD (behavioural difficulties) group. Children with equal subscores on both subscales are placed in a mixed group. The power of the subscales to discriminate between types of difficulties was proved by comparing questionnaire results with diagnoses made from case notes of

clinical children by Rutter and his colleagues (1967, 1970).

6.3.2.2 Parents' and Teachers' Perceptions of Causation of EBD and Ways of Helping Children with EBD

The perceptions of the causes of EBD and the ways of helping children with EBD were asked of the parents and teachers who judged children as needing professional help. Lists of relevant causes and ways of helping were given, and the parents and teachers answered the following two questions: (1) how much do you think the causes described contribute to your child having difficulties? (2) how much do you think each service is helpful for your child if all services given are available? The lists of causes and ways of helping children with EBD were developed in the current study on the basis of theories from several studies (Baumeister, Kupstas & Klindworth, 1990; Garmezy, 1987; Hallahan & Kauffman, 1991; Morse, 1985; Patterson, DeBaryshe & Ramsey, 1989; Rogoff & Morelli, 1989; Rutter, 1985) and the consideration of Korean culture. There were 14 items as possible causes and 10 items as possible means of helping children with EBD (see Appendix 1).

The parents and teachers were asked to mark "no", "a little", "very (much)" or "unsure" on each item. Their responses were examined in terms of two aspects: (1) *certainty* -- how many parents and teachers have clear ideas about the causes and the ways of helping; (2) *agreement* -- how many parents and teachers have positive views of the causes and the ways of helping described in the questionnaire. To test certainty, the answers were grouped into two categories: answers of "no", "a little" and "very

(much)" were grouped into a sure category; the answer "unsure" was put into an unsure category. The cases in the sure group were grouped again into a positive or negative group: the answer "no" into the negative group; answers of "a little" and "very (much)" into the positive group.

6.3.2.3 Information Associated with Factors in Child, Family and School

From the parents' questionnaires, data were collected about the existence of siblings, family style (nuclear or extended), marital status (divorced or not), fathers' occupation, fathers' education, family income and parents' involvement in their child's education (see Appendix 1). If children lived with grandparents or relatives, their family style was defined as extended, but if living only with his/her parents and siblings, the family style was defined as nuclear. As an index of social disadvantages, fathers' occupation, fathers' education and family income per month were obtained. A three-fold classification was applied to occupations and education. Economic status was also divided into three categories based on the survey about the economic status in Korea carried out in 1989, which was obtained from the Korean Embassy in London. Table 7 shows the ratings of these variables.

The parents' involvement in their child's education was measured by three questions: (1) "how often does your child complete his/her homework?" (2) "do you help for your child to do his/her homework?" (3) "if you don't help his/her homework, do you check it?" Parents answered "rarely", "a few", "often" or "almost always". When children did their homework rarely or a few times, or parents answered "rarely" or "a

few" on both the second and third questions, the level of parents' involvement was classified as low. When children did their homework often or almost always and parents answered "often" or "almost always" on either the second or third question, the level of parents' involvement was classified as high. Then, the mean of CBQ scores and the proportion of children with EBD were compared between the low and high groups.

From the teachers' questionnaire data were collected about classroom size and children's academic achievements (see Appendix 2). The academic achievements were rated separately on three subjects: Korean, Maths and Science. Teachers were asked to estimate children's academic achievements as "below average", "average" or "above average". In addition, teachers were asked what type of behaviour among aggression, impulsiveness, depression and immaturity is the most difficult to deal with.

Table 7 Rating of Variables Related to Social Disadvantage

Occupation	
Low	unemployment, or unskilled manual job
Middle	semi-skilled manual job
High	skilled manual, or non-manual job
Education	
Low	not educated in school at all or primary education only
Middle	up to secondary education
High	education of college or higher
Family Income per month	
Low	less than 600,000 won (about £ 500)
Middle	more than 600,000 and less than 1,500,000 won
High	over 1,500,000 won

6.3.3 Procedures

Rutter's CBQs were translated into Korean by the researcher. Three other Koreans corrected the translation. Translators aimed for conceptual equivalence and culturally appropriate content across languages and for simplicity of wording.

The questionnaires were given to parents and teachers of the sample children in the late autumn of 1991, when teachers were well acquainted with children (children move up to a higher grade in March in Korea). One graduate and two undergraduate students were involved in this investigation. The parental questionnaires were distributed to parents by teachers through children.

A teacher randomly selected 5 boys and 5 girls in his/her class and sent the parental questionnaires to their parents through the children. Before sending the parental questionnaires, the teacher put the same child's number on both the parental and teachers' questionnaires. The reason for this was to connect parent's and teacher's view of the same child (There was no question of showing the child's name on the parental questionnaire, so that parents would be able to answer more frankly).

The importance of random sampling and matching the child's number on both questionnaires were stressed in the introduction of the teachers' scale. Also these points were emphasized again to teachers when investigators explained how to administer the questionnaires.

6.4 Results

6.4.1 Item Analysis of CBQ

6.4.1.1 Frequency of Response on Each Item

The percentages for each item scored 1 or 2 (answered as "applies somewhat" or "certainly applies") on the parents' CBQ was looked at for the whole sample and separately for boys and girls. The results are shown in Table 8. "Truancy" was the least frequently occurring behaviour, which was noted in only 0.5% of the whole sample (sometimes or certainly applies). "Crying at school" (1%), "stealing" (2.6%), "other speech problems" (2.8%) were also found less frequently. "Headaches" was the most frequently noted behaviour, which was rated positively in 65.2% of the whole sample. "Eating difficulties" (57.8%), "restlessness" (51.5%), "disobedience" (41.8%), "irritableness" (41.3%), "fussiness" (40.7%), "fearfulness" (37.8%), "worrying" (37.7%) and "poor concentration" (37.1%) were also found frequently.

Differences in the frequency were also tested between boys and girls (see Table 8). The behaviours which were more frequently noted in boys than girls at a significant level were "restlessness" (21.0% more), "mannerisms" (11.1% more), "bullying" (10.7% more), "destructiveness" (10.3% more), "stammering" (10.1% more), "fighting" (6.7% more) and "soiling him/herself" (5.8% more). However, there was no behaviour which was more frequently noted in girls at a significant level.

Table 8 Percentages for Each Item Scored 1 or 2 on the Parental CBQ

Rating Item	% rated as somewhat or certainly apply			
	in the whole	in boys	in girls	sex diff.
headaches	65.2	65.0	66.5	
stomach-aches	29.4	28.5	30.2	
asthma	24.0	25.1	23.3	
wets bed	14.8	18.2	12.2	
soils him/herself	4.7	7.2	1.4	***
temper	14.9	19.9	13.3	
cries at school	1.0	0.8	1.1	
truant	0.5	0.3	0.8	
stammers	17.7	22.5	12.4	***
other speech problems	2.8	4.1	1.4	
steals	2.6	2.1	3.2	
eating difficulties	57.8	57.8	57.3	
sleeping difficulties	14.8	15.1	15.2	
restless	51.5	62.3	41.2	***
fidgety	16.9	19.7	14.1	
destroys	11.9	16.8	6.5	***
fights	20.2	23.8	17.1	*
not liked	14.3	14.6	14.0	
worries	37.7	36.9	37.9	
solitary	15.1	17.3	12.6	
irritable	41.3	44.5	39.9	
miserable	11.2	10.6	11.5	
mannerisms	11.6	17.3	6.2	***
sucks thumb	9.2	8.0	9.7	
bites nails	23.3	21.0	26.7	
disobedient	41.8	44.0	41.1	
poor concentration	37.1	40.5	34.0	
fearful	37.8	38.9	37.6	
fussy	40.7	41.3	40.7	
lies	20.4	23.8	17.4	
bullies	11.0	16.2	5.5	***

no. of the whole sample was different in each item, but maximum no. was 822.

no. of boys and girls were different in each item, but maximum no. was 332 for both sexes.

* p<.05 *** p<.001

Results for the teachers' CBQ are shown in Table 9. "Truancy" was also the least frequently occurring behaviour, which was noted in only 1.1% of the whole sample. "Crying at school" (1.4%), "school absence" (1.3%) and "stealing" (1.9%) were also less frequently occurring behaviours. The most frequently noted behaviour was "restlessness", which was noted in 35.9% of the whole sample. "Worrying" (35%), "fearfulness" (34.5%), "fighting" (29%), "not liked" (27.8%) and "being solitary (27.4%) were also noted frequently.

As with the parental CBQ, the differences in the response were examined between boys and girls (see Table 9). The most frequently occurring behaviour in boys was "restlessness" (53% of boys were noted), while "worrying" was the most frequently noted behaviour in girls (39% of girls were noted). Compared with girls, more than 30% of boys were described as "restlessness". Furthermore, the following behaviours were more openly noted in boys: "poor concentration" (20% more), "bullying" (17.1% more), "fidgetiness" (15.9% more), "mannerism" (15% more), "fighting" (14.5% more), "destructiveness" (12% more), "stammering" (11.2% more), "irritableness" (9.7% more) and "disobedience" (9.7% more). As with the parental CBQ, however, there was no behaviour which was more frequently noted in girls at a significant level.

Table 9 Percentages for Each Item Scored 1 or 2 on the Teachers' CBQ

Rating Item	% rated as somewhat or certainly apply			
	in the whole	in boys	in girls	sex dif.
restless	37.9	52.9	12.4	***
truant	1.1	0.5	1.8	
fidgety	21.9	29.6	13.7	***
destroys	13.1	19.2	7.2	***
fight	29.0	36.6	22.1	***
not liked	27.8	30.2	27.2	
worries	35.0	31.8	39.2	
solitary	27.8	25.9	28.5	
irritable	27.1	32.5	22.8	*
miserable	21.1	17.1	24.1	
mannerisms	12.6	20.4	5.4	***
sucks thumb	7.7	7.7	6.5	
bites nails	13.4	14.1	12.1	
school absence	1.2	1.8	2.4	
disobedient	14.3	19.4	8.7	**
poor concentration	21.6	31.5	11.5	***
fearful	34.5	33.3	34.6	
fussy	28.4	29.4	28.5	
lies	9.7	12.3	8.0	
steals	1.3	2.3	0.6	
unresponsive	13.8	16.9	10.7	
complains of pain	13.4	14.1	13.3	
cries at school	1.4	1.3	1.2	
stammers	12.9	18.9	7.7	***
aggressive	8.1	11.1	5.6	
bullies	13.0	22.2	5.1	***

no. of the whole sample was different in each item, but maximum no. was 833.

no. of boys and girls were different in each item, but maximum no. was 391 for boys and 380 for girls.

* p<.05 *** p<.001

In Table 10, the results of the response on each item are summarized. From the analyses of frequency for each item, it was found that some behaviours were differently noted according to sex. So, further item analyses were performed separately for boys and girls.

Table 10 Summary of Common Behaviours in Korea

	at home	in school
behaviours shown less than 3%	truancy cries at school stealing other speech problems	truancy cries at school school absence stealing
behaviours shown frequently	headaches eating difficulties disobedience irritableness fussiness fearfulness worrying poor concentration	restlessness worrying fearfulness fighting not liked solitariness
behaviours more often shown in boys than in girls	restlessness mannerisms bullying destructiveness stammering fighting soiling him/herself	restlessness poor concentration bullying fidgety mannerisms fighting
behaviour more often shown in girls than in boys	no behaviour	no behaviour

6.4.1.2 Items' Discriminative Ability

1) Items' Discriminative Ability between EBD and Non-EBD

The proportion of children scoring 1 or 2 was calculated on each item in the EBD and non-EBD groups separately, then a Chi-square test was performed to find out the discriminative ability of each item separately for boys and girls. Children who scored over cut-off points were placed in the EBD group (15 points for the parental, 13 points for the teachers' CBQ) and the other children were grouped into the non-EBD group. Results are shown in Tables 11 and 12. As in the whole sample, most items were more frequently noted in the EBD group in both boys and girls at a significant level. Items which were not more frequently reported in the EBD group in both sexes were "soiling him/herself", "other speech problems", "wetting bed" and "having tears at school". The significant difference in "eating difficulty" between the EBD and the non-EBD group was found in boys but not in girls. This difficulty seems to be common in girls because it was noted in more than a half percent of girls even in the non-EBD group. On the other hand, "truancy" was noted differently between two groups in girls but not in boys.

Table 11 Items' Discriminative Ability Between EBD and Non-EBD on the Parental CBQ: Boys

item	non-EBD (n=290)		EBD (n=42)		Phi	x ²
	no.	%	no.	%		
headaches	168	57.9	38	90.5	.22	***
stomach-ache	76	26.2	18	42.9	.12	*
asthma	60	20.7	26	61.9	.31	***
wets bed	47	16.2	10	23.8	.07	
soils him/herself	18	6.2	3	7.1	.01	
temper	30	10.3	21	50.0	.37	***
cries at school	1	0.3	2	4.8	.16	
truant	0	0.0	1	2.4	.14	
stammers	47	16.2	26	61.9	.37	***
other speech problems	8	2.8	3	7.1	.08	
steals	3	1.0	4	9.5	.20	**
eating difficulties	169	56.2	31	73.8	.12	*
sleeping difficulties	30	10.3	11	26.2	.16	**
restless	166	57.2	39	92.9	.24	***
fidgety	35	12.1	26	61.9	.43	***
destroys	28	9.7	24	57.1	.43	***
fight	54	18.6	23	54.8	.29	***
not liked	22	7.6	23	54.8	.46	***
worries	88	30.3	32	76.2	.32	***
solitary	36	12.4	20	47.6	.31	***
irritable	106	36.6	39	92.9	.38	***
miserable	19	6.6	14	33.3	.30	***
mannerisms	36	12.4	19	45.2	.29	***
sucks thumb	17	5.9	7	16.7	.14	*
bites nails	49	16.9	18	42.9	.22	***
disobedient	102	35.2	37	88.1	.36	***
poor concentration	103	35.5	33	78.6	.29	***
fearful	98	33.8	24	57.1	.16	**
fussy	104	35.9	33	78.6	.29	***
lies	51	17.6	27	64.3	.37	***
bullies	30	10.3	18	42.9	.31	***

* p<.05 ** p<.01 *** p<.001

Table 12 Items' Discriminative Ability Between EBD and Non-EBD on the Parental CBQ: Girls

item	non-EBD (n=310)		EBD (n=22)		Phi	x ²
	no.	%	no.	%		
headaches	195	62.9	20	90.0	.15	*
stomach-ache	84	27.1	12	54.5	.15	*
asthma	64	20.6	10	45.5	.15	*
wets bed	33	10.6	5	22.7	.09	
soils him/herself	3	1.0	1	4.5	.08	
temper	27	8.7	11	50.0	.32	***
has tears	3	1.0	1	4.5	.08	
truant	1	0.3	2	9.1	.23	**
stammers	30	9.7	12	54.5	.34	***
other speech problems	4	1.3	0	0.0	.03	
steals	7	2.3	3	13.6	.17	*
eating difficulties	168	54.2	15	68.2	.07	
sleeping difficulties	39	12.6	11	50.0	.26	***
restless	109	35.2	19	86.4	.26	***
fidgety	32	10.3	14	63.6	.38	***
destroys	13	4.2	7	31.8	.29	***
fight	39	12.6	15	68.2	.38	***
not liked	30	9.7	12	54.5	.34	***
worries	111	35.8	17	77.3	.21	***
solitary	35	11.3	8	36.4	.19	**
irritable	105	33.9	21	95.5	.32	***
miserable	24	7.7	9	40.9	.28	***
mannerisms	15	4.8	6	27.3	.23	***
sucks thumb	20	6.5	9	40.9	.30	***
bites nails	77	24.8	11	50.0	.14	***
disobedient	119	38.4	17	77.3	.20	***
poor concentration	89	28.7	17	77.3	.26	***
fearful	110	35.5	13	59.1	.12	*
fussy	114	36.8	19	86.4	.25	***
lies	42	13.5	14	63.6	.33	***
bullies	10	3.2	8	36.4	.36	***

* p<.05 ** p<.01 *** p<.001

The same analyses were performed on the teachers' CBQ to test the discriminative ability of each item. As shown in Tables 13 and 14, all items were more frequently noted in the EBD group at p<.001, except "sucking thumb", which was more frequently presented in the EBD group only in boys.

So, nearly all the items which were included in both scales showed discrimination to differentiate between the non-EBD and the EBD group: behaviour described in each item was revealed more frequently in the EBD group than in the non-EBD group. In addition, the discriminative ability appeared to be stronger on the teachers' CBQ than on the parental CBQ. That is, χ^2 and Phi coefficients were higher on the teachers' scale.

Table 13 Items' Discriminative Ability Between EBD and Non-EBD on the Teachers' CBQ: Boys

item	non-EBD (n=328)		EBD (n=62)		Phi	χ^2
	no.	%	no.	%		
restless	150	45.7	54	87.1	.30	***
truant	0	0.0	2	3.2	.17	*
fidgety	69	21.0	47	75.8	.44	***
destroys	36	11.0	38	61.3	.47	***
fight	86	26.2	56	90.3	.49	***
not liked	64	19.5	54	87.1	.53	***
worries	91	27.7	34	54.8	.21	***
solitary	68	20.7	30	48.4	.23	***
irritable	69	21.0	55	88.7	.53	***
miserable	38	11.6	30	48.4	.36	***
mannerism	41	12.5	35	56.5	.41	***
sucks thumb	18	5.5	11	17.7	.17	**
bites nails	34	10.4	20	32.3	.23	***
school absence	3	0.9	4	6.5	.15	*
disobedient	36	11.0	38	61.3	.47	***
poor concentration	73	22.3	48	77.4	.44	***
fearful	92	28.0	38	61.3	.26	***
fussy	68	20.7	46	74.2	.43	***
lies	19	5.8	27	43.5	.43	***
steals	2	0.6	6	9.7	.23	***
unresponsive	36	11.0	31	50.0	.38	***
complains of pain	33	10.1	21	33.9	.25	***
cries at school	1	0.3	4	6.5	.20	***
stammers	42	12.8	32	51.6	.36	***
aggressive	13	4.0	28	45.2	.49	***
bullies	42	12.8	41	66.1	.48	***

* p<.05 ** p<.01 *** p<.001

Table 14 Items' Discriminative Ability Between EBD and Non-EBD on the Teachers' CBQ: Girls

item	non-EBD (n=328)		EBD (n=62)		Phi	x ²
	no.	%	no.	%		
restless	71	19.8	15	68.2	.27	***
truant	4	1.1	3	13.6	.22	***
fidgety	40	11.2	13	59.1	.32	***
destroys	15	4.2	12	54.5	.46	***
fight	66	18.4	17	77.3	.33	***
not liked	85	23.7	19	86.4	.33	***
worries	136	38.0	14	63.6	.12	*
solitary	91	25.4	17	77.3	.27	***
irritable	70	19.6	16	72.7	.30	***
miserable	74	20.7	17	77.3	.31	***
mannerism	13	3.6	8	36.4	.34	***
sucks thumb	23	6.4	2	9.1	.03	
bites nails	38	10.6	8	36.4	.18	***
school absence	5	1.4	4	18.2	.25	***
disobedient	22	6.1	14	63.6	.46	***
poor concentration	34	9.5	10	45.5	.26	***
fearful	116	32.4	14	63.6	.15	**
fussy	91	25.4	17	77.3	.27	***
lies	18	5.0	13	56.1	.46	***
steals	0	0.0	2	9.1	.29	***
unresponsive	32	8.9	9	40.9	.24	***
complains of pain	41	11.5	10	45.5	.23	***
cries at school	2	0.6	3	13.6	.27	***
stammers	18	5.0	10	45.5	.36	***
aggressive	8	2.2	13	59.1	.58	***
bullies	11	3.1	8	36.4	.36	***

* p<.05 ** p<.01 *** p<.001

In summary of the discriminative ability between EBD and non-EBD is presented in Table 15. Nearly all items of CBQ distinguished children with EBD from children without EBD. However, "soiling him/herself", "other speech problems", "wetting bed" and "crying at school" may be no criteria of EBD at home for both boys and girls. "Truancy" may be a criterion of EBD at home and "sucking thumb" may be so in school for girls, while "eating difficulties" may be so at home for boys.

Table 15 Summary of Discriminative Ability between EBD and non-EBD

	in boys	in girls
in the parental CBQ		
soiling him/herself	no dif.	no dif.
other speech problems	no dif.	no dif.
wetting bed	no dif.	no dif.
crying at school	no dif.	no dif.
truancy	no dif.	EBD > non-EBD
eating difficulties	EBD > non-EBD	no dif.
the other behaviours in the scale	EBD > non-EBD	EBD > non-EBD
in the teachers' CBQ		
sucking thumb	no dif.	EBD > non-EBD
the other behaviours in the scale	EBD > non-EBD	EBD > non-EBD

dif. : difference

2) Items' Discriminative Ability Between ED and BD Group

In the study of Rutter and his colleagues (1970), the subscales' items were decided by comparing the proportion of children scoring 1 or 2 on each item between the ED (neurotic) group and the BD (antisocial) group. The subscale's power of

discrimination between ED children and BD children was examined in the Rutter's study in the following way: the case notes of children referred to a clinic were examined by a psychiatrist or psychologist. Then a clinical diagnosis was made of ED, BD or other conditions. The children were also rated by CBQ. The diagnoses based on the CBQ subscales were then compared with the clinical diagnoses made of all children scoring at the cut-off point or more. The agreement between the CBQ diagnoses and the clinical diagnoses was high: of children diagnosed as having BD on CBQ, about 80% were also diagnosed as having BD by a specialist; the agreement rate was similar in the ED cases.

The discriminative ability of the subscales' items was also examined in the current study, which was performed separately for boys and girls. As in Rutter's study, the proportions of children scoring 1 or 2 on each item were calculated in the ED and BD groups. Then, Chi-square tests were performed. The classification of the ED and BD groups were based on Rutter's subscales, which were explained in Section 6.3.2.1. The following items were included in Rutter's ED subscale: "stomach-ache", "crying at school", "sleeping difficulty", "worrying" and "fearfulness". In the BD subscale, "stealing", "destructiveness", "disobedience", "lying" and "bullying" were included. The test of difference in girls was done by Fisher's exact test due to the small size of the sample: 11 children in the ED group and 6 children in the BD group. Results are shown in Tables 16 and 17. In both boys and girls, only "sleeping difficulty" was noted significantly more often in the ED group among the subscales' items. "Biting nails" was also noted more often in the ED group in boys and in girls, even though the behaviour was not included in the ED subscale.

In boys, "worrying" was significantly more often reported in the ED group, and "bullying" more in the BD group. "Stomach-ache" (Phi=.20), "crying at school" (Phi=.22) and "fearfulness" (Phi=.37) were more often reported in the ED group, and "stealing" (Phi=.24), "destructiveness" (Phi=.20), "disobedience" (Phi=.28) and "lying" (Phi=.37) were more in the BD group, but these differences were not significant. Among the items which were not included in the Rutter's subscales, "solitariness" was significantly more often reported in the ED group, and "fighting" was more in the BD group.

In girls, "fearfulness" was shown significantly higher in the ED group. "Stomach-ache" (Phi=.45) was also more in the ED group, but it was not significant. "Worrying" does not seem to distinguish girls with ED from those with BD because a similar percentage in each group (81.8%, 83.3%) were described with this term. In the items which were not included in the subscales, "poor concentration" was presented significantly more in the ED group. An interesting result was that there was no behaviour which was noted significantly more in the BD group. Although all items of the BD subscale were more often reported in the BD group, the differences were not significant.

Table 16 Items' Discriminative Ability between ED and BD on the Parental CBQ: Boys

item	ED (n=13)		BD (n=21)		Phi	x ²
	no.	%	no.	%		
headaches	13	100.0	18	85.7	.24	
stomach-ache	7	53.8	7	33.3	.20	
asthma	10	76.9	11	52.4	.25	
wets bed	1	7.7	7	33.3	.30	
soils him/herself	2	15.4	0	0.0	.32	
temper	6	46.2	12	57.1	.11	
cries at school	1	7.7	0	0.0	.22	
truant	1	7.7	0	0.0	.22	
stammers	9	69.2	11	52.4	.17	
other speech problems	0	0.0	1	4.8	.14	
steals	0	0.0	3	14.3	.24	
eating difficulties	9	69.2	16	76.2	.08	
sleeping difficulties	7	53.8	2	9.5	.49	**
restless	12	92.3	21	100.0	.22	
fidgety	7	53.8	14	66.7	.13	
destroys	6	46.2	14	66.7	.20	
fight	4	30.8	15	71.4	.40	*
not liked	6	46.2	13	61.9	.15	
worries	13	100.0	12	57.1	.47	*
solitary	9	69.2	5	23.8	.45	*
irritable	13	100.0	18	85.7	.25	
miserable	6	46.2	5	23.8	.23	
mannerisms	3	23.1	11	52.4	.29	
sucks thumb	1	7.7	4	19.0	.16	
bites nails	9	69.2	6	28.6	.40	*
disobedient	10	76.9	20	95.2	.28	
poor concentration	9	69.2	18	85.7	.20	
fearful	11	84.6	10	47.6	.37	
fussy	12	92.3	15	71.4	.25	
lies	6	46.2	17	81.0	.36	
bullies	2	15.4	15	71.4	.54	**

* p<.05 ** p<.01

items for the ED subscale : stomach-ache, crying at school, sleeping difficulties, worrying, fearfulness

items for the BD subscale : stealing, destroying, disobedience, lying, bullying

Table 17 Items' Discriminative Ability between ED and BD on the Parental CBQ: Girls

item	ED (n=11)		BD (n=6)		Phi	x ²
	no.	%	no.	%		
headaches	11	100.0	4	66.7	.49	
stomach-ache	7	63.6	1	16.7	.45	
asthma	6	54.5	2	33.3	.20	
wets bed	3	27.3	2	33.3	.06	
soils him/herself	1	9.1	0	0.0	.18	
temper	5	45.5	4	66.7	.20	
cries at school	1	9.1	0	0.0	.18	
truant	1	9.1	1	16.7	.11	
stammers	7	63.6	3	50.0	.13	
other speech problems	0	0.0	0	0.0	.0	
steals	0	0.0	2	33.3	.49	
eating difficulties	8	72.7	3	50.0	.23	
sleeping difficulties	8	72.7	1	16.7	.54	*
restless	10	90.0	5	83.3	.11	
fidgety	9	81.8	3	50.0	.33	
destroys	2	18.2	4	66.7	.49	
fights	6	54.5	6	100.0	.48	
not liked	4	36.4	4	66.7	.29	
worries	9	81.8	5	83.3	.02	
solitary	2	18.2	4	66.7	.49	
irritable	10	90.9	6	100.0	.18	
miserable	4	36.4	4	66.7	.29	
mannerisms	4	36.4	1	16.7	.21	
sucks thumb	5	45.5	3	50.0	.04	
bites nails	7	63.6	2	33.3	.29	
disobedient	6	54.5	6	100.0	.48	
poor concentration	11	100.0	3	50.0	.63	*
fearful	10	90.0	1	16.7	.74	*
fussy	9	81.8	6	100.0	.27	
lies	6	54.5	5	83.3	.29	
bullies	4	36.4	3	50.0	.13	

* the test of differences was done by Fisher's exact test due to the number of sample.

* p<.05

items for the ED subscale : stomach-ache, crying at school, sleeping difficulties, worrying, fearfulness

items for the BD subscale : stealing, destroying, disobedience, lying, bullying

The discriminative ability of the subscales was also examined for the teachers' CBQ. The following items were included in the ED subscale: "worrying", "being miserable", "fearfulness" and "crying at school". In the BD subscale, "destructiveness", "fighting", "disobedience", "lying", "stealing" and "bullying" were included. As in the parental CBQ, the test of differences was done by Fisher's exact test in girls because of the small size of the sample: 7 children in the ED group and 13 children in the BD group. Results are shown in Tables 18 and 19.

"Fearfulness" in the ED group and "fighting", "disobedience" and "bullying" in the BD group were more often noted than the other group at a significant level in both sex groups. Only in boys' cases, "worrying" and "being miserable" were more often reported in the ED group, and "destructiveness" and "lying" were in the BD group. In addition, more boys with ED were noted as "being solitary" and "stammering" compared with boys with BD, and more girls with BD were reported as "restlessness", "irritableness" and "aggressiveness" compared with girls with ED. In contrast to boys' cases, if an item was reported differently according to the groups, it was more frequent in the BD group except "fearfulness" in girls' cases.

Table 18 Items' Discriminative Ability between ED and BD on the Teachers' CBQ:
Boys

item	ED (n=19)		BD (n=40)		Phi	x ²
	no.	%	no.	%		
restless	15	78.9	36	90.0	.15	
truant	0	0.0	1	2.5	.09	
fidgety	16	84.2	28	70.0	.15	
destroys	3	15.8	34	85.0	.67	***
fight	14	73.7	40	100.0	.44	**
not liked	18	94.7	34	85.0	.14	
worries	18	94.7	15	37.5	.54	***
solitary	15	78.9	13	32.5	.44	**
irritable	16	84.2	36	90.0	.08	
miserable	16	84.2	13	32.5	.48	***
mannerism	13	68.4	19	47.5	.20	
sucks thumb	2	10.5	9	22.5	.14	
bites nails	4	21.1	15	37.5	.17	
school absence	1	5.3	2	5.0	.01	
disobedient	6	31.6	31	77.5	.44	**
poor concentration	15	78.9	30	75.0	.04	
fearful	19	100.0	16	40.0	.57	***
fussy	14	73.7	31	77.5	.04	
lies	2	10.5	24	60.0	.47	***
steals	0	0.0	6	15.0	.23	
unresponsive	13	68.4	16	40.0	.27	
complains of pain	7	36.8	12	30.0	.07	
cries at school	1	5.3	2	5.0	.01	
stammers	16	84.2	14	35.0	.46	***
aggressive	5	26.3	21	52.5	.25	
bullies	6	31.6	34	85.0	.54	***

** p<.01 *** p<.001

items for the ED subscale : worrying, being miserable, fearfulness, crying at school

items for the BD subscale : destroying, fighting, disobedience, lying, stealing, bullying

Table 19 Items' Discriminative Ability Between ED and BD on the Teachers' CBQ:
Girls

item	ED (n=7)		BD (n=13)		Phi	x ²
	no.	%	no.	%		
restless	2	28.6	11	84.6	.56	*
truant	2	28.6	1	7.7	.28	
fidgety	5	71.4	6	46.2	.24	
destroys	1	14.3	9	69.2	.52	
fight	2	28.6	13	100.0	.77	**
not liked	6	85.7	11	84.6	.02	
worries	4	57.1	8	61.5	.04	
solitary	7	100.0	8	61.5	.42	
irritable	2	28.6	12	92.3	.66	**
miserable	7	100.0	8	61.5	.42	
mannerism	4	57.1	2	15.4	.44	
sucks thumb	2	28.6	0	0.0	.45	
bites nails	3	42.9	5	38.5	.42	
school absence	3	42.9	1	7.7	.42	
disobedient	1	14.3	11	84.6	.69	**
poor concentration	2	28.6	7	53.8	.24	
fearful	7	100.0	5	38.5	.60	*
fussy	4	57.1	11	84.6	.30	
lies	3	42.9	10	76.9	.34	
steals	0	0.0	2	15.4	.25	
unresponsive	5	71.4	3	23.1	.47	
complains of pain	4	57.1	4	30.8	.26	
cries at school	2	28.6	1	7.7	.28	
stammers	5	71.4	3	23.1	.47	
aggressive	1	14.3	10	76.9	.60	*
bullies	0	0.0	8	61.5	.60	*

¹ the test of differences was done by Fisher's exact test due to the number of sample.
 items for the ED subscale : worrying, being miserable, fearfulness, crying at school
 items for the BD subscale : destroying, fighting, disobedience, lying, stealing, bullying

In contrast to the discriminative ability between EBD and non-EBD, many items of the CBQ subscales did not distinguish between children with ED and with BD. The items which were reported differently between the ED and BD groups in both sexes were only "sleeping difficulties" and "biting nails" on the parental scale, and "fearfulness", "fighting", "disobedience" and "bullying" on the teachers' scale (see Tables 20 & 21).

Table 20 Summary of Discriminative Ability of Type of Difficulties on the Parental CBQ

	in boys	in girls
ED subscale		
stomach-ache	no dif.	no dif.
cries at school	no dif.	no dif.
sleeping difficulties	ED > BD	ED > BD
worrying	ED > BD	no dif.
fearfulness	no dif.	ED > BD
BD subscale		
stealing	no dif.	no dif.
destructiveness	no dif.	no dif.
disobedience	no dif.	no dif.
lying	no dif.	no dif.
bullying	BD > ED	no dif.
other items not included in subscales		
biting nails	ED > BD	ED > BD
being solitary	ED > BD	no dif.
fighting	ED > BD	no dif.
poor concentration	no dif.	ED > BD

Table 21 Summary of Discriminative Ability of Type of Difficulties on the Teachers' CBQ

	in boys	in girls
ED subscale		
worrying	ED > BD	no dif.
being miserable	ED > BD	no dif.
fearfulness	ED > BD	ED > BD
cries at school	no dif.	no dif.
BD subscale		
destructiveness	BD > ED	no dif.
fighting	BD > ED	BD > ED
disobedience	BD > ED	BD > ED
lying	BD > ED	no dif.
stealing	no dif.	no dif.
bullying	BD > ED	BD > ED
other items not included in subscales		
being solitary	ED > BD	no dif.
unresponsibility	ED > BD	no dif.
restlessness	no dif.	BD > ED
aggressiveness	no dif.	BD > ED
irritableness	no dif.	BD > ED

6.4.1.3 Factor Analysis

In order to examine the factor structure of CBQs, factor analyses were performed on the data for boys and girls separately, using a principal-components analysis followed by varimax rotation. Five items on the parental questionnaire and four items on the teachers' questionnaire were excluded from the analyses (see Table 22). This was done because of the poor discriminative power of these items: less than 5% of the whole

sample were presented the behaviours described on those items (i.e. received a score of 1 or 2) (if there had been items reported in more than 95%, those would also have been excluded, but there was no such item).

Table 22 Items Scored on 1 or 2 For Less Than 5% of Sample

parents' CBQ	teachers' CBQ
soiling him/herself crying at school truant other speech problems stealing	truant school absence stealing crying at school

Using Kaiser's criterion of eigen value greater than unity, factors with eigen values of 1.0 or above were retained. The factor analysis of the remaining items on the parental CBQ yielded nine factors for the boys and eight factors for the girls. These factors accounted overall for 59% and 55% of the variance in these groups respectively (see Table 23).

Table 23 Factors' Eigen Values and Percent of Variance on the Parental CBQ

factor	eigen value	percent of variance
boys (n=332)		
I	4.90	18.8
II	2.02	7.8
III	1.54	5.9
IV	1.40	5.4
V	1.18	4.5
VI	1.16	4.4
VII	1.08	4.2
VIII	1.03	4.0
IX	1.02	3.9
total		58.9
girls (n=332)		
I	4.72	18.2
II	1.64	6.3
III	1.51	5.8
IV	1.41	5.4
V	1.34	5.2
VI	1.25	4.8
VII	1.19	4.6
VIII	1.14	4.4
total		54.6

Following the tradition in the literature on EBD (Achenbach & Edelbrock, 1981; 1983), items loading at 0.30 or above were assigned to each factor. Tables 24 and 25 show the factor loadings after rotation. Although nine or eight factors were yielded, these factors can be grouped into two dimensions: one is the behavioural dimension, the other is the emotional dimension.

In boys' cases, the first and second factors were broadly linked with behaviour difficulties ("bullying", "fighting", "destructiveness", "lying", "poor concentration", "fidgetiness", "fussiness", "irritableness", "disobedience", "being miserable" and "asthma"). So, these factors were referred to as the behavioural dimension. The

remaining seven factors were considered as being related to emotional difficulties ("not like", "solitariness", "twitching", "stammering", "fearfulness", "stomach-ache", "headaches", "temper", "biting nails", "sucking thumb", "eating difficulties", "sleeping difficulties", "worrying", "restlessness" and "wetting bed"). So, these factors were referred to as the emotional dimension.

Again, in the girls' cases, the behavioural dimension appeared to be the first and second factors ("disobedience", "fussiness", "irritableness", "temper", "fighting", "fidgetiness", "lying", "poor concentration", "stammering", "restlessness", "destructiveness" and "twitching"). The remaining six factors were mainly related to the emotional dimension ("not liked", "being solitary", "bullying", "stomach-ache", "asthma", "headaches", "fearfulness", "worrying", "being miserable", "biting nails", "sucking thumb", "eating difficulties", "sleeping difficulties" and "wetting bed").

Table 24 Factor Loadings For Items on the Parental CBQ: Boys

factor item	I	II	III	IV	V	VI	VII	VIII	IX
bullies	.79								
fights	.65								
destructive	.65								
lies	.58								
poor concentration	.41	.30	.31				.31	-.39	
fidgety	.39	.30	.30	.37					
fussy		.77							
irritable	.31	.70							
disobedient	.36	.59					.36		
miserable		.48						.32	
asthma		.41					-.31		.30
not liked	.31		.78						
solitary			.76						
twitches				.76					
stammers				.51					
fearful				.49			.34		-.33
stomach-ache					.81				
headaches					.64				
temper	.32				.41		-.37		
bites nails						.76			
sucks thumb						.74			
eating difficulties							.66		
sleeping difficulties								.72	
worries		.31						.46	
restless	.39		.31					-.43	.82
wet bed									

Table 25 Factor Loadings For Items on the Parental CBQ: Girls

factor item	I	II	III	IV	V	VI	VII	VIII
disobedient	.74							
fussy	.66							
irritable	.64							
temper	.49							
fights	.49	.42						
fidgety	.45	.31				.34		
lies	.39	.35						-.33
poor concentration		.66						
stammers		.61						
restless	.33	.56						
destructive		.55						
twitches		.52				.32		
not liked			.71					
solitary			.61					
bullies		.30	.58					
stomach-ache				.70				
asthma				.63				
headaches				.60				
fearful					.75			
worries	.33				.61			
miserable	.34		.41		.50			
bites nails						.80		
sucks thumb						.57		
eating difficulties							.77	
sleeping difficulties							.69	
wets bed								.75

Comparing boys and girls, "bullying", "being miserable" and "asthma" were included in the behavioural dimension for boys but were included in the emotional dimension for girls. Also, "twitching", "stammering", "temper" and "restlessness" were included in the emotional dimension for boys but were included in the behavioural dimension for girls.

On the teachers' questionnaire, six factors were derived from boys and five factors from girls. Those factors accounted for 58% and 63% of the total variance respectively (see Table 26). As with the parental CBQ, items loading at 0.30 or above were assigned to each factor. Tables 27 and 28 show the factor loadings after rotation from boys and girls separately. Although 5 or 6 factors were yielded, as with the parental CBQ, these factors can be also grouped into two dimensions: behavioural and emotional.

In the boys' cases, the first factor appeared to be the behavioural dimension ("fighting", "bullying", "irritableness", "destructiveness", "not liked", "disobedience", "restlessness" and "lying"). The remaining five factors were considered as the emotional dimension ("fidgetiness", "poor concentration", "mannerism", "stammering", "fearfulness", "being solitary", "unresponsiveness", "being miserable", "biting nails", "sucking thumb", "worrying", "fussiness" and "complaining of pains").

Again, in the girls' cases, the behavioural dimension appeared to be the first factor ("irritableness", "fighting", "disobedience", "other speech difficulties", "destructiveness", "bullying", "fussiness" and "lying"). The remaining four factors were mainly related to the emotional dimension ("being solitary", "being miserable", "unresponsiveness", "not liked", "fearfulness", "worrying", "complaining of pains", "mannerism", "stammering", "fidgetiness", "biting nails", "sucking thumb", "poor concentration" and "restlessness").

Table 26 Factors' Eigen Values and Percent of Variance on the Teachers' CBQ

factor	eigen value	percent of variance
boys (n=391)		
I	6.49	29.5
II	2.55	11.6
III	1.63	7.4
IV	1.26	5.7
V	1.10	5.0
VI	1.04	4.7
total		63.9
girls (n=380)		
I	5.74	26.1
II	2.88	13.1
III	1.71	7.8
IV	1.28	5.8
V	1.21	5.5
total		58.2

Table 27 Factor Loadings For Items on the Teachers' CBQ : Boys

factor item	I	II	III	IV	V	VI
fights	.81					
bullies	.79					
irritable	.77					
destructive	.75					
not liked	.63		.53			
disobedient	.60					.52
restless	.56	.55				
lies	.55					
fidgety		.74				
poor concentration	.52	.60				
mannerism		.57				
stammers		.57				
fearful		.47	.35		.46	
solitary			.81			
unresponsive		.39	.67			
miserable			.59		.40	
sucks thumb				.87		
bites nails				.81		
worries					.81	
fussy	.50				.57	
complains of pains						.74

Table 28 Factor Loadings For Items on the Teachers' CBQ: Girls

factor item	I	II	III	IV	V
irritable	.81				
fights	.79				
disobedient	.78				
other speech problems	.73				
destructive	.65				
bullies	.64				.39
fussy	.61				
lies	.52				
solitary		.82			
miserable		.69			
unresponsive		.61			.39
not liked	.53	.56			
fearful		.54	.44		
worries		.47			-.37
complains of pains		.45		.39	
mannerism			.78		
stammers			.77		
fidgety			.58	.33	
sucks thumb				.82	
bites nails				.80	
poor concentration	.33				.71
restless	.43				.62

Comparing boys and girls, "not liked" and "restlessness" were included in the behavioural dimension for boys but were included in the emotional dimension for girls. On the other hand, "fussiness" was included in the emotional dimension for boys but was included in the behavioural dimension for girls.

In summary, two dimensions were broadly revealed in the factor analyses. The items loaded on each dimension are summarized for boys and girls separately on the parental and on the teachers' CBQ. The summary is presented in Table 29.

Common difficulties in both sexes for each dimension are summarized in Table 30. Furthermore, common difficulties in both CBQs, as well as in both sexes, for each dimension are presented in the table. In both CBQs, as well as in both sexes, "destructiveness", "fighting", "lying", "irritableness" and "disobedience" were included in the behavioural dimension and "worrying", "being solitary", "sucking thumb" and "biting nails" were included in the emotional dimension.

Table 29 Summary of Factor Structure in CBQ

BEHAVIOUR DIMENSION			
on the parents' CBQ		on the teachers' CBQ	
in boys	in girls	in boys	in girls
bullies	disobedient	fight	irritable
fight	fussy	bullies	fight
destructive	irritable	irritable	disobedient
lies	temper	destructive	other speech
poor concentration	fight	not liked	destructive
fidgety	fidgety	disobedient	bullies
fussy	lies	restless	fussy
irritable	poor concentration	lies	lies
disobedient	stammers		
miserable	restless		
asthma	destructive		
	twitches		
EMOTIONAL DIMENSION			
on the parents' CBQ		on the teachers' CBQ	
in boys	in girls	in boys	in girls
not liked	not liked	fidgety	solitary
solitary	stammers	poor concentration.	miserable
twitches	bullies	mannerism	unresponsive
stammers	stomach	stammers	not liked
fearful	asthma	fearful	fearful
stomach	headaches	solitary	worries
headaches	fearful	unresponsive	complains of pain
temper	worries	miserable	mannerism
bites	miserable	sucks	stammers
sucks	bites	bites	fidgety
eating	sucks	worries	sucks
sleeping	eating	fussy	bites
worries	sleeping	complains of pain	poor concentration
restless	wets bed		restless
wets bed			

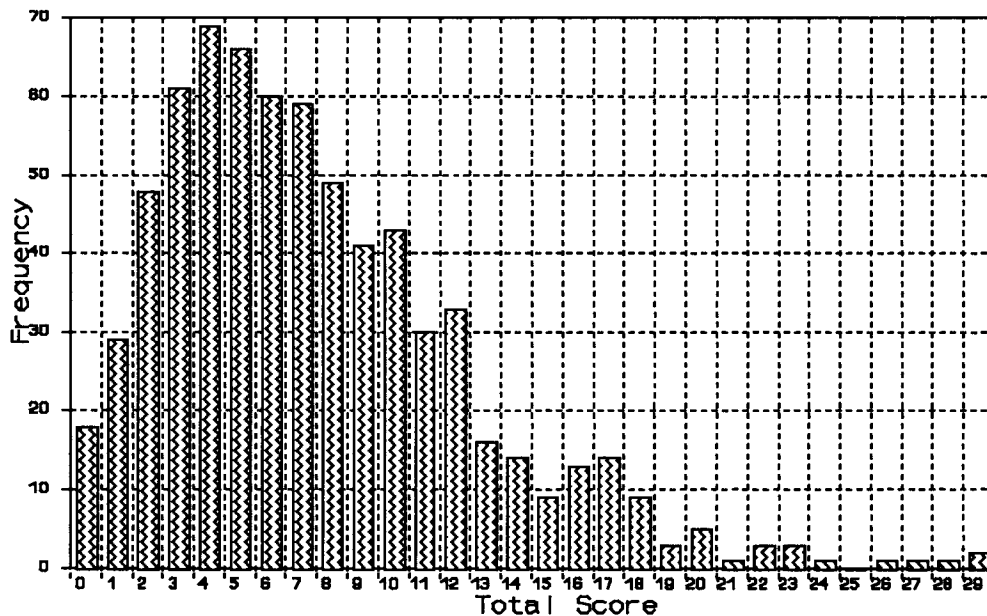
Table 30 Common Difficulties in Both Sexes and in Both CBQs for Each Dimension

BEHAVIOUR DIMENSION		
on the parents' CBQ	on the teachers' CBQ	on both CBQs
destructive fights lies fussy irritable disobedient	fights irritable bullies disobedient destructive lies	destructive fights lies irritable disobedient
EMOTIONAL DIMENSION		
on the parents' CBQ	on the teachers' CBQ	on both CBQs
stomach-ache headaches worries solitary not liked sucks thumb bites nails sleeping diff. eating diff. wets bed fearful	fidgety mannerism stammers poor concentration fearful solitary unresponsive miserable sucks thumb complains of pains bites nails worries	worries solitary sucks thumb bites nails fearful

6.4.2 Distribution of Scores

The distributions of scores on both scales were examined to compare the responses between parents and teachers, and to assess their suitability for further analyses using parametric statistics. Figure 1 shows the distribution of scores on the parents' CBQ which was positively skewed with the mode score of 4. With the maximum possible score of 64, the highest score obtained by children was 29. Of all the sample children, 70% had scores from 2 to 10. Considering the cases whose total score were less than the cut-offs (13 or 15), distribution was like a normal curve.

Figure 1. Distribution of Scores: Parents' CBQ



On the other hand, the scores on the teachers' CBQ were like a J curve distribution (see Figure 2). The mode score was 0 and the majority of children were scored from 0 to 6. The frequency was lower on higher scores. About 18.3% of children had a total score of 0, and over 50% of the total sample children scored 3 or less.

Figure 2. Distribution of Scores: Teachers' CBQ

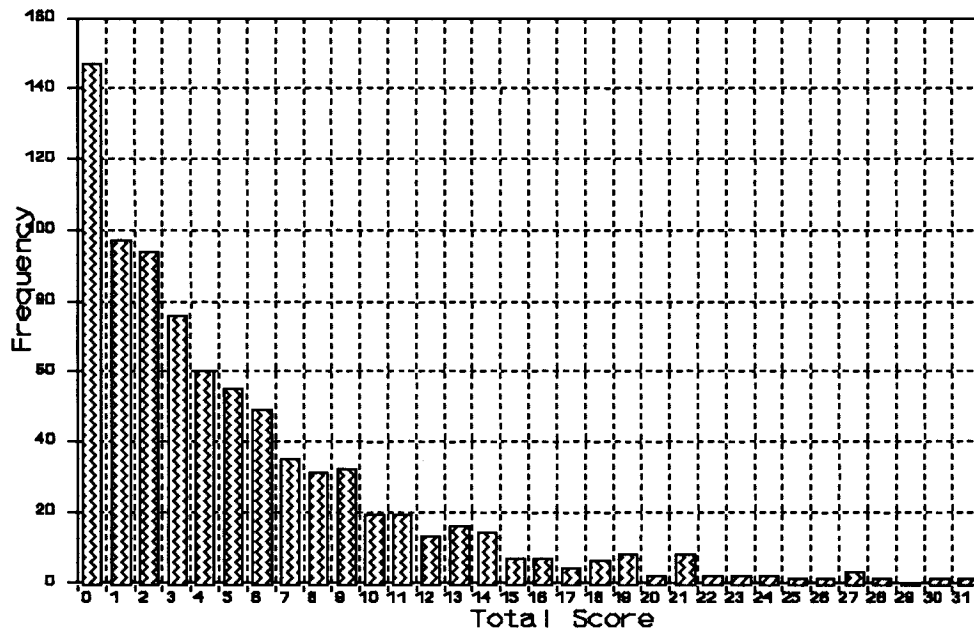


Figure 3 shows the distribution of each child's rating scores on both the parents' and the teachers' CBQ.

Figure 3 Distribution of Scores on Both CBQs

scores on parent's CBQ	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	ab.
ab.					2	1	1		1			1					3
20			1	1		1								1			1
19	2											1					
18	1	2	2	1	1	1											1
17	1	1	3	2	2		1							2	1		
16	3	1	1		1				2	1	2						2
15	2		1						2		1			2			1
14	2	1	1	1			1		1	1	1	1		1	2		
13	2	3	1	3	2	1		1			2						
12	5	2	2	2	1		4	1	3	3			3	1	1	1	2
11	3	2	2	4	1	1	1	2		1	1	1	1	1		2	6
10	4	4	7	2	3	3	4	3	0	2	4	0	0	0	1	0	4
9	5	2	5	3	3	4	1	2	3	4	1	1	1	1	1		3
8	14	4	6	4	5	3	2	3	3	1		1	1				1
7	8	8	3	6	4	2	6	2	2	6	1	1	3	2			3
6	8	9	9	3	5	5	9	2		3	1	2					2
5	13	16	5	6	1	3	5	5	1	2	2		1	1	1		3
4	12	10	8	8	5	5	3	3	3	1	1	1	1	2	1		2
3	16	8	11	8	3	6	1	1	1	2			1		1		
2	10	6	10	4	7	4	1	1		1		1					3
1	7	7	5	3	1		1	2			1						
0	8	3		2	2		1										1

ab.: above

Because parametric statistics were designed on the basis of a normal distribution, the skewed distributions of scores on both scales raised the issue of the adequacy of using the parametric statistics. However, some parametric statistics (e.g. T-test or ANOVA) are robust enough to handle skewed distributions (McNemar, 1969). In addition, there is a finding that the results of data transformed to normal distributions using a logarithmic transformation were the same as those with skewed distributions (McGee et al., 1985). Therefore, although there is a matter of some concern, parametric statistics were applied to the present data.

The distributions of scores on both scales were positively skewed, raising the issue of the appropriate type of analysis for data. But, parametric techniques (e.g., T-test or ANOVA) are robust enough to handle distributions which vary markedly from the normal (McNemar, 1969), whereas correlational analyses may be affected by this degree of skewness. However, previous attempts to transform similar data using logarithmic transformation in an effort to normalise scores have essentially yielded the same results as with the skewed distributions (e.g. McGee et al., 1985). Therefore, although a matter of some concern, this degree of skewness was not considered to invalidate parametric analyses.

The mean of the total scores was 7.44 on the parental CBQ and 5.20 on the teachers' scale. The number of items on each CBQ was different (31 items on the parental and 26 items on the teachers' CBQ), so the mean scores were divided by the number of items on each scale to compare the mean of the mean scores between the two scales. The results are shown in Table 31. The parents' mean was still significantly

higher than the teachers' even when the number of items in both CBQs was taken into account equally.

Table 31 Comparison of the Parents' and the Teachers' CBQ Scores

	n	M (total)		No. item	M (mean)	SD	
Parent	680	7.44		31	0.24	0.16	
Teacher		5.20	**	26	0.19	0.21	**

** p < .01

The correlation of scores between two scales was also tested. It was low ($r=0.26$) although statistically significant. It was, however, somewhat higher than that ($r=0.18$) in the study of Rutter and his colleagues (1970).

6.4.3 Cut-off Point

In order to examine the threshold of EBD (cut-off point) in Korea, the agreement between children whose informant answered "Yes" on the question, "Do you think the child needs professional help?" and those having a certain total score or more was tested using Chi-square tests. A cut-off point was selected on the score from which the best agreement was obtained (i.e. the maximum Chi-square). Of the whole sample, 32 children were judged by parents as needing professional help and 92 children by teachers. Only 11 children were considered so by both their parents and teachers (see Table 32).

Table 32 Frequency of Children Requiring Professional Help

	by parent (n=694)		by teacher (n=778)		by both (n=680)	
	n	%	n	%	n	%
Need of help	32	4.6	92	11.8	11	0.16

Parents' CBQ

The rates of agreement between children whose parents considered them to need professional help and those who had a certain total score or more were calculated for a range of total scores from 10 to 18. The results are shown in Appendix 3. The maximum Chi-square was obtained for the total score of 15. Pearson's r was also maximum on the score. So, the total score of 15 was considered as Korean cut-off point, which is 2 points higher than English cut-off point.

Teachers' CBQ

The rates of agreement between children whose teachers judged them to need professional help and those who had a certain total score or more were calculated with a range of total scores from 7 to 18. The results are presented in Appendix 4. The maximum Chi-square was obtained on the total score of 13. Pearson's r was also maximum on the score. Therefore, the total score of 13 was chosen as Korean cut-off point, which is 4 points higher than English cut-off point.

6.4.4 Agreement between Identification of EBD based on CBQ and Judgement of Needing Professional Help

Agreement rates for the number of EBD children identified by CBQ and children needing professional help are shown in Tables 40 and 41. Of the children who were identified as having EBD using English cut-off points on the parental CBQ, 19.8% (19 out of 96) were judged to need professional help. With Korean cut-offs, 24.2% (16 out of 66) were judged so. On the teachers' CBQ, the agreement rates were much higher than on the parental scale. It was 41.4% using English cut-offs and 65.1% with Korean cut-offs.

In summary, the identification of EBD based on CBQ and the judgement of needing professional help were more consistent by teachers than by parents. That is, more EBD children identified by the teachers' CBQ were judged to need professional help by teachers in comparison with the parents' ratings (see Table 33).

Table 33 Agreement between CBQs' Identification of EBD and Judgement of Needing Help

identification of EBD	English cut-offs		Korean cut-offs	
	Parent (n=96)	Teacher (n=169)	Parent (n=66)	Teacher (n=86)
N. of help	19 (19.8 %)	70 (41.4 %)	16 (24.2 %)	60 (65.1 %)

It was also found that more EBD children identified by both CBQs were judged to need help by teachers than by parents (see Table 34). On the other hand, there was no one child who was judged needing professional help by both parents and teachers in the EBD group who were identified by both CBQs.

Table 34 Agreement Between Identification by both CBQs and Judgement of Needing Help

		Need of help		
		Parent only (n=21)	teacher only (n=81)	both (n=11)
Identified by both CBQs	English (n=29)	4	16	0
	Korean (n=14)	2	10	0

6.4.5 Prevalence Rate of Children with EBD

Table 35 shows the numbers of children with EBD, using two kinds of cut-off points: one (13/9) is based on English children suggested by Rutter (1970) and the other (15/13) is based on Korean children suggested from this study.

Table 35 Prevalence Rate of Children with EBD

	% of EBD	% of ED	% of BD	% of mixed	difference in % between type of difficulties
English cut-offs (13/9)					
Parents (n=702)	13.7	5.8	4.8	3.1	n.s.
Teachers (n=813)	20.8	7.4	11.0	2.4	10.53 **
Both (680)	4.3	-	-	-	-
Korean cut-offs (15/13)					
Parents (n=702)	9.4	3.6	3.8	2.0	n.s.
Teachers (n=813)	10.6	3.5	6.5	0.6	10.43 **
Both (n=680)	2.1	-	-	-	-

** p<.01

ED : emotional difficulties BD: behavioural difficulties

- undetermined

When applying English cut-off points, 13.7% of children (96 out of 702) were identified as having EBD by the parental CBQ and 20.8% of children (169 out of 813) by the teachers' CBQ. Only 4.3% of children (29 out of 680) were identified by both scales: in all 236 children who were identified on either scale, only 29 children (12.3%) were selected on both scales. In the other words, 25.5% of the sample population (207 out of 813) were identified as having EBD situationally (i.e. having EBD only at home or school); whereas only 4.3% (29 out of 680) were rated as having EBD pervasively (i.e. having EBD both settings).

With Korean cut-off points, 9.4% of children on the parental and 10.6% of children on the teachers' CBQ were grouped as having EBD. Only 2.1% of children (14 out of 680) were identified by both scales: out of 138 children who were identified as having EBD on either scale, only 14 children (10.2%) were identified as so on both scales. That is, even though 17% of children (138 out of 813) were selected on the parental and/or teachers' CBQ, the majority (15.3 %) showed EBD situationally, and only 2.1% showed EBD pervasively.

Further analyses were performed according to the type of difficulties. More children with BD were selected at a significant level than children with ED on the teachers' CBQ regardless of the cut-off points. However, there was no significant difference in the percentage of children with ED from those with BD regardless of the cut-off points.

On the other hand, percentages of children with ED and BD were compared

among children who were judged as needing professional help by their parents and/or teachers and identified as having EBD on CBQs. The results are presented in Table 36. Regardless of the cut-off points, more children with ED required by parents the need for professional help than those with BD, although the difference was not significant. In contrast, more children having BD were seen by teachers at a significant level as requiring professional help than children having ED.

Table 36 Proportion of Children with ED and BD among Children Needing Professional Help

	English cut-offs	Korean cut-offs
Judged by parents as needing professional help and having EBD on the parents' CBQ	19 children	16 children
ED identified on the parents' CBQ	47.4%	50.0%
BD identified on the parents' CBQ	26.3%	25.0%
mixed identified on the parents' CBQ	26.3%	25.0%
difference in % (Chi-sq.)	n.s.	n.s.
Judged by teachers as needing professional help and having EBD on the teachers' CBQ	70 children	56 children
ED identified on the teachers' CBQ	25.7%	25.0%
BD identified on the teachers' CBQ	65.7%	67.9%
mixed identified on the teachers' CBQ	8.6%	7.1%
difference in % (Chi-sq.)	10.17 **	10.04 **

** p < .01

ED : emotional difficulties BD : behavioural difficulties

6.4.6 Factors Associated with EBD: Applying Korean Cut-off Points

6.4.6.1 In-child

1) Sex Difference

As shown in Table 37, on both scales boys' scores were significantly higher than girls' ($F=10.33$, $p<.01$ on the parental scale; $F=29.07$, $p<.01$ on the teachers' scale). Also the proportion of boys in the EBD group on both scales was significantly higher than that of girls ($\chi^2=6.24$, $p<.05$ on the parental scale; $\chi^2=18.99$, $p<.01$ on the teachers' scale). The number of boys identified as having EBD was about twice that of girls on the parents' scale and nearly 3 times greater on the teachers' scale.

Table 37 Sex Difference in CBQ Score and Proportion of Children with EBD

	Parental scale				Teachers' scale			
	n	M	SD	EBD (%)	n	M	SD	EBD (%)
Boys	332	8.13	5.23	12.7	391	6.23	6.23	15.9
Girls	332	6.88	4.78	6.6	380	4.11	4.57	5.8
		**		*		**		**

Ratio of boys and girls was 1.9 to 1 on the parental scale and 2.7 to 1 on the teachers' scale.

Whether there is any effect of teacher's gender on the differences in the ratio of boys and girls with EBD was tested. As shown in Table 38, the ratio of boys to girls with EBD identified by female teachers was higher than that by male teachers. The ratio was 2.8 to 1 by female teachers and 1 to 1 by male teachers. But these differences were not statistically significant.

Table 38 Differences in the Ratio of Boys and Girls with EBD according to Teachers' Gender

	male teachers	female teachers
no. of children rated by teachers	n=97	n=618
total no. of children with EBD	2 (2%)	72 (12%)
Boys	1	53
Girls	1	19
Boys : Girls	1 : 1	2.8 : 1

no significant difference across teachers' gender by a Chi-sq. test

2) Age

There was no significant difference in terms of age in EBD scores and in the proportion of EBD children on the parental CBQ. But there were significant differences on the teachers' CBQ ($F=4.70$), with the scores of the 10 year old group being the lowest. It was significantly lower than that of the 8 and 11 year old group at $p<0.01$ level. The proportion of children identified as having EBD on the teachers' CBQ was also the lowest in the 10 year old group. The highest rating scores and the highest proportion of EBD children on the teachers' CBQ came from the 11 year old group (see Table 39).

In order to examine whether the finding of the highest score at age 11 reflects a general trend for that age or not, age differences according to schools were analyzed. The result showed that in only 2 schools out of 14 schools were the scores of the 11 year old group higher than in the other age groups (see Appendix 5).

Table 39 Age difference in CBQ Score and Proportion of EBD Children

age	Parental scale				Teachers' scale			
	n	M	SD	EBD (%)	n	M	SD	EBD (%)
7	110	7.56	4.84	10.9	132	5.14	5.49	12.9
8	120	7.05	4.86	6.7	138	5.74	5.38	10.9
9	117	7.61	5.14	10.3	136	4.96	5.01	8.1
10	110	7.28	4.47	8.2	128	3.51	4.32	6.3
11	125	7.72	5.06	9.6	143	6.54	7.08	18.2
12	120	7.46	5.61	10.8	136	4.74	4.72	6.6
		n.s.		n.s.		**		**

** p < .01

n.s.: no significant

3) Academic Achievement

Teachers estimated a child's academic achievement on the three subjects (Korean, maths and science) as "below average", "average" or "above average" compared to the other children in his/her class. CBQ scores on the parents' and the teachers' scales were significantly lower in higher academic group, and the proportion of children with EBD in school was also significantly lower in higher academic groups. But there was no significant difference in the proportion of EBD at home. Results are presented in Table 40.

Table 40 Differences in CBQ Scores and Proportion of EBD Children According to Child's Academic Achievement: Korean, Maths, Science

	Parental scale				Teachers' scale			
	n	M	SD	EBD (%)	n	M	SD	EBD (%)
Korean								
1	58	9.41	5.79	15.5	77	10.52	6.98	35.1
2	172	7.97	4.92	9.9	213	6.41	5.44	15.0
3	460	6.99	4.87	8.3	511	3.76	4.54	4.9
		**1		n.s.		**2		**3
Maths								
1	68	9.24	6.38	16.2	89	8.82	6.44	24.7
2	151	8.05	5.21	9.3	194	6.64	6.14	17.5
3	471	6.98	4.62	8.3	519	3.91	4.55	5.4
		**4		n.s.		**5		**6
Science								
1	55	9.13	5.09	10.9	72	10.28	6.95	34.7
2	163	8.25	5.58	11.7	208	6.22	5.35	13.0
3	472	6.96	4.71	8.3	521	3.96	4.77	6.1
		**7		n.s.		**8		**9

1: below average 2: average 3: above average
 ** p < .01 n.s no significant
 **1 F=7.51 **2 F=68.99 **3 x²=71.26 **4 F=7.66 **5 F=44.90
 **6 x²=43.83 **7 F=7.56 **8 F=54.15 **9 x²=57.05

6.4.6.2 In Family

Analyses using the family variables, existence of siblings, family style (nuclear or extended), marital status (divorced or not), fathers' education, fathers' occupation and family income were done. Fathers' occupations, fathers' education and family income were included as an index of SES.

Table 41 shows the results relating to existence of siblings, family style and marital status. The parents' CBQ scores and the percentage of children with EBD at

home were significantly higher in the group without sibling than with siblings. The teachers' CBQ scores were also significantly higher in the group without sibling compared with the group with siblings. The percentage of children with EBD in school was higher in the group without sibling, but it was not significant.

According to family style, the teachers' CBQ scores were significantly higher in nuclear families than in extended families. The percentage of children with EBD in school was so as well, but it was not significant. No significant association between EBD at home and family style was found..

The relationship between EBD and marital status could not be tested in this study because children whose parents divorced were extremely few (3 out of 676 on the parents' scale, 3 out of 770 on the teachers' scale).

Table 41 Differences in CBQ Score and Proportion of EBD Children According to Family Factors: Siblings, Family style, Marital status

	Parental scale				Teachers' scale			
	n	M	SD	EBD (%)	n	M	SD	EBD (%)
Siblings								
yes	631	7.26	4.89	8.4	717	5.00	5.41	10.0
no	71	9.14	5.71	18.4	84	6.30	6.49	15.5
		*		*		*		n.s.
Family Style								
nuclear	581	7.38	5.01	9.0	664	5.33	5.72	11.0
extended	121	7.76	4.98	11.6	137	4.18	4.57	8.8
		n.s.		n.s.		*		n.s.
Marital Status								
ordinary	673	-	-	-	770	-	-	-
divorce	3	-	-	-	3	-	-	-

* p < .05 n.s. no significant

- not analyzed due to the small number of divorced families.

The results relating to fathers' occupations, fathers' education and family income are presented in Table 42. The difference was marked for fathers' education. The parents' CBQ score and the percentage of children with EBD at home were significantly higher with a lower level of fathers' education. The percentage of children with EBD in school was also significantly higher in children whose fathers were not educated at all in school or educated up to primary school than in children whose fathers were educated at a higher level. The teachers' CBQ scores were also higher with a lower level of fathers' education, but it was not significant. However, there is a limitation in the interpretation of this finding because the number of children in the low level of fathers' education was too small: 5 out of 676 children on the parental scale and 8 out of 772 children on the teachers' CBQ. On the other hand, no significant difference was found according to fathers' occupations and family income.

Table 42 Difference in CBQ Score and Proportion of EBD Children according to SES

	Parental Scale				Teachers' scale			
	n	M	SD	EBD (%)	n	M	SD	EBD (%)
Fa. Occp.								
low	9	7.89	4.70	11.1	11	2.82	2.38	0.0
mid	228	7.60	5.12	10.1	263	5.35	5.69	12.5
high	437	7.38	4.98	9.2	495	5.06	5.47	9.9
		n.s.		n.s.		n.s.		n.s.
Fa. Ed.								
low	5	11.60	7.99	40.0	8	9.25	8.17	37.5
mid	285	7.88	5.38	11.6	341	4.86	5.19	10.3
high	386	7.11	4.71	7.8	423	5.22	5.68	10.4
		* ¹		* ²		n.s.		* ³
Fm. Income								
low	46	8.91	5.26	17.4	55	5.44	6.57	16.4
mid	462	7.40	5.09	9.1	528	4.96	5.19	9.5
high	189	7.24	4.70	8.5	211	5.38	5.96	11.8
		n.s.		n.s.		n.s.		n.s.

* p < .05

n.s.: no significant

*¹ F=3.65

*² X²=8.09

*³ X²=6.16

To test the association of EBD to parents' involvement in their child's education, three questions were asked. The first question was "how often does your child complete his/her homework?" In all of the 824 children, 789 children (95.8%) were reported by their parents to complete their homework "often" or "almost always". The other two questions were used to classify parents' involvement in their child's education: "do you help for your child to do homework?" and "if you don't help his/her homework, do you check it?" If parents answered "rarely" or "a few" on both these questions their involvement was rated as low. The others were classed as a high involvement group. The CBQ scores and the proportion of EBD children were compared between the two groups. The results are presented in Table 43.

The parents' CBQ scores were significantly higher when parents were less involved in their child's education. However, there was no significant difference in the proportion of children with EBD at home. Also, there was no significant difference in the teachers' CBQ scores and the proportion of children with EBD in school according to the parents' involvement in their child's education.

Table 43 Difference in CBQ Score and in EBD Proportion in Relation to Parents' Involvement in Their Child's Education

	Parental scale				Teachers' scale			
	n	Mean	SD	EBD (%)	n	Mean	SD	EBD (%)
Low	443	7.80	5.23	9.7	502	5.14	5.52	11.0
High	241	6.86	4.69	8.9	296	5.11	5.57	10.1
F value		5.76 *		n.s.		n.s.		n.s.

* p < .05 n.s.: no significant

Analysis was also conducted on the differences according to the person who completed the parental questionnaire (father or mother) and the age of parents who completed the questionnaire. No significant difference was found in the CBQ scores according to these factors.

5.4.6.3 In School

Table 44 shows a significant difference in the teachers' CBQ scores between schools. However, there was no significant difference in the parents' CBQ scores. Also, there was no significant difference between schools in the percentage of children with EBD at home and school. The relationships of EBD to the area where a school serves and classroom size were also tested using the teachers' CBQ. The CBQ scores in the

wealthy area were lower than those in the poor area (4.90, 5.84 respectively), but it was not significant (see Table 45). The proportion of children with EBD in school was also lower in the wealthy area, but it was not significant either (9.7%, 11.9% respectively).

Table 44 School Differences in CBQ Scores and EBD Proportion on the Teachers' Questionnaire

school	n	Differences on the teachers' CBQ				Differences on the parents' CBQ	
		CBQ scores		% of EBD		CBQ scores	% of EBD
		M	SD	F value	F value	F value	F value
1	58	7.47	6.12				
2	45	3.12	4.19				
3	40	3.45	5.14				
4	50	5.66	4.95				
5	50	4.56	6.22				
6	60	6.95	6.20				
7	58	3.78	4.77				
8	59	5.24	5.57	3.04 **	n.s.	n.s.	n.s.
9	40	4.33	5.61				
10	40	7.13	7.46				
11	60	4.80	6.18				
12	46	5.24	4.98				
13	49	4.29	3.50				
14	60	4.90	4.14				

** p < .01 n.s.: no significant

School 1 to 6 were in the poor area and School 7 to 14 were in the wealthy area.

Table 45 Difference in CBQ Scores and EBD Proportion on the Teachers' Scale in Relation to School Location

	n	M	SD	F	% of EBD	χ^2
Wealthy Area	412	4.90	5.32		9.7	
Poor Area	293	5.84	5.84	n.s.	11.9	n.s.

n.s.: no significant

The relation of EBD to classroom size was also tested. The number of children in a class ranged from 40 to 73 (mean=51.84, SD=7.24). The number of children in a class is presented in Appendix 6. A class was grouped as small if there were 50 children or less and as large if there were 51 or more. The criterion of class size was determined on the basis of the percentage of children in each group: the point on which about half of the sample children were allocated in each group. Comparing the EBD proportion in the small class and in the large class, it was found that more EBD children came from a relatively small class than a large class. The result is shown in Table 46.

Table 46 Differences in EBD Proportion according to Class Size on the Teachers' Scale

class size (student no. in a class)	no. children	% of EBD	χ^2
small class (50 or less)	386 (54.1%)	14.9	4.25 *
large class (51 or more)	329 (45.9%)	7.9	

6.4.7 Ranking of the Most Difficult Behaviour For Teachers To Deal With

The behaviours among aggression, impulsiveness, depression and immaturity which are more difficult for teachers to deal with were also examined. The most difficult behaviour for teachers to deal with was aggressive behaviour. As shown in Table 47, externalized behaviours (aggression, impulsiveness) were revealed as more difficult to deal with than internalized behaviours (depression or immaturity).

Table 47 Rank Ordering of Difficult Behaviour for Teachers to Deal with (n=72)

% in each rank order	First n (%)	Second n (%)	Third n (%)	Fourth n (%)
Aggression	32 (45.2)	29 (39.7)	7 (9.6)	4 (5.5)
Impulsiveness	26 (36.1)	29 (40.3)	16 (22.2)	1 (1.4)
Depression	14 (19.4)	11 (15.3)	33 (45.8)	14 (19.4)
Immaturity	5 (6.8)	4 (5.5)	17 (23.3)	46 (64.4)

6.4.8 Causes of EBD and Ways of Helping EBD Children

Causes of EBD and ways of helping children with EBD were asked of the parents and teachers who judged their child as needing professional help. There were 32 parents and 92 teachers who so judged their children. But some of them did not answer these questions, and some parents answered these questions even though they did not judge their child to need professional help. So, 39 parents answered these questions and as did 85 teachers.

The question relating to the causes was "how much do you think the causes described below contribute to your child having problems?" The question relating to the ways of helping was "how much do you think each service is appropriate to your child if all services given are available?" They could answer "no", "a little" "very (much)" or "unsure". Their perceptions were tested in two aspects: *certainty* -- how many parents and teachers have clear ideas about the causes and the ways of helping; *agreement* -- how many parents and teachers have a positive view of the causes and the ways of helping given in the questionnaire.

To test the certainty, the answers were grouped into two categories: answers of "no", "a little" or "very (much)" were grouped into a sure category; the answer "unsure" into a unsure category. The cases in the sure group were grouped again into a positive or negative group: the answers of "no" into the negative group; answers of "a little" or "very (much)" into the positive group.

6.4.8.1 Causes of EBD

The perception of parents and teachers about the causes of EBD was investigated: do they have clear ideas about the causes of EBD? do they think positively of the causes given in the questionnaire. The parents' perceptions were compared with teachers'.

As shown in Table 48, parents and teachers generally had clear views about the causes of EBD. But, teachers were less sure than parents about whether "disharmony in family" may cause EBD. Whereas, parents were less sure than teachers about whether "neurological or developmental defect" might be a cause of EBD.

Table 48 Certainty of Causes of EBD

	answering as sure (%)	
	Parent	Teacher
Personality	86.2	93.2
Developmental defect	69.2	91.2
Poor academic achievement	92.6	100
Faulty child-rearing	96.4	92.9
Disharmony in family	96.6	66.7
Economic difficulty of family	100	90.1
No sibling	96.0	98.6
Bad peers	96.4	92.8
Pressure for high academic achievement	96.4	97.3
Social environment of home	96.4	87.0
Prejudice	96.3	97.0
Media	96.6	85.5
Social esteem, e.g., money-, material- oriented	86.2	94.0
Inconsistency in educational policy	85.7	86.2

More than 70% of parents and teachers considered "personality" and "pressure for high academic achievement" as causes of EBD, whereas "neurological or developmental defect", "no sibling" and "prejudiced view of the child by others" were not considered to be causes of EBD. While "faulty child-rearing" was regarded as a cause of EBD by 80% of teachers, only 44% of parents thought so. "Social esteem such as money- or power-oriented" was also regarded as a cause of EBD by 54% of teachers, while only 24% of parents so thought. More than half of parents and teachers thought that EBD was not caused by "economic difficulty of family", "bad peers" or "inconsistency in educational policy". Whereas "poor academic achievement" and "social environment of home" were viewed as the causes of EBD by more than half of parents, more than half of teachers did not think so (see Table 49).

Table 49 Agreement with Causes of EBD

	answering as positive (%)	
	Parent	Teacher
Personality	92.0	92.8
Developmental defect	16.7	22.6
Poor academic achievement	60.0	46.3
Faulty child-rearing	44.4	80.0
Disharmony in family	39.3	39.1
Economic difficult of family	39.3	28.1
No sibling	25.0	29.4
Bad peers	29.6	34.4
Pressure for high academic achievement	85.2	70.4
Social environment of home	51.9	38.3
Prejudice	15.4	29.2
Media	53.6	55.9
Social esteem, e.g., money-, material-oriented	24.0	54.0
Inconsistency in educational policy	37.5	42.9

6.4.8.2 Ways of Helping Children with EBD

The parents' and teachers' perceptions of the ways of helping children with EBD were also examined: do they have clear ideas about the ways of helping children with EBD? do they think positively of the ways suggested in the questionnaire. The parents' perceptions were compared with the teachers'.

Table 50 shows the percentage of parents and teachers who had clear opinions as to the ways of helping children with EBD. In comparison with the perception of causes, less parents were sure than teachers about the ways of helping. More than 20% of parents did not have an idea whether "psychotherapy in school", "attending special class in mainstream school" or "sending to a special school" would be helpful for children with EBD. But most parents had a clear idea about the suitability of "parent training", "applying behaviour modification method", "supporting teachers in their classes" and "psychotherapy". On the other hand, most teachers had a clear idea about the suitability of all the suggested methods.

As ways of helping children with EBD, over 80% of parents and teachers considered "educating interpersonal social skills" and "helping parents manage problem behaviour at home" as appropriate methods for helping children with EBD. In addition, there were more parents and teachers who considered "psychotherapy" or "counselling" by specialists in schools, "using behaviour modification method", "psychotherapy in clinics" and "supporting classroom teacher in their ordinary classes" as effective ways for helping than those who viewed the ways negatively. However, "using drugs" and

"sending pupils to special classes or special schools" were not considered as adequate ways by many parents and teachers (see Table 51). This finding seems to suggest that both parents and teachers prefer home or ordinary school based methods to help children with EBD rather than methods based on special settings.

Table 50 Certainty of Ways of Helping for Children with EBD

	answering as sure (%)	
	Parent	Teacher
Drugs	84.6	85.1
Psychotherapy in clinics	92.3	95.7
Psychotherapy in schools	70.8	97.0
Counselling in schools	85.2	94.1
Behaviour modification	96.2	98.6
Social skill training	88.5	95.8
Parent training	100	100
Support teachers in their ordinary classes	92.3	94.1
Sending to special classes	76.0	94.1
Sending to special schools	80.0	94.1

Table 51 Agreement with Ways of helping Children with EBD

	answering as positive (%)	
	Parent	Teacher
Drugs	40.1	15.8
Psychotherapy in clinics	79.2	59.1
Psychotherapy in schools	70.6	73.9
Counselling in schools	78.3	70.3
Behaviour modification	68.0	81.2
Social skill training	95.7	91.2
Parent training	85.2	89.2
Support teachers in their ordinary classes	79.2	59.4
Sending to special classed	26.3	20.3
Sending to special schools	30.0	15.6

6.5 Discussion

6.5.1 Item Analyses

What Type of Difficulties Are More Common in Korean Children?

The type of difficulties more common in Korean children was investigated first. For this, the frequency of children presenting behaviours described on each item of CBQ was calculated. The summary of the results of this investigation is presented in Table 10 (see page 103).

Less than 3% of children showed "truancy", "crying at school" or "stealing". This means that these behaviours might be no index of EBD in Korean children. "Truancy" and "crying at school" also had less than 5% frequency in the study by McGee, Williams, Bradshaw, Chapel, Robins and Silva (1985). In contrast, children were often "fearful" or "worrying" at home as well as at school (over 30% of children were reported to have these behaviours). So, these behaviours seem to be good indexes for distinguishing children with EBD from those without EBD.

Some behaviours were frequently shown at home but not at school and vice versa. Many children showed the following behaviours at home but not at school: "headaches", "eating difficulties", "disobedience", "irritableness", "fussiness" and "poor concentration". So, these behaviours seem to be good indexes of EBD only in the home setting. Whereas, "restlessness", "fighting", "not liked" or "solitariness" seem to be good indexes only at school because these behaviours were frequently reported only in the school

setting.

There appears to be differences in the presentation of certain behaviours according to sex. "Restlessness", "mannerism", "bullying", "fighting" and "fidgetiness" seem to be more common difficulties in boys than in girls in both settings. More boys than girls tend to show "destructiveness", "stammering" and "soiling him/herself" at home; and to show "poor concentration" at school. However, there was no behaviour which was shown more often in girls than boys in either home or school. This finding can be interpreted in terms of the ratio of boys to girls who showed EBD. In general, more boys showed EBD than girls (the ratio was 2 to 1 on the parents' CBQ and 3 to 1 on the teachers' CBQ). Since some behaviours were reported with different frequencies according to sex, further item analyses were performed separately for boys and girls.

Parents seem to be in a good position to identify the difficulties related to psychosomatic symptoms such as "headaches" or "eating difficulties". While interpersonal difficulties in children such as "not liked" or "solitariness" could be more often detected by teachers than by parents. On the other hand, parents identified behavioural difficulties in children (i.e., "restlessness", "disobedience", "irritableness") more often than emotional difficulties (i.e., "fussiness", "fearfulness", "worrying"). This finding may indicate that behavioural difficulties are more common than emotional difficulties in the home setting. Alternatively, parents may be less patient with behavioural difficulties than emotional difficulties, or parents may more easily recognize behavioural difficulties than emotional difficulties in their children.

The ranking of behaviour shown frequently by children in school was in the order of "restlessness", "worrying", "fearfulness", "fighting", "not liked" and "solitariness". That is, teachers seem to identify emotional difficulties in children as much as behavioural difficulties. In Rutter's study, (1970) it was assumed that teachers are more likely to note antisocial and aggressive children and to miss neurotic children. However, the assumption was not supported in the study of Rutter and his colleagues (1970) and in this study.

Discriminative Ability of CBQ between EBD and Non-EBD

The ability of each item in CBQ to discriminate children who might have EBD from children who might not was examined for the clinical significance of each individual item. For this purpose, the percentage of children who presented the behaviour described on each item (i.e. scored 1 or 2) was obtained in the EBD and non-EBD groups, and then compared between these two groups. The grouping of EBD and non-EBD was based on Korean cut-off points. These comparisons were done separately for boys and for girls because some behaviours were noted with different frequencies according to sex. The summary of the results of these comparisons is presented in Table 15 (see page 109).

More children with EBD at home presented most of the behaviours described in the parental CBQ than non-EBD children. However, the following behaviours were questioned for their validity in screening of EBD in both sex groups: "wetting bed", "soiling him/herself", "crying at school" and "other speech problem", because these were not observed more frequently in the EBD group than in the non-EBD group. These

behaviours were also reported in few children in the whole sample (less than 3%). So, these behaviours are not likely to be common and no index of EBD in Korea.

On the other hand, some behaviours seem to be good indexes of EBD only in one sex group. "Truancy" may be an index of EBD only in girls, because only girls having EBD showed this behaviour more often than girls without EBD. Whereas, "eating difficulty" seems to be an index of EBD only in boys, because the behaviour was more often presented only in EBD boys than non-EBD boys.

All the behaviours described in the teachers' CBQ except "sucking thumb" were more frequently presented in children with EBD than without EBD at school in both sex groups. "Sucking thumb" was not noted more frequently in girls with EBD than without EBD. Therefore, it can be said that, in general, CBQs have a good validity in distinguishing children with EBD from those without EBD.

Discriminative Ability of CBQ's Subscales between ED and BD

How much each item of the subscales contributes to classifying the type of difficulties (ED/BD) was also tested for boys and for girls separately. The grouping of ED and BD was based on Rutter's criteria. The summary of the results are presented in Tables 20 and 21 (see pages 117 & 118).

Of the five behaviours in the parental ED subscale, only "sleeping difficulties" was more frequently presented by children having ED compared with children having BD in both sex groups. Children having BD at home showed "stomach-ache" and "crying

at school" as frequently as children having ED in both sex groups. So, these behaviours do not seem to be good indexes of ED in Korean boys and girls. On the other hand, "worrying" was more frequently presented in the ED than BD group in boys; and "fearfulness" was so only in girls. So, "worrying" seems to be an index of ED only in boys, and "fearfulness" seems to be only in girls.

In the parental BD subscale, only 'bullying' was more frequently presented in boys having BD compared with those having ED. No behaviour in the BD subscale was more frequently presented in girls having BD compared with those having ED. So, a modification of the BD subscale on the parent's CBQ is necessary to use in Korea.

There seem to be other behaviours which are not included in the subscales but could be good indexes of ED or BD in Korea. In both sex groups, "biting nails" seems to be a good index, because children having ED more frequently showed this behaviour compared with children having BD (68% in the ED group, 29.6% in the BD group). In addition, "solitariness" seems to be a good index of ED and "fighting" does for BD in boys. In girls, "poor concentration" does for ED.

In the teachers' CBQ, only "fearfulness" seems to be a good index of ED in both sex groups. "Worrying" and "being miserable" seem to be so only in boys because these behaviours were more frequently presented in boys having ED compared with those having BD. On the other hand, "crying at school" does not seem to be an index of ED in Korean boys and girls because few children having ED presented this behaviour as did children having BD. This behaviour was also presented in few of the whole sample.

In the teachers' BD subscale, "fighting", "disobedience" and "bullying" seem to be good indexes of BD in the school setting for both sex groups because more BD children presented these behaviours than ED children. But "destructiveness" and "lying" seem to be so only in boys. On the other hand, "stealing" does not seem to be an index of BD in both sex groups because there was no difference in the presentation of this behaviour between children with ED and with BD.

As in the parents' CBQ, there seem to be other behaviours which are not included in the subscales but are good indexes of ED or BD in Korea. In boys, "solitariness" and "unresponsibility" seem to be good indexes of ED because boys having ED more frequently showed these behaviours than boys having BD. Whereas, "restlessness", "aggressiveness" and "irritableness" seem to be good indexes of BD in girls.

From these findings, it was suggested that the validity of the subscales needs to be tested, and the criteria of the subscales need to be made separately for boys and for girls.

Factor Structure of CBQ

The factor structure of CBQ was also looked at separately for boys and for girls since some behaviours were noted with different frequencies according to sex. It has also been suggested in other studies that there are differences in the structure between boys and girls. For example, Achenbach and Edelbrock (1981) reported differences in the factor structures of CBCL (Child Behavior Checklist) between boys and girls. However, in some studies (Morita et al., 1990; Singh, 1992; Wang et al, 1989), factor structures of

CBQ were reported without an examination of the difference according to sex; and, in contrast, no difference between boys and girls was found by McGee and his colleagues (1985).

The summary of the results of factor analyses from the present study are presented in Tables 29 and 30 (see pages 127 & 128). Five to nine factors emerged in CBQs, but these factors can be categorized into two dimensions: behavioural and emotional. These dimensions are similar to the factors found in the Beijing study (Wang et al., 1989) using the teachers' CBQ. In their study, two factors were yielded: Factor 1 (behaviour factor) included "disobedience", "destructiveness", "fighting", "squirring", "fidgetiness", "restlessness", "not liked", "bullying", "lying", "irritableness" and "temper tantrums"; Factor 2 (emotional factor) included "solitariness", "poor concentration", "being miserable", "crying at school", "being afraid of new things" and "worrying".

In the present study, some items were included in the two different dimensions according to sex. Comparing boys and girls on the parents' CBQ, "bullying", "being miserable" and "asthma" were included in the behavioural dimension for boys, but included in the emotional dimension for girls. In contrast, "twitching", "stammering", "temper tantrum" and "restlessness" were included in the emotional dimension for boys, but included in the behavioural dimension for girls. On the teachers' scale, "not liked" and "restlessness" were included in the behavioural dimension for boys, but included in the emotional dimension for girls. In contrast, "fussiness" was included in the emotional dimension for boys, but included in the behavioural dimension for girls. From these findings, the necessity of different criteria of subscales for boys and girls was raised

again.

The CBQ subscales were originally developed on the basis of a clinical diagnosis of the types of difficulties in the study of Rutter and his colleagues (1970). The BD and ED groups were defined by a specialist's judgement, and then only items which were shown significantly more in the BD group than the ED group were selected for the BD subscale. Items for the ED subscale were also decided in the same way. Items which were presented in the BD group as frequently as in the ED group were not selected for any subscale.

Comparing Rutter's subscales with the factor structure obtained from the current study, all items in the teachers' BD subscale except "stealing" were loaded on the behavioural dimension and all items in the ED subscale except "crying at school" were loaded on the emotional dimension in both sex groups. Excepting these two items and "bullying", all items in the parental BD subscale were also included in the behavioural dimension and all items in the ED subscale were included in the emotional dimension in both sex groups, too. Of the three items which were not loaded on the same dimension with the subscale, "stealing" and "crying at school" were not included in the factor analysis because they were reported in less than 5% of the total sample. So, it could be said that Rutter's subscales are valid to distinguish children with ED from children with BD, and the subscales are able to apply regardless of sex. However, the necessity of different subscales for each sex group was suggested in Section 6.4.1.2, because the items in each subscale were not presented more frequently in children having ED or BD compared with children having different type of difficulties; and there were differences

in the discriminative ability between boys and girls. Therefore, an intensive further study needs to test the validity of the CBQ subscales in distinguishing children having ED from children having BD, and the necessity of different subscales according to sex.

In Rutter's studies (Rutter, 1967; Rutter et al., 1970), three factors were suggested: antisocial, motor and emotional factors. In the later study, Schachar, Rutter and Smith (1981) performed a factor analysis on the data of Rutter's previous Isle of Wight studies (Rutter et al., 1970, which is the original study with children aged 10-11 years and Graham & Rutter, 1973, which is the follow-up study at the children aged 14-15 years). From the principal-component analyses for each age and sex group, an additional factor, hyperkinetic, emerged. Three items were loaded on this factor: "restlessness", "squirming" and "poor concentration".

In McGee and his associates' study (1985) with 7 year old children in New Zealand, the factor structure of the teachers' CBQ was examined. A factor analysis was first performed for boys and girls separately, indicating no difference between the two groups. So, further factor analysis was performed on the whole sample, and yielded six factors. The first three were considered as central factors: aggressiveness, anxiety-fearfulness and hyperactivity. The remaining three factors were considered as indeterminate. Table 52 shows the factor loadings after rotation.

Table 52 Factor Loading of Teachers' at Age 7 Years CBQ (n=940)

item	I	II	III	IV	V	VI
Fighting	.80					
Bulling	.68					
Irritableness	.63					
Disobedience	.58		.43			
Destructiveness	.54			.36		
Not liked	.48	.38				
Worrying		.74				
Fearfulness		.60				
Being miserable	.31	.59				
Fussiness		.49				
Solitariness		.45				
Squirming			.77			
Restlessness	.39		.72			
Poor concentration			.56			
Lying	.50			.64		
Stealing				.60		
Twitching					.54	
Stuttering					.51	
Sucking thumb						.54
Biting nails						.50

(McGee et al., 1985, p.732)

Other factor analyses on the teachers' and parents' CBQ were reported by Morita et al. (1990) with 12-13 year old children in Japan. The analyses were performed separately for boys and girls. Table 53 shows the result of factor analysis with the teachers' CBQ. Three factors were considered as common to both boys and girls: antisocial, overactive and emotional. These three factors were also interpreted as central in the parental CBQ even though more than three factors were extracted. In the teachers' CBQ, the first factor was always antisocial across sex, whereas in the parental CBQ it was overactivity in girls.

Table 53 Factor Loading of Teachers' CBQ at Age 12-13 Years

factor	I	II	III	IV
12-13 yrs				
Boys (n=357)	destructiveness fighting not liked irritableness fussiness lying bullying	overactivity restlessness disobedience poor concentration	worrying being miserable fearfulness	absence aches & pains
Girls (n=336)	fighting not liked irritableness fussiness bullying	worrying solitariness fearfulness	absence lying pain & aches	restlessness disobedience poor concentration

(Morita et al., 1990, p. 612)

A factor analysis on the teachers' CBQ was also performed on the data from children in a reception class by Singh (1992). Eight factors were found. The name of each factor and items constituting each factor are presented in Table 54.

Table 54 Factor Loading of Teachers' CBQ at Age 5-6 Years

factor	items
I Conduct	bulliny, destructiveness, disobedience, fidgety, fighting, irritableness, lying, not liked, poor concentration, restlessness, solitariness, twitching
II Fearful	complaining pains, fearfulness, fussiness, solitariness, crying at school, twitching, unhappiness, worrying
III Mesdemeanour	disobedience, fidgety, lying, poor concentration, restlessness, stealing
IV Nervous habits	biting nails, fidgety, restlessness, sucking thumb, twitching
V Speech problem	poor concentration, solitariness, speech disturbance, stutter
VI Physical problem	absence from school, complaining pains, unhappiness
VII Sphincter problem	fidgety, poor concentration, restlessness, crying at school, twitching
VIII Truant	truancy

(Singh, 1992, p.84)

As shown in the studies described above including the current study, several

factors were yielded but only two or three factors were interpreted as central: behavioural (antisocial, aggressive), emotional (anxiety), and overactive (hyperactivity, motor). This finding supports the suggestion that factor analyses tend to yield a relatively large number of rather small factors rather than a single factor which includes relatively homogeneous symptoms (Langhorne, Loney, Paternite & Bechtoldt, 1976; Routh & Robert, 1972; Schachar, Rutter & Smith, 1981).

6.5.2 Prevalence of EBD

Comparison of Parents' and Teachers' Rating

Firstly, the distributions of scores on the scales were compared. The parents' ratings were slightly positively skewed with a mode score of 4. Considering the cases with a total score less than the cut-off, the distribution was like a normal distribution. Whereas, the teachers' ratings showed a J curve distribution with a mode score of 0. That is, the frequency was lower on higher scores.

Compared with parents, teachers rated children's EBD at a significantly lower level: the mean of teachers' ratings was lower than that of parents'. However, more children were identified as having EBD by teachers. Furthermore, more children were considered as needing professional help due to his/her EBD by teachers than by parents. These findings could be an indication that parents are more patient with EBD than teachers.

In this respect, cut-off points were compared with regard to the number of items in each scale. The parents' scale consists of 31 items and its Korean cut-off point is 15, while the teachers' scale has 26 items and its Korean cut-off point is 13. When the number of items in each scale is taken into account, the cut-off point of 15.5 on the parents' scale has equal value to the teachers' cut-off point of 13 if it is assumed that the number of items on both scales is the same. That is, the cut-off point of the parents' scale is slightly lower than the teachers' point, which may imply less patience of parents with EBD compared with teachers.

Therefore, the assumption of more patience of parents than teachers was not supported. An alternative interpretation of the lower mean but higher proportion of EBD on the teachers' CBQ is that parents may be less sure than teachers about normal behaviour for their child's age because they do not have many chances to see many children of the same age as their child. Accordingly, they might rate their child's behaviour less consistently. That is, parents may consider a behaviour as highly problematic and another behaviour as less problematic, by comparison with a specialist who would consider them equally problematic.

This view is consistent with the finding that fewer parents considered their child to need professional help compared with teachers even though the mean of parents' behaviour ratings was higher than the teachers' mean. In comparison with parents, teachers may have a standardized framework with which to rate children and have more extended experience of age norms, so teachers' judgements of EBD may be more broadly based than parents' judgements. Accordingly, it can be said that teachers' ratings tend

to be more valid than parents' in screening EBD in children.

This interpretation receives some support from the finding that the agreement rate between the identification of EBD based on CBQ and judgement of needing professional help was much higher in teachers than parents: the percentage of children who were identified by teachers as having EBD on CBQ and as requiring professional help was much higher than that by parents (see Appendixes 3 and 4).

However, no difference in the efficiency between parents' and teachers' ratings in screening EBD was reported by Rutter and his colleagues (1970). In the children who were identified as having EBD by the parental and teachers' CBQs, about the same proportion of children were finally diagnosed as having EBD from an independent examination done by a specialist. Furthermore, there is a study (Vikan, 1985) which reports parents' ratings more valid than teachers (Vikan, 1985). A relatively better agreement between parents' and psychiatrists' assessments of children's symptoms was found in comparison with an agreement between teachers' and psychiatrist'. Consequently, a further study is necessary to say whether there are cultural differences in the efficiency of parents' and teachers' ratings in screening of EBD.

Prevalence Rate of EBD

The first study was designed to investigate the prevalence of EBD in 7-12 year old children in Seoul, Korea. The prevalence of EBD was investigated on the basis of two different cut-off points: Rutter's cut-off points and Korean cut-off points. About 29% of primary school children in Seoul appeared to have EBD at home and/or school

on the basis of Rutter's cut-offs; 13.7% at home, 20.8% at school, 4.3% in both settings.

It is worth comparing the findings from the present study with those from the cross-national study in which Korea, Japan and China were involved (Matsuura et al., 1993). In the cross-national study, Rutter's cut-off points were applied and children in primary schools were selected from metropolitan areas. The prevalence rates of EBD which were found in the present study using English cut-offs and in the cross-national study are summarized in Table 55.

Table 55 Prevalence Rate of EBD in the Present Study and in the Cross-National Study

	% of EBD	% of ED	% of BD	% of mixed	difference in % between types of EBD
in the present study					
parents	13.7	5.8	4.8	3.1	no sig.
teachers	20.8	7.4	11.0	2.4	sig.
both	4.3	-	-	-	-
in the cross-national study (Matsuura et al., 1993)					
in Korea					
parents	19.1	8.3	7.5	9.0	no sig.
teachers	14.1	3.8	9.0	1.2	sig.
both	4.5	-	-	-	-
in Japan					
parents	12.0	3.7	6.8	1.5	sig.
teachers	3.9	0.5	3.1	0.3	sig.
both	1.4	-	-	-	-
in China					
parents	7.0	1.6	4.4	1.0	sig.
teachers	8.3	0.6	7.4	0.3	sig.
both	2.1	-	-	-	-

sig. : significant

- undetermined

The prevalence rate of children with EBD identified by parents and/or teachers in Korea was reported similarly in both studies. Comparing with Japan and China, the prevalence of children with EBD in a metropolitan area seems to be higher in Korea: about 29% in Korea, 15% in Japan, and 13% in China. The prevalence rate in Korea was also higher than in a rural area of England (Isle of Wight) (12.3% by either ratings; 6.0% by parents; 7.1% by teachers; 0.9% by both).

However, the rate in a metropolitan area of Korea is comparable to the rate in the Dunedin metropolitan area, New Zealand (McGee et al., 1984). Using Rutter's questionnaires and applying Rutter's cut-offs, 30.7% of children were considered as having EBD at home and/or school. Contrasted to the result in the present study, however, more children were considered as having EBD by their parents than teachers (22.8% by parents, 14.4% by teachers; 5.5% by both). The prevalence rate of EBD in Korea is also comparable to the rate in Inner London (Rutter et al., 1975), where the rate was 19% by teachers' ratings only and 25.4% on the basis of teachers' ratings and/or parents' information.

Higher rates in a metropolitan area of Korea than in a rural area of England can be interpreted in terms of the geographical difference in the prevalence of EBD. It has been suggested that a higher prevalence rate is obtained from an urban area, especially a metropolitan area, compared with a rural area. However, the reason of a higher rate in Korea than in Japan or China cannot be explained by this study. It would be worth investigating the reasons for this higher rate in Korea than in the other two Asian countries in a further study.

Consideration is next given to the proportion of children who were identified as having EBD by parents and by teachers: by whose rating are more children identified? In contrast with the fact that more children with EBD were identified by teachers than by parents in the present study, more Korean children were identified as having EBD by parents than by teachers in the cross-national study. Moreover, in the cross-national study, more children with EBD were identified by parents than by teachers in Japan; and a similar percentage of children were identified as having EBD by parents and by teachers in China. In McGee and his colleagues' study (1984), parents identified about twice as many children with EBD as teachers; and a similar proportion of children with EBD (6.0% by parents, 7.1% by teachers) was reported in the Isle of Wight study (Rutter et al., 1970). That is, there is no trend which has been consistently found in different studies. Therefore, the speculation of Touliators and Lindholm (1981) need to be reconsidered: the relatively higher rate of children identified by parents may be due to parents being less accepting of EBD or children showing more EBD at home than school.

The next consideration is whether there is a difference in the rate of children with behaviour difficulties (BD) and with emotional difficulties (ED). In the cross-national study, more children were identified as having BD than ED by both parents and teachers in Japan and China; and by teachers but not by parents in Korean. In the present study, the higher rate of BD was found on the basis of teachers' ratings but not on the basis of parents' ratings. In both studies, Korean parents identified as many children with ED as those with BD. This finding can be interpreted as Korean children may express their problems by internalised behaviour more than those in the other Asian countries; or Korean parents may detect ED as well as BD in children.

On the other hand, the prevalence rates were much reduced when applying Korean cut-off points. It was 17.0% at home and/or school: 9.4% at home, 10.6% at school, 2.1% in both settings. This reduction shows the importance of cut-off points in a comparison of the prevalence rates with other countries. Accordingly, it is suggested that the threshold of EBD (i.e. cut-off points) need to be taken into account at first when an instrument is used to investigate a prevalence rate of EBD.

Korean cut-off points (15 points for the parents', 13 points for the teachers' CBQ) are higher than English points (13 points, 9 points), i.e. the threshold of EBD is higher in Korea compared with England. The differences in the cut-offs can be explained by the method of deciding Korean cut-off points. Korean cut-off points were decided on the basis of the agreement between questionnaire diagnoses and parents'/teachers' judgements of needing professional help. The questionnaire diagnoses mean identifying a child as having EBD if s/he scored over a certain point on the questionnaires.

Perhaps the Korean cut-off points could be set at a higher score than the English for the following reason: Korean parents and teachers may have a lower trust in outside professional services for children's EBD and prefer to deal with children's EBD by themselves rather than to send them to a clinic if EBD is not very serious. If this is true, parents and teachers may have a higher threshold for needing professional help.

Parents' and teachers' opinions about the adequacy of ways of helping children with EBD, which were also investigated in this first study, support this possibility. Parents and teachers considered the methods based on home or an ordinary classroom to

be more adequate than sending children to a special school or clinic.

The higher cut-off points in Korea than in England can be interpreted in another way. It may indicate that the judgement of parents and teachers is less exact about whether children should receive clinical treatments due to their EBD. That is, some parents and teachers may be too sensitive to EBD, so they feel the necessity of professional help even though it is not necessary. Whereas, others may not seriously consider EBD even though children need clinical treatments, so they do not consider the necessity of professional help. This possibility is consistent with the finding that the percentages of children who were identified as having EBD by questionnaire diagnoses but not judged as needing professional help were quite high, or vice versa. In detail, 61% of children who were identified as having EBD by the parents' CBQ were not judged as needing professional help by their parents; and 20% of children who were judged as needing professional help by their parents were not classified as having EBD by the parents' CBQ. The corresponding figures for teachers were 23% and 30%, respectively.

However, this discrepancy between questionnaire diagnoses and the judgements of needing professional help cannot be entirely interpreted as due to the less exact judgment of parents and teachers about the need of clinical treatment. This discrepancy can be considered in the context of the efficiency of questionnaires as screening instruments for EBD. Rutter and his colleagues (1970) reported that only 49.6% of children screened as having EBD by the parents' CBQ and 40.8% of children by the teachers' CBQ were finally diagnosed as having EBD by a professional person such as

a psychologist or psychiatrist. Also, in the Inner London study (Rutter et al., 1975), only 61.4% of children screened by the teachers' scale were finally diagnosed as having EBD by a specialist. Therefore, further intensive investigations are necessary to explain why the cut-off points in Korea were higher than in England.

Agreement Between Parents and Teachers in Identifying EBD

Parents' ratings of children's behaviour were correlated with teachers' at a low level, although it was statistically significant ($r=.26$). Furthermore, a small number of children were identified as having EBD by their parents as well as by their teachers: only 10.2% of children with EBD were identified by both. In the other words, most children with EBD showed the EBD situationally at either home or school, and only a minority showed EBD pervasively in both settings: 124 out of 138 children with EBD were identified as having EBD only by their parents or teachers, and only 14 children were by both. This low overlap and low correlation between parent and teacher ratings are consistent with the findings in many previous studies (Bierman et al., 1991; McGee et al., 1984; Rutter et al., 1970; Touliators and Lindholm, 1981). Therefore, the importance of assessing EBD in both settings is underscored again from this study.

The low agreement between parents' and teachers' ratings could be explained in part by the following way: parents and teachers have somewhat different attitudes to EBD in children and thereby perceive EBD in a rather different way (Graham, 1977). However, it has been reported that it is quite common for parents to say that their child is terribly problematic at home but not at all with relatives, friends or other people. Also, it is common for teachers to describe children as having difficulties only in one kind of

school or class situation. Accordingly, it has been strongly suggested that some EBD are relatively situation-specific. That is, the presence or absence of EBD varies with situations or environments.

6.5.3 Factors associated with EBD

In Child

In common with most previous studies (McGee et al., 1984; McGuire & Richman, 1986; Rutter, 1982, 1985; Rutter et al., 1970; Wang et al., 1989; Weisz, Suwanlert, Chairyasit, Weiss, Achenbach and Trevathan, 1989), more boys were identified as having EBD than girls in this study: more than twice as common in boys. The sex difference in the prevalence of EBD was explained partly by boys being more vulnerable than girls to various family stresses and adversities (Rutter, 1982).

Another way to explain the sex difference is that EBD in childhood is predominated by BD (behavioural difficulties) (Rutter et al., 1976); and BD is much more common in boys than in girls, while ED (emotional difficulties) is slightly more common in girls than in boys (Edelbrock et al., 1984; McGee et al., 1984; Rutter et al., 1970; Wang et al., 1989; Weisz et al., 1989). The tendency of higher rates of BD in boys has been consistently found, but the tendency of higher rates of ED in girls has not. In some studies (McGee et al., 1984; McGuire et al., 1986), no difference in the rate of ED was found between boys and girls.

Rutter and his colleague's interpretation, however, was not supported by this study. More behavioural difficulties in boys and more emotional difficulties in girls were found on the basis of the parents' scale, but the difference was not significant. On the other hand, teachers identified more children having behavioural difficulties in both sex groups, but this was not statistically significant either. No sex difference in the type of difficulties can be explained partly by the low validity of CBQ's subscales, which was discussed earlier in Section 6.5.1. That is, for example, the percentage of children who presented the behaviours in the ED subscale was not different between ED and BD groups.

The sex difference in the prevalence of EBD was also considered in terms of a raters' gender. In general, a mother rather than a father tends to complete a parents' scale, and there tend to be more female teachers than male teachers in primary schools. In the connection with this fact, it was tested whether a teachers' gender has any effect on the sex difference in the rate of EBD. The effect of a raters' gender on the sex ratio of EBD is probably examined in this study for the first time.

Female teachers identified three times as many boys with EBD as girls, while male teachers identified the same number of boys and girls with EBD. But the difference according to teachers' gender was not statistically significant. No significance may be due in part to the great difference in the total number of children who were identified as having EBD by female and male teachers. Of 618 children who were rated by female teachers, 72 children (12%) were identified as having EBD; in contrast, only 2 out of 97 children who were rated by male teachers (2%) were identified as having EBD. So, it

is worth exploring in a further study whether there is any effect of a raters' gender on the difference in the rate of EBD between boys and girls.

Findings from the studies of EBD can be generalized in the age range from 7 to 12 years old. No difference across these age groups was found in this study. No age difference within this age range has also been found in previous studies (Edelbrock & Achenbach, 1984; Rutter, et al., 1970; Weisz, et al., 1989). This age range is grouped into one stage in psychosocial development by theorists (Erikson, 1950; Freud, 1965; Piaget, 1950). From this view, Achenbach and Edelbrock (1983) developed two versions of the Child Behavior Checklist: one is for children aged 6-11, another is for older children.

In Family

As factors associated with EBD within families, existence of siblings, family style, parents' divorce, fathers' occupation, fathers' education, family income and parents' involvement in their child's education were focused on. Growing up with siblings and fathers' education seem to be related to EBD in both settings. Children without a sibling showed EBD at home and school at a higher level than those with siblings; and children having fathers with lower education showed EBD at home and school at a higher level than those having fathers with higher education. Family style seems to be related to EBD at school. Children from nuclear families scored on the teachers' CBQ at a higher level than those from extended families. Whereas, parents' involvement in their child's education seems to be related to EBD at home. Children in the lower involvement group showed EBD at a higher level than those in the higher involvement group.

However, no association between EBD and fathers' occupation, and family income was found. The relationship of EBD to parents' divorce could not be tested because the number of children whose parents were divorced were few (3 out of 676 on the parents' CBQ, 3 out of 773 on the teachers' CBQ). The low percentage of divorced families in the present study is not much different from the divorce rate in Korea reported by the Korean government in 1990. It was 0.94%.

In the Beijing study (Wang et al., 1989), the rate of EBD was lower in extended families than in nuclear families. The difference was interpreted as possibly the result of a stronger support system in extended families. For example, in extended families, grandparents may be strongly involved in their grandchildren's education. In the present study, children from nuclear families showed a higher degree of EBD at school than those from extended families. There may be differences in family functioning in several ways between extended and nuclear families. Therefore, it would be worth investigating intensively the differences in a further study.

Relationships of EBD to the social disadvantages of family have been reported: children from working-class homes are more likely to show aggressive behaviour than those from professional homes (Achenbach & Edelbrock, 1981; Davies et al., 1972; ILEA, 1986; Lefkowitz, 1977; Wang et al., 1989). However, this tendency applied mainly to an extreme bottom end of the social scale; and the degree of the association was usually moderate. Moreover, it has not been found in some populations (Bower, 1961; Edelbrock & Achenbach, 1984; Rutter et al., 1970). In the present study, among fathers' occupation, fathers' education, and family income, only fathers' education was

associated with EBD: higher education with less EBD. So, it can be said that a child's social background has little influence by itself; instead, when it is associated with other family problems such as family discord or mothers' stress, there may be a difference in the prevalence of EBD according to social circumstances.

As in the Beijing study (Wang et al., 1989), a significant relationship between EBD and parents' involvement in their child's education was found in the present study. The index of the level of parents' involvement was assessed by parents' helping or checking their child's homework. Parents' checking or helping with their child's homework can be considered as one aspect of parents' support for their children. In this respect, this finding can be interpreted that children with more supportive parents tend to show less EBD.

In School

As factors in schools, classroom size (no. of students in a class) and the area in which a school serves were examined. A significant relationship was found with classroom size. More children with EBD were found in relatively small classes. This finding is the opposite of what most people would expect. A similar trend of larger classes associated with better attainments was found in Rutter and Madge's (1976) study. However, some other studies have reported that children behave better in smaller rather than in larger classes (Cannon, 1966; Rogeness, 1974). In addition, in the studies of Rutter and his colleagues (1979) and Buczek (1981), no significant association was found between class size and behaviour.

These inconsistent results of the effect of class size might be explained in part by different criteria of class size in different studies. For example, in Cannon's (1966) study, a small class consisted of 23-28 students and a large class size consisted of 34-39, whereas in Buczek's (1981) study, a small class was 15 or less and a large class was 25 or more. In the present study, a class with 51 children or more was grouped as a large class and anything less was grouped as a small class. Therefore, a further intensive investigation is necessary to find out how many students in a class would be the most effective for children's emotional and behavioural development. For this investigation, several ranges of classroom size need to be compared.

In the sociological literature, there has been much discussion of the importance of the community or neighbourhood in which people live. An effect of the areas in which people live has been considered in terms of social status. So, the possible association of EBD with the area where a school is located was examined. For this, the mean of CBQ scores and the proportion of EBD were compared between a relatively poorer and a more wealthy area. Children in the geographically poorer area showed a higher degree of EBD, but it was not statistically significant. It cannot be said, however, from these findings that there is no relation between EBD and the area in which a school serves because the criteria of poor/wealthy areas were not examined for their validity. The area which is defined as a wealthy area in the present study, however, is generally considered in Korea as a more wealthy area than the area defined as poor. No difference in the EBD rate according to area where schools serve was also found by Rutter and his colleagues (1979).

6.5.4 Ranking of the Most Difficult Behaviours for Teachers to Deal With

Behavioural difficulties seem to be more problematic for teachers in comparison with emotional difficulties. On the question of which behaviours among aggression, impulsiveness, depression and immaturity are more difficult for teachers to deal with, behavioural difficulties (aggression or impulsiveness) were considered as more difficult to deal with than emotional difficulties (depression or immaturity). This finding supports the suggestion that teachers tend to over-refer students with behavioural difficulties but under-refer students with emotional difficulties (Hallahan & Kauffman, 1991).

6.5.5 Parents' and Teachers' Opinion of Causation of EBD and Ways of Helping Children with EBD

How parents and teachers think about causes of EBD and ways of helping children with EBD were examined. Parents and teachers tend to consider "personality" and "pressure for high academic achievement" as causes of EBD, whereas "neurological or developmental defect", "no sibling" and "prejudiced view of the child by others" as not. As ways of helping children with EBD, parents and teachers tend to prefer home- or ordinary school-based methods such as "educating interpersonal social skills", "helping parents manage problem behaviour at home" or "supporting teacher in the class" rather than methods based on special settings such as "sending to a special class" or "sending to a special school". This finding supports the necessity of developing effective interventions for children with EBD which are based on home- or ordinary school-based.

6.6 Conclusion

A significant number of Korean primary school children showed EBD: 29% by English cut-off points, 17% by Korean cut-off points. However, children who showed EBD pervasively at home as well as at school were relatively few. Of children who were screened as having EBD by parents and/or teachers, most children showed EBD situationally, i.e. showed EBD only at home or school (87.7% by English cut-offs, 89.8% by Korean cut-offs). Also, the parents' ratings were correlated with the teachers' ratings at a low level ($r=0.26$). These findings give rise to a question of whether the low agreement between parents' and teachers' ratings of children's behaviour is due to the 'situation-specificity' of EBD or differences in the validity of screening EBD between the ratings.

Children's sex, academic achievements, existence of siblings, family style, fathers' education, parents' involvement in their child's education and classroom size were found to be associated with EBD. However, no relationship was found between EBD and fathers' occupation, family income, and the area in which a school serves. Relationships of EBD with environmental structural factors have not been found consistently in different populations. This inconsistent finding suggests that environmental structural factors may have little influence by themselves in the genesis of children's EBD; rather, when these factors are associated with other environmental factors, i.e. psychosocial factors such as family discord or inconsistent discipline, there may be higher associations with EBD.

Therefore, the second part of the present study is designed to investigate relationships of EBD with psychosocial functioning in family and classroom. The affective and control aspects in the environments are the focus of psychosocial functioning. In conjunction with this investigation, the reason for the low agreement between parents' and teachers' ratings of children's behaviour is examined: is it due to the 'situation-specificity' of EBD or differences in the validity of screening EBD between the ratings? This is tested by comparisons between relationships of parents' behaviour ratings to psychosocial functioning and relationships of teachers' behaviour ratings to psychosocial functioning. On the basis of the 'situation-specificity' view, it is hypothesized that relationships of EBD to environmental functioning are stronger in one context than the other. That is, parents's behaviour ratings may be more related to family functioning than classroom functioning, and teachers' behaviour ratings may be more related to classroom functioning than family functioning.

CHAPTER 7

SECOND STUDY

7.1 Introduction

From the first study, it was found that a significant number of Korean primary school children were considered as having EBD by their parents and/or teachers (29% with English cut-off points and 17% with Korean cut-off points), whereas children who were considered as so by both were relatively few (4.3% and 2.1% respectively). Also, the parents' ratings were correlated with the teachers' ratings at a low level ($r=0.26$). This low overlap and low correlation have been consistently found in many other studies. Why are parents' ratings different from teachers' ratings? This has been explained in terms of the 'situation-specificity' of EBD: children behave differently according to situation or environment. The second study aims to examine this view in conjunction with the test of relationships of EBD to psychosocial functioning within environments.

In the Circumplex Model, it is hypothesized that a moderate degree of cohesiveness and adaptability in families would be adequate for children's psychosocial development. That is, a curvilinear relationship of EBD with family psychosocial functioning is assumed. This assumption has been supported in some studies but not in others: the relationship was revealed linearly in some research. Therefore, the type of relationship is examined first in the second study. Then, the 'situation-specificity' of EBD is tested. The hypothesis is that the relationship of EBD to environmental psychosocial functioning may be stronger in the same context than the other. That is,

parents' behaviour ratings may be more related to family functioning than to classroom functioning; and teachers' ratings may be more related to classroom functioning than to family functioning. So, the relationships of parents' and teachers' behaviour ratings to family functioning are compared with those of classroom functioning.

In addition, satisfaction of children with their real environmental functioning is compared between the EBD and non-EBD groups. It is assumed that children with EBD may be less satisfied with their real environment compared with children without EBD. Incongruence between children' and adults' perceptions of environmental functioning is also tested in the EBD and non-EBD groups. Incongruence means a difference in the perception of environmental functions between members within the same environment. So, incongruence in the perception of family functioning between children and their mothers, and in the perception of classroom functioning between children and their teachers are compared between EBD and non-EBD groups. It is assumed that the incongruence may be higher in the EBD group than in the non-EBD group.

A pilot study was carried out to develop Korean versions of FACES-III and four subscales of CES, which are instruments for assessing family and classroom functioning. In the pilot study, a Korean version of CBQ was also developed on the basis of data from the first study.

7.2 Research Questions

- 1. Is EBD related to environmental psychosocial functioning? If so, what type of relationship is it: linear or curvilinear?**
- 2. Are parents' behaviour ratings more related to family functioning than to classroom functioning?**
- 3. Are teachers' behaviour ratings more related to classroom functioning than to family functioning?**
- 4. Is there a difference in satisfaction of children with their real environmental functioning between the EBD and non-EBD group?**
- 5. Is the degree of incongruence between children's perception with adults' perception of environmental functioning higher in the EBD group than in the non-EBD group?**

7.3 Methods

The second study was carried out on the basis of the design presented in Table 56.

Table 56 Design of Second Study

Pilot study	
Subjects	12 years old in Grade 6 of primary school, - 10 children selected randomly in a class - 10 classes from one school => total 100 children
Measures	the sample children completed FACES-III and four subscales of CES i.e. affiliation, teacher support, rule clarity, and teacher control
Purpose	to develop - a Korean version of FACES-III, - a Korean short form of CES, - a Korean version of Rutter's CBQ on the basis of the data from the first study
Main study	
Subjects	12 years old in grade 6 of primary school, with a 1/1 ratio of boys and girls * half of boys and girls were considered as presenting any kind of EBD by their teacher * the other half of boys and girls were not considered as presenting any kind of EBD by their teacher - 52 classes from 6 schools => total 448 children
Measures	children : Korean versions of FACES-III and CES real and ideal forms parents : Korean versions of CBQ and FACES-III real form teachers : Korean versions of CBQ and CES real form

7.3.1 Pilot Study

The first purpose of the pilot study was to develop a Korean version of FACES-III and a Korean short form of CES. Four subscales in CES (affiliation, teacher support, rule clarity, and teacher control) and FACES-III were administered to 100 12-year-old children in Grade 6 from 10 classes in a primary school. From each class, 10 children were randomly selected.

Three criteria were applied to the modification of FACES-III: first, an item was excluded if more than 95% of sample children replied in the same way to ensure each item's validity to distinguish between different environments; second, with the aim of improving the internal consistency of the subscale, an item was excluded if it had a low or negative correlation with its assigned subscale; third, an item was deleted if its correlation with another subscale was higher than that with the assigned subscale in order to enhance a subscale's discriminative validity of measuring a unique dimension not measured by the other subscales in the instrument. For the modification of CES, another criterion, factor analysis, was additionally applied. Based on the procedure just described, a Korean short form of CES and a Korean version of FACES-III were created. Applying the first criterion to the data from the first study, a Korean version of CBQ was also developed.

7.3.2 Main Study

7.3.2.1 Subjects

While primary school aged children, 7 to 12 years old, were involved in the first study, only children aged 12 in Grade 6 of primary school were focused on in the second study. This is for response' reliability. In the second study, children need to complete questionnaires for assessing environmental functioning, Korean versions of FACES-III and CES. When FACES instruments and CES were developed, an age of 11 years or older was required for response' reliability. So, the oldest children in primary schools were chosen as subjects. From 6 schools in an urban area, 52 classes were selected. From each class, 8 or 12 children were randomly selected with a 1/1 ratio of boys and girls.

7.3.2.2 Measures

Three kinds of instruments were used in the second study: CBQ is for children's behaviour ratings, FACES-II is for family psychosocial functioning, and CES is for classroom psychosocial functioning. In the pilot study, Korean versions of CBQ, FACES-III, and CES were developed. Children completed the Korean version of FACES-III and CES; their mothers completed the Korean version of CBQ and FACES-III; and their teachers completed the Korean version of CBQ and CES. There are two forms of FACES-III and CES for children: a real (actual) form and an ideal (preferred)

form. Table 57 shows what scores were yielded for a child. In the main study, the terms FACES, CES and CBQ are used to refer to these Korean versions.

The questionnaires for parents, CBQ and FACES, were completed by mothers but not by fathers. This is due to the finding of discrepancies between family members' perspectives on family functioning, which is one of the most consistent findings in family research. The discrepancies are interpreted in terms of qualitative differences between subsystems within a family system: all components in a family system are not equally cohesive or adaptable (Anderson & White, 1986; Bernard, 1982; Cole & Jordan, 1989; Peterson & Zill, 1986; White et al., 1985). In the assessment of mother-child and father-child cohesion, mothers' perspectives were the most valid, children's were next, and fathers' were the lowest (Cole & Jordan, 1989). That is, mothers' and children's reports tended to be much more reliable than fathers'. On the other hand, Moos and Moos (1986) reported that responses on the Family Environment Scale (FES) were not significantly different between fathers and mothers, but there were significant differences between parents and their children. Therefore, both children's and adults' (mothers'/teachers') perceptions of environmental functioning were investigated.

Table 57 List of Scores Yielded for a Child

<p>Family</p> <ol style="list-style-type: none">1. Child-family cohesion: real scores2. Child-family adaptability: real scores3. Child-family cohesion: ideal scores4. Child-family adaptability: ideal scores <ol style="list-style-type: none">5. Mother-family cohesion: real scores6. Mother-family adaptability: real scores <ol style="list-style-type: none">7. FACES incongruence score8. FACES satisfaction score
<p>Classroom</p> <ol style="list-style-type: none">9. Child-classroom interpersonal relationships: real score10. Child-classroom control: real score11. Child-classroom interpersonal relationships: ideal score12. Child-classroom control: ideal score <ol style="list-style-type: none">13. Teacher-classroom interpersonal relationships: real score14. Teacher-classroom control: real score <ol style="list-style-type: none">15. CES incongruence score16. CES satisfaction score

7.4 Result of Pilot Study

The subjects of the pilot study were 98 children, 51 boys and 47 girls from 10 classes in a school. The real form of FACES-III and four subscales of CES (affiliation, teacher support, rule clarity and teacher control) were completed by the sample children.

7.4.1 Korean Version of Family Adaptability and Cohesion Evaluation Scale-III (FACES-III)

7.4.1.1 Selecting Items for Korean Version

1) First Criterion: Items Less Than 5 %

To exclude the items on which less than 5% of children responded differently, frequencies on each scale point were looked at. The results are presented in Table 58.

Scale point 1 or 2 was considered as a negative response and scale point 3, 4 or 5 as a positive response. Less than 5% of children responded negatively on items 3 and 11. Also, less than 5% of children replied positively on item 6. Therefore, these 3 items were excluded. This is to ensure the validity of discrimination between different environments.

Table 58 Frequencies on Each Scal Point

item	Mean	SD	scale point (%)				
			1	2	3	4	5
1	3.80	1.03	4.1	5.1	24.5	39.8	26.5
2	2.93	1.18	16.3	13.3	41.8	18.4	10.2
* 3	4.50	0.97	2.0	3.1	12.2	9.2	73.5
4	3.82	1.41	10.2	7.1	6.1	33.7	40.8
5	2.35	1.41	38.8	22.4	17.3	8.2	13.3
* 6	1.26	0.75	85.7	8.2	3.1	1.0	2.0
7	3.10	1.90	37.8	8.2	3.1	3.1	46.9
8	2.26	1.23	34.7	27.6	23.5	6.1	8.2
9	4.12	1.23	5.1	8.2	14.3	14.3	58.2
10	3.04	1.57	27.6	6.1	21.4	19.4	24.5
*11	4.61	0.86	3.1	1.0	3.1	17.3	75.5
12	2.78	1.36	41.8	18.4	20.4	9.2	10.2
13	4.14	1.35	7.1	4.1	8.2	18.4	60.2
14	1.68	0.94	54.1	30.6	11.2	1.0	3.1
15	3.57	1.33	9.2	10.2	22.4	25.5	31.6
16	1.92	1.17	50.0	24.5	15.3	4.1	6.1
17	3.55	1.46	13.1	9.2	20.4	18.4	37.8
18	1.22	0.74	88.8	5.1	3.1	1.0	2.0
19	3.90	1.20	4.1	11.2	18.4	23.3	42.9
20	2.63	1.70	40.8	18.4	5.1	8.2	27.6

* : items on which less than 5% of children responded differently

Scale 1 : almost never 2 : once in a while

3 : sometimes 4 : frequently 5 : almost always

2) Second and Third Criterion

- Low or Negative Correlation with Assigned Subscale
- Higher Correlation with Other Subscales than Assigned Subscale

In the original 10 items for each subscale, 8 items remained for cohesion and 9 items for adaptability after applying the first criterion. Subscores for each subscale were calculated with the remaining items.

Cohesion subscore (FAC) = items 1+5+7+9+13+15+17+19

Adaptability subscore (FAA) = items 2+4+8+10+12+14+16+18+20

Correlations of Cohesion Items with Each Subscale

As shown in Table 59, there was no item which showed a significant or negative relationship to its' assigned subscale (FAC). All items showed a significant relationship to the assigned subscale and no relationship to the other subscale (FAA). Therefore, all 8 items remained in the Korean version of the cohesion subscale.

Table 59 Correlations of Cohesion Items with Each Subscale

item subscale	1	5	7	9	13	15	17	19
FAC	62 **	27 *	29 *	64 **	61 **	48 **	64 **	56 **
FAA	25	13	15	26	20	6	11	3

Decimal points are omitted. * < .01 ** < .001

Correlations of Adaptability Items with Each Subscale

There was no item which showed a significant or negative relationship with its' assigned subscale (see Table 60). All items showed a significant and higher correlation with the assigned subscale (FAA) and were retained in the Korean version of adaptability subscale. However, items 2, 4, 10, 20 also showed a significant relationship to the other subscale (FAC). Therefore, the discriminant validity of the adaptability subscale for assessing a unique dimension seems to be relatively lower than that of the cohesion scale.

Table 60 Correlations of Adaptability Items with Each Subscale

item subscale	2	4	8	10	12	14	16	18	20
FAC	37 **	35 **	2	46 **	26	-16	-8	-12	-31 *
FAA	47 **	55 **	39 **	58 **	58 **	27 *	41 **	29 *	28 *

Decimal points are omitted. * < .01 ** < .001

7.4.1.2 Psychometric data of Korean Version of FACES-III

Correlation Between Subscales and Internal Consistency of Each Subscale

Correlation between subscales and internal consistency of each subscale were tested with the Korean version of FACES-III. The results are shown in Table 61. On the basis of the three criteria, 8 items for cohesion and 9 items for adaptability remained for the Korean version. The correlation between subscales is $r=.22$, which is not significant. Therefore, it can be said that the subscales are independent of each other. But the independence does not seem to be strong because the coefficient is not very low even though it is not statistically significant. The internal consistency is .58 for cohesion and .39 for adaptability. The internal consistency of cohesion was acceptable, but that of adaptability is not. So, the internal consistency was tested again in the main study.

Table 61 Correlation between Subscales and Internal Reliability of Each Subscale

	cases	no. item	Mean	SD	Correlation between subscales		Alpha coefficient of subscale
					r	sig.	
FAC1	90	8	28.84	5.24	.22	n.s.	.58
FAA1	90	9	22.98	4.90			.39

n.s.: not significant

Factor Analysis

A factor analysis was performed with the Korean version of FACES-III. The results are shown in Table 62. The items loaded on Factor I, except items 10 and 20, are for the cohesion subscale. That is, items 1, 9, 13, 15, 17 and 19 among cohesion items are loaded on the same factor. Among the items loaded on Factor II, items 5 and

7 are for the cohesion subscale, and the others are for the adaptability. That is, items 2, 4, 8, 12 and 16 among adaptability items are loaded on the same factor.

Table 62 Factor Analysis

item	Factor		item	Factor	
	I	II		I	II
1	70	15	4	34	59
9	67	22	2	40	56
17	65	- 9	* 5	- 7	55
13	64	12	12	17	50
15	63	-31	* 7	-19	44
19	61	-19	8	- 5	25
* 10	56	50	16	- 6	18
* 20	-45	9			

Decimal points are omitted.

Items marked * belonged to a different subscale from the rest items in the same factor.

If the results of the factor analysis were accounted for in the Korean version, only 6 items would have remained for the cohesion subscale and 5 items for adaptability. But, this number of items for each subscale were not considered enough to measure each dimension in family systems. Accordingly, it was decided to retain all items which met the first 3 criteria of the Korean version.

In conclusion, the Korean version of FACES-III consists of 17 items (8 items for cohesion and 9 items for adaptability), which is presented in Appendix 7. The items' numbers in the Korean version are changed from those in the original FACES-III. Therefore, items for each subscale are changed in the Korean version of FACES-III:

Items for Cohesion = item 1, 4, 5, 7, 10, 12, 14 and 16.

Items for Adaptability = item 2, 3, 6, 8, 9, 11, 13, 15 and 17.

In the main study, children need to complete two forms of the Korean version of FACES-III: real and ideal. In the ideal form, "I would like my family" is added to the beginning of each item.

7.4.2 Korean Short Form of Classroom Environment Scale (CES)

7.4.2.1 Selecting Items for Korean Version

1) First criterion : Items less than 5 %

As shown in Table 63, there was no item for which more than 95% of children responded in the same way, i.e. with yes or no. So, all items in the original subscales were retained for the next analysis.

Table 63 Frequencies on Each Scale Point

	item	Mean	SD	scale point (%)	
				1	2
	1	1.61	0.49	38.8	61.2
R	2	1.85	0.36	15.3	84.7
	3	1.72	0.45	27.6	72.4
R	4	1.86	0.35	14.3	85.7
R	5	1.85	0.42	11.2	86.7
	6	1.64	0.48	35.7	64.3
R	7	1.83	0.43	13.3	84.7
	8	1.79	0.44	19.4	79.6
	9	1.91	0.29	9.2	90.8
	10	1.71	0.45	28.6	71.4
	11	1.69	0.49	28.6	70.4
R	12	1.45	0.50	55.1	44.9
	13	1.61	0.49	38.8	61.2
	14	1.67	0.51	28.6	69.4
	15	1.65	0.48	34.7	65.3
	16	1.85	0.39	13.3	85.7
	17	1.82	0.39	18.4	81.6
R	18	1.49	0.50	51.0	49.0
	19	1.72	0.45	27.6	72.4
R	20	1.11	0.32	88.8	11.2
	21	1.62	0.49	37.8	62.2
R	22	1.89	0.32	11.2	88.8
R	23	1.50	0.50	50.0	50.0
	24	1.52	0.50	48.0	52.0
R	25	1.86	0.35	14.3	85.7
	26	1.95	0.22	5.1	94.9
	27	1.62	0.49	37.8	62.2
	28	1.15	0.39	82.7	16.3
R	29	1.80	0.41	20.4	79.6
	30	1.74	0.44	26.5	73.5
	31	1.67	0.47	32.7	67.3
R	32	1.80	0.41	20.4	79.6
R	33	1.32	0.51	64.3	33.7
R	34	1.92	0.28	8.2	91.8
R	35	1.44	0.50	56.1	43.9
	36	1.15	0.36	84.7	15.3
R	37	1.13	0.40	82.7	15.3
R	38	1.84	0.40	14.3	84.7
	39	1.58	0.50	41.8	58.2
	40	1.72	0.45	27.6	72.4

Response 'Yes' was scored 2 points, 'No' was 1 point, but this was reversed on items marked 'R'

2) Second and Third Criterion

- Low or Negative Correlation with Assigned Subscale
- Higher Correlation with Other Subscales than Assigned Subscale

No item was excluded by the first criterion, so each subscore was calculated with the original 10 items.

Affiliation (CLA) = 1+5+9+13+17+21+25+29+33+37

Teacher Support (CLTS) = 2+6+10+14+18+22+26+30+34+38

Rule Clarity (CLRC) = 3+7+11+15+19+23+27+31+35+39

Teacher Control (CLTC) = 4+8+12+16+20+24+28+32+36+40

Correlations of Affiliation Items with Each Subscale

As shown in Table 64, item 37 showed no significant correlation with the assigned subscale and a higher correlation with another subscale (CLRC). So, this item was excluded. Items 9 and 33 showed significant relationships to other subscales, but these items were related at a higher level to the assigned subscale than the others. Therefore, these items remained.

Table 64 Correlations of Affiliation Items with Each Subscale

item subscale	1	5	9	13	17	21	25	29	33	37
CLA	50 **	41 **	37 **	43 **	58 **	64 **	32 *	37 **	37 **	22
CLTS	6	17	1	23	22	23	2	5	19	11
CLRC	15	18	13	20	8	16	20	5	29 *	28 *
CLTC	17	20	32 *	-12	8	3	21	- 6	- 4	20

Decimal points are omitted. * < .01 ** < .001

Correlations of Teacher Support Items with Each Subscale

Item 38 showed no significant correlation with the assigned subscale and a higher correlation with another subscale (CLA). Also, item 14 showed a higher correlation with another subscale (CLRC) than the assigned subscale, even though the item showed a significant relationship to the assigned subscale (see Table 65). Therefore, these two items were excluded.

Table 65 Correlations of Teacher Support Items with Each Subscale

item subscale	2	6	10	14	18	22	26	30	34	38
CLA	-4	13	17	32 *	20	18	9	14	10	23 *
CLTS	51 **	52 **	55 **	52 **	55 **	68 **	50 **	55 **	41 **	20 **
CLRC	-3	28 *	4	57 **	1	9	27	13	3	2
CLTC	-6	14	7	26	-13	-20	11	-9	-25	-11

Decimal points are omitted.

* <.01 ** < .001

Correlations of Rule Clarity Items with Each Subscale

Item 19 showed a significant correlation with the assigned subscale but a higher correlation with another subscale (CLTC) than the assigned subscale. So, this item was excluded. On the other hand, items 3, 11, 15, 27 and 39 were highly related to the other subscales, but these items showed a higher relationship with the assigned subscale than the other subscales. Therefore, these 5 items remained for the next analysis (see Table 66).

Table 66 Correlations of Rule Clarity Items with Each Subscale

item subscale	3	7	11	15	19	23	27	31	35	39
CLA	21	-12	19	29*	8	10	25	20	26	39**
CLTS	8	-4	5	19	-8	27	36**	18	8	23
CLRC	57**	44**	40**	67**	48**	36**	51**	54**	32*	49**
CLTC	42**	16	33*	40**	54**	3	17	13	4	19

Decimal points are omitted. * <.01 ** < .001

Correlations of Teacher Control Items with Each Subscale

As shown in Table 67, items 32 and 36 showed no significant relationship with the assigned subscale, so these items were excluded. On the other hand, items 4, 8 and 40 showed significant relationships to another subscale (CLRC), but these items were related at a higher level to the assigned subscale. So, these items remained for the next analysis.

Table 67 Correlations of Teacher Control Items with Each Subscale

item subscale	4	8	12	16	20	24	28	32	36	40
CLA	7	9	3	13	10	18	15	-17	1	12
CLTS	6	6	-15	-11	15	7	-2	16	-38**	-6
CLRC	33*	33*	27	12	20	5	15	-6	11	40**
CLTC	38**	55**	49**	38**	29*	46**	32*	8	21	59**

Decimal points are omitted. * <.01 ** < .001

7.4.2.2 Psychometric Data of Modified CES

Correlation between Subscales and Internal Consistency of Each Subscale

On the basis of the three criteria, 9 items each remained for affiliation and for rule clarity, and 8 items each for teacher support and for teacher control. The subscores with the altered items are called CLA1, CLTS1, CLRC1 and CLTC1. Table 68 shows the correlations between subscales with the altered items. Rule clarity was significantly related to affiliation and teacher control. That is, these three subscales were not independent of each other. In addition, internal consistencies of affiliation and teacher control were not acceptable. Cronbach alpha coefficient was .49 for affiliation, .66 for teacher support, .65 for rule clarity, and .45 for teacher control.

Table 68 Correlations between Subscales and Internal Reliability of Each Subscale

	CLA1	CLTS1	CLRC1	CLTC1
cases	89	89	89	89
no. item	9	8	9	8
Mean	15.49	14.22	14.79	12.47
SD	1.68	1.71	2.06	1.52
Alpha	.49	.66	.65	.45
Correlation with other subscales				
CLTS1	.21			
CLRC1	.40**	.23		
CLTC1	.20	-.09	.40**	

** p <.001

Factor Analysis

As shown in Table 69, one factor included the items from several subscales. That is, each subscale did not consist of items which measured a unique dimension. However, many items for affiliation and teacher support were loaded on Factor III and IV; and many items for rule clarity and teacher control were loaded on Factor I and II. Affiliation and teacher support are the subscales for assessing the interpersonal relationships dimension; and rule clarity and teacher control are for the system maintenance/change dimension. Therefore, these four subscales were further grouped into two subscales for the Korean short version of CES: interpersonal relationships from combining affiliation and teacher support; and system maintenance from combining rule clarity and teacher control. Combining into two subscales rather than four subscales also corresponds to the two subscales in FACES-III: cohesion for the affective aspect and adaptability for the control aspect. Accordingly, items for four subscales of CES were reanalysed on the basis of two subscales: interpersonal relationships and system maintenance.

Table 69 Factor Analysis

Dimen- -sion	originally assigned subscale	item	factor			
			I	II	III	IV
SM	RC	15	72			
SM	RC	3	70	32		
SM	TC	4	59			
SM	TC	40	56			
SM	RC	31	53			
SM	RC	7	46			
IR	A	33	36			
SM	TC	28	35			
SM	TC	16		62		
IR	A	9		62		
IR	A	5		56		
SM	TC	8		56		
IR	A	1		50		
SM	RC	11		39		
SM	TC	24		38		
IR	A	25		38		
SM	TC	20		28		
IR	TS	2			57	
IR	TS	10			54	
IR	A	29			51	
IR	TS	26			49	
IR	A	21		30	45	
IR	TS	30			35	34
SM	TC	12			-35	
IR	TS	34				66
IR	A	13				60
IR	TS	22			41	52
IR	TS	18			35	51
SM	RC	27	30			49
SM	RC	23				40
SM	RC	39				37
IR	TS	6				33
IR	A	17				29
SM	RC	35				22

Decimal points are omitted.

Dimensions : IR - interpersonal relationships

SM - system maintenance

Assigned subscales : A - affiliation

TS - teacher support

RC - Rule Clarity

TC - teacher control

7.4.2.3 Reapplying Second and Third Criteria Based on Two Subscales

The data were reanalysed on the basis of two subscales (interpersonal relationships and system maintenance) rather than four subscales (affiliation, teacher support, rule clarity and teacher control). There was no item which met the first criterion; that is, there was no item for which more than 95% of children responded in the same way. So, the second and third criteria were applied to all original items.

Interpersonal Relationships (CLIR) = all items in affiliation and teacher support

System Maintenance (CLSM) = all items in rule clarity and teacher control

1) Correlations of Interpersonal Relationship Items with Each Subscale

Items 9, 25, 29 and 37 were not significantly related to the assigned subscale, so these items were excluded. Items 6 and 14 showed significant correlations with the assigned subscale but also showed a significant relationship to the other subscale (CLSM), so these two items were also excluded to enhance the subscale's discriminative validity (see Table 70). For FACES-III, an item was not excluded if the item showed a higher relationship to the assigned subscale even though it showed a significant relationship to the other subscale due to the number of items in each subscale. Because the original FACES-III contains only 10 items for each subscale, there was a limit to the exclusion of items in order to keep a minimum number of items for each subscale. In contrast, each subscale of CES contains 20 items, so items were more critically selected to enhance the subscale's discriminative validity.

Table 70 Correlations of Interpersonal Relationship Items with Each Subscale

item subscale	1	2	5	6	9	10	13	14	17	18
CLIR	33**	31*	35**	41**	22	46**	40**	52**	48**	47**
CLSM	18	-5	22	26*	24	0	8	51**	9	-6
item subscale	21	22	25	26	29	30	33	34	37	38
CLIR	52**	55**	20	38**	24	43**	34**	32*	20	26*
CLSM	12	-4	23	23	1	4	18	-10	28*	-4

Decimal points are omitted. * <.01 ** <.001

2) Correlations of System Maintenance Items with Each Subscale

As shown in Table 71, items 32, 35 and 36 were not significantly related to the assigned subscale. Items 15, 27 and 39 showed significant relationships to the assigned subscale but also showed significant relationships to the other subscale. So, these 6 items were excluded.

Table 71 Correlations of System Maintenance Items with Each Subscale

item subscore	3	4	7	8	11	12	15	16	19	20
CLP	18	8	-10	9	14	-8	29*	1	-1	15
CLC	58**	41**	37**	48**	42**	42**	64**	26*	58**	27*
item subscore	23	24	27	28	31	32	35	36	39	40
CLP	23	15	38**	8	23	0	20	-24	38**	3
CLC	26*	26*	42**	25*	43**	0	23	17	42**	55**

Decimal points are omitted. * <.01 ** <.001

7.4.2.4 Reapplying Second and Third Criteria to Remaining Items

Applying the three criteria, the items 6, 9, 14, 25, 29, and 37 were excluded from the interpersonal relationships subscale and the items 15, 27, 32, 35, 36 and 39 were excluded from the system maintenance subscale. Excluding these items, the second and third criteria were applied again. The altered subscores were called as CLIR1 and CLSM1:

$$\text{CLIR1} = 1+2+5+10+13+17+18+21+22+26+30+33+34+38$$

$$\text{CLSM1} = 3+4+7+8+11+12+16+19+20+23+24+28+31+40$$

1) Correlations of Remaining Interpersonal Relationship Items with Each Subscale

As shown in Table 72, all 14 items in interpersonal relationships were related significantly to the assigned subscale and were not related to the other subscale (CLC1).

So, these 14 items remained for the further analyses.

Table 72 Correlations of Remaining Interpersonal Relationships Item with Each Subscale

item subscale	1	2	5	10	13	17	18	21	22	26	30	33	34	38
CLIR1	33 **	32 *	26 *	45 **	44 **	53 **	55 **	54 **	58 **	41 **	44 **	35 **	33 **	34 **
CLSM1	11	-7	18	-8	-2	7	-6	12	-6	18	-1	15	-16	-10

Decimal points are omitted.

* <.01

** <.001

2) Correlations of Remaining System Maintenance Items with Each Subscale

As shown in Table 73, item 23 showed no significant relationship to the assigned subscale but a significant relationship to the other subscale, so, this item was excluded. The other items were significantly related to the assigned subscale and were not related to the other subscale.

Table 73 Correlations of Remaining System Maintenance Items with Each Subscale

item subscale	3	4	7	8	11	12	16	19	20	23	24	28	31	40
CLIR1	4	-2	-8	2	7	-15	-6	-14	6	27	11	0	17	-10
CLSM1	59 **	45 **	38 **	52 **	47 **	47 **	26 *	63 **	25 *	24	35 **	30 *	39 **	59 **

Decimal points are omitted.

* <.01 ** < .001

Therefore, correlations of CLSM1 items, except item 23, to each subscale were tested again. The system maintenance subscore, excluding item 23 from CLC1, was called CLC2. Table 74 shows the results.

Table 74 Correlations of Remaining System Maintenance Items with Each Subscale: Excluding item 23 from CLSM1

item subscale	3	4	7	8	11	12	16	19	20	24	28	31	40
CLIR1	4	-2	-8	2	7	-15	-6	-14	6	11	0	17	-10
CLSM2	64 **	50 **	35 **	54 **	48 **	47 **	28 *	65 **	24	35 **	30 *	38 **	64 **

Decimal points are omitted.

* <.01 ** < .001

Item 20 showed no significant relationship to the assigned subscale, so it was excluded. Therefore, correlations of CLSM2 items, excluding item 20, to each subscale were retested again. The system maintenance subscore, excluding item 20 from CLC2, was called CLC3. All items showed significant relationships to the assigned subscale and no significant relationship with the other subscale. Therefore, 12 items finally remained for the system maintenance subscale (see Table 75).

Table 75 Correlations of Remaining System Maintenance Items to Each Subscale: Excluding item 20 from CLSM2

item subscale	3	4	7	8	11	12	16	19	24	28	31	40
CLIR1	4	-2	-8	2	7	-15	6	-14	11	0	17	-10
CLSM3	63 **	45 **	35 **	53 **	48 **	48 **	27 *	65 **	38 **	33 **	40 **	64 **

Decimal points are omitted.

* <.01

** <.001

7.4.2.5 Psychometric Data of the Korean Short Version of CES

Correlation Between Subscales and Internal Consistency of Each Subscale

As shown in Table 76, the correlation between the subscales was nearly 0. So, it can be said that the subscales of CES are independent of each other. The internal consistency reliability was also acceptable. It was .65 for interpersonal relationships and .67 for system maintenance.

Table 76 Correlation Between Subscales and Internal Reliability of Each Subscale

	cases	no. item	Mean	SD	Correlation between subscales r	sig.	Alpha coefficient
CLIR1	88	14	24.33	2.37			.65
CLSM3	88	12	22.66	2.54	.04	n.s.	.67

n.s.: no significance

Factor Analysis

All items except item 5 in Factor I belonged to the system maintenance subscale, and all items in Factor II belonged to the interpersonal relationships subscale (see Table 77). So, item 5 was excluded from the interpersonal subscale. On the other hand, item 40 was excluded from the system maintenance subscale because there was little difference with item 19 in the translation into Korean. Therefore, finally, 13 items for the interpersonal relationships subscale and 11 items for the system maintenance subscale were retained for the Korean short version of CES.

Table 77 Factor Analysis

item	factor		item	factor	
	I	II		I	II
3	75	3	22	-10	68
40	75	-12	18	-26	56
19	73	-16	26	17	54
4	48	-2	21	15	51
8	46	14	30	3	50
11	38	20	10	-3	49
28	37	-2	17	4	46
12	37	-22	2	-13	40
31	34	19	34	-31	33
* 5	29	20	13	-9	31
7	26	-8	33	15	27
24	20	20	38	-12	25
16	19	-8	1	13	18

Item marked * belonged to a different subscale from the rest items in the same factor.

In conclusion, the Korean short version of CES consists of 24 items presented in Appendix 8. The items' numbers in the Korean version are changed from those in the original CES. Therefore, items for each subscale are changed in the Korean short version of CES:

Items for interpersonal relationships =

items 1, 2, 7, 10, 12, 13, 15, 16, 18, 20, 22, 23 and 24.

Items for system maintenance =

items 3, 4, 5, 6, 8, 9, 11, 14, 17, 19 and 21.

In the main study, children need to complete two forms of the Korean short version of CES: real and ideal. In the ideal form, "I would like my classroom . . ." is added to the beginning of each item.

7.4.3 Korean Version of Child Behaviour Questionnaire (CBQ)

7.4.3.1 Selecting Items for Korean Version

1) CBQ for Parents

For the modification of CBQ, only the first criterion for selecting items was applied. That is, an item was excluded if more than 95% of sample children replied to it in the same way. The second and the third criteria were not applied because only some items in CBQ were used for the emotional and behavioural subscales. The modification was based on the data of the first study. There are 3 points on the CBQ: "doesn't apply", "somewhat" and "certainly". The responses of "somewhat" and "certainly" were treated together as positive, and "doesn't apply" as negative. Table 78 shows the frequencies of each scale point on each item of the parents' CBQ.

More than 95% of parents answered negatively on items HT5, HT7, HT8, HB2 and HB3. That is, behaviours described on these items were rarely observed in Korean children. Therefore, these items were excluded in the Korean version of the parents' CBQ.

Table 78 Frequencies on Each Scale Point: Parental CBQ

item	scale point			item	scale point		
	0	1	2		0	1	2
HT1	34.7	59.6	5.6	HT2	70.5	28.3	1.1
HT3	75.9	21.6	2.4	HT4	85.2	13.5	1.3
* HT5	95.3	4.7	0.0	HT6	85.2	14.1	0.8
* HT7	99.0	1.0	0.0	* HT8	99.5	0.5	0.0
HB1	82.3	17.7	0.0	* HB2	97.2	2.7	0.1
* HB3	97.4	2.6	0.0	HB4	42.2	49.8	8.0
HB5	85.2	13.2	1.6				
BH1	48.5	43.2	8.3	BH2	83.1	14.4	2.5
BH3	88.1	10.8	1.1	BH4	79.7	18.5	1.7
BH5	85.7	13.8	0.5	BH6	62.4	32.6	5.1
BH7	84.9	13.7	1.4	BH8	58.7	36.3	5.0
BH9	88.8	10.6	0.6	BH10	88.4	9.9	1.7
BH11	90.8	7.6	1.6	BH12	76.7	17.5	5.8
BH13	58.2	39.2	2.6	BH14	62.2	34.6	3.2
BH15	62.2	34.6	3.2	BH16	59.2	33.4	7.3
BH17	79.6	19.4	1.0	BH18	89.0	10.1	0.9

Scale point 0: doesn't apply 1: somewhat 2: certainly

Items marked * were excluded in the Korean version of the parents' CBQ.

HT1 to HT8: items related to health

HB1 to HB5: items related to habit

BH1 to BH18: items related to behaviour problems

2) CBQ for Teacher

Table 79 shows the frequencies of each scale point on each item of the teachers' CBQ. More than 95% of teachers answered negatively on items 2, 14, 19 and 23, so these items were excluded from the Korean version of the teachers' CBQ.

Table 79 Frequencies on Each Scale Point: Teachers' CBQ

item	scale point			item	scale point		
	0	1	2		0	1	2
BH1	62.0	28.2	9.7	* BH2	98.9	1.0	0.1
BH3	78.0	18.8	3.1	BH4	86.9	11.7	1.4
BH5	71.0	24.5	4.5	BH6	72.1	25.2	2.6
BH7	65.1	31.6	3.4	BH8	72.3	24.4	3.4
BH9	72.9	22.4	4.7	BH10	78.9	19.7	1.4
BH11	87.4	9.8	2.8	BH12	92.4	6.2	1.5
BH13	86.7	10.6	2.8	* BH14	98.1	1.7	0.2
BH15	85.7	12.1	2.2	BH16	78.4	18.0	3.6
BH17	65.4	31.9	2.6	BH18	71.7	24.4	4.0
BH19	90.3	8.3	1.4	* BH19	98.7	0.8	0.5
BH21	86.2	11.2	2.6	BH22	86.6	11.5	1.9
* BH23	98.7	1.0	0.4	BH24	87.0	11.5	1.4
BH25	91.9	6.9	1.2	BH26	87.0	9.9	3.1

Scale point 0: doesn't apply 1: somewhat 2: certainly

Items marked * were excluded in the Korean version of the teachers' CBQ

7.4.4 Modification of Scale Points of FACES-III and CES

The number of scale points differed according to questionnaire: 5 points for FACES-III, 2 points for CES and 3 points for CBQ. A responder needed to answer two questionnaires, i.e., a child needed to complete Korean versions of FACES-III and CES, his/her mother needed to complete Korean versions of FACES-III and CBQ, and his/her teacher needed to complete Korean versions of CES and CBQ. So, a consistency on the number of the scale points was considered to be important because responders could become confused when answering the two different questionnaires. Therefore, a modification of the scale points was considered.

The original FACES-III has five scale points: "almost never", "once in a while", "sometimes", "frequently" and "almost always". It was not considered easy for 12-year-

old children to make a clear distinction between "almost never" and "once a while", and between "frequently" and "almost always". Also, the original CES has two scale points: "yes" and "no". When the pilot study was being carried out, some children wanted to respond with "sometimes" as well as "yes" or "no". So, three scale points for CBQ were applied for the Korean versions of FACES-III and CES. The three points are "almost never", "sometimes" and "almost always".

7.5 Results of Second Study

There are 6 schools involved in the second study. Schools I and II are located in a wealthy area and their school qualities are rated by the Educational Department as A level, which is the highest of three levels. Schools III and IV are located in a poor area, and Schools V and VI are in a new residential area which was previously a factory area. These four schools are rated as C level, which is the lowest. No school rated as B level was included in the study. The 'school level' is generally based on a school's location (wealthy area or poor area), a school's equipment and teachers' qualities. The number of children and classes from each school who took part in the study is shown in Table 80.

Children's behaviour was rated by their mothers and teachers using the Korean version of CBQ. Family psychosocial functioning was assessed by children and their mothers using the Korean version of FACES-III. Classroom psychosocial functioning was assessed by children and their teachers using the Korean short form of CES. The terms FACES, CES and CBQ are used in this study to refer to the Korean versions of these instrument.

Each environmental scale has two subscales: one is for assessing the affective aspect (cohesion for family, interpersonal relationships for classroom), and the other is for assessing the control aspect (adaptability for family, system maintenance for classroom). The internal consistency reliability for the family adaptability subscale which was found in the pilot study was not acceptable (it was .39). Therefore, the reliabilities

for environmental scales were examined again in the main study and they were acceptable. The reliability was .64 for family cohesion, .58 for family adaptability, .73 for classroom interpersonal relationships, and .69 for classroom system maintenance.

Table 80 Number of Children and Classes from Each School

school	I	II	III	IV	V	VI
no. of children taking part in a class	12	8	8	8	8	8
no. of classes in a school	12	11	6	5	8	8
total no. of children in a school	144	88	48	40	64	64
no. of children for FACES statistics	133	71	34	28	55	47
no. of children for CES statistics	129	76	38	34	54	52
school rating	A	A	C	C	C	C

7.5.1 Relationships of EBD to Environmental Psychosocial Functioning

Using FACES, some researchers have suggested that a moderate degree of cohesiveness and adaptability in a family promotes good psychosocial functioning in children (i.e. a curvilinear relationship), whereas others found a linear relationship. Therefore, the type of relationship of EBD to environmental functioning was first explored: is it curvilinear or linear? The data were analyzed first for schools rated at the same level. This is to test whether there is a difference in the relationship according to the school quality. Next, A rated schools and C rated schools were separately analyzed. This is to find if there is a difference between equally rated schools. So, the results of the relationship of EBD to psychosocial functioning are presented for equally rated schools together and then for each school separately.

7.5.1.1 Type of Relationships : Curvilinear or Linear

Differences in Behaviour Scores According to the Level of Environmental Functioning

Using ANOVA tests, relationships between children's behaviour and their environmental functioning were analyzed in respect of differences in CBQ scores according to the level of environmental functioning (see Table 81 as an example). There were four levels in the functioning. The levels were decided on the basis of Mean and SD on FACES and CES. The lowest level is less than (Mean-SD), the lower-middle level is from (Mean-SD) to Mean, the upper-middle level is from Mean to (Mean+SD), and the highest level is greater than (Mean+SD).

Table 81 Differences in CBQ Scores between Four Levels of Child-Family Cohesion (School I): An Example of Analyses

child-cohesion's level	mothers' CBQ			teachers' CBQ		
	n	M	SD	n	M	SD
lowest	21	9.05	6.55	23	14.52	12.53
lower-Middle	45	7.73	5.26	48	6.75	6.32
upper-middle	51	6.49	4.91	53	5.34	5.33
highest	19	7.42	4.05	18	1.67	2.50
F value	n.s.			***		

*** : p <.001

n.s. : no significant

There were two behaviour rating scores (teachers' CBQ, mothers' CBQ), two environment settings (family, classroom), two dimensions for each environment (affection, control), and two perceptions of each environment (child, adult). So, 8 tables like Table 81 were produced for 2 equally rated schools and for each of the 6 schools.

That is, the total number of tables for these comparisons were 64 (8 times 8). Therefore, whether or not there were significant differences in the CBQ scores according to the level of environmental functioning is summarized and presented in Tables 82 and 83.

As described above, the relationships of EBD to environmental functioning were, at first, examined for equally rated schools together. This is to test whether there is a difference in the relationships according to school quality. The results of A rated schools were different from those of C rated schools: linear relationships were consistently found only in A rated schools but not in C rated schools (see Table 82).

Table 82 Differences in Behaviour Scores according to the Level of Environmental Functions: For Equally Rated Schools

	A rated schools	C rated schools
T-CBQ with FACES		
child-cohesion	***	*
adaptability	***	n.s.
mother-cohesion	*	n.s.
adaptability	n.s.	*
T-CBQ with CES		
child-interpersonal	**	n.s.
maintenance	*	n.s.
teacher-interpersonal	*	n.s.
maintenance	n.s.	*
M-CBQ with FACES		
child-cohesion	n.s.	n.s.
adaptability	n.s.	n.s.
mother-cohesion	n.s.	n.s.
adaptability	n.s.	n.s.
M-CBQ with CES		
child-interpersonal	n.s.	n.s.
maintenance	n.s.	n.s.
teacher-interpersonal	n.s.	n.s.
maintenance	n.s.	n.s.

A rated schools : School I, II

C rated schools : School III, IV, V, VI

T-CBQ : teachers' CBQ M-CBQ : mothers' CBQ

* : p <.05 ** : p <.01 *** : p <.001

marked * means that CBQ scores were higher with lower levels of environmental functioning.

Subsequently, each of the A rated schools and C rated schools were separately analyzed to find if there is a difference between equally rated schools. If there is no difference between equally rated schools it can be said that there are differences in the relationships of EBD to environmental functions according to school quality. However, the results of School I were different from those of School II (see Table 83). Therefore, the assumption that there may be differences in the relationships between children's behaviour and their environment according to school quality was not supported.

Significant differences according to the level of environmental functions were consistently found only in School I, which showed linear relationships between children's behaviour and environmental functioning. That is, CBQ scores were lower with higher levels of environmental functioning. However, even in School I, the significant relationships were found only between teachers' behaviour ratings and the children's perceptions of environmental functions. For the other schools, a few significant differences were found, but they were not consistent. So, the linear relationships between EBD and environmental functions which were found in A rated schools were considered to derive from the data of School I only.

Table 83 Differences in Behaviour Scores according to the Level of Environmental Functions: For Each School

	Sch.I	Sch.II	Sch.III	Sch.IV	Sch.V	Sch.VI
T-CBQ with FACES						
child-cohesion	***	n.s.	n.s.	n.s.	n.s.	*
adaptability	***	n.s.	n.s.	n.s.	n.s.	n.s.
mother-cohesion	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
adaptability	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
T-CBQ with CES						
child-interpersonal	***	n.s.	n.s.	n.s.	n.s.	n.s.
maintenance	*	n.s.	n.s.	n.s.	n.s.	n.s.
teacher-interpersonal	*	n.s.	n.s.	n.s.	n.s.	***
maintenance	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
M-CBQ with FACES						
child-cohesion	n.s.	n.s.	n.s.	n.s.	*	n.s.
adaptability	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
mother-cohesion	n.s.	n.s.	n.s.	n.s.	n.s.	*
adaptability	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
M-CBQ with CES						
child-interpersonal	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
maintenance	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
teacher-interpersonal	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
maintenance	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

T-CBQ : teachers' CBQ M-CBQ : mothers' CBQ

* : p <.05 ** : p <.01 *** : p <.001

marked * means that CBQ scores were higher with lower levels of environmental functioning.

Differences in Percentage of Children with EBD According to the Level of Environmental Functioning

The percentages of children with EBD in each level of environmental functions were compared using Chi-square tests. The division of environmental functioning into four levels was described in the previous section (p.264). The children were considered as having EBD if their CBQ score was greater than 15 points on the mothers' CBQ and 13 points on the teachers' CBQ (based on Korean cut-off points). Table 84 is an example of these analyses.

Table 84 Differences in EBD Percentage on Teachers' CBQ according to the Level of Child-Family Cohesion (School I): An Example of Analyses

child-cohesion's level	Teachers' CBQ <13		teachers' CBQ >= 13	
	n	% within level	n	% within level
lowest	12	52.2	11	47.8
lower-middle	39	81.3	9	18.8
upper-middle	48	90.6	5	9.4
highest	18	100.0	0	0.0
Chi-sq	20.81 ***			
Phi	.38 ***			
Pearson's R	-.36 ***			

*** : p <.001

As in the analyses of the differences in behaviour scores, many tables were produced for these analyses (128 tables like Table 84 were produced: 2 behaviour ratings x 2 environments x 2 dimensions x 2 perceptions x 8 school units for analysis). Whether or not there were significant differences in the percentage of EBD according to the environmental level is summarized in Tables 85 and 86.

Table 85 Differences in EBD Percentage According to the Level of Environmental Functions: For Equally Rated Schools

	A rated schools	C rated schools
T-CBQ with FACES		
child-cohesion	***	*
adaptability	***	n.s.
mother-cohesion	*	n.s.
adaptability	n.s.	n.s.
T-CBQ with CES		
child-interpersonal	*	n.s.
maintenance	n.s.	n.s.
teacher-interpersonal	n.s.	n.s.
maintenance	n.s.	n.s.
M-CBQ with FACES		
child-cohesion	n.s.	n.s.
adaptability	n.s.	n.s.
mother-cohesion	n.s.	n.s.
adaptability	n.s.	n.s.
M-CBQ with CES		
child-interpersonal	n.s.	n.s.
maintenance	n.s.	n.s.
teacher-interpersonal	n.s.	n.s.
maintenance	n.s.	n.s.

A rated schools : School I, II

C rated schools : School III, IV, V, VI

T-CBQ : teachers' CBQ M-CBQ : mothers' CBQ

* : p <.05 ** : p <.01 *** : p <.001

Mark '**' means that EBD percentages were higher with lower levels of environmental functioning.

Table 86 Differences in EBD Percentage According to the Level of Environmental Functions: For Each School

	Sch.I	Sch.II	Sch.III	Sch.IV	Sch.V	Sch.VI
T-CBQ with FACES						
child-cohesion	***	n.s.	n.s.	n.s.	n.s.	n.s.
adaptability	***	n.s.	n.s.	n.s.	n.s.	n.s.
mother-cohesion	*	n.s.	n.s.	n.s.	n.s.	n.s.
adaptability	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
T-CBQ with CES						
child-interpersonal	*	n.s.	n.s.	n.s.	n.s.	n.s.
maintenance	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
teacher-interpersonal	n.s.	n.s.	n.s.	n.s.	n.s.	*
maintenance	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
M-CBQ with FACES						
child-cohesion	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
adaptability	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
mother-cohesion	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
adaptability	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
M-CBQ with CES						
child-interpersonal	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
maintenance	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
teacher-interpersonal	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
maintenance	n.s.	n.s.	n.s.	n.s.	n.s.	**

T-CBQ : teachers' CBQ

M-CBQ : mothers' CBQ

* : p <.05 ** : p <.01 *** : p <.001

Mark '**' means that EBD percentages were higher with lower levels of environmental functioning.

As in the results of the differences in behaviour scores, some significant differences were consistently found only in School I. That is, EBD percentages were higher with lower levels of family cohesion, family adaptability and classroom interpersonal relationships. However, these associations were found only between the teachers' behaviour ratings and the children's perceptions of environmental functions.

On the other hand, significant differences in the percentage of EBD identified by teachers were also found according to the cohesion level perceived by mothers in School I and the interpersonal relationships level perceived by teachers in School VI. Also, the percentage of EBD identified by mothers was different according to the classroom maintenance level perceived by teachers in School VI. But, there was no consistency. So, the linear relationships between children's behaviour and environmental functions which were found in A rated schools were considered to derive from the contribution of School I.

From the analyses of the differences in CBQ scores and in EBD percentages according to the level of environmental functions, a linear relationship was found. Therefore, Correlation tests was performed to find the degree of relationship between children's behaviour and environmental functioning.

7.5.1.2 Correlation of EBD and Environmental Functioning

In Section 7.5.1.1, it was found that CBQ scores and EBD percentages were lower with higher levels of environmental functions. These findings indicated that children's behaviour is linearly related to environmental functions rather than curvilinearly related.

So, how much the behaviour is related to the environment was tested using Correlation tests on the basis of the linearity of the relationship. Tables 87 and 88 show the results.

Teachers' CBQ scores were consistently related to environmental functions perceived by children. But significant relationships were, again, found only in School I. Significant relationships were also found in A rated schools, but again those were considered to derive from the contribution of School I. In addition, some significant relationships between children's behaviour and environmental functions were inconsistently found in the other schools, even when the behaviour was rated by mothers and the environmental functions were perceived by adults. For example, teachers' behaviour ratings were significantly related to classroom interpersonal relationships perceived by teachers in three schools, and mothers' behaviour ratings were related to family cohesion perceived by children. However, these inconsistent relationships were considered to be a chance relationship.

Table 87 Correlations between Behaviour and Environments: For Equally Rated Schools

	A rated schools	C rated schools
T-CBQ with FACES		
child-cohesion	-.35 ***	-.14
adaptability	-.26 ***	-.11
mother-cohesion	-.19 **	-.18 **
adaptability	-.08	-.23 **
T-CBQ with CES		
child-interpersonal	-.28 ***	-.07
maintenance	-.18 *	.01
teacher-interpersonal	-.19 **	-.16 *
maintenance	.01	.08
M-CBQ with FACES		
child-cohesion	-.13	-.17 *
adaptability	-.09	.03
mother-cohesion	-.05	-.13
adaptability	.03	-.04
M-CBQ with CES		
child-interpersonal	-.10	-.15 *
maintenance	.05	-.11
teacher-interpersonal	.09	-.06
maintenance	-.02	-.04

A rated schools : School I, II

C rated schools : School III, IV, V, VI

T-CBQ : teachers' CBQ

M-CBQ : mothers' CBQ

* : p <.05

** : p <.01

*** : p<.001

Table 88 Correlations between Behaviour and Environments: For Each School

	Sch.I	Sch.II	Sch.III	Sch.IV	Sch.V	Sch.VI
T-CBQ with FACES						
child-cohesion	-.43 ***	-.21	-.15	-.12	-.23	-.21
adaptability	-.29 ***	-.21	-.31	-.15	-.12	-.10
mother-cohesion	-.24	-.06	.02	-.36 *	-.20	-.25
adaptability	-.17	.07	-.29	-.16	-.25	-.32 *
T-CBQ with CES						
child-interpersonal	-.39 ***	-.16	-.05	.06	-.31 *	.16
maintenance	-.19 *	-.11	.29	.12	-.15	-.03
teacher-interpersonal	-.27 **	-.06	.15	-.49 **	-.07	-.55 ***
maintenance	-.05	.21	-.41 *	-.07	.04	.10
M-CBQ with FACES						
child-cohesion	-.19 *	-.05	.16	-.16	-.32 *	-.30 *
adaptability	-.14	-.02	.08	.08	.03	-.03
mother-cohesion	-.04	-.07	.16	.09	-.26	-.31 *
adaptability	-.01	.06	-.15	.20	-.03	-.15
M-CBQ with CES						
child-interpersonal	-.20	.02	-.21	.16	-.24	-.10
maintenance	-.07	.22	-.14	-.01	-.11	-.05
teacher-interpersonal	.01	.19	.08	-.07	-.12	-.15
maintenance	.03	-.16	-.26	.00	.06	-.17

T-CBQ : teachers' CBQ

M-CBQ : mothers' CBQ

* : p <.05 ** : p <.01

*** : p <.001

In summary, children's EBD was linearly and negatively related to psychosocial functioning in their family and classroom when children's behaviours were rated by their teachers and environmental functions were perceived by children. But, these relationships were consistently found only in School I. To find why the significant relationships were found only in School I but not in the other 5 schools, the schools are compared in terms of CBQ scores and EBD percentage based on teachers' ratings.

7.5.2 Differences Between Schools in CBQ Scores and in EBD Percentage

Why were significant relationships found only in School I but not in the other schools? One possible reason is that the mean of teachers' CBQ scores or the percentage of children with EBD identified by teachers in School I could be higher than in the other schools. This consideration is based on the assumption that environmental functioning may be related to children's behaviour only when EBD is more serious. A higher behaviour score or EBD percentage means more serious EBD. Accordingly, the mean of the teachers' CBQ scores and the percentage of children with EBD identified by teachers were compared between schools. Only the teachers' CBQ was used for these comparisons because these were to compare between schools in teachers' judgements of difficulties in children's emotions and behaviour. The subject children were selected by their teachers' judgements of whether the children showed difficulties in their behaviour or emotions regardless of their academic achievement. The teachers were asked to select 12 children (or 8 children) in their class; 6 children (or 4 children) who showed difficulties and another 6 children (or 4 children) who did not.

7.5.2.1 Differences in Teachers' CBQ Scores Between Schools

School differences in teachers' behaviour rating scores were looked at in three different ways: analysing for all children in a school; for children with no difficulty; for children with difficulties. Results are shown in Tables 89, 90 and 91. No difference was found between A rated schools, but a significant difference was found between C rated schools. The difference was found only when the scores were compared for all children in a school, but not for children without difficulties and for children with difficulties.

The mean of the teachers' CBQ scores of School V was higher than for the other 3 schools. So, the difference in the scores between C rated schools was reanalysed excluding School V. No difference was found between C rated schools once School V was excluded. Consequently, it can be said that there is no difference in the teachers' CBQ scores between schools except School V. Therefore, the significant relationships between EBD and environmental functioning consistently found only in School I could not be explained in terms of the differences between schools in the teachers' ratings of children's behaviour.

Table 89 Differences in Teachers' CBQ Scores Between Schools: For All Children in a School

	n	M	SD	F value between A rated schools	F value between C rated schools	F value between schools' rating	F value between all 6 schools
school							
I	144	6.81	7.90	n.s.			n.s.
II	85	5.85	6.51				
III	43	4.72	5.06		3.06 *		
IV	42	5.33	6.98				
V	57	8.86	9.36				
VI	60	6.95	7.31				
schools' rating							
A	229	6.45	7.41			n.s.	
C	202	6.68	7.61				

A rated schools : school I, II

C rated schools : school III, IV, V, VI

* p < .05

Table 90 Differences in Teachers' CBQ Scores Between Schools: For Children without Difficulties

	n	M	SD	F value between A rated schools	F value between C rated schools	F value between schools' rating	F value between all 6 schools
school							
I	79	3.89	3.61	n.s.			n.s.
II	72	3.68	3.86				
III	37	3.14	3.33		n.s.		
IV	36	2.92	3.45				
V	35	2.09	3.28				
VI	46	3.65	3.98				
schools' rating							
A	191	3.81	3.70			4.24 *	
C	154	3.00	3.57				

* p < .05

Table 91 Differences in Teachers' CBQ Scores Between Schools: For Children with Difficulties

	n	M	SD	F value between A rated schools	F value between C rated schools	F value between schools' rating	F value between all 6 schools
school							
I	25	20.68	8.07	n.s.		n.s.	n.s.
II	13	17.85	4.91				
III	6	14.50	1.52	n.s.			
IV	6	19.83	4.71				
V	22	19.64	4.23				
VI	14	17.79	4.76				
schools' rating							
A	38	19.71	7.20			n.s.	
C	48	18.48	4.46				

7.5.2.2 Differences in EBD Percentages Between Schools

Another way to explain the significant relationships between children's behaviour and environmental functions found only in School I was to compare EBD percentages on the teachers' scale between schools. If the percentage in School I were higher than the other schools, it might be suggested that environmental functions are related to severe EBD, but are not related to moderate or minor EBD. The results are shown in Table 92. Again, there was no significant difference between A rated schools but significant differences between C rated schools and between all schools. However, there was no significant difference if School V was excluded. Therefore, the differences in the results in School I from the other schools could not be explained in terms of the differences between schools in the percentage of children with EBD identified by teachers either.

Table 92 Differences Between Schools in EBD Percentages on Teachers' Scale

school	% of EBD children	between A rated schools	between C rated schools	between schools' rating	between all 6 sch.
I	17.4	n.s.			16.41 **
II	15.3				
III	14.0		11.30 **		
IV	14.3				
V	38.6				
VI	23.3				
schools' rating					
A	16.6			n.s.	
B	23.8				

** p < .01

In conclusion, the differences in the results in School I could not be explained by the school differences in the teachers' CBQ score or the percentage of children with EBD identified by teachers. Subsequently, the data were reanalysed for classroom units rather than for school units.

7.5.2.3 Differences Between Classrooms Within Each School

Another attempt to find out why School I showed different results from the other schools was made by looking at differences between classrooms within a school. That is, even though there was no significant difference in the teachers' CBQ scores between schools, there could be differences between classrooms within a school. Therefore, differences in the teachers' CBQ scores between classrooms were tested using an ANOVA test. The results are shown in Table 93.

Table 93 Differences in Teachers' CBQ Scores between Classrooms Within Each School

	n	Mean	SD	F value within a school
classroom				
School I				
1	12	2.33	2.46	
2	12	2.92	3.09	
3	12	21.00	13.52	
4	12	8.00	7.21	
5	12	7.75	7.06	**
6	12	3.33	3.42	
7	12	10.42	6.42	
8	12	2.42	2.31	
9	12	4.83	4.35	
10	12	4.42	5.68	
11	12	6.25	5.31	
12	12	8.00	7.21	
School II				
1	8	6.88	9.54	
2	8	4.50	4.78	
3	8	4.50	4.90	
4	7	5.86	3.02	
5	8	9.63	9.29	n.s.
6	7	4.86	6.31	
7	8	5.75	5.18	
8	8	2.88	2.59	
9	8	10.50	9.01	
10	8	5.88	6.49	
11	7	2.57	4.43	
School III				
1	8	7.63	4.84	
2	7	4.00	3.11	
3	8	1.63	1.51	n.s.
4	8	7.38	6.70	
5	8	4.50	6.00	
6	4	1.50	3.00	
School IV				
1	8	1.25	1.39	
2	8	4.13	4.39	
3	8	1.25	1.75	n.s.
4	8	6.88	6.38	
5	10	11.60	9.74	

Table 93 Differences in Teachers' CBQ Scores between Classrooms Within Each School (Cont.)

	n	Mean	SD	F value within a school
School V				
1	8	8.25	8.84	n.s.
2	8	8.63	10.25	
3	8	11.50	11.92	
4	8	6.75	8.53	
5	1	4.00		
6	8	10.13	10.90	
7	8	9.13	9.23	
8	8	8.25	8.89	
School VI				
1	8	5.13	4.76	***
2	8	.13	.35	
3	8	9.63	5.15	
4	8	12.00	4.81	
5	8	11.38	6.26	
6	8	11.63	11.84	
7	4	1.50	1.92	
8	8	1.50	2.00	
Total	431	6.56	7.50	

** p < .01

*** p < .001

In School I, the teachers' CBQ scores for Classroom 3 were much higher compared with the other 49 classrooms. So, it was considered that Classroom 3 in School I may contribute to the different results of School I. Subsequently, the data of School I excluding Classroom 3 were reanalysed to examine relationships between children's behaviour and environmental functions. The results are shown in Table 94.

Table 94 Correlations between Teachers' CBQ scores and Environmental Scores for School I Excluding Classroom 3

(n=125)	family cohesion	family adaptability	classroom interpersonal	classroom maintenance
T-CBQ	-.34 ***	-.29 **	-.33 ***	-.13 n.s.

** p < .01

*** p < .001

n.s. : no significant

As shown in Table 94, the relationships were still significant in School I even though Classroom 3 was excluded. That is, the differences in the results in School I were not due to Classroom 3 which showed extremely higher teachers' CBQ scores than the other classrooms. However, the differences between classrooms within a school suggested the idea of analyses for each classroom rather than only for each school.

Accordingly, the behaviour scores and the environmental scores were compared for each classroom between difficulty and non-difficulty groups. The difficulty group is consisted of children whose teachers selected them as subjects showing any kind of difficulties in their emotions and/or behaviour, and the non-difficulty group is consisted of children showing no difficulty. The number of classrooms which showed differences between the two groups in behaviour scores and environmental scores is presented in Table 95. The teachers' CBQ scores were significantly different between the two groups in most classrooms (41 out of 44), whereas significant differences in the other scores (mothers' CBQ, family cohesion, family adaptability, classroom interpersonal relationships and classroom maintenance scores) were found in only a few classrooms. Therefore, the difference in the results in School I was not explained by the comparison of each classroom either.

Table 95 Number of Classrooms Showing Significant Differences between the Group with Difficulties and without Difficulty

(total class no.=44)	Mother CBQ	Teacher CBQ	family cohesion	family adaptability	classroom interpersonal	classroom maintenance
no. of class showing difference between groups	2	41	6	1	5	2

7.5.2.4 Differences in Relationships between Dimensions of Child-FACES and Child-CES

The differences in the results in School I were not explained by the school differences in the teachers' CBQ scores and in the percentages of children with EBD identified by teachers or by the analyses for classroom units instead of school units. The next step was to look at whether there are differences in relationships between children's perceptions of different dimensions in the same environment, and of the same dimension in different environments.

There is a possibility that a child could perceive his/her environmental functioning in a similar direction on the basis of his/her own view rather than as a reflection of real environmental functioning. A child who perceived family cohesion as high, for example, could perceive family adaptability as high, or perceive classroom interpersonal relationships as high, too. From this assumption, relationships between dimensions in Child-FACES and in Child-CES were examined (see Table 96). Also, relationships between the same dimensions of FACES and CES were examined (see Table 97). Significant relationships were found in School I but also found in the other schools.

Table 96 Correlations Between Dimensions within Child-FACES and Child-CES

School	I (n=138)	II (n=82)	III (n=44)	IV (n=41)	V (n=62)	VI (n=62)
Child-FACES cohesion & adaptability	.30 ***	.33 **	.36 *	.34 *	.21	.11
Child-CES interpersonal & maintenance	.22 **	.38 ***	.10	.25	.14	.10

* p < .05

** p < .01

*** p < .001

Table 97 Correlations between the Same Dimensions of Child-FACES and Child-CES

School	I (n=138)	II (n=82)	III (n=44)	IV (n=41)	V (n=62)	VI (n=62)
FACES cohesion & CES interpersonal	.41 ***	.11	.05	.06	.29 *	.07
FACES adaptability & CES maintenance	-.03	.22 *	-.22	-.09	.06	-.37 **

* p < .05

** p < .01

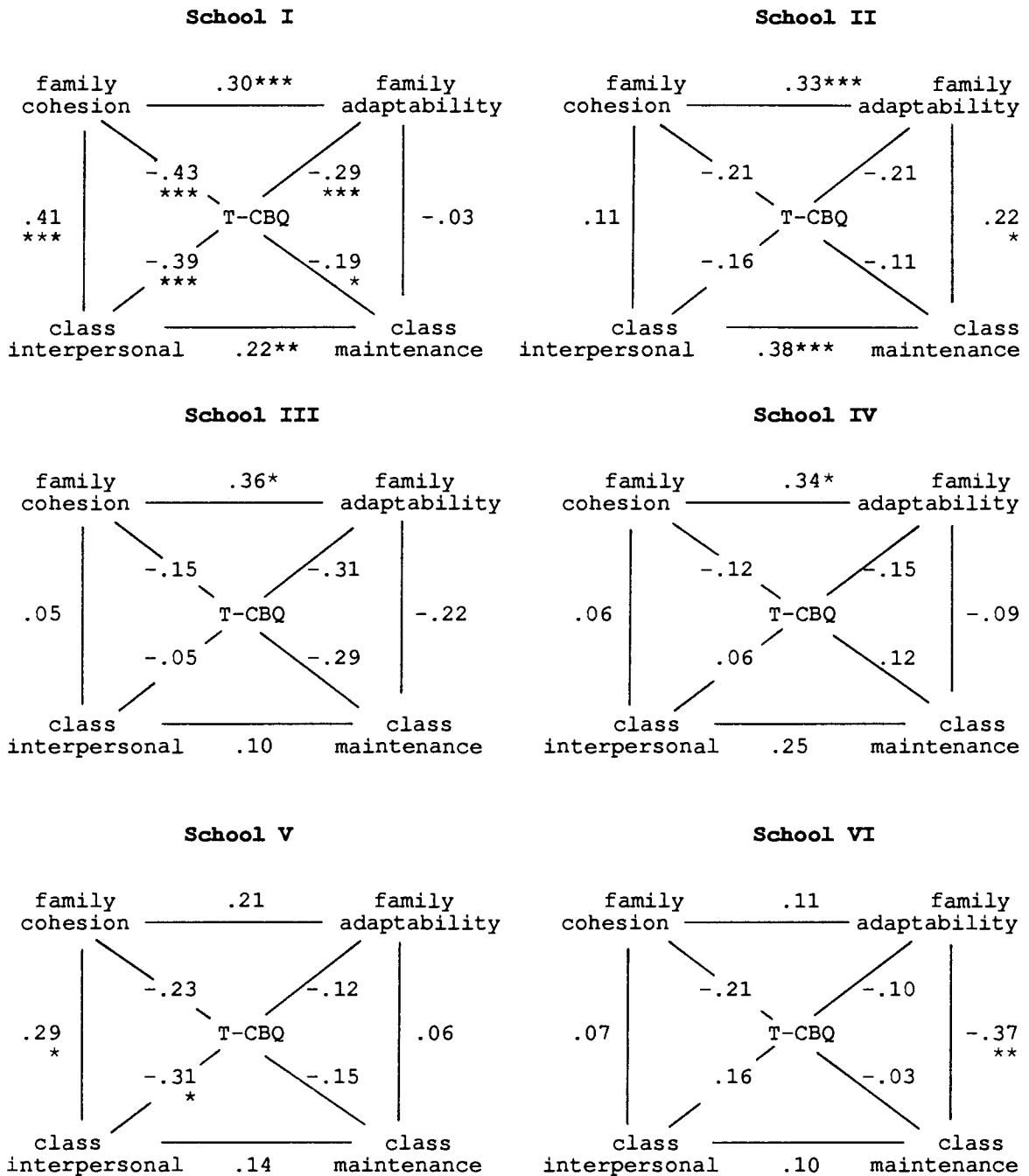
Another analysis was carried out to examine effects of interaction between different dimensions within the same environment (i.e. cohesion-adaptability in family, interpersonal-maintenance in classroom) and between the same dimension in different environments (i.e. family cohesion and classroom interpersonal relationships, family adaptability and classroom maintenance) on the relationship of EBD to environmental functioning. These examinations were considered because significant correlations between different dimensions within the same environment were found.

For this examination, environmental functioning was divided into three levels on the basis of Mean and SD: a low level was less than (Mean-SD); a middle level was from (Mean-SD) to (Mean+SD); a high level was greater than (Mean+SD). The interactions were firstly examined with graphs. The graphs are presented in Appendix 9. Using a two-way ANOVA test, then, the interactions were tested, but no interaction effect was found in any school. However, there was a limitation in interpreting these results because the number of cases for each combination was distinctly different. For example, the number of children who perceived family cohesion at the low level but perceived classroom interpersonal relationships at the high level was very different from the number of children who equally perceived these two functions at the middle level.

The relationships of environmental functioning perceived by children with behaviour rated by teachers are summarized in Figure 4 for each school, in conjunction with the relationships between dimensions in the same environment and between environments for the same dimension.

More significant relationships between different dimensions within the same environment and between the same dimension in different environments were found in School I. In School I, significant relationships were found between family cohesion and adaptability, between family cohesion and classroom interpersonal relationships, and between classroom interpersonal relationships and classroom maintenance. In School II, instead of the significant relationship between family cohesion and classroom interpersonal relationships, family adaptability was significantly related to classroom maintenance. Even though 3 of 4 relationships were also found in School II as well as in School I, the teachers' behaviour ratings were significantly related to environmental functions perceived by children only in School I. So, the differences in the results in School I were not explained by the testing of the differences between schools in the interaction between different dimensions in the same environment or between the same dimension in different environments.

Figure 4 Relationships of Teachers' CBQ to Child-Environmental Scores in Conjunction with Interactions between Environmental Dimensions



The relationships are between teachers' CBQ and children's environmental functioning

7.5.3 Reanalyses of Data from All Schools

Relationships between EBD and environmental functioning were examined with the data for equally rated schools and for each school separately in Section 7.5.1. Significant relationships were consistently found only in School I. Therefore, the differences in the results in School I from the other schools have been investigated in Section 7.5.2. However, why the results in School I are different from in the other schools were not explained in this examination. So, the data from all 6 schools were treated together, and then reanalysed to explore the relationships between EBD and environmental functioning.

7.5.3.1 Relationships between EBD and Environmental Functioning

With the data from all schools, the type of relationship (i.e., curvilinear vs. linear) was first tested as in the analyses for each school. For this, CBQ scores and EBD percentages were compared according to the level of environmental functions. In Section 7.5.1.1, analyses related to these comparisons were explained in detail. CBQ scores and EBD percentages were lower with higher levels of environmental functions if there were significant differences according to the level. That is, linear relationships between behaviour and environmental functions were found (see Table 98). Therefore, how much behaviour is related to environmental functioning was tested by a Correlation test. The results are also presented in Table 98.

Table 98 Differences in CBQ scores and in EBD Percentages and Correlations between Behaviour and Environment : For All Schools

	differences in CBQ scores according to environmental level	differences in EBD percentages according to environmental level	correlations between behaviour and environment
T-CBQ with FACES			
child cohesion	***	***	-.25 ***
adaptability	***	***	-.19 ***
mother cohesion	**	**	-.19 ***
adaptability	*	n.s.	-.15 **
T-CBQ with CES			
child interpersonal	*	n.s.	-.19 ***
maintenance	*	n.s.	-.09
teacher interpersonal	***	n.s.	-.18 ***
maintenance	n.s.	n.s.	.04
M-CBQ with FACES			
child cohesion	**	*	-.17 ***
adaptability	n.s.	n.s.	-.03
mother cohesion	n.s.	n.s.	-.12 *
adaptability	n.s.	n.s.	-.00
M-CBQ with CES			
child interpersonal	**	n.s.	-.13 *
maintenance	n.s.	n.s.	-.06
teacher interpersonal	n.s.	n.s.	.02
maintenance	n.s.	n.s.	-.05

* p<.05

** p<.01

*** p<.001

n.s. no significant

T-CBQ teachers' CBQ

M-CBQ mothers' CBQ

EBD was more consistently related to children's perceptions of environmental functioning than adults' perceptions, and teachers' behaviour ratings were more constantly associated with environmental functions compared with mothers' ratings. Family cohesion was negatively related to children's behaviour regardless of whose

perception or whose rating was used. That is, children and mothers perceived their family as less cohesive when children showed higher EBD by either teachers' or mothers' ratings. Children's and mothers' perceptions of family adaptability were negatively related to teachers' behaviour ratings. Children's perceptions of classroom interpersonal relationships were negatively related to mothers' and teachers' behaviour ratings. Teachers' perceptions of classroom interpersonal relationships were also negatively related to teachers' behaviour ratings. But, no significant relationship was found between behaviour and classroom maintenance regardless of whose perception or whose rating was used.

Significant relationships between EBD and environmental functioning were found, but the correlation coefficients were not high. The low correlation can be interpreted as environmental functioning being more strongly associated with EBD only when it is severe or the level of environmental functioning is extreme. To test this possibility, the level of EBD and environmental functions were divided into low, middle and high, and then children in the high level were compared with those in the low level. From these comparisons, children in the middle level were excluded. The division was done in two ways: one was based on CBQ scores for the behaviour division, and another was based on children's environmental functioning scores for the environment division. Since significant relationships of EBD to environmental functions were mainly found with children's perceptions of the functions as described in Section 7.5.1, the environment division was only based on children's perceptions of the environments. For the divisions of EBD and environments, raw data were retrieved using plot graphs and frequencies. The results of the plot graphs and frequencies are presented in Appendices 10 and 11.

7.5.3.2 Comparisons of Low and High Group

In Section 7.5.2, differences in school factors were examined between schools, but no difference was found. Therefore, relationships between behaviour and environmental functioning were retested with the data from all schools treated together in Section 7.5.3.1. EBD was linearly and negatively related to environmental functions, but the correlation coefficients were not high. So, it was assumed that EBD may be related to environmental functions only when EBD is severe or levels of environmental functioning are extreme (i.e. rigid or chaotic, disengaged or enmeshed). Therefore, children with low CBQ scores or low environmental scores were compared with children with high scores.

1) Comparisons of non-EBD and EBD Groups

Grouping Based on Teachers' CBQ

Children with low teachers' CBQ scores were compared with children with high scores using a T-test. On the basis of the percentage of children with each score, children were grouped into non-EBD and EBD groups (see Appendix 11). On the basis of Rutter's cut-off point, children with more than 11 points were selected for the EBD group. Out of all the children, 23.4% were allocated to this group. Therefore, about 25% was decided as the criterion of the grouping. Children whose teachers' CBQ score was 0 point were selected for the non-EBD group because 24.4% of all the children were allocated to this group.

Children in the non-EBD group perceived their families as more cohesive and more adaptable than those in the EBD group, and perceived their classrooms as more supportive and emotionally bonded compared to those in the EBD group. But, there was no significant difference in the perception of classroom maintenance between these two groups (see Table 99).

Table 99 Differences in Child Environmental Scores between non-EBD and EBD Group Based on Teachers' Ratings

on teachers' CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD (n=104)	18.87	2.75	17.10	2.83	30.37	3.64	25.16	3.70
EBD (n=98)	16.57	3.06	15.37	2.45	28.47	3.45	24.51	3.47
t value	5.59 ***		4.61 ***		2.81 **		n.s.	

** p<.01

*** p<.001

n.s.: no significant

Grouping Based on Mothers' CBQ

Children with low scores on the mothers' CBQ were also compared with children with high scores. On the basis of Rutter's cut-off point, children with more than 13 points were selected for the EBD group. Out of all the children, 21.5% were allocated to this group. Therefore, about 22% was decided as the criterion of the grouping. Children were selected for a non-EBD group if their mothers' CBQ scores were less than 3 points because 22.2% of all the children were allocated to this group (see Appendix 11).

As shown in Table 100, family cohesion and classroom interpersonal relationships were higher in the non-EBD group than in the EBD group. But, no significant difference was found in the perception of family adaptability and classroom maintenance between these two groups.

Table 100 Differences in Child Environmental Scores between non-EBD and EBD Group Based on Mothers' Ratings

on mothers' CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD (n=94)	18.77	2.64	16.83	2.89	30.08	2.98	25.23	3.41
EBD (n=88)	17.19	3.07	16.09	2.67	28.87	3.45	24.84	3.88
t value	3.70 ***		n.s.		2.54 **		n.s.	

** p<.01

*** p<.001

n.s.: no significant

Grouping Based on Both Teachers' and Mothers' CBQs

It is possible that children with EBD pervasively perceive their environmental functions in a different way from children with EBD situationally. Showing EBD pervasively means that a child has EBD in both settings. Showing EBD situationally means that a child has EBD in a particular setting, for example, having EBD at home but not at school. Children were identified as having EBD pervasively when they scored over a certain point on the mothers' CBQ as well as on the teachers' CBQ. Pervasively non-EBD children were those who scored less than a certain point on both CBQs. To select pervasively non-EBD and EBD children, frequencies on each point of both CBQs were looked at. Results are presented in Table 101.

Table 101 Frequencies on Each Point of Both CBQs

TBQ MBQ	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	8	3	1		1				1		1					1
1	9	2	4		2				1				1			
2	9	3	1	2			1	1	1							
3	7	6	2		4	3	2		2				1			
4	12	9	2	3	4		1	2	2	3	1			1	1	
5	8	3	3	2		1	2			2			3	1	1	
6	10	4	3	1	1	3	1	1		1	2				1	1
7	7	3	2	1	1	3	2		2	2	2	1			2	
8	8	1	3	1	1	3	1			1	2		2		2	1
9	6	2	2	3			1	1	3		1		1			
10	4	3	2		4	1	2	1	1	2	2					
11	1				1				1	1	1			1		1
12	3		1	1				1	1				1		1	
13	2	2	1	1	1			1	1	1	2			1	1	1
14	3	2	1						1	3			1			
15		2			1	1	1			1					1	
16	3	1													1	1
17			1			2	1							1		1
18	1			2		1			1							
19				1	1	2										1
20						1										
21															1	
22								1			1					
23																
25																
27	1													1		
28						1										
31														1		
39																

MBQ : mothers' CBQ

TBQ : teachers' CBQ

Table 101 Frequencies on Each Point of Both CBQs (Cont.)

TBQ MBQ	16	17	18	19	20	21	22	23	24	25	26	27	28	29	32	34- 39
0			1	1												
1	1															
2				1						1					1	
3		1	1	1												
4		1							1							1
5				1		1	1									
6		2			2				1							
7																
8																1
9	1				2	1								1		
10																
11	1	1						1		1						
12																
13		1		1			1							1		
14	2		1													
15													1			
16							1	1								
17						1										
18		1						1								
19																1
20			2	1												1
21	1															
22																
23					1											
25					1											
27																
28																
31																
39																1

MBQ : mothers' CBQ

TBQ : teachers' CBQ

On the basis of Rutter's cut-off points, children who scored more than 13 points on the mothers' CBQ and more than 9 points on the teachers' CBQ were identified as having EBD pervasively (n=41). Children who scored less than 3 points on the mothers' CBQ and less than 2 points on the teachers' CBQ were identified as having non-EBD pervasively (n=55). The cut-off points for the non-EBD group were decided on the basis of the similar percentage of children in the EBD group and the ratio of the cut-off points for EBD (i.e. 13 to 9 is about 3 to 2).

As shown in Table 102, pervasively non-EBD children perceived family cohesion and adaptability at a higher level than pervasively EBD children. That is, families of pervasively non-EBD children were more connected emotionally and more adaptable compared with families of pervasively EBD children. But no significant difference was found between the groups in the degree of classroom interpersonal relationships and maintenance.

Table 102 Differences in Child Environmental Scores between Pervasively non-EBD and EBD Children : Identified on Both Scales

on both scales	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD (n=55)	19.18	2.15	17.16	3.06	30.18	3.28	25.67	3.30
EBD (n=43)	16.46	2.68	15.12	2.51	29.12	3.69	25.02	3.56
t value	5.34 ***		3.61 ***		n.s.		n.s.	

*** p<.001

n.s. : no significant

Summarising the comparisons of environmental functioning scores between the

non-EBD and EBD groups, children with EBD pervasively or situationally perceived their families as less cohesive compared with non-EBD children regardless of whose identification of EBD was used. In contrast, no difference was found in classroom maintenance in any case. On the other hand, children with EBD in school or in both settings perceived their families as less adaptable compared with non-EBD children. Classroom interpersonal relationships were perceived at a significantly lower level by EBD children than non-EBD children when the identification of EBD was based on the teachers' or the mothers' ratings.

7.5.3.3 Comparisons of Low and High Environmental Functioning Groups

In Section 7.5.3.2, differences in the degree of environmental functioning were compared between the non-EBD and EBD groups. In four environmental functions (cohesion and adaptability in family, interpersonal relationships and maintenance in classroom), only family cohesion was revealed as higher in the non-EBD group than in the EBD group regardless of whose behaviour rating was used for the grouping. In the following analyses, differences in the CBQ scores are compared between the low and high groups on the environmental scores. Children who perceive their families or classrooms at a low level may show higher EBD compared with children who perceive them at a high level.

Cut-off points for the low and high groups were decided on the basis of the frequencies on each score (see Appendix 11). The cut-off points for the groups and the percentage of children in each group are presented in Table 103.

Table 103 Cut-off Points and Percentages of Children in Each Environmental Group

	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	low	high	low	high	low	high	low	high
cut-off point	<= 14	>=22	<=12	>=21	<=24	>=35	<=18	>=31
%	14%	11.3%	6.4%	6.7%	7.5%	6.8%	4.3%	2.9%
n	62	50	28	29	33	30	19	13

Table 104 shows differences in CBQ scores between the low and high groups of each environmental function. Children in the low cohesive families scored at a significantly higher level on both CBQs. Children in the low adaptable families scored higher only on the teachers' CBQ. Children who perceived their classrooms as less supportive and less bonded emotionally were rated higher on both CBQs. Again, no difference in either CBQ scores was found according to the level of classroom maintenance.

Table 104 Differences in CBQ Scores Between the Low and High Environmental Groups

Differences in teachers' CBQ scores								
teachers' CBQ scores	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	low	high	low	high	low	high	low	high
M	10.07	3.45	10.39	4.38	9.88	4.57	6.17	3.62
SD	8.94	5.23	8.10	5.19	10.75	6.92	7.53	6.62
t value	4.52 ***		3.35 ***		2.31 *		n.s.	
Differences in mothers' CBQ scores								
mothers' CBQ scores	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	low	high	low	high	low	high	low	high
M	9.68	7.06	9.44	7.61	10.00	6.52	9.50	10.31
SD	7.50	4.44	6.89	6.12	7.42	4.05	5.36	8.12
t value	2.16 *		n.s.		2.24 *		n.s.	

* p<.05

*** p<.001

n.s.: no significant

7.5.4 Differences in Satisfaction with Real Environmental Functions Between non-EBD and EBD Children

It was assumed that children with EBD may be less satisfied with their real environmental functioning compared with children without EBD. To examine this hypothesis, children were asked to complete the real forms of FACES and CES, and then to complete the ideal forms. Satisfactions of children having EBD with their real family and classroom functions were compared with those of non-EBD children using a T-test. The degree of satisfaction was measured by an agreement between real and ideal scores of FACES and CES. That is, satisfaction scores were calculated by children's real scores minus ideal scores. The identification of EBD was based on the teachers', mothers' and both ratings respectively. The cut-off points of non-EBD and EBD were the same as the points which were applied in Section 7.5.3.2. Results are presented in Tables 105, 106 and 107.

Children with EBD identified by mothers and/or teachers were less satisfied with their family cohesion compared with non-EBD children. That is, the EBD children would like their family to be more cohesive. A significant difference in satisfaction with classroom maintenance was found between EBD and non-EBD groups when the grouping was based on teachers' behaviour ratings. On the other hand, no significant difference was found in satisfaction with family adaptability and with classroom interpersonal relationships regardless of whose behaviour ratings were used for grouping.

Table 105 Differences in Satisfaction Between non-EBD and EBD Groups Identified by Teachers' Ratings

Identification of EBD on the teachers' CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD	-1.13	2.82	-1.05	2.96	-4.93	4.39	-.57	4.28
EBD	-2.45	3.29	-1.91	3.29	-3.95	4.54	1.21	4.67
t value	3.03 **		1.92 n.s.		-1.56 n.s.		-2.79 **	

** p<.01

n.s. : no significant

Table 106 Differences in Satisfaction Between non-EBD and EBD Groups Identified by Mothers' Rating

Identification of EBD on the mothers' CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD	-.98	2.64	-1.46	3.58	-4.83	4.69	-.37	4.23
EBD	-1.90	3.21	-1.55	3.41	-4.70	4.77	.24	5.14
t value	2.11 **		.17 n.s.		-1.18 n.s.		-.86 n.s.	

** p<.01

n.s. : no significant

Table 107 Differences in Satisfaction between non-EBD and EBD Groups identified by Both Ratings

Identification of EBD on both CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD	-.76	2.46	-1.15	3.67	-5.28	4.84	-.36	4.30
EBD	-2.27	3.03	-2.10	3.30	-3.72	5.26	1.33	4.81
t value	2.60 **		1.32 n.s.		-1.50 n.s.		-1.77 n.s.	

** p<.01

n.s.: no significant

7.5.5 Differences in Incongruence Between non-EBD and EBD Children

Incongruence means a disagreement in perceptions of environmental functioning between members within the same environment. In the present study, children's perceptions were compared with mothers' or teachers' perceptions. That is, a child's environmental functioning score minus his/her mother's or teacher's scores is a incongruence score. Incongruence scores of the EBD group were compared with those of the non-EBD group using a T-test. It was assumed that incongruence may be higher in the EBD group than in the non-EBD group. The identification of EBD was based on each CBQ and both CBQs respectively. Cut-off points of non-EBD and EBD groups were the same as the points which were applied in Section 7.5.3.2. Results are presented in Tables 108, 109 and 110.

In general, children perceived their families as less connected than did their mothers, and their classrooms as less supportive and more structured than did their teachers. When the differences were compared between EBD and non-EBD groups, a higher degree of difference in the EBD group than in the non-EBD group was found in few cases. The degree of difference in the perception of classroom maintenance between children and teachers was significantly higher in the EBD group than in the non-EBD group when the grouping was based on teachers' behaviour ratings. Another significant difference was found in the perception of classroom interpersonal relationships when the grouping was based on mothers' behaviour ratings. Therefore, it cannot be said that there are differences in the incongruence levels between EBD and non-EBD groups.

Table 108 Differences in Incongruence Between non-EBD and EBD Groups Identified by Teachers' Ratings

Identification of EBD on the teachers' CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD	-.56	2.95	.16	3.13	-1.47	4.77	-1.38	3.96
EBD	-1.09	3.39	-.15	3.21	-1.81	4.01	-2.67	3.98
t value	1.15 n.s.		.66 n.s.		.54 n.s.		2.24 *	

* $p < .05$

n.s. : no significant

Table 109 Differences in Incongruence between non-EBD and EBD Groups identified by Mothers' Ratings

Identification of EBD on the mothers' CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD	-.52	2.98	.80	3.26	-1.02	3.85	-1.45	3.58
EBD	-1.18	2.67	.18	3.02	-2.47	4.37	-2.12	4.27
t value	1.58 n.s.		1.32 n.s.		2.32 *		1.12 n.s.	

* $p < .05$

n.s.: no significant

Table 110 Differences in Incongruence between non-EBD and EBD Groups identified by Both Ratings

Identification of EBD on both CBQ	Child-FACES				Child-CES			
	cohesion		adaptability		interpersonal		maintenance	
	M	SD	M	SD	M	SD	M	SD
non-EBD	-.38	2.70	.80	3.33	-1.52	3.97	-1.06	3.22
EBD	-1.45	2.81	-.36	3.24	-1.58	4.15	-1.82	4.25
t value	1.86 n.s.		1.71 n.s.		.07 n.s.		.95 n.s.	

n.s.: no significant

7.6 Discussion

Relationships of EBD to environmental psychosocial functioning have been examined in the second study. The focus has been on cohesion and adaptability as an index of family psychosocial functioning, and interpersonal relationships and maintenance as an index of classroom functioning. Korean versions of FACES-III (Family Adaptability and Cohesion Evaluation Scale-III) and CES (Classroom Environment Scale) were used to assess environmental functioning and Korean versions of CBQ (Child Behaviour Questionnaire) were used to rate children's behaviour. In the pilot study, Korean versions of FACES-III, CES and CBQ were developed. Children's behaviours were rated by their mothers and teachers; and perceptions of children, their mothers and their teachers of environmental functioning were obtained as an index of family and classroom functioning.

As the method for assessing environmental functioning, shared perceptual measures by members in an environment have the dual advantages of characterizing the environment through the eyes of the actual participants and capturing data which outside observers could miss or consider unimportant. Persons in that environment can make better judgements about the environment because they have encountered many different situations and have had enough time to form accurate impressions.

From 6 schools, 448 children were selected for the second study. Of 6 schools, 2 schools (School I and II) are rated at A level in terms of school quality and the other 4 schools (School III, IV, V and VI) are rated at C level by the local education

department of Korea. No school rated at B level was included in this study.

Data analyses in the second study were performed first for data from equally rated schools. This was to test whether there are differences in relationships of EBD to environmental functioning according to school quality. Results from A rated schools were different with those from C rated schools. To find out whether the differences resulted from school quality, data from each school were separately analyzed. If the findings in School I did not differ from the findings in School II, the different findings according to school quality could be interpreted in terms of school quality. But, results from School I differed from those from School II: results from School I showed a similar pattern to results from A rated schools, and results from School II were similar to those from C rated schools. This finding led to the question of why the findings in School I differed from the other schools. So, further analyses were performed in different ways to explore school factors which could be associated with the different results in School I. However, no factor explained the difference between schools. Therefore, data from all schools were treated together and then reanalysed.

Results of the second study are discussed in respect of the type of relationship of EBD to environmental functioning, relationships of EBD to environmental functioning in extreme groups, validity of parents' and teachers' ratings of children's behaviour, and differences between EBD and non-EBD groups in satisfaction of children with their actual environmental functioning, and in incongruence of children's perceptions with adults' perceptions of environmental functioning.

7.6.1 Linear and Negative Relationships of EBD to Environmental Functioning

The type of relationship of EBD to environmental functioning was examined first. In the Circumflex Model, it is hypothesized that moderate degrees of cohesiveness and adaptability in families lead better development in children than either extreme degrees (i.e. a curvilinear relationship). But this hypothesis has not been constantly supported in research. Studies supporting a curvilinear relationship are, for example, by Carnes (1985), Clarke (1984), Garbarino et al. (1985), Henggeler et al. (1991), Minuchin, Rossman and Baker (1978), Olson et al. (1984), and Rodick et al. (1986). Studies supporting a linear relationship are, for example, by Barnes et al. (1985), Blaske et al. (1989), Day et al. (1987), Fristad (1989), Hanson et al. (1989), Morrison et al. (1988), Olson et al. (1983), and Tolan (1988).

Many studies which support a curvilinear relationship focused on families with extremely problematic children. For example, a study by Clarke (1984) focused on families with schizophrenics, neurotics, members having had therapy at sometime in their past. Olson and his colleagues (1984) compared chemically dependent families with nondependent families. Carnes (1985) investigated family systems of sex offenders. Garbarino and his associates (1985) compared high risk families with low risk families. Rodick and his colleagues (1986) studied families with juvenile offenders and families with no history of arrest or psychiatric referral. Smets and Hartup (1988) also focused on children who were referred for clinical services. Henggeler and his colleagues (1991) contrasted antisocial males (i.e., adolescent offenders and young adult prisoners) with nonoffenders.

Therefore, it was assumed that the relationship is perhaps curvilinear with families of children who show severe EBD, but it may be linear with families of children who show minor or moderate EBD. To test the type of the relationship in this second study, children were grouped into four levels on the basis of their environmental scores: lowest, lower-middle, upper-middle and highest. Behaviour scores and EBD percentages were, then, compared between these four groups. The lower level of family cohesion or classroom interpersonal relationships refers to less emotional bonding and less support of each other. The lower level of family adaptability or classroom maintenance refers to less changing in rules, roles and power structure.

Linear and negative relationships were consistently found between teachers' behaviour ratings and children's perceptions of environmental functioning. However, the significant relationships were consistently found only in School I. Therefore, there was a search for differences between schools in school factors which may be associated with this result.

The following factors compared between schools: the teachers' behaviour rating scores, the EBD percentages, the correlations between children's perceptions of different dimensions within the same environment (i.e. correlations between family cohesion and family adaptability, and between classroom interpersonal relationships and classroom maintenance), and the correlations between children's perceptions of the same dimension in different environments (i.e. correlations between family cohesion and classroom interpersonal relationships, and between family adaptability and classroom maintenance). But, no factor explained the differences between schools.

Subsequently, data from all schools were treated together. The type of relationship was, then, examined again with the data from all schools. As in the findings for School I, linear and negative relationships were found. The finding of linearity is consistent with the results of Prange and his associates (1992). They evaluated linear vs. curvilinear relationships of family functioning to psychopathology among adolescents with severe emotional disturbances (SED). Only 1 out of 32 comparisons demonstrated a deviation from linearity. Olson and his colleagues (1983) also found linear relationships in a national survey with 1,000 'normal' families across the life cycle. That is, higher levels of cohesion and adaptability were associated with better family functioning. They interpreted this linearity as normal families representing only a narrow range of behaviour on these two dimensions. As a result, there were very few 'normal' families which legitimately fell into extreme types.

The families involved in the second study can be considered as 'normal' because the subject children were selected not from clinical settings but from ordinary classrooms in mainstream schools even though half of the children were selected because their teachers considered them to have some kind of EBD. So, as in the suggestion of Olson and his colleagues (1983), the families in the second study may represent only a narrow range of behaviour on these two dimensions. Accordingly, family functions of families which fell into either extreme level in the second study may not be in either extreme level in comparison with those of clinical families.

Significant relationships were found between EBD and family cohesion, adaptability, and classroom interpersonal relationships. The relationships were more

consistent and higher with teachers' behaviour ratings and children's perceptions of environmental functioning compared with mothers' behaviour ratings and adults' perceptions. However, the correlation coefficients were low even though they were significant (-.25 with family cohesion, -.19 with family adaptability and -.19 with classroom interpersonal relationships).

This low correlation could be interpreted in terms of environmental functioning being more strongly associated with EBD only when EBD is severe or environmental functioning is extreme. To examine this possibility, environmental functions in the EBD group were compared with those in the non-EBD group. Another comparison was also carried out to find whether there are differences in behaviour rating scores between children whose environmental functioning fell into an extremely high level and those into an extremely low level.

7.6.2 Comparisons Between Low and High Groups

The weak relationships between EBD and environmental functioning was considered in terms of the possibility that EBD may be more strongly associated with environmental functioning only when EBD is severe or environmental functioning is extreme. To test this possibility, the level of EBD and environmental functioning were divided as low, middle or high. Children whose EBD or environmental functioning fell into the middle of the range were not included in these comparisons. Children's perceptions of environmental functioning were used in these comparisons because more

consistent and higher relationships were found with children's perceptions compared with adults' perceptions in previous analyses. Identification of EBD was based on mothers' ratings as well as teachers' ratings. This was to find out whether there is any difference in the relationships of EBD to environmental functioning according to the setting in which children show EBD, i.e. at home only, at school only, or in both settings.

The relationships of EBD to environmental functioning were firstly examined by comparing environmental functioning between the non-EBD and EBD groups. Children who showed EBD pervasively in both settings tended to perceive their families as less cohesive and less adaptable compared with non-EBD children in both settings (family cohesion: $M=19.18$, $SD=2.15$ in the non-EBD group, $M=16.46$, $SD=2.68$ in the EBD group, $t=5.34$ $p<.001$; family adaptability: $M=17.16$, $SD=3.06$ in the non-EBD group, $M=15.12$, $SD=2.51$ in the EBD group, $t=3.61$ $p<.001$). However, the EBD children in both settings did not perceive their classroom functioning (interpersonal relationships as well as maintenance) differently from the non-EBD children in both settings.

Children who showed EBD only at home tended to perceive their families as less cohesive and their classrooms as less supportive, less friendly and less helpful compared with non-EBD children at home (family cohesion: $M=18.77$, $SD=2.64$ in the non-EBD group, $M=17.19$, $SD=3.07$ in the EBD group, $t=3.70$ $p<.001$; classroom interpersonal relationship: $M=30.08$, $SD=2.98$ in the non-EBD group, $M=28.87$, $SD=3.45$ in the EBD group, $t=2.54$ $p<.05$). But, the EBD children at home did not perceive their family adaptability and classroom maintenance differently from the non-EBD children at home.

Children who showed EBD only at school tended to perceive their families as less

cohesive and less adaptable compared with non-EBD children in school (family cohesion: $M=18.87$, $SD=2.75$ in the non-EBD group, $M=16.57$, $SD=3.06$ in the EBD group, $t=5.59$ $p<.001$; family adaptability: $M=17.10$, $SD=2.83$ in the non-EBD group, $M=15.37$, $SD=2.45$ in the EBD group, $t=4.61$ $p<.001$). The EBD children at school also perceived their classrooms as less supportive, less friendly and less helpful ($M=30.37$, $SD=3.64$ in the non-EBD group, $M=28.97$, $SD=3.45$ in the EBD group, $t=2.81$ $p<.01$), but did not perceive their classroom maintenance differently from the non-EBD children at school.

In summary, children with EBD in any setting (i.e. home and/or school) tended to perceive their families as less cohesive (less bonded emotionally). Children with EBD at school compared with children with EBD at home or in both settings tended to perceive their family and classroom functioning more differently from non-EBD children. Classroom maintenance does not seem to be related to EBD regardless of the setting in which children show EBD.

Relationships of EBD to environmental functioning were also examined with families whose environmental functioning fell into either extreme level. Children from low cohesive families tended to show higher EBD at home and/or school (teachers' CBQ: $M=10.07$, $SD=8.94$ in the low cohesive families, $M=3.45$, $SD=5.23$ in the high cohesive families, $t=4.52$ $p<.001$; mothers' CBQ: $M=9.68$, $SD=7.50$ in the low cohesive families, $M=7.06$, $SD=4.44$ in the high cohesive families, $t=2.16$ $p<.05$). Children in the low supportive classrooms also tended to show higher EBD at home and/or school (teachers' CBQ: $M=9.88$, $SD=10.75$ in the low supportive classrooms, $M=4.57$, $SD=6.92$ in the high supportive classrooms, $t=2.31$ $p<.05$; mothers' CBQ: $M=10.00$, $SD=7.42$ in the low

supportive classrooms, $M=6.52$, $SD=4.05$ in the high supportive classrooms, $t=2.24$ $p<.05$). Children from the low adaptable families tended to show higher EBD only at school (teachers' CBQ: $M=10.39$, $SD=8.10$ in the low flexible families, $M=4.38$, $SD=5.19$ in the high flexible families). Again, no difference was found in behaviour ratings according to the level of classroom maintenance.

From these results, it can be said that the affective aspect of family and classroom is likely to be related to EBD shown at either home or school. If children show EBD at home or school, their families could be less cohesive, and their classrooms could be less supportive and less bonded emotionally. Conversely, if families are less cohesive, and if classrooms are less supportive and less bonded emotionally, children could show higher EBD. Family adaptability seems to be related to EBD at school but not at home. Children who showed EBD at school tended to perceive their families as less adaptable compared with non-EBD children at school, whereas there was no difference in the perception of family adaptability between children with and without EBD at home.

On the other hand, no significant relationship of EBD to classroom maintenance (e.g. rule clarity, number of rules or punishments) was found. This finding can be interpreted in terms of the low variation of maintenance scores. That is, the lack of the relationship might be due to a very narrow range of behaviour in the maintenance dimension. There were few classrooms which fell into either extreme level of the dimension (see Appendix 11). The narrow distribution could also be interpreted as reflecting poor validity of the maintenance subscale. That is, there might be other behaviours besides the behaviours described in the subscale, which are more critically

related to EBD in a Korean context. Therefore, it would be worth examining in a further study whether the maintenance subscale is valid to discriminate a level of classroom maintenance in different classrooms.

In conclusion, EBD seems to be more strongly related to environmental functioning in a Korean context when EBD is severe or environmental functioning is extreme; and family cohesion tends to be more related to EBD than family adaptability and classroom interpersonal relationship (no significant relationship was found between EBD and classroom maintenance). This finding can be interpreted as families rather than classrooms, and the affective aspect rather than the control aspect being more associated with EBD. In addition, relationships of EBD to environmental functioning tend to be more consistent and higher with children's perceptions than adults' perceptions. This finding may indicate that how children perceive their environmental functioning is as important for their emotional and social development as the actual environment.

7.6.3 More Consistent and Higher Relationships of EBD to Teachers' Behaviour Ratings than Mothers'

Children's EBD was more consistently and highly related to environmental functioning with teachers' behaviour ratings than mothers'. The assumption that the relationship of EBD to environmental functioning may be relatively stronger if data of EBD and environmental functioning are reported in the same context (e.g. higher correlation of parents' behaviour ratings with family functioning than with classroom functioning) is not supported.

This result calls into question a strong version of situation specificity in regard to the low percentage of children who were identified as having EBD by both parents and teachers, and the low correlation between parents' and teachers' behaviour ratings. The low agreement can be interpreted partly in terms of the difference in the validity of parents' and teachers' ratings of children's behaviour rather than only by the view of 'situation-specificity' of EBD. The assessment at home may be less suitable than that at school because, for example, parents may have different perceptions of EBD or the assessment may be difficult for them to complete. From this view, it can be assumed that higher relationships with parents' ratings might be obtained if a different assessment such as interview with parents or observation at home is used.

In addition, it can be argued that teachers' ratings are likely to be more valid than parents' ratings because teachers have more opportunity of observing and comparing a large number of children than parents. This possibility is consistent with the result from the first study: the mean of teachers' CBQ scores was lower than that of parents', but more children were identified as having EBD and as needing professional help due to their EBD by teachers than parents. This finding was interpreted in terms of teachers' ratings being more consistent than parents'. This view was supported by the finding that the percentage of children who were identified by teachers as having EBD on CBQ and as needing professional help was much higher than that by parents (see Appendices 3 & 4).

There are some limitations, however, in this interpretation of the higher validity of teachers' ratings than parents' ratings in the screening of EBD. An independent

examination by a specialist was not carried out of the children who were identified as having EBD by parents and/or teachers. Also, environmental functioning was assessed only by a self-report without any other assessments such as observation. In fact, there are some findings of no difference in the validity or higher validity of parents' ratings than teachers'. For example, in Rutter et al. (1970), about the same proportion of children in the children screened by their parents and teachers as having EBD were judged as having EBD by an independent psychiatric examination of the children. From that result, Rutter and his colleagues suggested that there may be no difference in the validity between the parents' and teachers' scales as a screening instrument for EBD. Furthermore, a relatively better agreement was found between parents and psychiatrists than between teachers and psychiatrists in Vikan (1985).

On the other hand, the finding of teachers' behaviour ratings being related to family functioning may imply that family psychosocial functioning could predict children's behaviour at school: children whose families were less cohesive and adaptable showed higher level of EBD at school. This means that psychosocial functioning in one context could affect children's behaviour in another context. This finding is consistent with the concept of open systems in the socio-ecological theory: what happens in one system affects behaviour in other systems. In addition, this finding can be considered in terms of teachers being able to pick up adverse family factors at home by behaviour at school. This consideration supports the view that there may be some continuity across situations as well as some specificity to a certain situation in children's behaviour.

Therefore, it would be worth, in a further intensive study, exploring the

relationships using more sophisticated assessments, for example, including specialists' assessments for comparing them with parents' and teachers' assessments, and observation of children in different settings for examining the 'situation-specificity' of children's behaviour. Such a study might indicate a greater continuity of EBD across situations while still recognising the significant impact of situations on EBD, and the difference in the validity between parents' and teachers' ratings.

7.6.4 Differences in Satisfaction and Incongruence between Children with EBD and non-EBD

Olson and his associates (1983) hypothesized that families function most adequately if family members are highly satisfied with their current family functioning regardless of the type of family. This hypothesis built on the assumption that it may be less important where a family falls in the Circumflex Model than how the family members feel about the level of family cohesion and adaptability. So, it is important not only to assess how individuals perceive their family but how they would like it to be.

To test this hypothesis, children were asked to describe their family and classroom (perceived) and then describe how they would like those to be (ideal). The discrepancy between perceived and ideal perceptions was used as an inverse assessment of satisfaction. The discrepancy of family cohesion was significantly higher in the EBD group than in the non-EBD group regardless of which scale was used for the identification of EBD. That is, children with EBD at home and/or school would like their families to be more cohesive (more connected emotionally and more supportive

each other) compared with the non-EBD children. This finding supports the hypothesis that families may function most adequately if their members are satisfied with current family functioning at a high level. However, satisfaction with family adaptability, classroom interpersonal relationship, and classroom maintenance do not seem to be different according to EBD.

It was also considered worthwhile to examine whether EBD children perceive their environmental functioning differently from their mothers or teachers in comparison with non-EBD children. The different perceptions of environmental functioning between children and adults were referred to as incongruence in the perception between members in the same environment. It was assumed that incongruence in children's perceptions of environmental functioning with their mothers or teachers may be higher in the EBD group than in the non-EBD group. However, no significant difference was found between EBD and non-EBD groups. That is, the degree of incongruence between children's and adults' perceptions may not differ according to EBD.

7.7 Conclusion

In the second study, it was found that EBD was linearly and negatively related to family cohesion, family adaptability, and classroom interpersonal relationships in a normal population, but the relationships were weak. The weak relationships were considered in terms of the possibility that the relationship may be stronger when EBD is severe or environmental functioning falls into either extreme level. Children in low

cohesive families, low adaptable families or low supportive classrooms tended to show higher EBD compared with children in higher levels of these dimensions. Also, children with EBD perceived their families as less cohesive and less adaptable, and perceived their classrooms as less supportive and less bonded emotionally. However, no significant relationship of EBD to classroom maintenance was found. The lack of relationship of EBD and classroom maintenance was considered due in part to a low variation of the maintenance dimension in the sample classrooms.

Family cohesion tended to be related to EBD relatively higher than family adaptability and classroom interpersonal relationships. This finding can be interpreted as the family rather than the classroom, and the affective rather than the control aspect being more associated with EBD.

Relationships of EBD to environmental functioning were more consistent and higher with children's perceptions than adults' perceptions. This finding may imply that how children perceive their environmental functioning is as important for their emotional and social development as their actual environment.

The relationships were more consistent and higher with teachers' behaviour ratings than mothers'. That is, family psychosocial functioning could predict children's behaviour at school. This finding is consistent with the concept of open systems in the socio-ecological theory: what happens in one system affects behaviour in other systems. In addition, this finding supports the view that there may be some continuity across situations as well as some specificity to a certain situation in children's behaviour.

Furthermore, this finding gives rise to some doubt about a strong version of situation specificity in regard to the low agreement between parents' and teachers' ratings of children's behaviour. The low agreement may also be evidence of the difference in the validity between parents' and teachers' ratings of children's behaviour. The assessment at home may be less suitable than that at school because, for example, parents may have different perception of EBD or the assessment may be difficult for them to complete. Otherwise, teachers' ratings may be more valid than parents' ratings. From the first study, teachers' ratings being likely to be more consistent was also found.

A further intensive study including more sophisticated assessments such as specialists' assessments or observation of children in different settings might indicate a greater continuity of EBD across situations while still recognising the significant impact of situations on EBD, and the difference in the validity between parents' and teachers' ratings.

Finally, children with EBD tended to be less satisfied with their current family cohesion compared with children without EBD. That is, the children with EBD wanted their families to be more cohesive and more supportive compared with children without EBD. But, there was no difference in satisfaction with family adaptability, classroom interpersonal relationships and classroom maintenance according to EBD. Also, the level of incongruence does not seem to differ according to EBD.

CHAPTER 8

OVERVIEW AND CONCLUSIONS

8.1 Overview of Theoretical Background of Study

Many different terms have been used to describe children whose emotional and/or social behaviour are not socially acceptable and are detrimental to their intrapersonal and/or social-interpersonal development. Different terminologies, however, do not seem to refer to different types of difficulties even though there are differences in the theoretical orientations and emphases given to certain points. Hallahan and Kauffman (1991) suggested that a term could be picked simply by matching any word from emotional, social, behavioural or personal with disturbance, disorder, maladjustment, handicap or impairment, and adding other qualifiers such as seriously or severely.

The term of choice in the present study is *emotional and behavioural difficulties (EBD)*. The choice of EBD was determined on the basis of the current trend to use the term *difficulties* instead of maladjustment, disturbance, disorder or problem (Cooper, et al., 1994; Circular 23/89, DES, 1989; Varma, 1990), and the fact that dysfunctions in emotional and/or social development have been divided into internalised and externalised difficulties in most studies in this field (Achenbach & Edelbrock, 1983; Laing & Chazan, 1987). Choice of *emotional and/or behavioural* cover these two groups of difficulties. Choice of *difficulties* seems to less reflect the view of distortion or abnormality and more to involve the concept of continuity of dysfunction. The term *difficulties* gives us the

impression of quantitatively different conditions from normality rather than qualitative differences compared with the terms disordered or problematic. This impression is consistent with the view that the abnormality could be found to some extent in almost all children, but some children need special treatments and help because the abnormality or deviance is markedly severe and/or frequently shown, and so detrimental to their own development and/or to others.

Although EBD has been defined in different ways with different terminologies, some common features can be extracted from definitions. Basically, a behaviour may be identified as EBD if the behaviour is not socially or culturally acceptable, and is detrimental to the child's own development and/or others' lives. However, such behaviour could be found in almost all children to some degrees and at a certain stage, but when a child shows such behaviour frequently, or the behaviour is very different from usual (i.e. severe), and it does not quickly disappear (i.e. chronic), the child can be identified as having EBD.

In recent years, the necessity of taking EBD seriously has increased. There is convincing evidence that a significant proportion of children have EBD. Also, many studies have indicated that a considerable number of children who showed EBD at early ages continue to show EBD in later years. The continuity can be explained in part by negative cycle interactions. Once a child begins exhibiting EBD, his/her interactions with environments set off a downward spiral: inappropriate behaviour elicits negative responses from others, and such negative reactions further increase the chance to behave in an undesirable way. Moreover, these difficulties are probably one of the most costly

to society because a large proportion of children with difficulties tend to continue to circulate through the revolving door of mental health agencies and the criminal justice systems.

As an effective way to deal with EBD, applying interventions at an earlier stage has been suggested. The effectiveness of early interventions can be explained on the grounds that it is given at a point when EBD has not yet materialised or is in a developing state. To intervene at an early point, we need to know factors which could be associated with EBD. With the recognition of which difficulties will arise in which children at a certain time, the difficulties can be prevented from arising.

As a class of factors associated with EBD, environmental factors were looked at in the present study. In many studies, it has been found that it is quite common for EBD entirely or at least partially to be specific to a certain situation. The 'situation-specificity' of EBD supports the concept that EBD is developed through the interaction between a child and his/her environment rather than by at-risk traits within the child. The interactional view of EBD is the basic idea of the socio-ecological perspective. The view, of the importance of context in EBD, is also consistent with the finding that more children tend to show EBD if their family or schools are disadvantaged or deviant in some way.

As interactional contexts of EBD, family and school settings were looked at simultaneously in the present study. Research on the association of EBD with environmental factors has mainly been focused on family pathology. There is growing

attention to the association with school variables in recent studies, but there are still few studies which deal with these two systems simultaneously.

As the primary social environment of children, the family plays a crucial role in the development of children. Through the family children first learn about the physical world, about relationships and about social lives. Children develop first emotional bonds with their parents or primary caretakers, which will affect later interpersonal relationships with other people and attitudes in new situations. Parents' behaviour and attitudes, and life experiences provided by parents are related to children's development. Children's behaviour is also shaped by means of parents' selective encouragement and discouragement of particular behaviours, by their discipline, and by the amount of freedom which they allow. Another family mechanism is to provide a communications' network, by which children can set their standards, establish their norms, develop their expectations, and let their ideas grow.

The school also makes an important contribution to children's development. The school is a small society in which there are tasks to be done, people to be related to, and rules defining acceptable behaviours. As members of the small society, children can acquire an ethos and a world view as well as specific skills and knowledge for adjusting in society. Children may feel fairly secure in their peer group to explore social roles, behaviours, norms and values without a responsibility which would be held in the adult world.

8.2 Purposes of This Study

The first purpose of the present study was to provide evidence of the necessity of taking EBD seriously in Korea. So, a prevalence rate of EBD in Korean primary school children was investigated.

The second purpose was to examine relationships of EBD to environmental factors. Many studies have shown that children with various kinds of EBD tend to come from homes or schools which are disadvantaged or deviant in some respects. However, there are relatively few empirical studies testing risk factors associated with EBD in families and schools together. So, in the present study, the risk factors in both settings were tested together.

Factors associated with EBD within families included existence of siblings, family style, parents' divorce, fathers' occupations, fathers' education, family income, parental involvement in their child's education and family psychosocial functioning. The area in which a school serves, classroom size and classroom psychosocial functioning were considered as relevant factors with EBD in schools. As psychosocial functioning, two aspects were focused on: the affective aspect which is related to emotional bonding between members within the same environment, and the control aspect which is related to the number of rules, the clarity of rules, the consistency of discipline, and the flexibility to change a system's rules, members' role and power structure in response to situational and developmental stresses. Besides the risk factors within families and schools, children's age, sex and academic achievement were also included as in-child

factors.

The third purpose was to explore why parents' and teachers' ratings of children's behaviour were related at a low level. The low percentage of children who were identified as having EBD by both parents and teachers and the low correlation between parents' and teacher' behaviour ratings have been strongly explained in terms of the 'situation-specificity' of EBD. That is, children may behave differently according to situation or environment. On the basis of this view, it was hypothesized that relationships of EBD to environmental psychosocial functioning may be stronger in the same context than to the other context: higher correlations of parents' behaviour ratings with family functioning than with classroom functioning, and higher correlations of teachers' behaviour ratings with classroom functioning than with family functioning.

The fourth purpose was to test the type of relationship between EBD and psychosocial functioning: whether it is linear or curvilinear. In the Circumplex Model, it is hypothesized that a moderate level of cohesiveness and adaptability in families is better than either extreme level for emotional and social development in children. However, the curvilinear relationship has been supported in some studies but not in others.

The fifth purpose was to explore parents' and teachers' perceptions of the reason why their child has EBD, their perceptions of what methods are helpful for children with EBD, and what type of behaviour from aggression, impulsiveness, depression to immaturity is the most difficult for teachers to deal with.

These purposes were carried out in two stages. The prevalence of EBD was investigated in the first study. Relationships of EBD to environmental factors except psychosocial functioning were also examined in the first study. Furthermore, parents' and teachers' perceptions of causes of EBD and ways of helping children with EBD, and the most difficult behaviour for teachers to deal with were explored in the first study. The second study examined relationships of EBD to family and classroom psychosocial functioning in conjunction with the exploration of the low agreement between parents' and teachers' ratings of children's behaviour.

8.3 First Study

The following issues were considered in the first study:

1. Discriminative ability of CBQ's items and factor structure,
2. Prevalence of EBD in primary school children in Seoul, Korea,
3. Association of EBD with children's sex, age, academic achievement; with existing siblings, family style, marital status, fathers' job, fathers' education, family income and parents' involvement in their child's education; with the area where a school serves and classroom size.
4. Parents' and teachers' perceptions of why children have EBD and what methods might help them.
5. What type of behaviour from aggression, impulsiveness, depression, to immaturity is more difficult for teachers to deal with.

All 840 children were sampled from first to sixth grade in 14 primary schools, aged from 7 to 12. Seoul can be broadly divided into two areas: one is north of Hangang River, the other is south of the river. The latter area is newly developed and commonly considered as more wealthy than the former area. Six schools were randomly selected from the north area and eight schools from the south area. In each school, 6 classes were chosen, i.e. 1 class from each year. The same ratio of boys and girls were randomly selected from each class.

In many studies, it was suggested that EBD is entirely or at least partially specific to a certain situation. So, children's behaviours were rated in both settings, i.e. by parents as well as by teachers using Rutter's CBQ. Questionnaires for teachers were directly handed over to class teachers and questionnaires for parents were distributed by and returned to the class teachers through children.

Common Difficulties in Korean Primary School Children

"Fearfulness" and "worrying" seem to be quite common in Korean children, while "truancy", "crying at school" and "stealing" be rare. Compared with girls, boys tend to have more often "restlessness", "mannerism", "bullying", "fighting" and "being fidgety" at home and school. But, there was no behaviour of girls showing more often than boys, which can be interpreted in terms of more boys tending to have EBD than girls. A higher rate of EBD in boys than girls has been found in many studies including the present study.

Compared with teachers, parents seem to be in a good position to identify the

difficulties related to psychosomatic symptoms such as "headaches" or "eating difficulties". This is expected because these difficulties are considered to be more easily observed at home than at school. Compared with parents, teachers tend to identify more often interpersonal difficulties in children such as "not being liked" or "solitariness". Teachers see many children together, so interpersonal difficulties may be more easily found by teachers than by parents. On the other hand, parents tend to identify behavioural difficulties more often than emotional difficulties, whereas teachers are likely to identify emotional difficulties as much as behavioural difficulties.

Discriminative Ability of CBQ' Items

Items of CBQ seem to have a good validity in distinguishing children with EBD from those without EBD. All behaviours described in both CBQs except "sucking thumb" were more frequently reported in EBD children than non-EBD for both sex groups. However, the validity of subscales to distinguish children with ED (emotional difficulties) from those with BD (behavioural difficulties) needs to be tested in a further study. Only a few behaviours in each subscale and other behaviours which are not included in the subscales were more often presented by children having ED or BD than those having the other type of difficulties. In addition, the necessity of different subscales for different sexes is suggested because the discriminative ability of the type of difficulties was different according to sex.

Factor Structure of CBQ

Although five to nine factors emerged from factor analyses performed on the data of each CBQ for boys and girls separately, the factors can be categorized into two

dimensions: behavioural and emotional. In some studies, two factors emerged from factor analyses, while, in other studies, three factors or more were found. That is, the number of factors and items loaded on each factor were different in different studies, which gives rise to a question about the factor structure of CBQs: is there any certain factor structure in CBQ? Otherwise, this inconsistency may be evidence of the suggestion that factor analyses of rating scales tend to yield a relatively large number of rather small factors rather than a single factor which includes a relatively homogeneous symptoms.

Prevalence Rate of EBD

Children with scores above a certain cut-off point were identified as having EBD. Two kinds of cut-off points were applied in the present study: one was English cut-offs suggested by Rutter (13 points for the parents' and 9 for the teachers' CBQ), the other was Korean cut-offs decided in the present study (15 and 13 points respectively). If a child was identified as having EBD by both questionnaires s/he was referred to as pervasively having EBD. If a child was identified by only the parental or the teachers' scale s/he was referred to as situationally having EBD.

To decide Korean cut-off points, the following question was asked of parents and teachers: do you think this child has difficulties which are so significant that s/he needs additional professional help? This was to classify children in a clinical or non-clinical group. This classification was based on the fact that a child is usually referred to a clinic by his/her parents or teacher. If a child's parent and/or teacher answered 'Yes' on this question the child was classified in the clinical group. In order to obtain Korean cut-off

points, the agreement rate between children whose informant answered 'Yes' on this question and children having a certain points or more on CBQ was calculated using a Chi-square test. The cut-off points were selected as the score from which the best agreement was obtained (i.e. the maximum Chi-square).

The threshold of EBD in Korea was higher than in England (2 points higher on the parents' and 4 points higher on the teachers' scale). About 29% of Korean primary children were considered as having EBD at home and/or school on the basis of English cut-off points: 13.7% at home, 20.8% at school and 4.3% in both settings. Similar rates of EBD in Korean primary school children were also found in the cross-national study (Matssura et al., 1993): 19.1% at home, 14.1% at school and 4.5% in both settings.

Compared with Japan and China, the prevalence of children with EBD in metropolitan areas seems to be higher in Korea: 12.0% at home, 3.9% at school and 1.4% in both in Japan; 7.0% at home, 8.3% at school and 2.1% in both in China. The prevalence in Korea is also higher than in a rural area of England (Isle of Wight) (6.0% by parents, 7.1% by teacher, 0.8% by both), but it is comparable to the rate in a metropolitan area of England or New Zealand (19.0% by teachers, 25.4% by teachers and/or parents in Inner London; 22.8% by parents, 14.4% by teachers and 5.5% by both in Dunedine). The higher rates in a metropolitan area of Korea than in a rural area of England can be interpreted in terms of the geographical difference in the prevalence of EBD, but the reason of a higher rate in Korea than in Japan or China cannot be explained by this study. It would be worth investigating the reasons for this higher rate in Korea than in the other two Asian countries in a further study.

The proportion of children who were identified as having EBD by parents was higher than that by teachers in some studies but lower in other studies. More Korean children, for example, were identified as having EBD by teachers than by parents in the present study. But it was not in the cross-national study: more children by parents than by teachers in Korea and Japan; a similar percentage of children by parents and by teachers in China. So, it cannot be said by whose rating more children are identified as having EBD. Therefore, it is necessary to reconsider the speculation of Touliators and Lindholm (1981) that the relatively higher rate of children identified by parents may be due to parents being less accepting of EBD or children showing more EBD at home than school.

It has been reported that behavioural difficulties are more common than emotional difficulties in children in both family and school settings, but Korean children seem to show emotional difficulties as frequently as behavioural difficulties at home. In the present study and in the cross-national study, no significant difference was found in the rate of children with emotional difficulties and with behavioural difficulties at home.

Applying Korean cut-off points, less children were identified as having EBD. About 17% of children were considered as having EBD at home and/or school: 9.4% at home, 10.6% at school and 2.1% in both settings. This reduction of the rate underscores the importance of the threshold of EBD in a comparison of the prevalence rates with other countries. So, the threshold of EBD needs to be taken into account at first when an instrument is used to investigate a prevalence rate of EBD.

Low Correlation between Parents' and Teachers' Ratings

Children who showed EBD pervasively in both settings were few regardless of the threshold of EBD. Correlation of parents' behaviour ratings with teachers' ratings was also low ($r=0.26$). So, the importance of assessing EBD in both settings is underscored again from this study. The low agreement has been strongly interpreted in terms of the 'situation-specificity' of EBD.

Factors Associated with EBD

EBD seems to be associated with children's sex, academic achievement, existing siblings, family style, fathers' education, parents' involvement in their child's education and classroom size, but not with fathers' occupations, family income and the area in which a school serves.

More boys showing EBD than girls has been found consistently in studies. The sex difference can be explained partly by boys being more vulnerable than girls to various family stresses and adversities. An alternative explanation can be considered in terms of the fact that EBD in childhood is predominated by behavioural difficulties (BD), and BD is much more common in boys than girls. Much higher rates of BD in boys than girls have been consistently found in many studies, but no significant difference was found in the present study. No difference in the present study can be partially explained by the low validity of CBQ's subscale. Whether no difference in the sex ratio in the type of difficulties indicates cultural differences or is due to the low validity of CBQ's subscales remains to be tested in further research.

The sex difference in the prevalence of EBD was also considered in view of the raters' gender. In general, mothers rather than fathers in families tend to complete parental scales and there tend to be more female teachers than male teachers in primary schools. In connection with this fact, it was examined whether a teachers' gender has any effect on the sex difference in the rate of EBD. The effect of a raters' gender might be examined for the first time in this study.

The ratio of boys to girls with EBD identified by female teachers was higher than that by male teachers, but it was not statistically significant. The ratio was 2.8 to 1 by female teachers and 1 to 1 by male teachers. No significance may be due in part to the great difference in the total number of children who were identified as having EBD by female and by male teachers: 12% in the group rated by female teachers (72 out of 618 children), whereas 2% in the group rated by male teachers (2 out of 97 children). In addition, more boys than girls were identified as having EBD by parents and the number of mothers completing the parents' CBQ was considerably higher than fathers (534 mothers and 150 fathers). So, it is worth exploring in a further study whether there is any effect of a raters' gender on the sex difference in the rate of EBD.

More children in nuclear families than in extended families showed EBD at school but not at home. The higher rate of EBD in nuclear families was also reported in the Beijing study (Wang et al., 1989). The different rate of EBD may reflect differences in family functioning in several ways according to family style. Therefore, it would be worth investigating intensively the differences in a further study.

In the present study, the association between EBD and parents' divorce could not be tested because the number of children whose parents divorced was few (3 out of 676 on the parents' CBQ, 3 out of 773 on the teachers' CBQ).

EBD was related to fathers' education but not to fathers' occupations or family income. This result may imply a weak relationship of EBD with social disadvantage and support the suggestion that there are secondary associations between EBD and social disadvantages when social disadvantages are connected with factors such as family discord or inconsistent discipline.

It has been pointed out that rates of various kinds of social problems differ according to geographical area. So, the prevalence of EBD in schools which serve in a poorer area was compared with that in a wealthier area, but no significant difference was found. There is a limitation in interpreting this finding because the criterion of poorer/wealthier area was not examined for its validity although the areas are commonly considered as so.

Parents' and Teachers' Perceptions of Causes of EBD and Ways of Helping Children with EBD

How parents and teachers think about causes of EBD and ways of helping children with EBD were investigated. Parents and teachers tend to consider "personality" and "pressure for high academic achievement" as causes of EBD, but "neurological or developmental defects", "no sibling" and "prejudiced view of the child by others" as not. As ways of helping children with EBD, parents and teachers tend to prefer home- or ordinary school-based methods such as "educating interpersonal social skills", "helping

parents manage problematic behaviour at home" or "supporting classroom teachers in their classes" rather than methods based on a special setting such as "sending to a special class" or "sending to a special school". This finding supports the necessity of developing effective interventions for EBD children which are based in homes or ordinary schools.

The Most Difficult Behaviour for Teachers to Deal with

The most difficult behaviour for teachers to deal with seems to be aggressive behaviour. In addition, behavioural difficulties (aggression or impulsiveness) are more likely to be difficult to deal with than emotional difficulties (depression or immaturity).

8.4 Second Study

The following questions were examined in the second study:

1. Are family and classroom psychosocial functioning related to EBD? Two aspects of family and classroom functioning were considered: the affective aspect which is related to the connectedness of relationships between members within the same system, i.e. emotional bonding between members, supporting and helping each other; and the control aspect which is related to rule clarity, number of rules, consistency of discipline, and flexibility to change rules, roles and power structure within a system in response to situational and developmental stress. The affective aspect was referred to as cohesion for the families and as interpersonal relationships for the classrooms; and the control aspect was referred to as adaptability for the families and as system maintenance for the

classrooms.

2. Is EBD related to environmental psychosocial functioning linearly or curvilinearly?

Olson and his colleagues (1979) hypothesised that a moderate degree of cohesiveness and adaptability promote better psychosocial development in children than either extreme degree. This curvilinear relationship has been supported in some studies, but in other studies a linear relationship has been found.

3. Is the low correlation between parents' and teachers' behaviour ratings evidence of the

'situation-specificity' of EBD? The 'situation-specificity' of EBD means that EBD is presented in a certain situation or environment. Some children, for example, show EBD only at school, while others show EBD only at home. On the basis of this view, it was hypothesized that relationships of EBD to environmental functioning may be stronger in the one context than in the other. That is, parents' behaviour ratings may be more related to family functioning than classroom functioning, and teachers' behaviour ratings may be more related to classroom functioning than family functioning.

4. Is there any difference in children's satisfaction with their actual environmental

functioning between EBD and non-EBD groups? It was hypothesized that children with EBD may be less satisfied with their actual environmental functioning than those without EBD. To examine this hypothesis, children were asked to describe their family and classroom (real) and then describe how they would like those to be (ideal). Less discrepancy between real and ideal descriptions means higher satisfaction.

5. Is incongruence in the perceptions of environmental functioning greater in the EBD group than in the non-EBD group? Incongruence refers to differences in the perception of environmental functioning between children and adults (parents/teachers). It was hypothesized that incongruence in the EBD group may be higher than that in the non-EBD group.

Korean versions of CBQs (Child Behaviour Questionnaire) were used to rate children's behaviour by parents and teachers. A Korean version of FACES-III (Family Adaptability and Cohesion Evaluation Scale-III) was used to assess family functioning by the children and their parents, and a Korean short version of CES (Classroom Environment Scale) was used for classroom functioning perceived by the children and their teachers. In the pilot study, the Korean versions of CBQs, FACES-III and CES were developed. In 9 subscales of CES, 4 subscales were used for the modification in the pilot study. Affiliation and teacher support were for assessing the affective aspect, which were combined into one subscale referred to as interpersonal relationships. Rule clarity and teacher control were used for assessing the control aspect, which were also combined into one subscale referred to as system maintenance.

To develop the Korean versions of CBQs, FACES-III and CES, a pilot study was carried out with a sample of 100 12-year-old children. Of 20 items in FACES-III, 17 items remained for the Korean version: 8 items for the cohesion subscale and 9 items for the adaptability subscale. Correlation between subscales was 0.22, which was not significant. So, the subscales were considered as independent. Of 40 items, 24 items remained for the Korean short version of CES: 13 items for the interpersonal

relationships subscale and 11 items for the system maintenance subscale. Correlation between subscales was 0.04, which was not significant. So, the subscales were considered as independent. Of 31 items for the parents' CBQ, 26 items remained, and of 26 items for the teachers' CBQ, 22 items remained. The scale points of original FACES-III and CES were also modified. It was originally 5 points for FACES-III and 2 points for CES, but those were modified to 3 points in the Korean versions. This was for consistency on the number of scale points between instruments. Three points were "almost never", "sometimes" and "almost always".

From 6 schools, 448 children were selected for the second study. In 6 schools, 2 schools (School I and II) were rated at the A level in terms of school quality, and others schools (School III, IV, V, VI) were rated at the C level. No school rated at the B level was included. A child completed real and ideal forms of Korean versions of FACES-III and CES. His/her mother completed real Korean versions of FACES-III and CBQ and his/her teacher completed real Korean versions of CES and CBQ.

Linear and Weak Relationships of EBD to Environmental Functioning

To explore the type of relationships of EBD to environmental functioning, the data were at first analyzed for schools rated at the same level. Linear and negative relationships were found, but only in A rated schools. Accordingly, the data from each school were analyzed respectively to find out whether the different findings between A rated and C rated schools were related to school quality. If the findings in School I did not differ from those in School II, the different findings could be interpreted in terms of school quality. But the linear and negative relationships were found only in School I.

These findings led to the question of why the findings in School I differed from the other schools. So, school differences in the following factors were examined to find out the reasons of the different results in School I: teachers' behaviour ratings, EBD percentages, and relationships between subdimensions of Child-FACES and Child-CES. But, no factor explained the different results in School I from the other schools.

Therefore, the data from each school were treated together. The type of relationship was examined again with the data from all schools. As in the findings in School I, linear and negative relationships were found between EBD and family cohesion, family adaptability and classroom interpersonal relationships; and the relationships were more consistent and higher with teachers' behaviour ratings and children's perceptions of environmental functioning. However, the correlation coefficients were low even though they were significant (-.25 with family cohesion, -.19 with family adaptability and -.19 with classroom interpersonal relationships). The weak relationships were considered on the grounds that environmental functioning may be more strongly associated with EBD when EBD is severe or environmental functioning is extreme.

Stronger Relationship When EBD is Severe or Environmental Functioning is Extreme

To test the possibility of stronger associations of EBD with environmental functioning when EBD is severe or environmental functioning is extreme, environmental functioning in the EBD group were compared with those in the non-EBD group. Also, the degree of EBD was compared between children whose environmental functioning fell into an extremely high level and those into an extremely low level.

For these comparisons, the level of EBD and environmental functioning were divided into low, middle, or high. Children in the middle level were not included in these comparisons. Children's perceptions of environmental functioning were only used in these comparisons because significant relationships were consistently found between EBD and children's perceptions in the previous analyses. Identification of EBD was based on the mothers' ratings as well as the teachers' ratings. This was to find out whether there were differences in the relationships of EBD to environmental functioning according to the settings in which children show EBD, i.e. at home only, at school only or in both settings.

In the comparison of environmental functioning between non-EBD and EBD groups, children who showed EBD in both settings tended to perceive their families as significantly less cohesive and less adaptable compared with non-EBD children in both settings. However, the children with EBD in both settings did not perceive their classroom interpersonal relationships and classroom maintenance differently from the non-EBD children in both settings.

Children who showed EBD only at home tended to perceive their families and classrooms as less cohesive and less supportive compared with non-EBD children at home. But, the children with EBD at home did not perceive their family adaptability and classroom maintenance differently from non-EBD children at home.

Children who showed EBD only in school tended to perceive their families as less cohesive and less adaptable compared with non-EBD children in school. The children

with EBD in school also perceived their classrooms as less supportive and less connected emotionally, but did not perceive their classroom maintenance differently from the non-EBD children in school.

Relationships of EBD to environmental functioning were also examined with families whose environmental functioning fell into either extreme level. Children in low cohesive families tended to show higher EBD than those in high cohesive families at home and/or school. Children in low supportive classrooms also tended to show higher EBD than those in high supportive classrooms at home and/or school. Children from low adaptable families appeared to show higher EBD than those in the high group only at school. Again, no difference was found in the behaviour ratings according to the level of classroom maintenance.

In summary, children having EBD in any setting (i.e. at home and/or school) tend to perceive their families as less cohesive (less bonded emotionally); and differences in the perception of environmental functioning between EBD and non-EBD groups tend to be higher when children showed EBD at school than at home or in both settings. The affective aspect in environments is likely to be related to EBD at home as well as at school: if children show EBD at home or at school, their family cohesion or classroom interpersonal relationships could be lower; conversely, if family cohesion or classroom interpersonal relationships is low, children could have higher EBD. Family adaptability seems to be related to EBD shown at school but not at home. Children who showed EBD at school tend to perceive their family adaptability at a lower level than non-EBD children at school, but there seems to be no difference in the perception of family

adaptability between children with and without EBD at home. Classroom maintenance is not likely to be related to EBD regardless of the setting in which children show EBD. The lack of the relationship of EBD to classroom maintenance may be due in part to the low variation of classroom maintenance in the sample classes: few classrooms fell into either extreme level of classroom maintenance (see Appendix 11). The narrow distribution can be interpreted in terms of poor validity of the maintenance subscale: there might be other behaviours besides the behaviours described in the subscale, which are more critically related to EBD in a Korean context.

In conclusion, environmental functioning seems to be more strongly associated with EBD when EBD is severe or environmental functioning is extreme; and family cohesion tends to be more related to EBD than family adaptability and classroom interpersonal relationship (no significant relationship was found between EBD and classroom maintenance). This finding can be interpreted as families rather than classrooms, and the affective aspect rather than the control aspect being more associated with EBD. In addition, the relationships of EBD with environmental functioning were more consistent and higher with children's perceptions of environmental functioning than adults'. This finding can be interpreted as showing that how children perceive their environmental functioning is as important for their emotional and behavioural development as actual environment.

Low Agreement between Parents' and Teachers' Behaviour Ratings

In the first study, a few children showed EBD pervasively in both settings. In all children, 29% were identified as having EBD at home and/or school on the basis of

English cut-offs, while only 4.3% showed EBD pervasively. Applying Korean cut-off points, 17% showed EBD at home and/or school, while only 2.1% showed EBD pervasively. Also, the correlation of the parents' CBQ scores with the teachers' CBQ scores was low ($r= 0.26$). The low percentage of children who were identified as having EBD by both parents and teachers, and the low correlation between the parents' and the teachers' CBQ scores have been also reported in many studies.

Why were many children who were identified as having EBD by their parents not classified as having EBD by their teachers? An attempt to explain the difference was carried out in the second study on the basis of the assumption of the 'situation-specificity' of EBD. That is, children may behave differently according to situation or environment. On the basis of this view, it was hypothesized that the relationships of EBD to environmental functioning may be stronger in the one context than in the other. That is, parents' behaviour rating may be more related to family functioning than classroom functioning, and teachers' behaviour rating may be more related to classroom functioning than family functioning.

However, teachers' behaviour ratings were more consistently and highly related to family functioning as well as classroom functioning. That is, family psychosocial functioning could predict children's behaviour at school: children whose families were less cohesive and adaptable showed higher level of EBD at school. This means that psychosocial functioning in one context could affect children's behaviour in another context. This finding is consistent with the concept of open systems in the socio-ecological theory: what happens in one system affects behaviour in other systems. In

addition, this finding can be considered in terms of teachers being able to pick up adverse family factors at home by behaviour at school. This consideration supports the view that there may be some continuity across situations as well as some specificity to a certain situation in children's behaviour.

Furthermore, the finding of more consistent and higher relationships with teachers' ratings gives rise to some doubt about interpreting the low agreement between parents' and teachers' ratings on children's behaviour as only reflecting the 'situation-specificity' of EBD. The low agreement may not only be evidence of the 'situation-specificity' of EBD, but also be evidence of the difference in the validity of parents' and teachers' ratings. The assessment at home may be less suitable than that at school because, for example, parents may have different perceptions of EBD or the assessment may be difficult for them to complete. From this view, it can be assumed that higher relationships with parents' ratings might be obtained if a different assessment such as interview with parents or observation at home is used.

In addition, it can be argued that teachers' ratings are likely to be more valid than parents' ratings because teachers have more opportunity of observing and comparing a large number of children than parents. This possibility is consistent with the result from the first study: the mean of teachers' CBQ scores was lower than the parents' mean, but more children were identified as having EBD and as needing professional help due to their EBD by teachers than parents. This finding was interpreted in terms of teachers' ratings being more consistent than parents'. This view was supported by the finding that the percentage of children who were identified by teachers as having EBD on CBQ and

as needing professional help was much higher than that by parents (see Appendices 3 & 4).

There are some limitations, however, in this interpretation of the higher validity of teachers' ratings than parents' ratings in the screening of EBD. An independent examination by a specialist was not carried out of the children who were identified as having EBD by parents and/or teachers. Also, environmental functioning was assessed only by a self-report without any other assessments such as observation.

Therefore, it would be worth, in a further intensive study, exploring the relationships using more sophisticated assessments, for example, including specialists' assessments for comparing with parents' and teachers' assessments, and observation of children in different settings for examining the 'situation-specificity' of children's behaviour. Such a study might indicate a greater continuity of EBD across situations while still recognising the significant impact of situations on EBD, and the difference in the validity between parents' and teachers' ratings.

Association of EBD with Children's Satisfaction with Their Actual Environmental Functioning and Incongruence of Children's Perceptions with Adults'

Satisfaction of children with their actual environmental functioning was compared between EBD and non-EBD groups. It was hypothesized that children with EBD may be less satisfied with their actual environmental functioning than those without EBD. Satisfaction with family cohesion seems to differ according to EBD: children with EBD tend to want their family to be more cohesive compared with children without EBD. But, satisfaction with family adaptability, classroom interpersonal relationships and

classroom maintenance do not seem to differ according to EBD: no difference in the satisfaction was found between EBD and non-EBD groups.

Incongruence of children's perceptions of environmental functioning with adults' was also compared between EBD and non-EBD groups. Incongruence means a difference in the perception of environmental functioning between members within the same environment. It was hypothesized that the degree of incongruence of children's perceptions with adults (mothers/teachers) may be higher in the EBD group than in the non-EBD group. But, no difference was found between these two groups.

8.5 Summary of Main Findings from Two Studies

The findings from this study can be summarised into six aspects.

1. Significant numbers of Korean primary school children were screened as having EBD: 29% by English cut-offs, 17% by Korean cut-offs. The threshold of EBD in Korea was higher than that in England (2 points higher for the parental CBQ, 4 points higher for the teachers' CBQ). When children showed EBD, most cases were situational (showing EBD only at home or at school) rather than pervasive (showing EBD in both settings). The situational cases were 87.7% and only 12.3% were pervasive on the basis of English cut-off points. It was 89.8% and 10.2% respectively on the basis of Korean cut-off points.
2. More boys showed EBD than girls in both settings. The higher children's academic

achievements were, the less likely were they to show EBD in both settings. More children without siblings showed EBD than children with siblings in both settings. The higher the education level of fathers, the less likely were children to show EBD in both settings. More children from nuclear families showed EBD than those from extended families at school, while the higher involvement of parents in their child's education, the less likely were children to show EBD at home. More children showed EBD at school in classes with a small number of children than in classes with a large number of children. However, no association was found between EBD and fathers' occupations, family income and the area in which a school serves.

3. EBD seems to be related to family cohesion, family adaptability and classroom interpersonal relationships but not to classroom maintenance, and the relationships tend to be stronger when EBD is severe or environmental functioning is extreme. Children in low cohesive families, low adaptable families or low supportive classrooms tend to show higher EBD compared with those in families or classrooms with high levels. Also, children with EBD perceived their families as less cohesive and less adaptable, and perceived their classrooms as less supportive and less bonded emotionally. The relationships of EBD to environmental functioning tend to be more consistent and higher with teachers' behaviour ratings rather than with parents', and with children's perceptions of environmental functioning rather than with adults' (mothers'/teachers').

4. Children with EBD in any setting tend to be less satisfied with their current family cohesion than those without EBD. Children with EBD would like to their families to be more cohesive compared with children without EBD. But there was no difference in

satisfaction with family adaptability, classroom interpersonal relationships and classroom maintenance. No difference in incongruence of children's perceptions with adults' was found between EBD and non-EBD groups.

5. Parents and teachers tend to consider "personality" and "pressure for high academic achievement" as causes of EBD, but "neurological or developmental defects", "no sibling" and "prejudiced view of the child by others" as not. As ways of helping children with EBD, parents and teachers tend to prefer home- or ordinary school-based methods such as "educating interpersonal social skills", "helping parents manage problem behaviour at home" or "supporting class teachers in their classes" rather than methods based on special settings such as "sending to a special class" or "sending to a special school". This finding supports the necessity of developing effective interventions for EBD children which are based in home or ordinary school.

6. The most difficult behaviour for teachers to deal with seems to be aggressive behaviour. Also, behavioural difficulties (aggressive or impulsive) seem to be more difficult for teachers to deal with than emotional difficulties (depressive or immature).

8.6 Suggestions for Further Studies

From this study, the following four questions remain for further studies.

1. Is the low agreement between parents' and teachers' ratings on children's behaviour

due entirely to the 'situation-specificity' of EBD or due in part to the difference in the validity of parents' and teachers' ratings in the screening of EBD? For this, parents' and teachers' ratings on children's behaviour need to be compared with specialists' assessments of the children, and children's behaviours need to be observed in different settings (e.g. home and school).

2. Is there still a linear relationship between EBD and environmental functioning even when a study focuses on children with severe EBD or families/classrooms with an extreme level of environmental functioning?

3. Are FACES-III and CES valid instruments to assess family and classroom functioning in a Korean context? Internal reliability of the Korean version of the FACES-III adaptability subscale gives rise to a question about whether the subscale assesses a unique dimension of family functioning in a Korean context. The reliability was .39 with the sample for the pilot study even though it was .58 with the sample for the main study. Also, there were only a few classrooms which fell into either extreme level of the classroom maintenance dimension. The low variation in the range of classroom maintenance leads to the possibility that there might be other behaviours related to classroom maintenance besides the behaviours described in the subscale, which may be more critically related to EBD in a Korean context. Furthermore, low correlations of EBD with environmental functioning were found in the whole sample although they were significant. In addition, it would be worth examining whether there are any other aspects in family and classroom psychosocial functioning besides the affective and control aspects which are significantly related to EBD in a Korean context.

4. Is CBQ sufficiently valid to distinguish children with ED from those with BD? Only a few behaviours in each subscale and other behaviours which are not included in the subscales were more often shown by children having ED or BD than children having the other type of difficulties. Also, the necessity of different subscales according to sex needs to be examined in a further study.

8.7 Implications of This Study

One of implications of this study is the importance of investigating environmental factors associated with EBD within families in conjunction with schools. While many studies have pointed out relationships of EBD to environmental factors, few studies focused on factors in home and school settings simultaneously. Considering families and schools as playing crucial socialising environments for children's development, it is worthwhile examining the family and school setting together in a study.

The second implication of this study is the importance of exploring the nature of EBD, i.e. the 'situation-specificity'. The low percentage of children who were identified as having EBD by both parents and teachers, and the low correlation between parents' and teachers' ratings on children's behaviour have been strongly explained in terms of the 'situation-specificity' of EBD. However, the low agreement may not only be evidence of the 'situation-specificity' of EBD, but also evidence of the difference in the validity of parents' and teachers' ratings of children's behaviour.

The third implication suggests that relationships of EBD to environmental functioning may be linear rather than curvilinear in normal populations, and the relationships may be stronger when EBD is severe or environmental functioning is extreme. The importance of investigating the threshold of EBD as it relates to prevalence rates in different countries is also indicated by this study.

The final implication is to underline the importance of some methods to lessen the incidence of EBD in a Korean context: helping children improve their academic achievement; growing up with siblings; parents giving attention to their child's education; enabling families to become more cohesive and adaptable; making classrooms more supportive and emotionally connected between members. In addition, it is suggested that home- or ordinary school-based interventions for EBD would be more acceptable to parents and teachers in Korea.

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APPENDICES

- APPENDIX 1** **Parents' Questionnaire for the First Study**
- APPENDIX 2** **Teachers' Questionnaire for the First Study**
- APPENDIX 3** **Agreement Between EBD Identification by the Parents' CBQ and Parents' Judgement of Needing Professional Help**
- APPENDIX 4** **Agreement Between EBD Identification by the Teachers' CBQ and Teachers' Judgement of Needing Professional Help**
- APPENDIX 5** **Differences in the Teachers' CBQ Scores Between Ages Within A School**
- APPENDIX 6** **Number of Children in a Class**
- APPENDIX 7** **Korean Version of FACES-III for the Second Study**
- APPENDIX 8** **Korean Version of CES for the Second Study**
- APPENDIX 9** **Interaction Between Dimensions within the Same Environment and Between the Same Dimension of Different Environments**
- APPENDIX 10** **Retrieving Raw Data by Plot Graph**
- APPENDIX 11** **Retrieving Raw Data by Frequencies**

APPENDIX 1 Parents' Questionnaire for the First Study

[For Parent]

[-]

Dear parent,

I, Mikyung Shim, am researching maladjusted behaviour of school age children at home and/or school at the department of Education Psychology and Special Education Needs in Institute of Education, London University. I would very much appreciate with your help in following questionnaire survey. Through this survey, I would like to know about behaviours which many children often show. This questionnaire consists of 3 parts. Please make the answer to each question considering "the way your child is now". Considering that all information will be treated as confidential and will not be used for purposes other than this research please answer frankly as it is.

* Following questions are to relate to the child's behaviour.

1. Child's Grade, Class: Grade Class
2. Child's School: School
3. Completed by Father Mother Other:
4. Parents' Occupation
 Father: Mother:
5. Parents' Education
 Father: Mother:
6. Family Income per month
 less than 600,000 won (about £ 500)
 600,000 to 1,490,000 won (about to £1,150)
 over 1,500,000 won
7. Who dose the child usually live with?
 * Please mark a cross on the all relevant places.
 Father Mother Grandfather Grandmother
 Sibling(s)
 Others:
8. If the child does not live with both or either parents,
 what is the reason?
 Death Divorce
 Separate for working place etc.
 Separate for dishomony of the family

* Please put a cross on the relevant place.

1. How often does your child complete his/her homework fully?

- rarely a few
 often almost always

2. Do you help for your child to do his/her homework?

- rarely a few
 often almost always

3. If you don't help his/her homework, do you check it?

- rarely a few
 often almost

BEHAVIOUR CHECKLIST

1. HEALTH PROBLEMS

Below is a list of minor health problems which most children have at some time. Please tell us how often each of these happens with your child by marking a cross on the correct place.

never happen	sometimes	often (once per week)
-----------------	-----------	-----------------------------

- A. Complains of headaches
- B. Has stomach-ache or vomiting
- C. Complains of biliousness
- D. Wets his/her bed or pants
- E. Soils him/herself or loses control of bowels
- F. Has temper tantrums (that is, complete loss of temper with shouting, angry movement, etc)
- G. Had tears on arrival at school or refused to go into the building
- H. Truants from school

2. HABITS

Please place a cross against the correct answer.

I. Does he/she stammer or stutter?

- No Yes-mildly Yes-severely

II. Has he/she any difficulty with speech other than stammering or stuttering?

- No Yes-mild Yes-severe

If 'Yes', is the difficulty

- 'lispings'
 cannot say words properly
 other, please describe:

III. Does he/she ever steal things?

- No Yes-occasionally Yes-frequently

If 'Yes', When he/she steals, does it involve

- minor pilfering of pens, toys, small sums of money etc.
 stealing of big things
 both minor pilfering and stealing of big things

When he/she steals, is it done

- in the home
 elsewhere
 both in the home and elsewhere

When he/she steals, does he/she do it

- on his/her own
 with other children or adults
 sometimes on his/her own, sometimes with others

IV. Does he/she have any eating difficulty?

- No Yes-mild Yes-severe

If 'Yes', is it

- faddiness
 not eating enough
 eating too much
 other, please describe:

V. Does he/she have sleeping difficulty?

- No Yes-mild Yes-severe

If 'Yes', is it difficulty in

- getting off to sleep
 waking during the night
 waking early in the morning
 other, please describe:

3. BEHAVIOUR PROBLEMS

Below are a series of descriptions of behaviour which children show. If, as far as you are aware, your child does not show the behaviour, place a cross in the number 0, if he or she shows the behaviour but to a lesser degree or less often, place a cross in the number 1, if you think your child definitely shows the behaviour described by the statement, place a cross in the number 2. Please put one cross against each statement.

- | | doesn't
apply | Somewhat
apply | Certainly
apply |
|---|------------------|-------------------|--------------------|
| 1. Very restless. Often running about or jumping up and down. Hardly ever still | | | |
| 2. Squirm, fidgety child | | | |
| 3. Often destroys own or others' belongings | | | |
| 4. Frequently fights with other children | | | |
| 5. Not much liked by other children | | | |
| 6. Often worried, worries about many things | | | |
| 7. Tends to do things on his own rather solitary | | | |
| 8. Irritable. Is quick to "fly off the hand" | | | |
| 9. Often appears miserable, unhappy, tearful or distressed | | | |
| 10. Has twitches, mannerisms or tics of the face or body | | | |
| 11. Frequently sucks thumb or fingers | | | |
| 12. Frequently bites nails or fingers | | | |
| 13. Is often disobedient | | | |
| 14. Cannot settle to anything for more than a few moments | | | |
| 15. Tends to be fearful or afraid of new things or new situation | | | |
| 16. Fussy or over-particular child | | | |
| 17. Often tells lies | | | |
| 18. Bullies other children | | | |

Do you think this child has difficulties which are significant so that s/he needs "additional professional help"?

Yes

No

If 'Yes' please answer question <A>

<A> How much do you think the causes described below contribute to your child having problem? Please mark a cross on the relevant place.

Not at all A little Very Unsure

1. Temperament or personality
2. Neurological or developmental defect. e.g. brain damage, developmental retardation etc.
3. Poor academic achievement
4. Faulty child-rearing
5. Disharmony in the family
6. Economic difficult of family
7. No sibling
8. Bad peer
9. Pressure for high academic achievement
10. Social environment (e.g. living in slum)
11. Prejudiced view about the child by others
12. Level of violence in the media
13. View of social worth such like money, power or academical clique-oriented
14. Inconsistent policy of education
15. Other

 Below is a list of services for maladjusted children. If all services given were available, how much do you think each service is adequate to your child? Please put a cross on relevant place.

Not at all A little Much Unsure

1. Drug treatment by a doctor
2. Psychotherapy in clinic
3. Psychotherapy by psychologist in school
4. Counselling by specialist in school
5. Modification of problem behaviour by reward and punishment
6. Education of social skills for interpersonal relationship
7. Help parents with method of behaviour modification at home
8. Help by support teacher in the class
9. Refer to a special class for maladjusted pupils
10. Refer to a special school for maladjusted pupils
11. Other

APPENDIX 2 Teachers' Questionnaire for the First Study

[For Teacher]

**SURVEY OF MALADJUSTED BEHAVIOUR
OF SCHOOL AGE CHILDREN**

Dear teacher.

I, Mikyung Shim, am studying a research course of the Department of Educational Psychology and Special Education Needs, Institute of Education, London University. I am researching maladjusted behaviour of school age children at home and/or school, which is increasingly a social issue. Through this survey, I would like to investigate the prevalence of maladjusted pupils in Korea. I would very much appreciate your help in the survey.

There are questionnaires 'for teacher' and 'for parent'. The questionnaire 'for teacher' consists of two part; Part 1 is about general problematic behaviours in the school, Part 2 is about individual behaviours of 10 pupils who you will give the questionnaire 'for parent'.

Please choose 5 pupils each boy and girl by "random sample" (Ex.5 No. interval like 1,6,11 etc on register). **And the student number of the questionnaire for teacher should be consistent with the number on the right top on Page 1 of the questionnaire for 'parent'**. This is to connect teacher's and parent's view.

All information will be treated as confidential and will not be used for purposes other than this research.

THANK YOU VERY MUCH FOR YOUR CO-OPERATION

[PART 1]

* Please answer below questions.

1. Grade and Class in teaching: Grade Class

2. Name of School: School

3. Address of School

4. Teacher's Sex: () Male () Female

6. Number of pupils in your class:

If there are four pupils described below, who do you think is the most difficult to deal with? Please put in order from 1 to 4 according to the most difficult pupil. You can make ties.

A pupil () B pupil () C pupil () D pupil ()

A pupil - aggressive; frequently fighting; often lying;
often destroy things; disobedience; truant;

B pupil - impatient; poor concentrate; overactive;
often shifts from one uncompleted activity to
another;

C pupil - depress; anxious; won't talk; worthless;
withdrawn; likes to be alone; lack of
self-confidence;

D pupil - immature; dependent;

PART 2

[] Name of Pupil:

The following is a series of descriptions of behaviour often shown by children. Please put a cross in the relevant box about how much, as far as you know, the pupil behaves such like each statement (Please complete in basis of pupil's behaviour in the past a year). Please put one cross against each statement.

	Doesn't Apply	Somewhat Apply	Certainly Apply
1. Very restless,has difficulty staying seated for long			
2. Truants from school			
3. Squirmy, fidgety child			
4. Often destroys own or others' property			
5. Frequently fights or is extremely quarrelsome with other children			
6. Not much liked by other children			
7. Often worried, worries about many things			
8. Tends to be on own -rather solitary			
9. Irritable. Touchy. Is quick to 'fly off the handle'			
10. Often appears miserable, unhappy, tearful or distressed			
11. Has twitches, mannerisms or tics of the face or body			
12. Frequently sucks thumb or fingers			
13. Frequently bites nails or fingers			
14. Tends to be absent from school for trivial reasons			
15. Is often disobedient			

Doesn't Apply Somewhat Apply Certainly Apply

- 16. Cannot settle to anything for more than a few moments
- 17. Tends to be fearful or afraid of new things or new situation
- 18. Fussy or over-particular child
- 19. Often tells lies
- 20. Has stolen things on one or more occasions
- 21. Has wet or soiled self at school a year
- 22. Often complains of pains or aches
- 23. Has had tears on arrival at school or has refused to come into the building over the this year
- 24. Has a stutter or stammer
- 25. Has other speech difficulty
- 26. Bullies other children
- 27. Are there any other problem of behaviour?.

II. Compared to other children in the class, how would you estimate the child's academic achievement in the 3 subject below? Please put a cross on relevant place.

	below average	average	above average
Korean			
Mathematics			
Science			

III. Do you think this child has difficulties which are significant so that s/he needs additional professional help?

Yes No

If 'Yes', please answer following question <A> .

<A> How much do you think the causes described below relate with the pupil? Please put a cross on relevant place.

Not at all A little Much Unsure

1. Temperament or personality
2. Neurological or developmental defect (e.g. brain damage, low I.Q., developmental retardation etc.)
3. Poor academic achievement
4. Faulty child-rearing
5. Disharmony in the family
6. Economic difficult of family
7. No sibling
8. Bad peer
9. Pressure for high academic achievement
10. Social environment (e.g. living in slum)
11. Prejudiced view about the child by others
12. Level of violence in the media
13. View of social worth such like money, power or academical clique-oriented
14. Inconsistent policy of education

15. Other

 Below is a list of services for maladjusted pupils. If all services given were available, how much do you think each service is adequate to the pupil? Please mark a cross on relevant place.

Not at all a Little Much Unsure

1. Drug treatment
2. Psychotherapy in clinic
3. Psychotherapy by a psychologist in school
4. Counselling by a specialist in school
5. Modification of problem behaviour by reward and punishment
6. Education of social skills for interpersonal relationship, e.g. method of communication etc.
7. Help parents with behaviour management at home
8. Help by support teacher in the class
9. Refer to a special class for maladjusted pupils
10. Refer to a special school for maladjusted pupils
11. Other

APPENDIX 3

Agreement Between EBD Identification by the Parents' CBQ and Parents' Judgement of Needing Professional Help

total score	Need of help		x	Pear.r
	No	Yes		
TS<10	490 (70.6)	7 (1.0)	38.30	0.243
TS=>10	172 (24.8)	25 (3.6)		
TS<11	529 (76.2)	9 (1.3)	44.05	0.260
TS=>11	133 (19.2)	23 (3.3)		
TS<12	557 (80.3)	11 (1.6)	47.58	0.271
TS=>12	105 (15.1)	21 (3.0)		
TS<13	586 (84.4)	13 (1.9)	55.28	0.292
TS=>13	76 (11.0)	19 (2.7)		
TS<14	600 (86.5)	15 (2.2)	53.69	0.289
TS=>14	62 (8.9)	17 (2.4)		
TS<15	613 (88.3)	16 (2.3)	60.33	0.307
TS=>15	49 (7.1)	16 (2.3)		
TS<16	619 (89.6)	19 (2.7)	43.44	0.263
TS=>16	43 (6.2)	13 (1.9)		
TS<17	630 (90.8)	21 (3.0)	40.89	0.257
TS=>17	32 (4.6)	11 (1.6)		

total score	Need of help		x	Pear.r
	No	Yes		
TS<18	640 (92.2)	24 (3.5)	29.64	0.224
TS=>18	22 (3.2)	8 (1.2)		

APPENDIX 4

Agreement Between EBD Identification by the Teachers' CBQ and Teachers' Judgement of Needing Professional Help

Total score	Need of help		x	pear. r
	No	Yes		
TS<7	534 (68.6)	14 (1.8)	149.79	0.443
TS=>7	152 (19.5)	78 (10.0)		
TS<8	567 (72.9)	16 (2.1)	180.49	0.486
TS=>8	119 (15.3)	76 (9.8)		
TS<9	592 (76.1)	22 (2.8)	186.04	0.494
TS=>9	94 (12.1)	70 (9.0)		
TS<10	620 (79.7)	26 (3.3)	217.80	0.534
TS=>10	66 (8.5)	66 (8.5)		
TS<11	635 (81.6)	29 (3.7)	236.86	0.557
TS=>11	51 (6.6)	63 (8.1)		
TS<12	647 (83.2)	35 (4.5)	232.30	0.552
TS=>12	39 (5.0)	57 (7.3)		
TS<13	658 (84.6)	36 (4.6)	265.76	0.591
TS=>13	28 (3.6)	56 (7.2)		
TS<14	664 (85.3)	46 (5.9)	216.84	0.535
TS=>14	22 (2.8)	46 (5.9)		

Total score	Need of help			pear. r
	No	Yes	x	
TS<14	664 (85.3)	46 (5.9)	216.84	0.535
TS=>14	22 (2.8)	46 (5.9)		
TS<15	669 (86)	55 (7.1)	173.08	0.479
TS=>15	55 (7.1)	37 (4.8)		
TS<16	674 (86.6)	57 (7.3)	181.92	0.492
TS=>16	12 (1.5)	35 (4.5)		
TS<17	676 (86.9)	62 (8.0)	155.08	0.455
TS=>17	10 (1.3)	30 (3.9)		
TS<18	678 (87.1)	64 (8.2)	150.90	0.450
TS=>18	8 (1.0)	28 (3.6)		

APPENDIX 5

Differences in the Teachers' CBQ Scores Between Ages Within A School

M n SD school	age	7	8	9	10	11	12
	1		5.78 9 5.56	7.40 10 7.58	10.00 10 5.08	6.80 10 4.76	10.70 10 7.85
2		1.83 6 1.72	1.63 8 2.45	3.88 8 3.00	0 0 0	5.15 13 6.23	2.00 10 3.13
3		2.10 10 3.18	3.00 10 2.98	8.00 10 7.78	0.70 10 1.16	0 0 0	0 0 0
4		7.20 10 5.27	0 0 0	4.70 10 4.74	3.70 10 3.77	6.00 10 6.65	6.70 10 3.95
5		15.20 10 5.22	2.30 10 1.25	2.40 10 3.78	1.70 10 2.91	1.20 10 1.03	0 0 0
6		6.40 10 2.72	8.00 10 6.07	4.50 10 3.92	2.50 10 2.12	16.10 10 7.17	4.20 10 2.25
7		3.00 9 3.84	2.60 10 2.91	3.20 10 4.24	2.33 9 1.58	4.20 10 5.63	7.10 10 7.31
8		1.30 10 1.70	7.10 10 6.24	9.10 10 6.89	2.67 9 2.06	9.70 10 4.06	1.30 10 2.54
9		1.80 10 2.53	8.20 10 8.11	2.70 10 3.02	4.60 10 5.34	0 0 0	0 0 0

M n SD school	age	7	8	9	10	11	12
	10	3.10 10 1.97	9.50 10 4.48	0 0 0	0 0 0	13.10 10 11.32	2.80 10 2.04
11	6.20 10 10.04	3.20 10 2.90	5.40 10 3.50	1.00 10 0.82	4.60 10 6.24	8.40 10 7.31	
12	5.67 9 2.96	0 0 0	5.44 9 4.39	6.20 10 7.30	7.11 9 5.58	1.67 9 0.87	
13	5.67 9 3.43	3.50 10 2.51	2.00 10 4.00	0 0 0	4.00 10 1.89	6.40 10 3.95	
14	5.40 10 4.70	8.50 10 3.60	6.30 10 4.55	3.10 10 3.28	3.20 10 2.25	2.90 10 3.54	

APPENDIX 6

Number of Children in a Class

Pupils's No. in a class	Frequency	Percent	Cum. Percent
40	1	1.4	1.4
41	1	1.3	2.7
42	3	4.1	6.8
43	2	2.7	9.5
44	2	2.7	12.2
45	4	5.4	17.6
46	1	1.3	18.9
47	3	4.1	23.0
48	7	9.4	32.4
49	6	8.1	40.5
50	10	13.6	54.1
51	3	4.0	58.1
52	5	6.8	64.9
53	4	5.3	70.3
54	2	2.7	73.0
55	3	4.0	77.0
56	5	6.8	83.8
57	1	1.3	85.1
59	1	1.4	86.5
61	1	1.3	87.8
63	3	4.1	91.9
64	2	2.7	94.6
70	2	2.7	97.3
73	2	2.7	100

almost
never

sometimes

almost
always

17. It is hard to tell who does which household chores.

almost
never

sometimes

almost
always

1. Students in this class get to know each other really well.
2. This teacher spends very little time just talking with students.
3. There is a clear set of the rules for students to follow.
4. There are very few rules to follow.
5. Rules in this class seem to changes a lot.
6. If a student breaks a rule in this class, he's sure to get in trouble.
7. The teacher is more like a friend than an authority.
8. The teacher explains what will happen if a student breaks a rule.
9. The teacher is not very strict.
10. It's easy to get a group together for a project.
11. Students can get in trouble with the teacher for talking when they're not supposed to.
12. Students enjoy working together on projects in this class.
13. Sometimes the teacher embarrasses students for not knowing the right answer.
14. The teacher makes a point of sticking to the rules he's made.

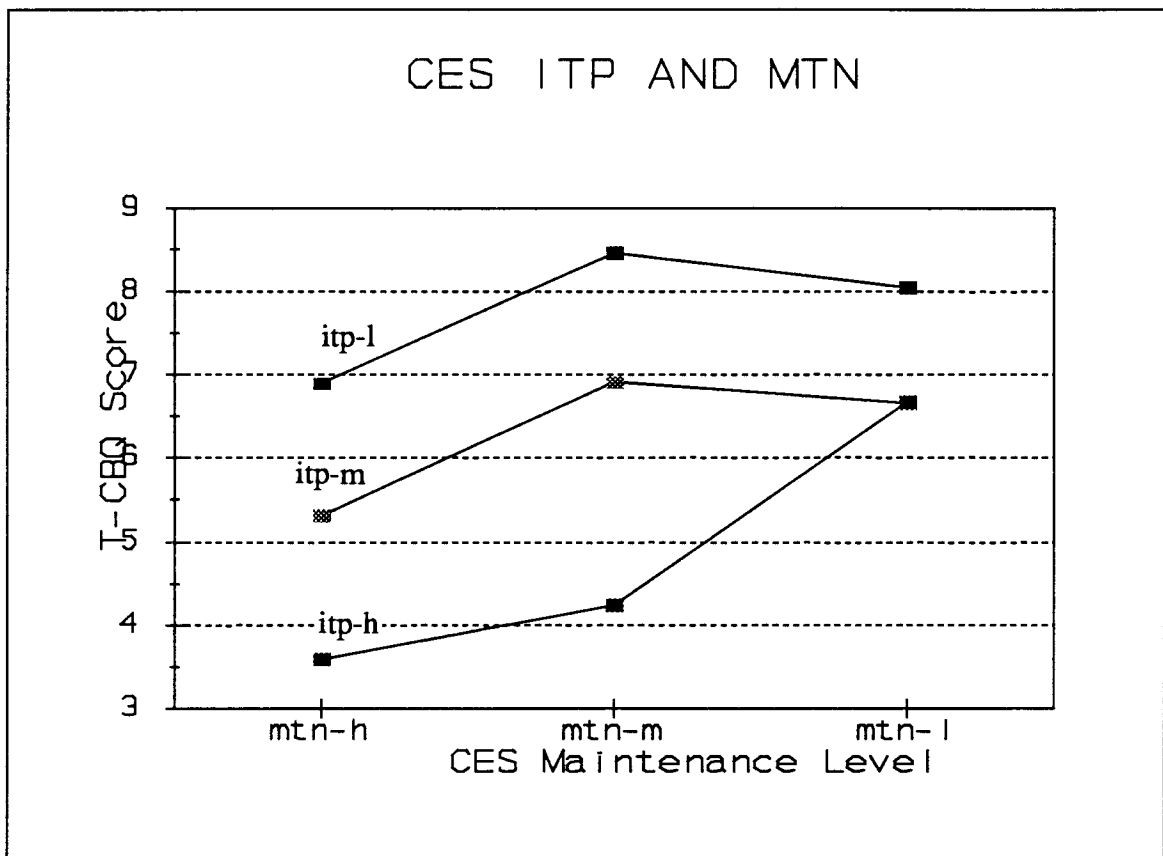
almost
never

sometimes

almost
always

15. Students enjoy helping each other with homework.
16. This teacher talk down to students.
17. Students get in trouble if they're not in their seats when the class is supposed to start.
18. If students want to talk about something this teacher will find time to do it.
19. It's easier to get in trouble here than in a lot of other classes.
20. This teacher wants to know what students themselves want to learn about.
21. In the first few weeks the teacher explained the rules about what students could and could not do in this class.
22. There are groups of students who don't get along in class.
23. This teacher does not trust students.
24. Students have to watch what they say in this class.

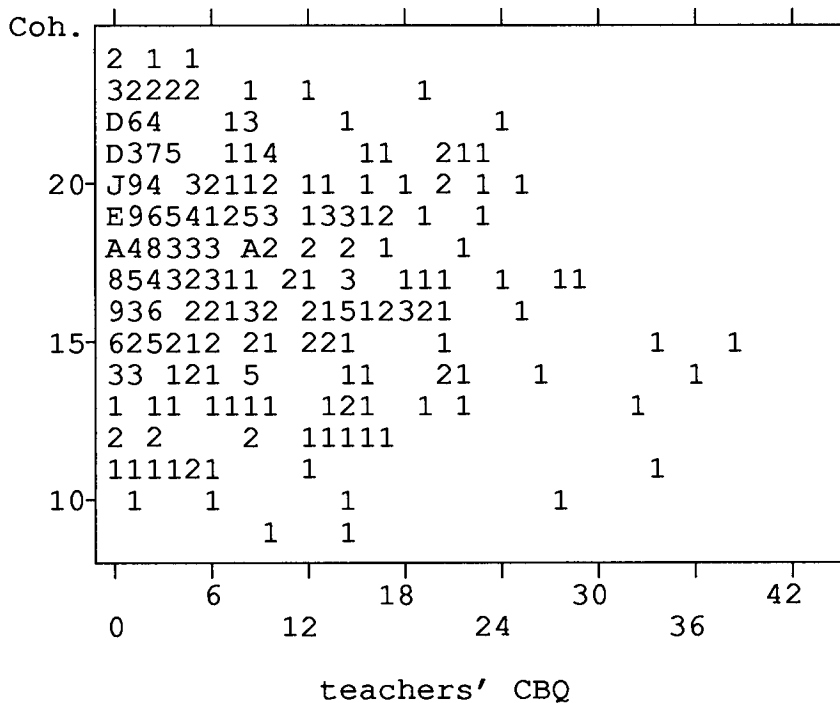
9.2 Interaction Between Classroom Interpersonal Relationships and Maintenance



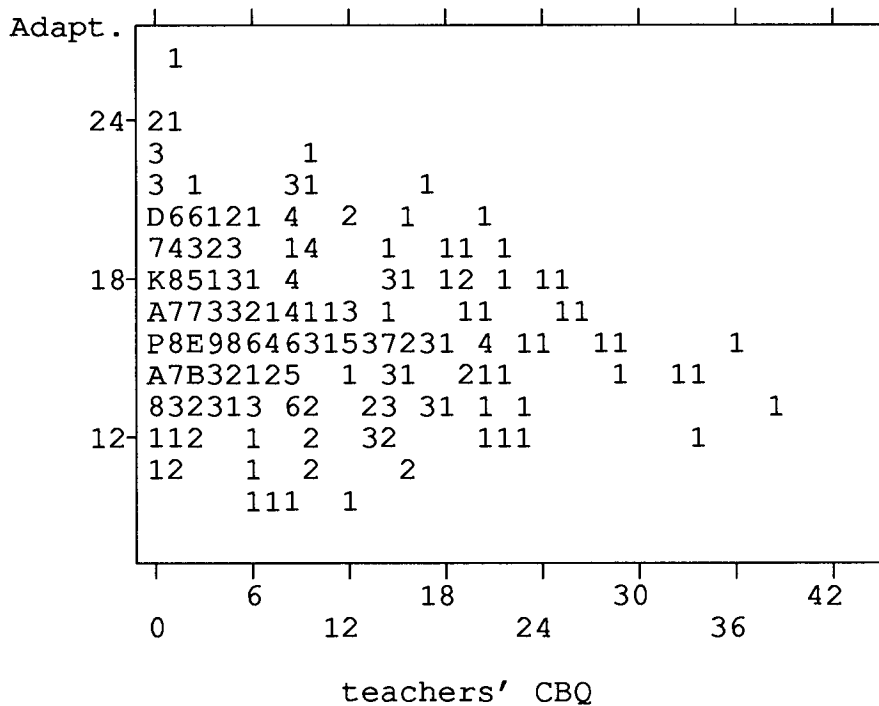
itp: interpersonal relationships mtn: maintenance
itp-l, -m, -h mean the level of interpersonal relationships
mtn-l, -m, -h mean the level of maintenance
l : low m : middle h : high

APPENDIX 10 Retrieving Raw Data by Plot Graph

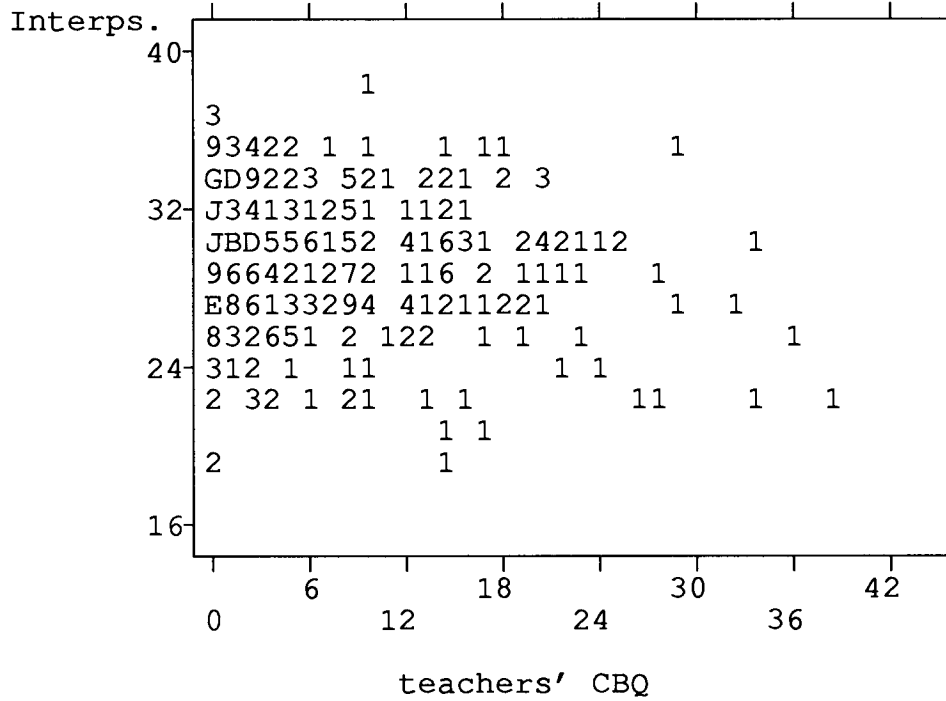
10.1 Plot of Child-FACES Cohesion with T-CBQ



10.2 Plot of Child-FACES Adaptability with T-CBQ



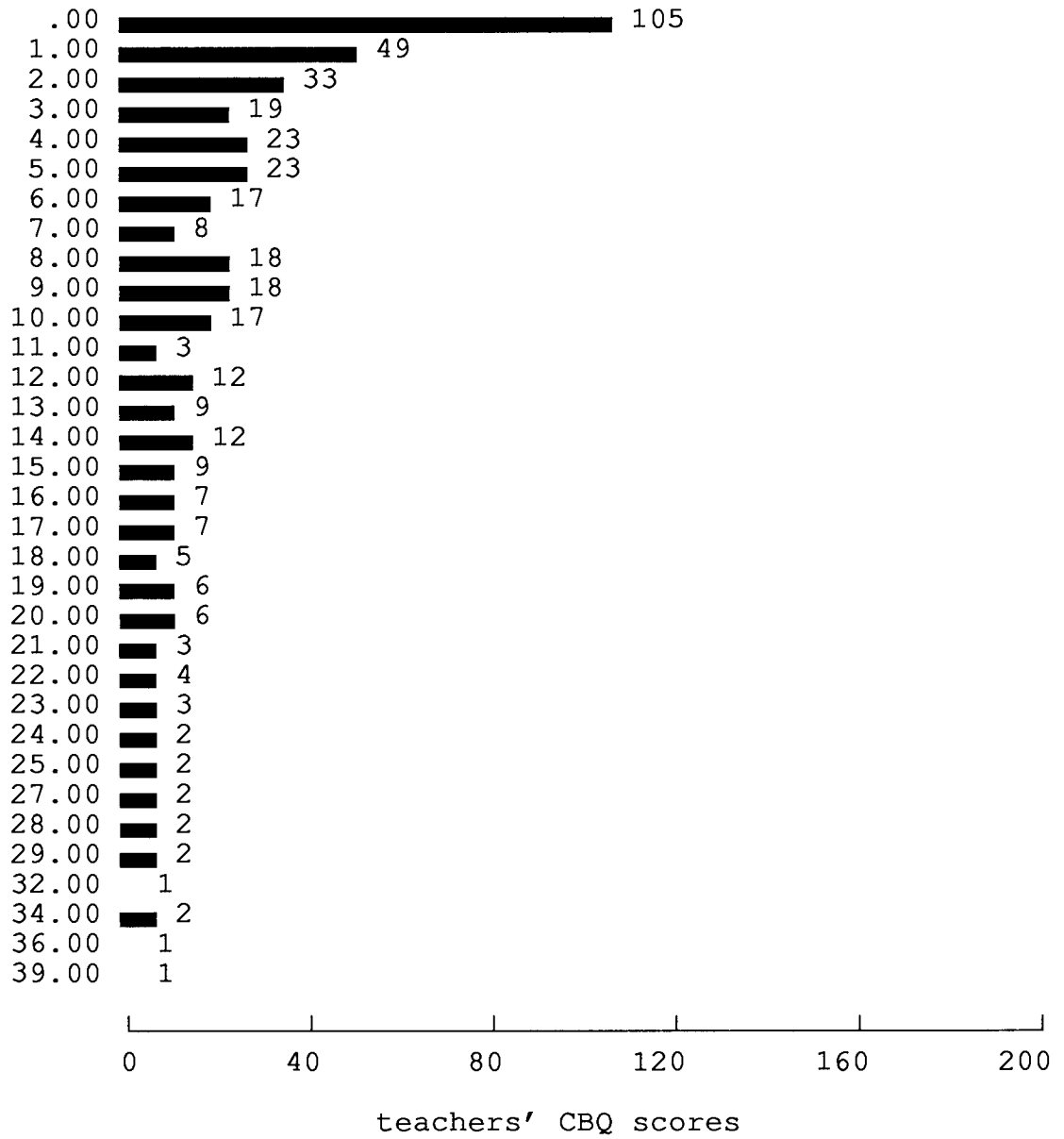
10.3 Plot of Child-CES Interpersonal Relationships and with T-CBQ



APPENDIX 11 Retrieving Raw Data by Frequencies

11.1 Frequencies of Teachers' CBQ Scores

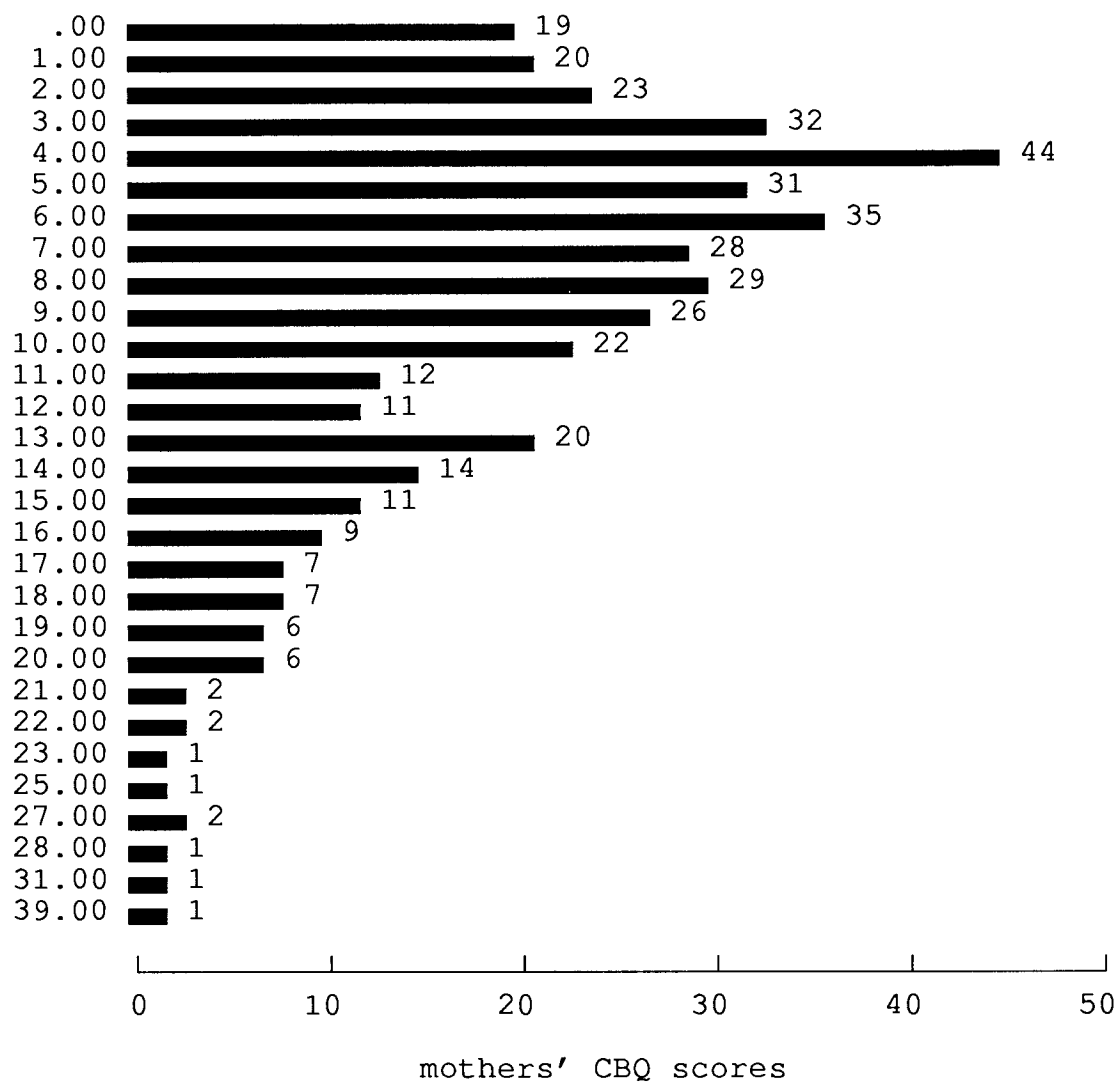
Value	Frequency	Percent	Cum Percent
.00	105	24.4	24.4
1.00	49	11.4	35.7
2.00	33	7.7	43.4
3.00	19	4.4	47.8
4.00	23	5.3	53.1
5.00	23	5.3	58.5
6.00	17	3.9	62.4
7.00	8	1.9	64.3
8.00	18	4.2	68.4
9.00	18	4.2	72.6
10.00	17	3.9	76.6
11.00	3	.7	77.3
12.00	12	2.8	80.0
13.00	9	2.1	82.1
14.00	12	2.8	84.9
15.00	9	2.1	87.0
16.00	7	1.6	88.6
17.00	7	1.6	90.3
18.00	5	1.2	91.4
19.00	6	1.4	92.8
20.00	6	1.4	94.2
21.00	3	.7	94.9
22.00	4	.9	95.8
23.00	3	.7	96.5
24.00	2	.5	97.0
25.00	2	.5	97.4
27.00	2	.5	97.9
28.00	2	.5	98.4
29.00	2	.5	98.8
32.00	1	.2	99.1
34.00	2	.5	99.5
36.00	1	.2	99.8
39.00	1	.2	100.0



Mean 6.557 SD 7.499 Valid cases 431

11.2 Frequencies of Mothers' CBQ Scores

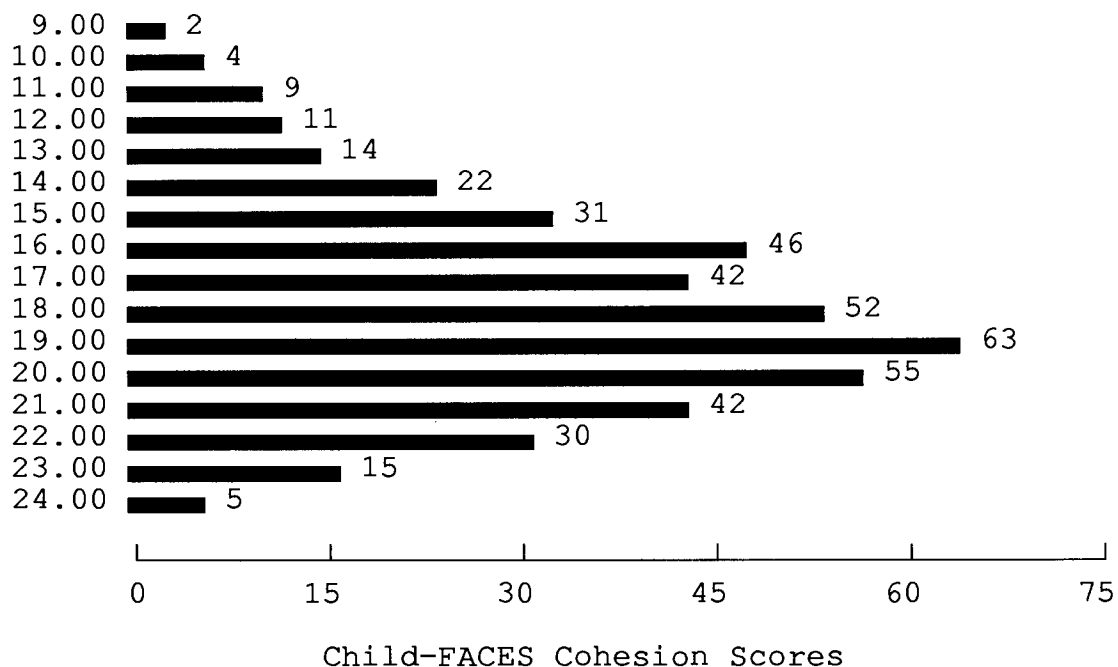
Value	Frequency	Percent	Cum Percent
.00	19	4.5	4.5
1.00	20	4.7	9.2
2.00	23	5.4	14.7
3.00	32	7.6	22.2
4.00	44	10.4	32.6
5.00	31	7.3	40.0
6.00	35	8.3	48.2
7.00	28	6.6	54.8
8.00	29	6.9	61.7
9.00	26	6.1	67.8
10.00	22	5.2	73.0
11.00	12	2.8	75.9
12.00	11	2.6	78.5
13.00	20	4.7	83.2
14.00	14	3.3	86.5
15.00	11	2.6	89.1
16.00	9	2.1	91.3
17.00	7	1.7	92.9
18.00	7	1.7	94.6
19.00	6	1.4	96.0
20.00	6	1.4	97.4
21.00	2	.5	97.9
22.00	2	.5	98.3
23.00	1	.2	98.6
25.00	1	.2	98.8
27.00	2	.5	99.3
28.00	1	.2	99.5
31.00	1	.2	99.8
39.00	1	.2	100.0



Mean 7.988 SD 5.802 Valid cases 423

11.3 Frequencies of Child-FACES Cohesion Scores

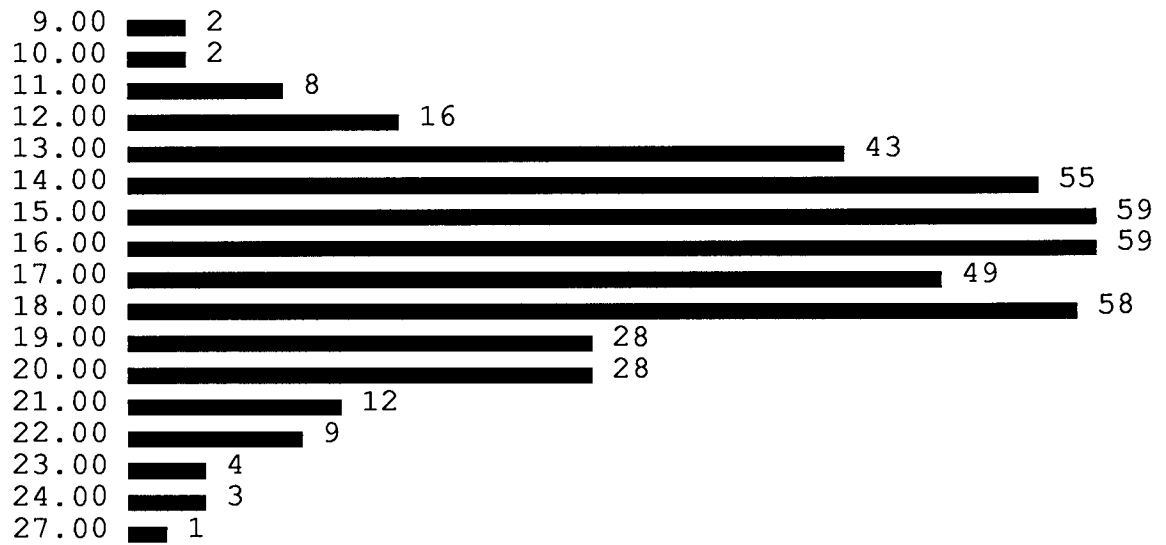
Value	Frequency	Percent	Cum Percent
9.00	2	.5	.5
10.00	4	.9	1.4
11.00	9	2.0	3.4
12.00	11	2.5	5.9
13.00	14	3.2	9.0
14.00	22	5.0	14.0
15.00	31	7.0	21.0
16.00	46	10.4	31.4
17.00	42	9.5	40.9
18.00	52	11.7	52.6
19.00	63	14.2	66.8
20.00	55	12.4	79.2
21.00	42	9.5	88.7
22.00	30	6.8	95.5
23.00	15	3.4	98.9
24.00	5	1.1	100.0



Mean 17.910 SD 3.066 Valid cases 443

11.4 Frequencies of Child-FACES Adaptability Scores

Value	Frequency	Percent	Cum. Percent
9.00	2	.5	.5
10.00	2	.5	.9
11.00	8	1.8	2.8
12.00	16	3.7	6.4
13.00	43	9.9	16.3
14.00	55	12.6	28.9
15.00	59	13.5	42.4
16.00	59	13.5	56.0
17.00	49	11.2	67.2
18.00	58	13.3	80.5
19.00	28	6.4	86.9
20.00	28	6.4	93.3
21.00	12	2.8	96.1
22.00	9	2.1	98.2
23.00	4	.9	99.1
24.00	3	.7	99.8
27.00	1	.2	100.0



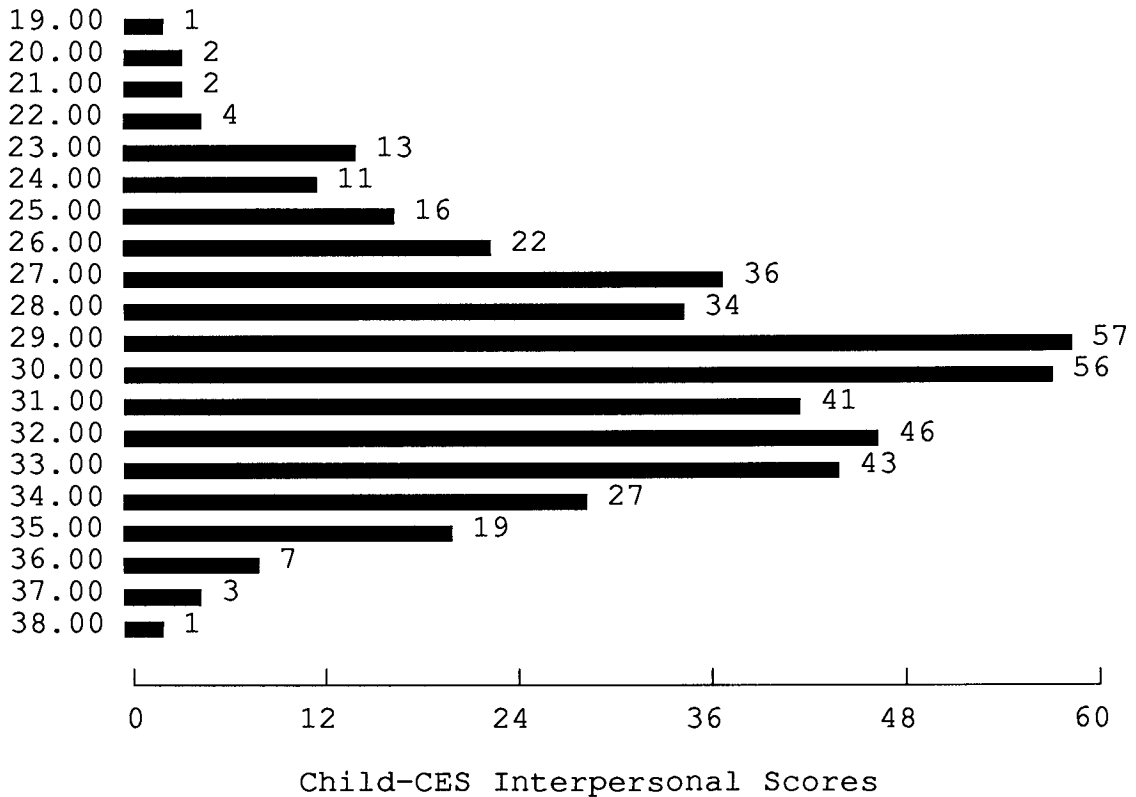
0 12 24 36 48 60

Child-FACES Adaptability Scores

Mean 16.252 SD 2.787 Valid cases 436

11.5 Frequencies of Child-CES Interpersonal Relationships Scores

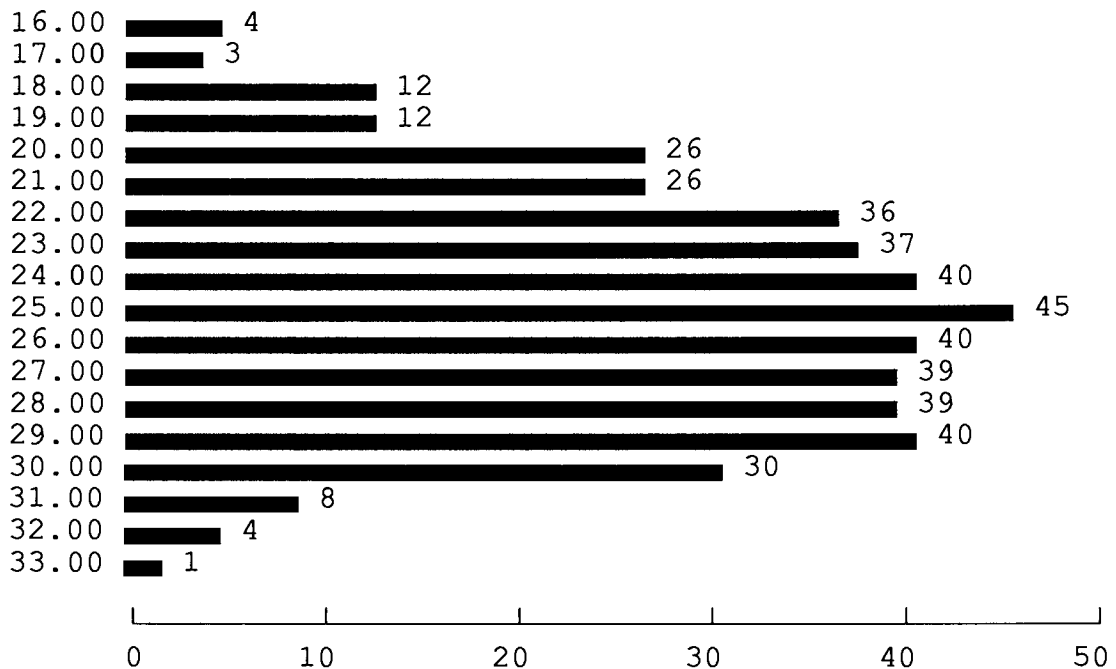
Value	Frequency	Percent	Cum.Percent
19.00	1	.2	.2
20.00	2	.5	.7
21.00	2	.5	1.1
22.00	4	.9	2.0
23.00	13	2.9	5.0
24.00	11	2.5	7.5
25.00	16	3.6	11.1
26.00	22	5.0	16.1
27.00	36	8.2	24.3
28.00	34	7.7	32.0
29.00	57	12.9	44.9
30.00	56	12.7	57.6
31.00	41	9.3	66.9
32.00	46	10.4	77.3
33.00	43	9.8	87.1
34.00	27	6.1	93.2
35.00	19	4.3	97.5
36.00	7	1.6	99.1
37.00	3	.7	99.8
38.00	1	.2	100.0



Mean 29.766 SD 3.371 Valid cases 441

11.6 Frequencies of Child-CES Maintenance Scores

Value	Frequency	Percent	Cum. Percent
16.00	4	.9	.9
17.00	3	.7	1.6
18.00	12	2.7	4.3
19.00	12	2.7	7.0
20.00	26	5.9	12.9
21.00	26	5.9	18.8
22.00	36	8.1	26.9
23.00	37	8.4	35.3
24.00	40	9.0	44.3
25.00	45	10.2	54.5
26.00	40	9.0	63.6
27.00	39	8.8	72.4
28.00	39	8.8	81.2
29.00	40	9.0	90.3
30.00	30	6.8	97.1
31.00	8	1.8	98.9
32.00	4	.9	99.8
33.00	1	.2	100.0



Child-CES Maintenance Scores

Mean 24.903 SD 3.562 Valid cases 442