PARENTAL INVOLVEMENT AND STUDENT PERFORMANCE: 
THE CONTRIBUTIONS OF 
ECONOMIC, CULTURAL, AND SOCIAL CAPITAL

by

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ABSTRACT

The purpose of this study is threefold. First, it is to clarify the construct, parental involvement, by examining its different dimensions both theoretically and empirically. The second purpose is to identify important family factors and institutional factors that affect parental involvement. Finally, this study examines how students’ learning outcomes are related to different dimensions of parental involvement. A conceptual framework is proposed that indicates the relationships between school factors, family factors, parental involvement and students’ learning outcomes. The construct of "capital" is used as an explanatory tool within this framework.

The research was conducted in two phases. Data were collected as part of a larger project which studied the effectiveness of elementary schools in British Columbia (Willms, 1992). Phase I of the study was conducted in 1994. Questionnaires were sent to a population of fifteen hundred B.C. elementary school principals. A total of 831 school administrators returned the questionnaires. Phase II of the study was conducted in 1995. Forty-nine schools were sampled strategically according to the variability of parents’ socioeconomic backgrounds. A total of 404 teachers and 1042 fifth-grade students completed questionnaires. Hierarchical Linear Modelling was then used to explore the nature and impact of parental involvement.

The extent of parental involvement in grade 5 was generally low in B.C. elementary schools. Levels of parental involvement did not vary substantially among schools; therefore, it was difficult to identify schools which could induce particularly high or low levels of involvement. In exploring the barriers and facilitators of parental involvement, evidence from this study suggests that substantial decentralization of instructional activities, and positive
teacher attitudes and practices enhance parental involvement. Another important school factor is the nurturing of social capital within the school. The findings indicate that a positive social climate is a major determinant of parental involvement. An important home factor is cultural capital provided by parents. The results suggest that cultural capital rather than economic capital determines the levels of parental involvement in education.

The effects of different types of parental involvement on students' learning outcomes were relatively weak in this study. Home-based involvement was not generally effective for improving children's learning, and school-based involvement had a small positive effect on student's self-esteem but was negatively related to student academic achievement. It appears that parental involvement tended to be reactive rather than proactive. Parents with children at risk academically and socially were more likely to be involved. Yet the study has demonstrated that investment of educational time and monitoring of peer activities were possible intervening variables through which parents could indirectly affect students' learning outcomes. In the conceptual framework of this study, learning outcomes was viewed as a function of the availability of: economic capital, cultural capital and social capital. Among these major forms of resources, social capital nurtured by the school was the most powerful determinant of students' self-esteem. Cultural capital and economic capital had a moderate effect on both students' self-esteem and academic achievement, but their contribution varied from one cognitive characteristic to another. These results provide substantial evidence to support the integration of Coleman's social capital thesis and Bourdieu's cultural capital thesis. An inclusive model, which emphasizes the inclusion of resources from family, school, and community, appears to be the most promising avenue for improving children's learning.
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In memory of

my mother

Chan Kam-lan

(1923-1996)

for her love and support
CHAPTER 1
INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The contribution of parental involvement to children's educational experience has been a major topic in the sociology of education over the past decade. From a policy perspective, parental involvement represents a potentially cost-effective resource for schools, one that remains largely untapped. From a sociological perspective, parental involvement may be one of the mechanisms linking children's schooling outcomes to the social background of their families.

Parental involvement is of particular interest for policy makers and educators because it may have considerable potential to address three major problems in public education: scarcity of resources; rigidity of bureaucracy; and quality and equity of educational outcomes. Parental involvement brings additional resources into public schools to enrich the learning environment for children. Through their influence on school councils, parents may enhance the responsiveness of schools to the needs of the community. Parental participation at home and in school can improve not only the quality of student learning but also reduce the inequality of learning outcomes among students from different social origins. Overall, policy makers and educational researchers expect increased parental involvement in education will improve school quality and enhance children's learning (e.g., Bauch & Goldring, 1995; Coleman, 1991, 1994; Epstein, 1986, 1987, 1990; Epstein & Salinas, 1995; Fehrmann, Keith, & Reimers, 1987; Greenwood & Hickman, 1991; Gordon, 1977; Ho & Willms, 1996; Keith et al., 1993; Miller, 1992; Muller, 1993; Stevenson & Baker, 1987).
A few large scale studies from the United States, Britain and other European countries have demonstrated that promoting parental involvement at home or in school has significant benefits: enhancing student achievement; reducing absenteeism and dropping out; and improving homework habits (Astone & McLanahan, 1991; Brown, 1995; Ho & Willms, 1996; Epstein, 1987, 1995; Fehrmann, Keith & Reimers, 1987; Lareau, 1987, 1989; Muller, 1993; Stevenson & Baker, 1987; Wolfendale, 1989, 1992). However, other studies report findings which challenge this positive relationship and demonstrate that parental supervision with homework or contact with the school has a small or even a negative relationship with students' reading and mathematics achievement (Madigan, 1994; Milne et al., 1986; Muller, 1994). Results across these studies are inconsistent and difficult to compare because the measures of parental involvement differ substantially (Ho and Willms, 1996). A fundamental weakness of many of the studies is that they have not adequately defined or operationalized the construct of parental involvement. Furthermore, they do not identify how different types of parental involvement vary among schools, or how this between-school variation is related to school policies and teacher practices. Moreover, the research has not adequately determined the relative contributions of family background and school factors in establishing parental involvement.

In exploring the barriers to and facilitators for parental involvement, researchers have identified two broad categories of determinants: (1) individual factors such as parents' socio-economic background, family structure and ethnicity; and (2) institutional factors such as school policies, partnership practices, and teachers' attitudes. Empirical evidence from Brown (1991, 1995), Coleman (1987, 1994), Harker et al. (1993), Ho & Willms (1995), Lareau
family socioeconomic status, ethnicity, and family structure appear to be the most powerful predictors of the extent of parental involvement in children's education. On the other hand, evidence from Comer (1980), Epstein (1986, 1987, 1990), Rowse (1994), Brown (1995) and Yan (1995) confirms that some schools can overcome those family constraints. These studies demonstrate that schools with teachers who are open to establishing partnership with parents and schools that devolve substantial authority to parents, are more likely to have high levels of parental involvement.

1.2 TWO COMPETING THEORIES

In explaining variation in parental involvement, researchers have used strategies consistent with two competing theories — family deficiency and institutional discrimination. 'Family deficiency theory' suggests that parents differ in their involvement because of the differential availability of family resources; therefore, their children differ in their educational attainment. Parents from working class and ethnic minority groups are frequently said to be culturally deprived, speaking inappropriate forms of language, not valuing formal education, and not participating extensively in their children's education (Riessman, 1962).

Competing theory traces differences in parental involvement back to the educational institution. Social-class theorists accuse schools of 'institutional discrimination', claiming school actors are biased against working-class parents and students. Subtle discriminatory school practices exclude certain parents from participation in their children's education. Another interpretation is that teachers tend to discourage all parents from participating in school-based involvement, regardless of their social origin (Brown, 1995).
Recent empirical studies indicate that both theses explain part of the variation in particular types of parental involvement (Epstein & Salines, 1995; Ho & Willms, 1996). Findings from these studies demonstrate that the availability of family resources for children's education is a major determinant of the pattern of involvement. However, working-class parents with less economic resources do not necessarily have less involvement. Parents from the working class or certain ethnic-minority groups, even if they have scarce resources, may choose to devote their limited time and energy to maximize their involvement.

According to Bourdieu (1977) and Coleman (1990), 'capital' associated with family origin is an important determinant of student achievement. Bourdieu's concept of 'cultural capital' has been used in previous studies to explain the association between parental involvement and student achievement (DiMaggio and Mohr, 1985; Lareau, 1987, 1989; Lamont & Lareau, 1988; Ho & Willms, 1996). 'Cultural capital' refers to the general cultural background, knowledge, disposition, and skills that can be passed on from one generation to another. The thesis of cultural capital argues that schools are largely middle-class institutions with middle-class values, organizational patterns, and forms of communication. Children raised in middle-class environments possess the 'cultural capital' that enables them to adapt more readily to school life and benefit from it. Similarly, middle class parents are more likely to feel comfortable relating to teachers and being involved in school activities.

Coleman (1987) contends that some parents, even though they may come from lower social class and ethnic minority groups, are devoted to helping their children's learning because they have high educational expectations for their children. In Coleman's words, the 'educational norm' within family is a form of 'social capital' which can motivate students to do
well in schools. Coleman (1990) argues that social capital can exist not only within families, but also within the school community. Further evidence presented by Brown (1995) demonstrates that school volunteering helps to create social capital, which exists in the forms of 'caring norms' and 'learning norms' within schools. This form of capital is crucial to students' learning experience.

Bourdieu and Coleman emphasize different types of capital, yet their work is not mutually exclusive. Both Bourdieu and Coleman argue that different types of capital can be transformed from one form to another and transferred from one generation to the next. Yet they have different interpretations of the mechanisms of capital conversion. To Coleman, individual actors can generate capital through the mechanism of rational choice. He assumes that actors always have the relative autonomy to choose how to invest their capital according to their own interests. However, Bourdieu's more structuralist perspective argues that, individuals do not pursue a rational choice, but follow a general 'logic of practice'. The accumulation of capital depends less on the rational choice of actors than on structural factors such as one's social origin. These two theses, through their common emphasis on transferability and convertibility of capital, are both useful for clarifying how parental involvement constraints and enables children's education.

The level of parental involvement is related to the capital owned by parents as well as particular policies and practices implemented by schools (e.g., Henderson, 1988; Cochran & Dean, 1991; Esptein & Salinas, 1995). Both Bourdieu and Coleman emphasize the investment of capital upon students' learning performance. Yet little has been done to assess how different forms of capital interact with different types of parental involvement, which in turn
affect different types of students' learning outcomes (DiMaggio, 1982; DiMaggio & More, 1985; De Graaf, 1986; Teachman, 1987; Yan, 1995). This research attempts to examine these under-explored areas. The general aim of this study is to examine the important factors that influence the ability of elementary schools to involve parents in their children's education, and to explore the effects of different types of parental involvement and different forms of parental investment on students' schooling outcomes. In investigating both theoretically grounded and research-based views of parental involvement, I intend to explore some of their implications for theory and practice.

1.3 CONCEPTUAL FRAMEWORK

The model below (see Figure 1) illustrates the mechanisms by which family background, institutional factors, and larger environmental factors affect parental involvement, as well as the expected effects of parental involvement on schooling outcomes. The glue that holds the model together is a set of premises and findings from previous theoretical and empirical studies.

The basic chain of logic is as follows: the environmental context such as school size, geographic location, and the percentage of minority, working-class and single parents influences the potential for parents to be involved in their children's education. Previous studies suggest that large schools tend to have a greater number of school volunteers, but that small schools are more likely to have active functioning Parent Teacher Committee members, and that schools located in urban areas with a higher percentage of minority, working-class and single parents tend to have lower levels of involvement. Within the school context,
decentralization policies may empower parents and promote teacher-parent partnerships, which in turn increases the 'zone of acceptance' of teachers toward parental influence in school activities, improves 'teacher communication' with parents, and enhances teachers' initiatives in requesting parents' cooperation in educating their children. Changes in these three variables improve school climate as well as increase parental involvement. At the family level, socioeconomic status, ethnicity and family structure are the three major determinants of the availability of family resources for children's learning. These factors affect the level of parental involvement both at home and in school. The underlying assumption driving this theory is that active involvement of parents in school and at home ultimately results in better learning outcomes.

Learning outcomes can be seen as human capital embodied in cognitive and social development of the children. The creation of human capital is a function of the availability of three major forms of capital: economic capital, cultural capital, and social capital. Social origin provides parents and children with various forms of capital that may influence parental involvement and their child's learning outcomes. Parents can invest their income to buy books, computers or other educational materials (economic capital). Parents with professional careers or significant social networks (social capital) may occupy a better social position which enables them to select and enroll their child in a "better" school and obtain important information for their children. Children from privileged social-class backgrounds are likely to enter the educational system already familiar with the dominant culture (cultural capital).
Figure 1

The Conceptual Framework of the Study of Parental Involvement and Student Performance

School Factors
- Decentralization Policy
- Partnership Practice

Teacher Factors
- Zone of Acceptance
- Teachers contact parents
- Teachers request parental assistance

School Climate
- Social Climate
- Disciplinary Climate
- Academic Press
- Lack of Bullying
  (Social Capital nurtured within School)

Family Factors
- Socio-economic Status
- Ethnicity
- Family Structure

Parental Investment
- Economic Capital
- Cultural Capital

Parental Involvement
- Home Discussion
- Home Supervision
- School Communication
- School Participation

Learning Outcomes
- Self-esteem
- Achievement
For those children who already possess the requisite family resources, cognitive and social learning are enhanced. However, effective application of family resources toward the child's learning depends to some extent upon the strength of social connections among the students, parents and teachers. This "social capital" within the school exists in the form of academic press (learning norms), the disciplinary climate and the social norms. Such school factors mediate the transmission of all three types of capital (economic, cultural and social capital) toward children's learning outcomes.

1.4 PURPOSE AND SIGNIFICANCE OF THE STUDY

The purpose of this study is threefold. First is the clarification of the construct, parental involvement, by examining its dimensions both theoretically and empirically. This purpose is supported by an investigation of how different dimensions of parental involvement are manifested among students within and between schools in the British Columbia, Canada. The second purpose is to discern the relative influence of family background and institutional factors upon different dimensions of parental involvement. I will assess how the variation of involvement is related to students' family resources, family structure, ethnicity, and other background factors, and determine whether significant variation in parental involvement among schools occurs after controlling for these factors. If there is significant variation remaining, this could suggest that some schools are more effective than others at fostering parental involvement. If this is the case, I will estimate how much each dimension of parental involvement is related to institutional factors, including the degree of decentralization, school partnership practices, teachers' zone of acceptance for parental involvement, and teachers'
practices in contacting and involving parents in students' education. Finally, the study will attempt to determine the relation between students' learning outcomes and different dimensions of parental involvement and conversion of different forms of capital.

This research intends to enhance theoretical development within the sociology of education in three major ways. First, it should help to clarify and explicate the important theoretical constructs of 'economic capital', 'cultural capital' and 'social capital'. Secondly, it attempts to apply these constructs to the research of parental involvement in education. Finally, the study will contribute to the ongoing discourse on two fundamental theories: 'family deficiency' and 'institutional discrimination' theories.

This study also has generated knowledge useful to the growing field of educational policy studies. It should be of interest to academics and policy makers who are concerned with the potential impact of parental involvement on educational quality and social equality. It could assist educational administrators and teachers in formulating policies and practices which would maximize the kinds of parental involvement they desire. The results may also offer pragmatic advice to parents, especially those from working-class and ethnic-minority groups, about how to invest their family resources most effectively toward their children's education.

1.5 Research Problems

Four research problems will be examined:

1. What is the nature of parental involvement?

1.1 What are the dimensions of the construct, parental involvement?
1.2 To what extent do different dimensions of parental involvement vary among parents within schools, and vary between schools within British Columbia?

2. What are the major family factors affecting parental involvement?
   2.1 To what extent is parental involvement related to family background including socio-economic status, family structure, and ethnicity?
   2.2 To what extent is parental involvement related to the availability of cultural capital after family background has been taken into account?

3. What are the major institutional factors influencing parental involvement?
   3.1 To what extent is parental involvement related to school environmental background, including: school size; geographic location; and percentage of minority, working-class, and single parents?
   3.2 To what extent is parental involvement related to school policy and practices, such as: degree of decentralization and home-school partnership practice; teachers’ zones of acceptance; and teachers’ initiatives in involving parents?

4. What are the main effects of parental involvement on students’ learning outcomes?
   4.1 To what extent are students’ learning outcomes associated with different types of parental involvement?
   4.2 To what extent are students’ learning outcomes associated with each of the different forms of capital?
1.6 OVERVIEW OF THE DISSERTATION

The dissertation is organized into six chapters. Chapter One clarifies the background and purpose of the study. Chapter Two is an analytical review of the concept, determinants and impact of parental involvement. Chapter Three reviews the theoretical background of parental involvement in education, focusing on Bourdieu's concept of cultural capital and Coleman's concept of social capital. Chapter Four describes the design and methodology used to address the major research problems identified in previous chapters. Chapter Five presents the research findings and examines the mechanisms by which family background, institutional factors, and different types of parental involvement affect students' learning outcomes in British Columbia public elementary schools. Chapter Six summarizes the major findings, examines implications for policy and practice, and offers recommendations for further study.
CHAPTER 2

LITERATURE REVIEW

This chapter provides an analytical review of the literature on the nature and impact of parental involvement. The first section clarified the concept of parental involvement. Based on the theoretical and empirical studies, a two-dimensional model was constructed. The second and third sections examined the family background and institutional factors that affect the pattern of parental involvement. In the fourth section, research regarding the impact of parental involvement on students' learning outcomes was examined.

2.1 CONCEPTUALIZATION OF PARENTAL INVOLVEMENT

2.1.1 Definition of parental involvement

In the past, parental involvement has usually entailed getting parents involved in school as custodians, teacher aides, or helpers (Morrison, 1978). Over the last two decades, however, the meaning of parental involvement has shifted from volunteering at school to participating at home. Home participation includes helping children with their school work, establishing a home environment conducive to learning, encouraging children to do better, and overseeing the child's academic program from home. Some researchers have argued, however, that involving parents at home may not be enough to improve schooling, and maintain that children's achievement does not improve unless parents are involved also in the school (e.g. Henderson, 1988; Steinberg et al., 1996). Therefore, a number of researchers have proposed a more comprehensive definition of parental involvement as a process of mobilizing the potential of parents both at home and in school for the benefit of their children and the community (e.g., Greenwood & Hickman, 1991).
2.1.2 Dimensions of parental involvement

Gordon (1977), Epstein (1987), and Muller (1993) consider a dimension of parental involvement that concerns the 'locus of parental involvement' which may vary from home to school to community. Gordon (1977) suggested three models: 'Parent Impact Model', in which schools reach out to parents and help them participate in their children's learning; 'School Impact Model', in which parents are involved in the school from volunteering to serving on governance councils; 'Community Impact Model', in which parents are engaged in a variety of roles in the home and in the local community.

In a survey of 3700 first-, third-, and fifth-grade teachers and 1200 parents in 600 Maryland elementary schools, Epstein (1987) identified four important types of parental involvement (Epstein, 1987, p. 121-122). First is basic obligations of parents, in which parents provide basic necessities to assure health and provide positive home conditions for the child's learning. Second is parental involvement in learning activities at home, in which parents develop the child's learning skills by reading to their child, talking about school life, or tutoring homework. Third is school to home communication, in which the school informs parents about school programs and their children's progress through report cards or teacher-parent conferences. Parents are expected to act on the information received from the school. Fourth is parental involvement in school, in which parents assist teachers in the classroom or on class trips. Parents may also assist in organizing parent programs such as fund-raising, or in making decisions on certain school policies. Epstein's first two categories are "home" based. The latter two types are 'school' based. Epstein (1990, p. 133) later separated the fourth category into two: parent involvement in school activities, and parent involvement in school
governance. She considers these five types of involvement as necessary parts of a comprehensive parental involvement program in every school.

Muller (1993) employed data from the National Education Longitudinal Study of 1988, and classified ten items pertaining to parental involvement into two major categories congruent with Epstein's work. The first category focused on involvement at "home", which included measures such as: students' discussion with parents about current school experience; discussion about high school program planning; and checking homework. The second category pertained to involvement in the social "community" or "school", which included measures such as the number of parents of the child's friends who are known by the parent; the frequency of parental contact with the school; and the level of parent participation in a parent-teacher organization. A major limitation of Muller's operationalization of parental involvement is that parental participation in school governance was not examined.

Beattie (1985) examined parental participation in school governance in four Western European countries: France, Italy, Germany, and England. His levels of participation included pseudo-participation, partial participation, and full participation. For pseudo-participation, parents are persuaded to accept decisions that have already been made by schools. In other words, parents are only being "informed" about the school decisions. In the case of partial participation, parents may have influence on the process of decision making, but the final decision rests with school administrators. This means that parents do not really have authority to make decisions. They are only being "consulted". Full participation assigns real power to parents to make final decisions on particular educational issues; it is actual educational governance.
In sum, synthesizing the theoretical and empirical studies, a two-dimensional model is constructed: one concerns the "locus of involvement", and the other concerns the "forms of involvement". Table 1 illustrates the two dimensions with the examples discussed.

Home-based involvement exists in two forms: home communication and home supervision. Home communication consists of communication between parents and their child about school programs and school life. Home supervision consists of checking homework and the monitoring of learning activities at home. School-based involvement exists in three forms: school communication; school participation; and school governance. School communication consists of the mutual contact between the teacher and parent. School participation consists of parental participation in volunteering and other school activities. School governance consists of different levels of participation in making decisions on school rules and goals.

<table>
<thead>
<tr>
<th>Locus of Involvement</th>
<th>Forms of Involvement</th>
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<tr>
<td><strong>HOME</strong></td>
<td><strong>Home communication</strong>&lt;br&gt;Discussing current school experience&lt;br&gt;Discussing school program planning (Muller &amp; others)&lt;br&gt;<strong>Home supervision</strong>&lt;br&gt;Homework checking or TV restriction (Muller &amp; others)&lt;br&gt;Supervising learning activities at home (Epstein)</td>
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<tr>
<td><strong>SCHOOL</strong></td>
<td><strong>School communication</strong>&lt;br&gt;School to home communication&lt;br&gt;Home to school communication (Epstein)&lt;br&gt;<strong>School participation</strong>&lt;br&gt;Parental involvement in school activities (Epstein)&lt;br&gt;Participate as volunteer or be involved in PTO (Muller)&lt;br&gt;<strong>School governance</strong>&lt;br&gt;Parental involvement in school governance (Epstein)&lt;br&gt;Pseudo/Partial/Full Participation (Beattie)</td>
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2.2 IMPACT OF FAMILY FACTORS ON PARENTAL INVOLVEMENT

In exploring the literature regarding barriers to and facilitators for parental involvement, two levels of factors emerge: (1) individual level — family background such as parents' occupation, parents' education, family income, family structure, ethnicity, and gender (McLanahan, 1985; Coleman, 1987; Lareau, 1987, 1989; Lamont & Lareau, 1988; Harker et al., 1993; Brown, 1991, 1995; Ho & Willms, 1996); (2) Institutional level — teacher's characteristics and practices (e.g. teachers' efficacy and their disposition toward different types of parental involvement) and school policies and context (e.g. the degree of organizational decentralization, school partnership practices, and contextual factors including school socioeconomic status, school size and urbanicity) (Brown, 1995; Epstein, 1987; Coleman, 1987; Hoover-Dempsey et al., 1987; Henderson, 1988; Greenwood et al., 1991; Rowse, 1994).

The review below pertains to individual level factors. It includes studies that supported these claims with empirical evidence based on interviews, observations, documents, or surveys (McLanahan, 1985; Lareau, 1987, 1989; Coleman, 1987; Brown, 1991, 1995). The evidence suggests that three major family factors are related to parental involvement: socioeconomic status (SES), ethnicity, and family structure.

2.2.1 Socioeconomic Status

Brown (1991) interviewed a total of 120 principals, teachers, and volunteers from public elementary schools in British Columbia, Canada. His findings suggest that the most extensive voluntary participation comes from parents who work in professional or managerial occupations, earn relatively high family income, and have higher levels of education. As one
principal mentioned: "Upper middle class parents are most willing to donate time or money to participate in voluntary activities in school" (Brown, 1991, p. 6).

The findings of Brown are consistent with other research (e.g., Lareau, 1987, 1989; Ho and Willms, 1996) which indicates that SES is a major factor affecting the degree of parental involvement. The "family resource hypothesis" (Harker et al., 1993) explains the consistent association. The hypothesis suggests that socio-economic status is likely to affect parental involvement by providing different amounts of cultural, social, and economic capital.

Lareau’s study provides a detailed explanation of the mechanism of this family resource hypothesis. Lareau (1987) conducted an ethnographic study in two predominantly white elementary schools in the United States. In-depth interviews of twelve families, two principals, and the first and second grade teachers were conducted to explore how and why social class influences the pattern of parental involvement. An interesting finding from her study is that although both classes of parents want to be "supportive" to children’s schooling, working-class parents tend to have a "separated" relationship with the school, whereas upper-middle-class parents tend to have a "connected" relationship.

Moreover, Lareau noticed three distinctive characteristics that give upper-middle-class parents an advantage in their involvement. First, upper-middle class parents have the competence and confidence to help their children in their school work because they have the capacity to understand the curriculum and communicate effectively with teachers. Second, upper-middle class parents have better social connections with other families, friends and neighbours, which provide them with important information about their children’s schooling. Third, upper-middle-class parents have more income and material resources to pay for child-
care, transportation, tutoring, and so on; therefore, they have the flexibility to reschedule their work and participate in school.

Taken together, the research literature provides solid evidence to support the family-resources hypothesis. Findings by Brown and Lareau confirm that parents' education, parents' occupation, and family income provide various forms of capital that are major factors in determining the level of parental involvement.

2.2.2 Ethnicity

Another major factor impinging on parental involvement is the ethnicity of parents. Coleman (1987) suggests that norms regarding education which are held by different ethnic groups may affect the pattern of parental involvement. He noted that (1987, p. 15), "A school district where children purchase textbooks recently found that some Asian families were purchasing two. Investigation led to the discovery that one book was for the mother, to enable her to better help her child succeed in school." He argued that Asian mothers, even though they were uneducated or not well-educated, were devoted to helping their children learn. This research suggests that, not only the education, income, or occupation, but also the cultural disposition towards education determines the extent that parents are involved in their children's education. For instance, most Chinese people have a tradition that academic pursuit is the most important and valuable among all career endeavors. This cultural norm leads them to maximize their devotion of time and energy to supervise their children's learning at home (Ho, 1995).

MacLead (1987) provided further evidence that even for parents with similar socio-economic backgrounds, different ethnic groups show different patterns of parental
involvement. MacLead studied two groups of high school boys. Both groups lived in the same low socio-economic circumstances and attended the same school, in which success was not common. He found that the Hallway Hangers (White) took every opportunity to oppose the regime of the school by cutting classes, using drugs, and so on. In contrast, the Brothers (Black) tried to fulfill socially approved roles such as conforming to rules and studying hard. His investigation suggested that the different behavioral norms result from the different cultural styles of the parents. The Black parents held high aspirations for their children. Towards the goal of better living, they supervised their children’s study at home and tried their best to conform to the requirements of the school. In contrast, the White parents gave their children free rein and did not monitor their school work. Therefore, it can be argued tentatively that the traditional “disposition” of different ethnic groups may affect the pattern of parental involvement. Parents from ethnic minority groups may choose certain types of home-based involvement with which they feel comfortable and confident.

The influence of ethnicity on school-based involvement is also noteworthy. In Brown’s (1995) study of voluntarism in Canadian elementary schools, many of the immigrant parents were not active in school-based involvement. The most frequently occurring explanation from these parents was that there was a language barrier. The inability of immigrant parents to communicate in English can pose considerable barriers for school participation. As one of the Chinese parents from Brown’s study (1991, p. 8) said,

“I had that problem (English); some can’t speak very well. I remember, I used to sit in the back of the library. Also, [there is] the feeling of being caught between two cultures — trying to retain your own culture while desperately trying to fit into a new culture at the same time.”
Another major barrier mentioned by parents was that they did not have the tradition of parental involvement in school in their native lands. One interviewee, a parent from Switzerland, explained (Brown, 1995, p. 53),

"Where I come from, voluntarism, basically, was nonexistent. The school was not interested and actually discouraged parents from participating. Teachers looked at students as their domain and didn't want parents to interfere. The only time that was tolerated was once a year [when students] went on a field trip ..."

Further explanation is found in another example: parents from Hong Kong stated that they never questioned the decisions made by the school in Hong Kong. As one parent said (Brown, 1995, p. 53-54): "We have a saying in Chinese, if the student is not disciplined at the school, that's the teacher's fault. But if they don't do their homework, it's the parent's fault". This indicates that in the native countries of some ethnic minority groups, school officials and teachers are expected to decide all school matters without regard to parent concerns or desires.

These findings are consistent with findings from a national study of schooling in the United States reported by Ho and Willms (1996). They found that Asian parents tended to have high levels of home-based involvement such as supervising their own child's homework and limiting their time watching TV, but they had much less involvement in classroom volunteering and school PTO. Morrow's study (1991) supports this finding: Asian parents in the United States tend to maintain a separation from school. Morrow elaborated that Asian parents usually held teachers in high esteem. Little or no contact with schools was expected or practiced by most Asian parents. Brown's study of school volunteerism in Canada provides further evidence for the low participation of Asian parents. Brown (1995) noted the views of a new immigrant parent: "If parents receive a telephone call from the school, they know the
child is in trouble”. Contact between parents and teachers is mostly problem-oriented in Asian countries. A similar pattern is found in the United States among parents of various ethnic and social backgrounds. The national study reported by Ho and Willms (1996) suggests that the mutual communication between school and home has a significant positive relationship with the learning problems and behavioral problems of the student. This indicates that the frequency of home-school contact tends to be higher for at-risk students in Western countries.

2.2.3 Family Structure

The impact of family structure is particularly interesting in light of the increases in the proportion of single-parent families in Western countries. Over the past few decades, the number of single parent families has increased dramatically in Canada. By 1986, 13 percent of all Canadian families were headed by a single parent, and of the single parent families, 82 percent were headed by women (Moore, 1987).

Large scale research studies in the United State indicate that parental involvement of single-parent families is substantially less than the traditional two-parent families (e.g. Milne et al., 1986; Ho & Willms, 1996). Empirical evidence provided by Milne et al. (1986) suggests the amount of time devoted to monitor children's homework is more for two-parent families than single-parent families in elementary schools, and that this difference is much greater for high school students. The study of eighth-grade students by Ho and Willms (1996) also confirms that single-parent families tend to participate less in their children's education both at home and in school.

McLanahan (1985) provides a persuasive explanation of why and how single parent families, especially female-headed families, participate less in their children's education. Her
study does not directly explore the relationship between family structure and parental involvement; however, her "Economic-Deprivation" hypothesis help us understand the impact of family structure. The hypothesis suggests that lower family income stands out as the most important intervening variable to explain the lower level of involvement of single parents because they have fewer economic resources. Another interpretation given by Astone and McLanahan (1991) is that instead of deprivation of "economic capital", the negative impact of single parents on students' learning is attributable to a scarcity of "social capital". They argue that the number of parents in the household and strength of the attachment between parent and child are important indicators of children's social capital, and that families with less social capital are less likely to participate in children's learning.

However, according to Coleman, "social capital" is the sum of social resources that children have available to them in the family, school and community (Coleman, 1994). Therefore, not only the strong relation between parents and their children, but also connection among teachers, parents and children in school can be seen as essential social capital for children's development. Yan (1995) confirms that mutual contact between teachers and parents is important for creating social capital between school and family, which in turn makes a difference to the level of school-based parental involvement.

Recent studies by Brown (1995) and Rowse (1994) on parent advisory councils (PAC) and school voluntarism in British Columbia support the conclusion that parents are willing to participate in their children's education regardless of their social status. Although family resources appear to be a powerful determinant of the level of parental involvement, their studies reveal that when efforts are made to activate low SES and ethnic minority groups,
most parents are shown to have the potential to devote time and effort at home or in school (Rowse, 1994; Brown, 1995). These findings are provocative because they demonstrate that schools can make a difference on the level of parental involvement in their children's education, and that certain school practices can mobilize a substantial number of ethnic-minority and low SES parents for the benefit of their children.

2.3 THE IMPACT OF INSTITUTIONAL FACTORS ON PARENTAL INVOLVEMENT

Public education has been undergoing restructuring by changing the social and organizational structure making it less centralized. At the heart of these restructuring efforts, there are two opposing perspectives on schooling: bureaucratic and communitarian (Lee et al., 1992). These two perspectives emphasize different forms of parental involvement in the educational system. From the bureaucratic perspective, schools are seen as "formal organizations" characterized by a functional division of labour into specialized tasks. School administrators and teachers are assumed to have the professional expertise in education. The primary role of parents is in aiding their children's learning of school work at home; therefore, parent education is necessary to facilitate the real work of school. This approach sees the home environment as the problem to be solved through appropriate training of parents (Lee et al., 1992). A separation of home and school has been the hallmark of a bureaucratic school (Brown, 1995).

The communitarian perspective views schools as "small societies": organizations that emphasize informal and enduring social relationships. In contrast to the bureaucratic perspective, this approach assumes parents and community members can be major
contributors to student learning. Over-bureaucratization of schooling is viewed as the main problem to be solved (Lee et al., 1992). The solution is the incorporation of parents and community groups into school decision-making (Lee et al., 1992).

However, such a bifurcated conceptual framework is problematic and unrealistic for improving the quality of students' learning. As Lee et al. (1992, p. 229) warned: "any embrace of the vision of a school as a community must be integrated with the view of the school as a formal organization that seeks to rationally, effectively, and efficiently promote student learning." Therefore, an integration of bureaucratic and communitarian views, which recognizes that each group has something important and necessary to contribute, appears to be more desirable.

This point has been supported by Brown's study of school voluntarism (Brown, 1995). Based on systematic interviews with 185 principals, vice-principals, teachers, and volunteers in 72 public elementary schools in British Columbia, his research found that public schools with high levels of volunteering fitted the integrated model well and displayed many elements of the bureaucratic model. For instance, the instructional expertise largely resided with the teachers. However, the norms and rules within the schools were less rigid and more open to parents and other community members.

Researchers have also investigated the classic tension arising from the competing needs of parents and teachers (Powell, 1991; Sarason, 1994; Wolfendale, 1992). They suggest that some effort is needed to move towards "balancing" parental involvement and professionalism. Even while urging a parent-professional partnership, little has been done to identify teachers' attitudes and actual practices in involving parents in various school affairs.
2.3.1 Decentralization Policy

The decentralization movement, which seeks greater parental participation in education, has been taking hold in England, Wales, Australia, New Zealand, Israel, Singapore, Brazil, Germany, France, Italy, the United States, Canada and Hong Kong. It has been reflected in school legislation since the 1970s (Beattie, 1985; Brown, 1995). Hanson (1991) describes three different models of decentralization that have been employed, based on parents' role and the locus of control over decision making.

With the Community Control Model, authority shifts from the central board of education to parents and community groups. For instance, the city schools of Chicago were legislatively restructured in 1988 such that parents and the community had a dominant role. The reform gave parents six of the eleven seats on the school council of each of the city's 542 schools. In these cases, the school is governed by an elected council which has a parent majority (Hanson, 1991, p. 11-15).

In the Teacher Control Model, individual schools usually have a council with teachers in the majority. The Los Angeles Unified School District of California is an example: one-half of the council seats are reserved for teachers in the local school leadership councils. The school's teacher union representative serves as co-chair of the council along with the principal. Parents are not likely to be involved in school governance (Hanson, 1991, p. 15-18).

The third model is the Principal Control Model. In contrast to the former two, this model may or may not have a site council. For example, in Edmonton, Alberta, policy stipulates that principals are responsible for constructing the school budget "in consultation"
with parents, community members and staff (Brown, 1990).

In British Columbia, the involvement of parents in their children’s education was not formally recognized in law prior to the School Act of 1989 (Brummet, 1989). Under this School Act, parents have the legal right and responsibility to participate in the process of determining the educational goals, policies and services provided for their children. They have a primary responsibility to ensure that children are provided with a healthy and supportive environment necessary for learning. They have a responsibility to help shape and support the goals of the school system and to share in the tasks of educating their young. In brief, the School Act gave parents formal and legal status not only as “informants” or “consultants”, but also as “decision makers” in the educational process. With the pronouncement of this act, one might expect that parents would have meaningful and active involvement in their children’s education in British Columbia (Martin, 1993).

While parents’ rights have gained legitimacy, some researchers find that actual parental involvement in the educational arena remains minimal. The interpretation given by Beattie (1985) and Malen and Ogawa (1988) is that, despite parental representation on school councils, parents’ participation in most settings has had little to do with such important topics for schools as curricula and the hiring of personnel. Findings from their studies in four Western European countries and in one U.S. school district also demonstrate that decentralization policy does not necessarily result in the improvement of student learning.

Researchers often associate decentralization policy with parental empowerment (Comer, 1980, 1987, 1991; Delgado-Gaitan, 1994; Cochran and Dean, 1991). They contend that meaningful involvement of parents requires a restructuring of roles and a shift of power
within schools. Empowerment programs established by Comer and Delgado-Gaitan have provided solid evidence that ethnic minority parents (Black and Hispanic) are willing and can be enabled to participate more fully in their children's schooling. In particular, they emphasize that parents must play a more active role in school management. They find that involving parents directly in school operations can lessen parental distrust of educators. A recent study of parent advisory councils by Rowse (1994) further supports the view that the formal organization of PACs facilitates parental involvement in higher-level school decisions. He finds that when parents are involved in management decisions, they are more cognizant of school budgetary needs and are more likely to find ways to meet those needs.

To summarize, devolution of authority to school sites does not automatically guarantee parents' influence in decision making or an improvement in student outcomes. As Fullan (1991) points out, parental participation in school governance may not be directly related to effective schooling. Not all kinds of parental involvement can improve students' learning experiences. Parental involvement can be beneficial to students only if the school policy and practice can mobilize parents' time and energy in instructional activities.

2.3.2 School Practices

A number of studies have shown that school practices have an overriding influence on the degree of parental involvement achieved (Becker and Epstein, 1983; Hoover-Dempsey et al., 1987; Epstein, 1983, 1991, 1995; Yan, 1995, Rowse, 1994; Brown, 1995). Researchers placed a heavy emphasis on the roles of principal leadership, teacher attitude and teacher efficacy in programs with successful parental involvement (e.g., Becker and Epstein, 1983; Hoover-Dempsey et al., 1987).
Research on parental involvement by Epstein and others consistently documents the importance of principal leadership and support, and teachers' initiative and practices, in influencing parents' willingness and readiness to be involved in their children's education. Principal leadership is crucial for the teachers' involvement practices, and that parents who are frequently informed of their children's progress and requested by teachers to help with school work are more likely to become involved in their children's learning activities, both at home and in school (Epstein, 1987; Epstein & Dauber, 1991). As Epstein concludes, if principals exercise leadership and teachers request parents to give assistance for students' learning activities, then students' achievement, behaviour and attitude towards learning will improve (Epstein & Salinas, 1995).

Hoover-Dempsey et al. (1987) explored the contributions of teacher efficacy and other school practices on parental involvement activities. Data were collected from 1003 teachers and 66 principals in 66 elementary schools distributed across a mid-Southern state. Their analysis used multiple regression to assess the relationship between five types of parental involvement (parent-teacher conferences, parent volunteering, parent tutoring, home instruction, and parent support) and eight aspects of school climate (school socioeconomic status, average teacher degree level, grade levels in school, average class size, teachers' sense of efficacy, principal perception of teacher efficacy, organizational rigidity, and instructional coordination). They found that teacher efficacy was the strongest predictor of parental involvement, more powerful than the effect of school SES composition. High average levels of teacher efficacy were associated with higher levels of participation in parent-teacher conferences, parent volunteers, parent home tutoring, and support from parents. Higher levels
of school SES were associated with higher levels of involvement in parent-teacher conferences, parent volunteers, and parent support. Other factors, such as teacher degree level, principals' perceptions of teacher efficacy, and instructional coordination were also significant, but only with certain types of parental involvement.

Several limitations of the Hoover-Dempsey et al. (1985) study, which are common in most research, are noteworthy. First, the validity of the measures of parental involvement is questionable. The measures of teacher-reported parental involvement may not accurately represent the actual extent of parental involvement. Efficacious teachers may believe that they can motivate parents to be involved; thus, they may over-estimate the amount of parental involvement. Besides, the operational definition of parental involvement is not supported by sufficient conceptual or empirical studies. Some important dimensions of the construct, such as "home-school communication", were not measured.

Second, oversimplification of the construct of SES may decrease its power to predict parental involvement. Only measuring the proportion of students who did not qualify for free lunch does not reflect the complex nature of SES. A standardized SES construct usually assesses three variables: parents' occupation, parents' education, and family income (Willms, 1992). A measure that includes only one or two items is likely to have low reliability, and therefore yield regression estimates that are weaker than the true relationships (i.e. biased downward). Moreover, the measurement of learning materials and cultural resources available to children should be a more powerful determinant of the socio economic status of a family than free lunch or measures of occupation, education and income, that can make a difference in parental involvement and children's learning outcomes (Teachman, 1987; DiMaggio, 1982).
Third, most studies fail to assess the strategies underlying teachers' requests for parental involvement. Many teachers want a limited form of parental involvement in schooling (Lareau, 1989; Brown, 1995). In other words, teachers have their own "zone of acceptance" for parents to be involved. As Lareau points out, teachers appreciate parents' support but discourage criticism. On the one hand, teachers ask parents to be heavily involved in most home-based involvement such as checking student's homework. On the other hand, certain aspects of involvement are defined by teachers as solely within their own professional control. Yet the "zone of acceptance" teachers have in their mind and the strategies they use for parental involvement are generally not well articulated in the literature.

2.3.3. School contextual factors

Schools and school systems with differing contextual backgrounds emphasize different kinds of parental involvement (Bauch and Goldring, 1995; Brown, 1995; Coleman and Hoffer, 1987; Epstein, 1987; Hoover-Dempsey et al., 1987; Lareau, 1989; Michael, 1990; Rowse, 1994, Brown, 1995). Studies demonstrate that variation of parental involvement is largely related to the following school contextual factors.

(1) School size: Large schools appear to have higher rate of volunteer participation (Michael, 1990), but smaller schools are more likely to have active PAC members (Rowse, 1994).

(2) Urbanicity: Survey data in the United States suggested that rural areas and small towns have the smallest number of volunteers (Michael, 1990). However, in a Canadian study of four small elementary schools, Rowse (1994) found that parental participation in PAC in rural areas was extensive. Brown's study on voluntarism supports Rowse's findings that there may be a "rural advantage", because in the rural setting people know each other, and are part of
the community that encourages parents' willingness to help (Brown, 1995, p. 59).

(3) Grade Level: Parental involvement practices dramatically decline from grade one to five (Epstein, 1987). Michael's (1990) study confirms that elementary schools are more likely to use volunteers than secondary schools.

(4) Percentage of Ethnic-Minority Parents: Public schools with high minority enrolment (50% or more) are less likely to use volunteers than schools with lower minority enrolment (Michael, 1990). Rowse (1994) noted that schools found it difficult to involve First Nations parents in school activities.

(5) Teacher and Principal Background: Public schools with a high percentage of minority teachers are less likely to use volunteers, and on average report fewer volunteers than do schools with fewer minority teachers (Michael, 1990).

(6) School socioeconomic status: Schools with predominantly working-class parents tend to have less parental involvement and these parents tend to maintain a "separated" relationship with the school (Hoover-Dempsey et al., 1987; Lareau, 1989). However, Rowse found that lower income levels did not tend to reduce the likelihood of parental involvement (Rowse, 1994, p. 93).

(7) Type of School: Private and Catholic schools appear to facilitate greater parental involvement at school, elicit more parental involvement at home, and provide more effective communication with parents than other types of schools (Coleman and Hoffer, 1987; Bauch and Goldring, 1995).

Overall, the empirical evidence from Brown (1995), Coleman (1987, 1990), Ho & Willms (1996), Lareau (1989), and Milne et al. (1986) suggests that family socio-economic
status, ethnicity, and family structure appear to be powerful determinants of the extent of parental involvement in children's education. Parents with lower SES have fewer family resources. Parents from ethnic-minority groups may have different dispositions toward education and their involvement in it. Single parents may suffer economic deprivation and simply lack the time to be involved. As a result of these cultural, social and economic differences, parents have different patterns of involvement.

Despite the importance of a school's social and economic context, evidence from Brown (1995), Comer (1980, 1987), Epstein (1983, 1991, 1995), Rowse (1994) has confirmed that some schools can mobilize a substantial number of parents who are from ethnic-minority groups or in working-class occupations. Their increased involvement is associated with the integrated bureaucratic-communitarian view of schooling. Decentralization policies and home-school partnership practices are important elements for fostering parental involvement. It also depends heavily on teachers' ability to make parents feel welcome and to match tasks with parents' strengths. This research suggests that when efforts are made to activate low-SES and ethnic minority groups, to understand their strengths and difficulties, most parents have the potential to devote their time and effort at home or in schools.

2.4 IMPACT OF PARENTAL INVOLVEMENT ON STUDENTS' LEARNING

Advocates of parental involvement usually claim that it is the key to enhanced student learning and improved school effectiveness (e.g., Comer, 1987, 1991; Gordon, 1977; Coleman, 1987; Epstein, 1990). Previous research indicates that different types of involvement vary in their impact on different types of learning outcomes (e.g., Comer, 1991; Coleman,
1987; Lareau, 1989; Epstein, 1990; Brown, 1995; Ho & Willms, 1996). Henderson's (1987) review of more than fifty studies asserts that parental involvement in any form appears to produce measurable gains in student achievement. "Achievement" in these studies is broadly defined by: improved test scores; lower student dropout; better school work; more regular attendance; greater student motivation; a more positive attitude toward learning; and so on. Yet little has been done to distinguish the relative contribution of different types of parental involvement toward students' outcomes, and to investigate variations among different social and cultural groups. Several systematic large-scale studies and action research studies are selected below to investigate these under-explored areas and to analyze the impact of the two major categories of involvement on student achievement.

2.4.1 Effects of Different Types of Parental Involvement on Student Learning

Home-based Involvement

Fehrmann, Keith and Reimers (1987) examined the direct and indirect effects of parental involvement on high school students with the High School and Beyond (HS&B:80) database from the United States. A composite measure of parental involvement was constructed that included measures of whether parents knew where their child was and what he or she was doing, whether parents influenced their child's plans after high school, and whether parents closely monitored how well their child is doing in school. The results from a path analysis indicated that parental involvement has a direct, positive effect on high school grades. In addition, parental involvement leads to increased time spent on homework, which in turn has a positive effect on grades.
Keith et al. (1993) had similar findings. They used data from a nationally representative sample of eighth-graders and their parents participating in the National Education Longitudinal Study of 1988 to examine how parental involvement affects student achievement. Four distinct measures of parental involvement were used in the preliminary analysis: parental educational aspirations; parent-child communication; the structure and rules of the home; and parental participation in school activities. Their results from LISREL analyses, which combines measurement and path models, suggested that parental involvement had a powerful effect on the mathematics, English, history and social studies achievement of eight graders. In their final analysis, two forms of home-based involvement — parental aspirations and parent-child communication — were found to make the greatest contribution to student achievement. This suggested that a substantial portion of the effect of parental involvement was through homework, and that homework, in turn, improved students’ achievement. Muller’s (1993) analysis of the same database also reported a significant positive effect of home-based involvement on student outcomes. She found that home-based practices, including talking with the child about current school activities, restricting television, supervising the child after school, maintaining parent friendship networks, and providing music lessons, were strongly associated with children’s test scores.

Since a considerable body of findings from large scale studies supports the effectiveness of home-based involvement, Epstein (1990) has developed an action research project called TIPS (Teachers Involve Parents in Schoolwork). TIPS was designed to assist teachers with increasing parental involvement in language arts, math and science homework at home for the middle graders. By 1995, evaluations of the TIPS program based on interviews
and surveys indicated that students, parents, and teachers found TIPS had a positive impact. As Epstein reported (1995, p. 32): "...teachers reported that students completed TIPS more than other homework; parents and students reported positive interactions and learning. ...Similar assessments at the elementary level revealed similar positive reactions to TIPS."

Although no evidence of achievement gain was reported in the formative evaluation, one would predict that establishing positive homework habits and collaborative practices would have long term benefits for children's learning.

However, the positive relationship between parental involvement and student achievement does not seem to be fully supported by some other empirical results, especially when the detailed measures of family factors, such as ethnicity and family structure, are taken into account. Using data from the Longitudinal Study of American Youth (LSAY), Madigan (1994) found that more involvement did not necessarily contribute to higher achievement. In her regression analysis, three indicators of involvement — parental help with homework, insistence on doing homework and the rewarding of good grades — were found to have negative relationships with achievement. Also, she found that the nature of this relationship was mediated by ethnicity. When Madigan separated the data by ethnic groups, she found that Black students were more likely to have higher achievement scores if their parents encouraged work on mathematics or if they talked with their parents about school progress, future plans, and homework. For the other groups, mostly all of the relationships were not significant. Milne et al. (1986), in attempting to account for the effects of family structure on reading and mathematics achievement, also found negative effects of helping children with homework for white elementary school students. They suggested this counter-intuitive finding
was attributable to parents helping their children more if they were not doing well at school.

Ho and Willms (1996) suggested that the observed negative effect of certain aspects of home-based involvement may stem from problems of multicollinearity or underspecified models. They used factor analysis to identify four dimensions of parental involvement: home discussion; home supervision; school communication; and school participation. In their study, each dimension had a different impact on student achievement. For the two forms of home-based involvement, home discussion appeared to be the most important for predicting students' achievement in mathematics and reading. Home supervision also had a positive association with student achievement, but the impact was marginal when compared with that of home discussion.

Besides the two major home-based forms of involvement, parental investment in cultural resources has been shown to have a significant association with students' learning performance. DiMaggio's (1982) study, grounded in Bourdieu's work on cultural capital, found that parental investment of time and money in cultural activities such as attendance at symphony concerts, arts performances, and literature readings strengthened children's cultural resources. His analysis showed that a composite measure of cultural resources had a significant impact on grades, even after controlling for family background and measured ability.

Teachman (1987) examined the effect of material resources in the home upon educational attainment in the United States. Four measures of educational resources were used in his study: whether there is a specific place to study in the home; whether there are reference books; a daily newspaper; and a dictionary/encyclopedia in the home. He found
that family educational resources have a positive impact on educational attainment of children even after demographic indicators of family background have been taken into account. Second, the direct impact of family educational resources on educational attainment is greater for both girls and boys, whereas the indirect impact is also substantial for boys due to the mediating role of educational aspirations. Supplementary to DiMaggio’s study of cultural resources, Teachman’s findings suggest that the availability of material resources is also important for children’s attainment. Moreover, the impact of family resources on students’ learning outcomes may be gender related.

Some researchers challenge the transmission theory of family resources and have investigated the positive association between family resources and educational attainment. For instance, De Graaf (1986) investigated the impact of financial and cultural resources on educational attainment in the Netherlands. Financial resources were measured by parents’ income and number of siblings in a family. Families with higher incomes and fewer siblings are supposed to have more financial resources. Cultural resources were indicated by reading habits, and participation in formal cultural activities. Reading habits were measured by the number of hours per week parents spend reading and by the number of times per month parents visit a library. Participation in cultural activities was measured by the number of visits parents make per month to museums (or galleries), theaters or concerts, and historical buildings. The results suggest that the influence of financial resources have disappeared since 1950, and that the influence of cultural resources, which was small before 1950, have become even smaller after 1950. Therefore, De Graaf has argued that the association between parents’ participation in high culture and children’s educational attainment was spurious. However,
serious flaws exist in the way De Graaf operationalized the concepts of financial resources and cultural resources. In my view, income and number of siblings are not valid indicators of material resources that have a direct relation to children's education. One cannot tell whether parents spend their income in buying educational materials or creating an environment that is really instruction-related. The construct "cultural resources" has been measured by the parents' own cultural consumption rather than that of students. Whether parents' cultural consumption has a significant association with that of their children depends on the attachment between parents and their children (Coleman, 1990). Therefore, data on parents' cultural consumption are not reliable indicators for availability of cultural resources for their children.

To summarize, both parental involvement and parental investment at home appear to have a significant impact on student's achievement. However, the results are difficult to compare because the studies have employed different measures of parental involvement and parental investment. Moreover, including different background variables in the research model makes it more difficult to interpret the effects of any particular measure. According to Epstein (1986, 1987), home-based involvement is more likely to have a direct effect on student achievement than school-based involvement. As she points out, when parents help children at home in a particular subject, it is likely to increase the student's achievement in that subject. In contrast, involving a few parents in decision-making on school committees probably will not help other parents know how to help their children at home. Agreeing with Epstein, Ascher (1988) conducted a survey of 185 elementary principals. He found that while community support, fund-raising, and attendance at school meetings were all highly correlated with achievement, citizen participation in policy decision-making might not be so highly
correlated. It would be worthwhile to examine whether school-based involvement has any impact on students' learning environment and learning outcomes.

**School-based Involvement**

Some researchers view school-based involvement as a kind of decentralization, and argue that parental involvement can affect a school in three ways: redistributing power, enhancing efficiency, and improving school effectiveness. From a political perspective, the notion of redistribution of power is largely incompatible with the manifest interests of the modern state in maintaining effective control (Malen & Ogawa, 1988). From an economic perspective, parent participation as a means to enhance the efficiency of educational governance, by generating additional resources and by using available resources more effectively, seems to have some potential (Brown, 1995). From an educational perspective, parental participation as a means to recognize the diversity and importance of different cultural environments in one's society is generally considered to have a positive impact on students' learning outcomes (Brown, 1991, 1995; Ho and Willms, 1996).

An alternative interpretation given by Weiler (1990) is that parental participation is not valued so much for student improvement, but more likely for conflict management and compensatory legitimation. He argues that the intention of government to involve parents in school governance is to deal with the problem of a legitimacy crisis in the educational system. Parental participation may make the government appear less monolithic and more attentive to internal variations of needs and conditions. Beattie's case study (1985) on parent participation in four western European countries appears to support Weiler's thesis. She finds that since the 1960s, parents in France, Italy and Germany have had different levels of
participation in the governing of their children's education. Yet, only *pseudo-participation and partial participation* are more commonly practiced (Beattie, 1985, p. 237) and the goal is mainly for conflict management rather than school development. In addition, Beattie theorizes two major goals for parent participation: the *reformist paradigm* and the general *crisis paradigm*. The former has a connotation of school *development* while the latter is opting for *stasis* (Beattie, 1985, p. 110). In other words, the reformist paradigm aims to increase responsiveness and improvement, whereas the crisis paradigm deals with the legitimation crisis of the system. In Beattie's final analysis, she points out that the general crisis paradigm appears to be more satisfactory for describing the emergence and development process of parental participation in the four countries. In Beattie's view, the main purpose of parental participation is to find a solution to problems. Legitimation is a dominant concern. In terms of educational improvement, however, the evidence is scarce and less positive.

Comer (1987, 1991) would likely challenge the assertion that parental participation in school governance and volunteering does not help student learning, while admitting that the effects are not direct. In the United States, Comer's SDP (School Development Program) schools can be seen as a successful model of parental participation in governance. Parental participation in Comer's model emphasizes three types of involvement practices: contact with parents and requests for their turnout to school events; invitations to parents to implement activities in school; and empowerment of parents to participate in a school management team. These three types of involvement can be scaled on a continuum of empowerment: *informing-consulting-decision making*. “Informing” is the traditional involvement practice that emphasizes communication with parents. “Consulting” means parents have their voice in
planning school activities. "Decision making" is an actual delegation of authority, where parents participate in school governance to "make decisions" on school policy. A longitudinal study of parental participation in schools was conducted by Comer (1987) in a low performing school in New Haven, Connecticut. Using three types of school-based involvement over several years, the school, which was populated by at-risk students, improved its rank in academic achievement from 32 out of 33 to 3 out of 26. Similar results have been attained with other low-performing schools. It appears that parental participation in school governance may improve the school climate, such as the learning norms and social climate, which indirectly leads to school improvement for at-risk students.

A number of recent large scale studies have also found that PTO participation and volunteering have a significant association with student achievement (Stevenson and Baker, 1987; Muller, 1993; Ho & Willms, 1996). Stevenson and Baker (1987) utilized a nationally representative sample of American households, the Time Use Longitudinal Panel Study, to assess the impact of parental involvement on the school performance of children aged five to seventeen. Results from regression analyses suggest that parental involvement is a significant predictor and that it mediates almost all the positive effect of the mother's education on the child's school performance. In their final analysis, they concluded that parents who are more involved in school parent-teacher organization (PTO) meetings and parent-teacher conferences have children who perform better in school. This relation holds even after the background factors, mother's education, child's gender and child's age had been taken into account.

Muller (1993) found that PTO participation and volunteering were strongly related to grades rather than to test scores. She suggested that it probably reflected an attempt by
parents to influence how the child's performance was evaluated at school. However, she also reported *negative* effects associated with the frequency with which parents contacted the school. Her findings suggest that parents of low achievers are more likely to be contacted by school teachers. It appears that not all types of school-based involvement have a positive association with student achievement.

Ho and Willms (1996), using factor analysis, distinguished two categories of school-based involvement: school communication and school participation. "School communication" was constructed by the mutual contact between parents and teachers and "school participation" was constructed by the parents' classroom volunteering and school PTO participation. Their findings, consistent with Epstein's (1995) research, indicate that school communication is negatively related to students' mathematics and reading achievement. They have reasoned that this negative effect probably stemmed from parents communicating more with the school when their child was at risk academically. They found further evidence that school communication is generally problem-oriented. As their regression model included indicators of whether a child had a learning or behaviour problem, these variables mediated some of the observed effect of school communication on achievement.

The most interesting and important finding in the study was that school participation had a *contextual* effect, at the school level, on student achievement (Ho & Willms, 1996). At the individual level, school participation did not appear to have an important impact on student achievement; however, at the school level, student reading achievement was related to the mean level of parental participation. These findings suggest that every child benefits from going to a school which has a large number of parents participating in classroom volunteering.
and the school Parent Teacher Organization. Such a general benefit may even outweigh the individual benefit of having his or her own parents participate in school. It appears that the benefits to a child of having his or her own parents participate were in fact negligible; what is important is attending a school where there is a high level of involvement by the majority of parents. As Ho and Willms reasoned, when parents volunteer in the school or participate in PTO, they enrich the overall learning environment, strengthen social networks, and improve the learning norms for all children in the school.

Brown's study (1995) on school voluntarism has provided further elaboration on the mechanism of how school volunteering can be beneficial to student achievement. His study has demonstrated that school climate nurtured by school volunteers has the capacity to generate rewards and institute norms and sanctions that are much more powerful than the child's parents could provide on their own. He suggested that as parents obligate themselves to donate their time to schools, they gain school information and students gain contact with the parents of other children. Thus, two norms evolve: first, that the child should value learning, second that the child should care for others. These educational obligations, information channels, learning norms and caring norms are important indicators of positive school climate from which children could benefit considerably (Brown, 1995, p. 42-44).

Summary

A number of large scale studies suggest that home-based involvement, such as monitoring a child's performance and discussing school work with the child, is positively related to achievement, whereas checking homework or limiting TV time do not have strong effects on academic achievement (Epstein, 1990; Fehrmann et al., 1987; Ho & Willms, 1996;
Keith et al., 1993; Muller, 1993). Yet the effects are mediated by family background factors such as family structure, ethnicity and gender (Madigan, 1994; Milne et al., 1986). For school-based involvement, parent participation is usually developed and implemented within the crisis paradigm, which implies that parental participation is related to dealing with problems rather than improving students' learning (Beattie, 1985; Malen & Ogawa, 1988; Weiler, 1990). But recent evidence collected from the United States (Comer, 1987; Ho and Willms, 1996) and Canada (Brown, 1991, 1995; Rowse, 1994) finds that parental participation in school PTO and volunteering have a substantial impact on school climate and student outcomes. To conclude, growing evidence supports the thesis that the greater the parental involvement and investment at home and in school, the better the student achievement. However, this finding has not been consistent across studies.

2.4.2 Problems Need to be Addressed in Studying the Effects of Parental Involvement

Although a number of explanations are possible for the inconsistent findings of research on parental involvement, the major reasons are likely to be the differences among operationalization of parental involvement, sources of measurement, and the selection of control variables (Reynolds, 1992; Ho & Willms, 1996). The literature described above suggests that the construct, parental involvement, is multi-dimensional and should not be treated as a single construct. However, including a large number of different measures may be problematic. As Ho and Willms (1996) have pointed out, including a large number of correlated measures of parental involvement could lead to the problem of multicollinearity.¹

¹. The major problem of multicollinearity is statistical suppression that distorts estimation. For instance, measures of home discussion and homework supervision have a positive correlation with student's reading and mathematics scores, yet results from regression analysis show a negative coefficient of 'parents check homework' and 'after school supervision. The
They have overcome this problem of multi-collinearity by factor analysis. Their analysis has also included more detailed measures of family background such as family SES, family structure and ethnicity, and student characteristics such as sex, learning problems and behaviour problems. Thus the estimated effects of parental involvement were "adjusted effects"; that is, they were the effects of involvement over and above the effects of family background and student characteristics.

Other barriers to the consistency and generalizability of research reside with the sources of information. Self-reports and home interviews from parents and students, as well as ratings from teachers and principals, were employed in previously-cited studies. It is not clear which informant is preferred, although this may depend on the purpose and focus of the studies. As Reynolds (1992) suggested, parents might under-report their contact with schools or over-report their involvement at home. Teachers might provide valid reports for certain kinds of school participation, but their ratings of home involvement may not be completely representative. Children also are possible sources of data on parental involvement as they are the focus or recipient of actions by parents. Reynolds (1992) compared the levels of parental involvement reported by parents, teachers and pupils and their impacts on academic achievement. The results from correlation analysis demonstrated that there was low correspondence in ratings of parental involvement among different informants. Although all sources yielded significant influences on achievement, parents' reports explained only two percent of the variance in achievement. The predictive power of teachers' reports on school pattern of this contradictory result is called statistical suppression. Since items of 'home discussion' appears to be the most powerful predictor for student achievement, the impact of items measuring 'home supervision' is suppressed and under-estimated in the regression analysis.
involvement and pupils' reports on home involvement appeared to be much better. The former explained 9 percent and the latter explained 11 percent of the variance in achievement, respectively. These results suggest that students' reports on home-based involvement and teachers' reports on school-based involvement are more reliable and powerful measures for predicting students' outcomes.

Differences in control variables are the third reason for inconsistencies in the observed effect of parental involvement. Ethnic groups appear to differ in their patterns of involvement and in the effectiveness of their involvement (Ho and Willms, 1996; Madigan, 1994). Parents from different social origins tend to choose types of involvement that they feel comfortable with (Lareau, 1989). Schools which emphasize certain types of involvement may influence the effectiveness of those particular parental practices (Epstein, 1986). Moreover, certain dimensions of achievement, such as self-esteem, are gender sensitive and are highly related to ethnicity (Skaalvik, 1986). All of this evidence suggests the importance of research on special populations, and the need to include control variables, such as gender, ethnicity, and family structure, that are significantly related to students' learning outcomes.

To conclude, the extent in which parental involvement affects student achievement depends mainly on the way we conceptualize and operationalize the construct of parental involvement, the sources of information, and the selection of control variables. Previous studies suggest that different types of involvement appear to vary in their impact on different types of student outcomes. Therefore, instead of collapsing the concept of parental involvement into a single construct, researchers need to clarify the multi-dimensionality of parental involvement and determine the impact of different types of involvement on student
outcomes. Moreover, the research needs to take into account contextual factors, such as ethnicity, family structure, and social class, in explaining the impact of parental involvement on student achievement.

2.5 SUMMARY

This review began with the clarification of the construct parental involvement. The concept of parental involvement can be defined as parents devoted to helping with their children's education, actively or passively, both at home and in the school. A two-dimensional model has been constructed to assess the nature of parental involvement in education. The validity of this model is worth further study. This clarification of the construct of parental involvement will provide a better foundation for further conceptual and empirical analyses.

In examining the barriers and facilitators of parental involvement, this review has focussed on two levels of factors: individual level and institutional level. Individual factors such as family socio-economic status, family structure, and ethnicity appear to most consistently affect factors affecting different dimensions of parental involvement. Institutional factors, including level of decentralization, partnership practices, teachers' attitudes and practices, and a number of school contextual factors are essential elements impinging on the level of parental involvement in education.

In assessing the impact of parental involvement on student achievement, home-based involvement and school-based involvement appear to vary in their impact on students' learning. Studies suggest that home-based involvement may have significant direct effects on students' achievement. School-based involvement, which may only involve participation by a
few parents, may affect students' learning in indirect ways. That is, school-based involvement may affect the school climate or the general learning environment at school, and that in turn will affect student achievement.

In exploring how and why family background affects the pattern of parental involvement and student achievement, Lareau suggested that the working-class tends to have less parental involvement and lower student achievement because of scarcer “cultural capital”. However, Coleman contended that some (Asian) parents, even though from a lower social class, were devoted to helping their children's learning because they have “social capital”. In order to explain the subtle mechanisms of how family background and institutional factors affect parental involvement and student achievement, two competing theories and the concept of capital will be discussed in the next chapter.
CHAPTER 3
THEORETICAL EXPLANATION OF PARENTAL INVOLVEMENT IN EDUCATION

In conventional sociology of education, social differences in parental involvement are often explained by two major theories — family deficiency and institutional discrimination. The family deficiency theory infers that disadvantaged parents are less likely to be involved in their children's education. The association between low parental involvement and family deficiency is significant and persistent in traditional “school and home” studies. However, some social scientists have examined the organizational dynamics of schools and attribute the lesser participation of working-class parents to subtle discriminatory practices that exclude parents from working class and ethnic minority groups.

In my view, the two theories are not necessarily incompatible. This chapter examines the logic embedded in the two theories. I argue that each theory emphasizes particular constraints hindering ethnic minorities and lower socioeconomic groups from being involved in their children’s education. In particular, I consider the concept of “capital” common to the two theories. Bourdieu’s “cultural capital” and Coleman’s “social capital” are useful constructs to aid our understanding of the social differences affecting parental involvement in education. However, some weaknesses and limitations emerge when researchers appropriate such constructs in their studies. Following a discussion of some of these problems, I conclude by considering several important research problems for further study.

3.1 FAMILY DEFICIENCY VS INSTITUTIONAL DISCRIMINATION

3.1.1 Family Deficiency and Institutional Discrimination Theories: the Concept of Exclusion

The “family deficiency” theory attempts to account for differential patterns of parental
involvement through consideration of individual characteristics. In Riessman's (1962) explanation of the theory, parents from 'culturally deprived' or 'deficient' families lack an 'educational tradition' in the home and do not value education. They have insufficient command of the language used, or speak inappropriate forms of language. They have inadequate motivation to pursue a long-range educational career and a poor estimate of themselves and their children. Therefore, they tend to participate less in their children's education (Riessman, 1962). Implicit in this theory is the belief that the parents, their children, and the environment outside school are the central problems accounting for the failure of students from working-class or ethnic-minority groups. Scant attention is given to the faults of the school in explaining why disadvantaged children do poorly in school.

Rather than blaming the parents, another explanation traces inequality of parental involvement back to the educational institutions. This theory accuses schools of "institutional discrimination", claiming that school actors are biased against working-class parents and students, hold racist attitudes, and neglect those with special needs and talents. Therefore, it is the subtle discriminatory school practices that exclude certain parents from participating in schools. Riessman (1962) has tried to reformulate some basic institutional factors deterring disadvantaged children from learning. These factors, which re-interpret "why Johnny can't learn" (1962, p. 5), are:

"1) The discrimination, frequently unintentional, seen in the classroom, Parent Teacher Association, guidance office, psychological testing program, etc., which alienates Johnny and his family. 2) Johnny's ambivalence toward education — not simply rejection of it - his lack of school know-how, test-taking skills, information concerning college, and his anti-intellectualism. 3) The culture of the school which overlooks and underestimates his particular skills and mode of intellectual functioning that arise out of his culture and way of life. 4) The deficits in Johnny's background which necessitate special transitional techniques to bring him into the academic standards, a capitulation to his deficiencies."
Although this perspective appears to challenge the family deficiency theory, implicit in Riessman's interpretation is still a traditional view of the professional-parent relationship. The educator as the expert transmits knowledge and delivers services to the parents and children, who are passive recipients with deficiencies to be remedied. Nevertheless, the institutional discrimination theory is useful in that it directs attention away from the characteristics of families, which is probably excessive, and focuses attention on the internal organization and educational context of the school.

According to Lareau (1989), teachers across the United States want parents to provide an advantageous educational environment for children at home, to participate in school events, and generally to support teachers' efforts and respect their professional expertise. When Lareau compared teachers' practices in a working-class school with the practices in an upper middle-class school, she found no substantial differences in the frequency and variety of ways teachers requested parental assistance. She concluded that there was almost no organized discrimination from the school or the institution of education itself.

Ho and Willms (1996) also found no significant differences among the 1024 United States middle and junior secondary schools in three types of parental involvement: home discussion, home supervision, and school communication. However, school participation, which included the level of parental involvement in classroom volunteering and school PTO, did differ significantly across the sampled schools. Their findings suggest that institutions may not have much impact upon certain types of involvement; family resources and student characteristics appear to be the major determinants of home-based involvement and communication between parents and school. However, their analysis suggests that some
schools have certain policies and practices that induce a higher level of parental involvement in volunteering and PTO participation, which contributes to students' academic achievement.

The persistence of systemic differences in the level of parental involvement among certain social groups is a matter of widespread social concern. The concept of *exclusion* may help to explain this pattern of differential parental participation in schools. Four forms of exclusion described by Bourdieu and Passeron (1990) — self-elimination, over-selection, relegation, and direct selection — are used to explain how disadvantaged parents are discriminated against by schooling systems.

The possible mechanisms of exclusion and the reactions of parents to these four types of exclusion are illustrated by the studies of Lareau (1989) and Harker (1993). *Self elimination* occurs when parents eliminate themselves from situations in which they feel uncomfortable because they lack familiarity with the school environment. Lareau found that school teachers might unintentionally make working-class parents feel uncomfortable; these parents will not have the confidence to become familiar with that environment (Lareau, 1980, p. 39-59). *Over-selection* occurs when parents with fewer resources are subject to the same requirements and expectations as those who are culturally privileged; for instance, when illiterate parents are asked to read to their children without guidance. These parents may not appreciate their rights and responsibilities, and therefore not ask for and obtain the guidance they need (Harker et al., 1993, p. 80-97). *Relegation* occurs when parents with fewer resources end up with less desirable volunteer positions in the school. Ultimately they get less out of their involvement. For example, due to symbolic differences (such as appearance and manner) between teachers and some parents, the potential contribution of parents from
working-class or ethnic minority groups may unconsciously be undermined by teachers and other staff. Parents who are under-valued are likely to become passive, and may eventually give up their rights and responsibilities regarding their children's education. Direct exclusion occurs when parents have so few resources that they cannot afford any type of involvement. For instance, most single parents who are working full time do not have flexible working hours, and many of them do not have sufficient energy to help their child at home or to volunteer in school. (Harker, 1993; Lareau, 1989).

In brief, parents with fewer resources fail to participate in their children's education because subtle criteria set by schools have screened them out. As Epstein argued (1990), when parents have little contact or guidance from the school, the typical pattern continues to be less involvement by disadvantaged parents. Consequently, the poor participation of many parents is not attributable to school staff who consciously discriminate against these parents, or to a lack of concern of the parents. Rather, these subtle exclusionary mechanisms become an accepted feature of how schools operate: a comfortable equilibrium is established whereby schools can blame the parents and parents can blame the schools for the low involvement and low achievement of disadvantaged groups.

3.1.2 Beyond the Deficiency and Discrimination Theories: The Concept of Inclusion

The 'family deficiency' thesis and the 'institutional discrimination' theory yield insights into the social differences of parental involvement in education. Yet three flaws are noteworthy. First, the family deficiency theory underestimates the autonomy of disadvantaged parents, who use the resources they do have to participate in home-based involvement. Second, the institutional discrimination model undermines a possible awareness that some
teachers do successfully involve even the most disadvantaged parents in their children's education (Becker and Epstein, 1982; Wolfendale, 1989, 1992). Finally, both models neglect the subtle interaction between family factors and institutional practices that might affect the mobilization of parents from different social origins.

A theory based on the concept of inclusion can provide us with a more comprehensive picture of the constraints and possibilities of parental involvement. The inclusive theory integrates the bureaucratic and communitarian perspectives on schooling that were examined in Chapter Two. It goes beyond blaming parents or schools, and emphasizes both parties' responsibilities for acquisition of competencies or resources necessary to solve problems and attain desired goals. It argues that both parents and teachers need to engage in a dialogue that examines the four types of exclusion. Teachers need to be aware that parents from different social and cultural origins have distinctive resources; and that if their schools are sensitive and responsive to the cultures of their communities, more parents can be mobilized to help their children regardless of social origin. On the other hand, parents need to be confronted with the fact that neither withdrawal nor an angry stance towards schools achieves the results they want for their child. Just as it is the staff's responsibility to critically examine their own discriminatory practices, it is up to the parents to voice their concerns and give guidance to schools about how they could operate differently. In brief, the inclusive theory links the family and school spheres (Epstein, 1990; Lee et al., 1990) based on the rationale that parents know their children well and teachers have relevant professional knowledge. The zone of acceptance can be clarified by parents and teachers so that they can share both professional expertise and parental knowledge pertaining to children's education.
Evidence from some recent empirical studies supports this inclusive theory (Epstein, 1986, 1990; Epstein & Salinas, 1995; Fagnano & Werber, 1994; Ho & Willms, 1995; Yan, 1995). A growing number of research studies have demonstrated that both family backgrounds and institutional practices are essential factors for parental involvement. Prominent theorists such as Pierre Bourdieu and James Coleman have deployed the concept of "capital" to explain the class disparities of student achievement. Their concept of "capital" also signifies different forms of resources available from families and schools. I would argue that the concept of capital lets researchers move beyond the traditional "exclusion" generalizations. It leads us to examine exactly what kinds of capital are transmitted to students by family or what capital can be created by schools which help students succeed. Below I will clarify the concept of capital and discuss how it can help us to understand the inclusive model of parental involvement.

3.2 THE CONCEPT OF CAPITAL

3.2.1 Definition of Capital

Bourdieu begins his analysis of capital using concepts from Marx. In his major essay, he introduces the definition of capital (Bourdieu, 1986, p. 241):

Capital is accumulated labor (in its materialized form or its incorporated, embodied form) which, when appropriated on a private, i.e., exclusive, basis by agents or groups of agents, enables them to appropriate social energy in the form of reified or living labor.

This definition identifies three distinctive characteristics of capital. First, capital is not necessarily a financial or physical asset, but can also be understood as an accumulation of
labor. Second, capital exists in various forms: in materialized forms, such as property; or in incorporated forms, such as educational qualifications. Third, capital can be converted from one form to another according to the principle of “conversion of social energy” (Bourdieu, 1986, p. 252-253). For instance, educational qualifications (an incorporated form of capital) can be converted into monetary rewards (an objectified form of capital) in the labor market. Similar to Marx, Bourdieu uses the concept of capital as a major analytic apparatus and describes the social world as “accumulated history of capital”. Unlike Marx, who emphasizes mainly economic capital, Bourdieu identifies immaterial forms of capital — cultural, symbolic, social, linguistic capital and so on.

Coleman did not define the concept of capital clearly, yet he elaborated the notion of physical (or financial), human, and social capital in his theoretical and empirical studies. The most important and insightful elements of both Bourdieu’s and Coleman’s discourses is the notion of convertibility among forms of capital. That is, the way in which different types of capital can be transformed from one form to another and transferred from one generation to the next. The notion of transformable capital can help us understand the link between home and school as well as the connection between parental involvement and student achievement.

3.2.2 Types and Forms of Capital

Although Bourdieu and Coleman have never systematically clarified the concepts of “capital”, people generally have no difficulty in understanding it as resources (in objectified

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2. In his essay, Bourdieu emphasize that social world is accumulated history (Bourdieu, 1977: 241). His labour theory of capital emphasizes that capital takes time for individuals to accumulate. Agents or groups of agents need the labor-time to transform capital from one type into another and to transmit it from one generation to the next.
form) or power (in embodied form). Embodied means that the capital is linked to the body and existed as an integral part of the person (Bourdieu, 1977, p. 244).

According to Bourdieu (1986), there are three fundamental types of capital: economic capital, cultural capital, and social capital. They can exist in three forms: embodied form, objectified form, and institutionalized form. The synthesis of the various types and forms of capital is shown in Table 1. Economic capital existed only in objectified form such as income, ownership of house and ownership of automobile. Cultural capital is embodied in the form of dispositions and aptitudes, such as a sense of familiarity with high status culture and forms of language; in cultural goods, such as the possession of books and works of art, and in institutionalized form, such as credentials, degrees, or public awards. Social capital consists of networks and connections with significant others, and may be institutionalized through the acquaintance in systems of noble title or recognition as member of some higher status social groups (Jenkins, 1992, p. 85).

<table>
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<tr>
<th>Forms Types</th>
<th>Embodied Form</th>
<th>Objectified Form</th>
<th>Institutionalized Form</th>
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<tbody>
<tr>
<td>1. Economic</td>
<td>—</td>
<td>Income, House, Automobile</td>
<td>—</td>
</tr>
<tr>
<td>2. Cultural</td>
<td>Disposition</td>
<td>Cultural Goods</td>
<td>Academic Qualification</td>
</tr>
<tr>
<td>3. Social</td>
<td>Social Connection</td>
<td>—</td>
<td>Nobility / Membership</td>
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</table>

Coleman (1990, 1994) similarly identified three major types of capital: physical or financial capital, human capital, and social capital. To Coleman (1990, p. 304), physical
capital was wholly tangible, embodied in *observable material forms*; human capital was less tangible, embodied in the *skills and knowledge* acquired by individuals; social capital was even less tangible, embodied in the *relations among persons*. In my view, Coleman's categorization is similar to that of Bourdieu. Both scholars defined the "economic capital" or "physical capital" as material resources. As Coleman pointed out, physical capital can be embodied in tools, machines and other productive equipment.

Bourdieu's concept of cultural capital overlaps with Coleman's concept of human capital. The notion of *skills and knowledge*, which is human capital defined by Coleman, is a part of the "cultural capital" defined by Bourdieu. However, Bourdieu has enriched the concept by including taste, life style and cultural consumption such as interest in art and classical music, attendance at theaters and museums, and reading habits. Recent studies have suggested that Bourdieu's concepts of cultural capital are more fruitful in understanding the association between the socioeconomic status of parents and their level of involvement in their children's education (e.g. Harker et al., 1993; Kalmijn & Kraaykamp, 1996; Lareau, 1989). Moreover, both scholars used a similar definition of "social capital". However, Coleman's ideas on the creation, maintenance and destruction of social capital in modern society are especially well developed. Differing from Bourdieu, Coleman held a less deterministic notion of generation of social capital which allowed for the relative autonomy of social actors. This appears to be a useful concept for educational reformers and researchers (e.g. Muller, 1993; Brown, 1995). As Coleman noted (1994, p. 101):

"...the concept of social capital allows taking such [organizational] resources and showing the way they can be combined with other [family] resources to produce different system-level behavior or, in other cases, different outcomes for individuals,"

59
Economic Capital

Bourdieu paid little attention to economic capital. In his article "The forms of capital", Bourdieu (1986) has no detailed discussion on the nature or forms of economic capital, and in his early work, entitled "Cultural Reproduction and Social Reproduction" (Bourdieu, 1977), economic capital apparently had only an objectified form. He operationalized the concept with measures of material resources including income, having one's own residence, owning an upper-category automobile, having holidays in a hotel, and owning a boat. The same is true for Coleman: in his book "Foundation of Social Theory" (Coleman, 1990), he includes only a brief description of physical and financial capital as embodied in tools, machines, and other productive equipment.

Cultural capital

Cultural capital refers to the general cultural background, knowledge, disposition, and skills that are passed on from one generation to another (Bourdieu, 1986). Cultural capital can exist in an embodied state as long-lasting dispositions of the mind and body, such as linguistic competence, behavior, habits, tastes and attitudes; in an objectified state as cultural artifacts such as books, pictures, instruments, and other material objects; or in an institutional form such as an academic qualification.

Taking linguistic competency as an example, theorists such as Bernstein (1975) contend that class membership and family socialization generate distinctive speech patterns. Working-class children learn "restricted" linguistic codes while middle-class children use "elaborated" codes. This means that the speech of both working-class and middle-class children is generated by some underlying regulative principles that govern their choice and
Bernstein argues that speech is related to learning and that a restricted linguistic code limits the cognitive development of working-class children. In turn, cognitive differences between middle- and lower-class children reinforces class differentiation. This results in a cycle of class reproduction. The linguistic competence of middle-class children can be seen as a kind of cultural capital, which is recognized in schools, since our educational system typically uses, values, and rewards the "elaborated code" of the middle-class.

Social Capital

Social capital refers to resources based on the interpersonal network or connection of one's significant others. As Bourdieu says (1986, p. 248): "social capital is the aggregate of the actual or potential resources which are linked to possession of a durable social network of more or less institutionalized relationships of mutual acquaintance and recognition which provides each of its members with the backing of the collectively-owed capital." The amount of social capital possessed by a person thus depends on two factors: (1) the size of the network, and (2) the volume of potential resources possessed by each of the members.

Coleman (1988) states that social capital, which exists in the relations among persons, can exist in three major forms: as obligations and expectations, as information channels, and as social norms. He explains that obligations can be conceived of as a credit slip held by people which can be called in if necessary; information channels concern appropriating information that provides an important basis for action through the use of social relations; social norms provide the criteria to reward or sanction individual actions. Besides these three forms, he extends another three new forms of social capital (Coleman, 1990): authority
relations, appropriate social organization, and intentional organization. However, the definitions of these new forms are not well-developed enough for use in empirical research.

When we compare Bourdieu's and Coleman's notions of social capital, two features are noteworthy. First, it appears that social capital means something quite different to Bourdieu and Coleman, except that both accept "social network" as an important form of social capital. Second, the concept of social capital is better developed in Coleman's literature. Coleman noted that a major property of social capital that differentiates it from economic and cultural capital is that it is a *public good*: the actor or actors who generate social capital ordinarily capture only a small part of its benefits for themselves (Coleman, 1994, p. 116). Therefore, it is often not in the actor's interest to bring social capital into being, and this leads to the erosion and under-investment in social capital in modern society. Evidence from the studies about the general impact of single-parent family and Catholic schools on students' learning outcomes and dropout rate suggests that social capital nurtured by strong families and strong communities plays an important part in the creation of human capital in children and youth (Coleman, 1987, 1989). Coleman warned that the generation of social capital is much less now than in the past, and may continue to diminish further in the future. The ways in which different types of capital are generated, according to the studies of Bourdieu and Coleman, will be explored next.

3.2.3 Generation of Cultural Capital

According to Bourdieu, the amount of cultural capital that can be acquired or accumulated depends on the time period, the society, and the social class and the appropriating capacities of individual agents (Bourdieu, 1986, p. 245). This implies that
different kinds of society value different types of cultural capital. A person's social class determines the amount of capital he or she possesses and can mobilize. Moreover, the accumulation of capital costs time and must be invested personally by the investor. Unlike economic capital, which can be transmitted to succeeding generations quite directly, the transmission of cultural capital is partly determined by the appropriating capacities of an individual (Bourdieu, 1977, p. 254). How can one optimize the accumulation of cultural capital? According to Bourdieu (1986, p. 246), the process begins as soon as a child is born: "the initial accumulation of cultural capital, ....starts at the outset, without delay, without wasted time...; in this case, the accumulation period covers the whole period of socialization."

To Coleman, the creation of social capital for children depends on three major factors: closure, stability, and ideology (Coleman, 1990, p. 328). The closure of social networks is important for the emergence of norms which can limit negative external effects or encourage positive ones. As Coleman argues, the existence of a strong relationship between an adult and a child can be regarded as social capital beneficial for the child's development (Coleman, 1994, p. 2273). Coleman contends that the close relationship between the two parents in traditional families can provide support and rewards for the child that might not be instituted by single-parent families. As he puts it (Coleman, 1988, p. 111), "the physical absence of adults (in a single-parent family) may be described as a structural deficiency in family social capital.... Even if adults are physically present, there is a lack of social capital in the family if there are not strong relations between children and parents". The stability of appropriate social organizations, such as the establishment of a formal parent teacher association (PTA) constitutes social capital not only for the organizers but for the school, the students, and other
parents. In Coleman’s words (1990, p. 320): “The social invention of organizations having positions rather than persons as elements of the structure has provided a form of social capital that can maintain stability in the face of instability of individuals.”

The third factor affecting the generation of social capital is ideology. Coleman argues that (1990, p. 320): “An ideology can create social capital by imposing on an individual who holds it the demand that he act in the interests of something or someone other than himself.” For example, Coleman and Hoffer (1987) find that the dropout rate is much lower in Catholic schools than in secular private or public schools. They contend that the apparent cause is a quantity of social capital — which is measured by the frequency of attendance at religious services — available to the religiously affiliated school that does not exist for most other schools. They thus interpret Catholic schools’ lower dropout rates as expressing a greater sense of community (a form of social capital).

3.3 CONVERSION OF CAPITAL AND PARENTAL INVOLVEMENT

3.3.1 Different forms of capital and parental involvement

Bourdieu’s and Coleman’s concepts of capital are powerful conceptual tools in explaining the impact of social class on patterns of parental involvement in education. In Lareau’s study, the concept of cultural capital was used to explain the advantage of middle class parents in school participation. She conceptualized the construct of “cultural capital” in the forms of: competence, confidence, income, patterns of work and social connections.

However, Lareau’s appropriation of the concept “capital” is limited. In Bourdieu (1974, 1977), social origins provide parents not only with cultural capital, but also other
forms of capital which may facilitate involvement in their children's education. For instance, income is actually economic capital that can be directly invested to provide learning material and an appropriate environment for children's education. Social networks can also be regarded as a type of social capital (Coleman, 1990), which provide parents with the appropriate obligations and expectations, information channels, and norms; thus, they may facilitate negotiation with school teachers.

Moreover, capital provides not only the material, cultural or social foundation, but also the symbolic foundation, for the interaction between teachers and parents. From the interactionist perspective, symbols include not only written and spoken language, but also symbols of appearance, such as gestures, clothes, body posture, and manners. Each kind of symbol is part of a code by which others read our meaning. Each code also provides a tool for people to ascertain our social identity. For instance, Lareau admitted that her own relationship to students' parents mirrored the pattern of family-school relationships in the two schools she researched (Lareau, 1987, p. 198). She might have been aware of the separated relationship between the middle-class teachers (and herself) with the working-class parents; however, she might not have noticed that it was the symbolic foundation (appearance) of the working-class parents that made her (and also the teacher) feel uncomfortable in their encounters with them.

In sum, social origins provide parents with various forms of capital that foster different types of involvement in their children's education. Parents can invest their income to buy books or computers, or to hire private tutors. They can use their knowledge (cultural capital or human capital) to supervise their children's homework or to volunteer in the school.
Parents with professional careers or significant social networks (social capital) may occupy a better social position in which to negotiate with school personnel and grasp important information for their children. Parents' appearance can affect the pattern of interaction between parents and teachers, and so on. Once this convertibility of capital is understood, inequalities in parental involvement should be clear.

Therefore, the amount of various forms of capital possessed by parents is a major determinant in the pattern of their involvement. However, do working-class parents with less capital necessarily have less involvement? Some researchers argue that Bourdieu's theory does not suggest a direct link between social origins and social practices (e.g., Lareau, 1989; Bellamy, 1993). As Lareau remarked (1989, p. 177),

"The concept of [cultural] capital has the potential to produce significant improvements in conceptual models of the linkages between social structure and individual biography ... it retains the possibility of accounting for individual variability within the framework of classifications of social structure."

Thus, the cultural capital associated with class is only one of the potential factors impinging on the practice of parental involvement in education. Empirical studies (e.g. Brown, 1991; MacLead, 1987) suggest that individual parents or certain ethnic-minority groups, even though they have scarce resources, may choose to devote their limited time and energy to maximize their involvement. In such cases, Bourdieu's concept of class-related cultural capital seems to be insufficient in explaining these individual "odds" (Harker et al., 1993).

Coleman (1994, p. 35) suggests that, the educational expectations, norms and obligations that exist within family or community are important "social capital" that can make
a difference in the level of parental involvement even after taking into account differences in social-class backgrounds. Evidence cited by Coleman (1987) to support his notion of social capital is that students from single-parent families and with larger numbers of siblings drop out of high school in above-average numbers, even after controlling for socioeconomic effects. He attributes the negative educational impact of living in a *non-traditional family* to the reduced and eroded social capital associated with it. He warns that as we move toward new structures of the household in modern society, many of the linkages and activities that provided social capital for the next generation are no longer present.

Coleman and Hoffer (1987) found Catholic schools have relatively lower dropout rates and higher levels of achievement in mathematics and English than do public schools. They attribute the success of Catholic schools to the *sense of community*, which is a form of social capital existing within some schools. They argue that Catholic parents become involved in their school and help ensure that a challenging curriculum is in place. By becoming involved with the school and with other parents, they strengthen structures of social constraint to influence their children's behavior.

Brown's (1995) study on school voluntarism supports Coleman's argument and provides further information and elaboration regarding the concept of social capital. His study demonstrates that social capital nurtured by school volunteers has the capacity to generate rewards and institute norms and sanctions that are much more powerful than the child's parents can provide on their own. He suggests that as parents donate their time to schools, they gain information about the process of schooling and the students benefit from contact with the parents of other children. Two norms evolve: children value learning, and children
should care for others. These obligations, information channels, and learning and caring norms are important indicators of social capital from which children can benefit considerably (Brown, 1995, p. 42-44).

Brown notes further that social capital generates significant amounts of other forms of capital beneficial to the school (Brown, 1995, p. 99): “When school volunteers work together by donating physical and human capital, they develop social capital. In time, when a community has built a rich store of social capital, its capacity to contribute physical and human capital to its school is increased.” Because we cannot say which type of capital comes first, we need to explore the subtle mechanisms of the conversion of capital.

3.3.2 Mechanism connecting parental involvement and students' performance

The concepts of capital specified in Bourdieu and Coleman provide rich constructs for theoretical and empirical studies. The basic forms and types of capital explicated in the previous section are powerful tools for understanding the patterns of parental involvement in education, and the impact of this involvement upon children's educational outcomes. In my view, Bourdieu's concept of cultural capital is most fruitful in explaining social differences influencing parental involvement and students' learning outcomes. Bourdieu (1977) asserts that children from higher social-class backgrounds acquire the requisite cultural capital at home, and enter the educational system already familiar with the "dominant" culture. Possession of the appropriate cultural resources facilitates a student's easy connection with the school, and encourages socially recognized academic achievement. In this way, cultural capital is converted into academic achievement, or in Bourdieu's words, "academic capital", through the certification process. This academic capital is eventually converted to economic
capital through the guarantee of monetary value assigned to a given academic qualification.

In short, Bourdieu asserts that parents from privileged classes and ethnic majority groups provide their children with the cultural resources and dispositions that boost academic achievement. However, the possession of cultural capital does not necessarily guarantee high achievement (DiMaggio, 1982). Recent studies have pointed out that families do not always use the resources they have to further their children's education. Therefore, it is important to examine how parents use the capital they have to become successful despite any structural inequalities of school systems.

To Coleman (1990), social capital is the most important family resource for children's academic success. He asserts that the effective transmission of family capital to the child's learning depends on a strong relationship between the child and those holding family resources (that is, usually the parents). Coleman (1994, p. 2272) elaborates that the parents' human capital and physical capital become available to the child only if the "social connection" between the child and the parent is sufficiently strong. In estimating the potential contributions of these three types of capital on students' learning, he suggests that the construction of a student's human capital is a multiplicative function of the available amounts of physical capital and social capital. Brown further modifies Coleman's formula in the following way (Brown, 1995, p. 43):

\[
\text{Learning} = \text{Physical Capital} \times \text{Human Capital} \times \text{Social Capital}
\]

In Brown's formula, "learning" refers to the learning gained by the child; "physical capital" refers to the physical resources such as learning aids and material environment available to the child; "human capital" refers to the human skills such as instructional ability
on the part of the teachers and school volunteers; and “social capital” is the social support, norms and obligations. Brown maintains that if schools can capture all three types of capital, students benefit significantly. For Coleman, social capital may be the most important component in modern society because it offers access to other forms of capital. Here we can see not only the direct linear relationship among different forms of capital, but also the interaction effect of different forms of capital on children’s learning.

3.4 PROBLEMS TO BE ADDRESSED REGARDING CONCEPTS OF CAPITAL

3.4.1 Evolution of the Concept of Capital

Bourdieu’s concept of cultural capital and Coleman’s concept of social capital are useful theoretical constructs for explaining the observed differences among groups in their parental involvement and student learning outcomes. However, in the recent work of both scholars, the types of capital have proliferated and consequently the term has become a weak figure of speech rather than a precise analytic tool. For instance, in addition to three basic types of capital — economic, cultural and social — Bourdieu has developed other types: symbolic capital, linguistic capital, academic capital, scholastic capital, credential cultural capital, capitals of authority and of consecration, university, scientific, and so on. DiMaggio (1991, p. 142) criticized: “As the number of types of capitals increases, the metaphorical currency undergoes inflation and its value declines accordingly.”

The same ambiguity holds for Coleman’s forms of capital. For instance, Coleman suggested that social capital exists in three major forms. As he put it (1987, p. 36): “what I mean by social capital in the raising of children is the norms, the social network and the
relationships between adults and children that are of value for the child’s growing up”. His writing suggested that social capital can exist in some other forms: obligations and expectations, information potential, norms and effective sanctions, authority relations, appropriable social organization, and intentional organization (Coleman, 1990, p. 306-313). The polysemy of the concepts makes for the richness of Coleman’s writing. However, this can be problematic, especially when researchers attempt to operationalize the concepts in their empirical studies.

3.4.2 Operationalization of cultural capital and social capital

Bourdieu has continued to develop his key concept of “cultural capital” as his analyses of social reproduction have proceeded over the last few decades. His recent work (1992) suggests that an infinite array of cultural attitudes, preferences, behaviors, and goods can be seen as cultural capital. In empirical research, two rather different operational definitions of cultural capital have emerged. One refers to it as cultural consumption or investment. In Bourdieu’s (1977) own research, cultural capital was operationalized as cultural consumption — reading books and attending theater, concerts, and cinema. His work, as well as subsequent research by DiMaggio (1982) has shown that familiarity with “high” cultural forms correlates with class position and educational and occupational attainment.

Another definition associates “cultural capital” with social class in explaining the social differences influencing parental involvement. As Lareau suggests, cultural capital exists in the forms of competence, confidence, income, patterns of work and social connection. As I mentioned earlier, Lareau’s use of the concept of “cultural capital” is problematic. Social origins provide parents not only with the cultural capital (competence and confidence) but
also economic capital (income), and social capital (social network) which may facilitate their involvement. Since the concept of cultural capital is so fruitful but also ambiguous, research dealing with this concept may come to assume a large number of different interpretations. Bourdieu appears indifferent to the empirical applicability of his concept of cultural capital. Yet when researchers try to appropriate this concept, they must clarify whether they are signifying skills, knowledge, cultural consumption, lifestyle, or something else.

In the operationalization of the construct of 'social capital' for research, three major definitions have been established. Some researchers examine the family structure and measure the attachment between parents and children (e.g., Astone & MaLanahan, 1991); some conceptualize social capital as parental involvement with children's school work (Muller, 1993); and others suggest that positive school climate is an indicator of social capital within the school community (Brown, 1995). Therefore, researchers should carefully scrutinize the use of such a polysemic construct as social capital in different studies. For example, Astone and MaLanahan (1991) assess family structure and family functioning by measuring the number of parents in the household and the strength of the attachment between parent and child as major indicators of children's social capital. However, the attachment or interaction between parents and their children captures only a part of the home-based social capital. Muller (1993) conceptualized parental involvement as a form of social capital. Her study shows how parental education (human capital of parents) and income (financial capital) can be translated into students' achievement through parental involvement practices, including talking about current school experiences, enrolling the child in extra-educational activities, restricting television watching on school days, contact with the parents' network of friends,
and so on. Yan (1995) suggests that social capital can be nurtured within schools. He has measured: the provision of information by school and school academic climate as two indicators for school social capital. Brown (1995) and Coleman (1990) have examined another important source of social capital within the larger community. They suggest that social capital exists in schools in the form of obligations, caring norms, sharing norms and sense of community. These various forms of positive school climate have shown a significant impact, not only on students' academic achievement, but also on their self-esteem. In sum, researchers operationalizing the construct of social capital have to clarify its diverse meanings: attachment among family members; the practices of parental involvement; the obligations and expectations of parents and teachers; and the caring and sharing norms in the school and community.

3.5 SUMMARY

This chapter has examined the theoretical perspectives helpful in tracing the persistence of social differences in parental involvement and student achievement. While two important yet contrasting social theories — family deficiency and institutional discrimination — have each demonstrated some explanatory power, recent research suggests that a more inclusive theory, integrating the previous theories, may be more fruitful.

The inclusive theory goes beyond blaming parents and schools, and emphasizes responsibility of both parties for the acquisition of competencies or resources necessary for improving children's education. It argues that both parents and teachers need to engage in a dialogue that examines the features of exclusion and explore the possibilities of involving
both parties in children's education. Evidence provided by Coleman, Brown, Ho and Willms, Yan and others confirms that both family resources and institutional practices are essential factors for parental involvement. The subtle mechanisms by which family resources and institutional practices interact to affect patterns of parental involvement and students' performance can be explicated using Bourdieu's concept of "cultural capital" and Coleman's concept of "social capital". Viewing parental involvement as a form of social capital which can activate the effective transmission of cultural capital and the creation of human capital to succeeding generations allows the focus of research to shift away from explaining why working-class students fail in general. Research can then move towards a more positive exploration of how students, parents and school teachers manage to achieve school success.

Further research is needed to assess the extent to which institutional factors contribute to different dimensions of parental involvement over and above the individual family factors. Multilevel analysis is a promising strategy to broaden our understanding of how individual and institutional factors shape the patterns of parental involvement. The concepts of cultural and social capital have been used to explain the social differences of student learning outcomes. Yet little has been done to examine how different forms of capital are associated with different types of parental involvement, which in turn influence students' educational outcomes.
CHAPTER 4
RESEARCH DESIGN AND PROCEDURES

This chapter outlines the methods and procedures used to obtain empirical data and prepare them for analysis. The project is designed to study parental involvement from multi-level and multiple perspectives, based on information collected from a large sample of school administrators, teachers and students. The analysis employs descriptive statistics and multivariate, multilevel regressions to examine relationships among students, teachers, administrators, and school variables. This chapter is divided into five parts. Part one describes the sample. Part two presents the background of the participating schools. Part three defines and elaborates the major constructs used in the study. Part four discusses the rationale for using an Hierarchical Linear Model (HLM) in the analysis. Part five describes the methods and strategies used for analyzing data from students, teachers and principals.

4.1 SAMPLING

Data were collected as part of a larger project which is examining the effectiveness of elementary schools in British Columbia and New Brunswick (Willms, 1992). This study uses data from the B. C. samples. In the spring of 1994 a principals' questionnaire was developed and piloted with a group of five principals. In the summer of 1994, questionnaires were sent to the full population of fifteen hundred B. C. elementary school principals. Eight hundred and thirty-one school administrators returned the questionnaires, yielding a response rate of 55 percent. We compared the average mathematics scores for responding and non-responding schools, using data from the 1990 provincial assessment, and found that there were no significant differences between responding and non-responding schools in their mathematics
achievement. The proportion of schools responding to the questionnaire was similar across most school districts, including urban and rural districts. Among the 75 districts, only district number 13, Kettle Valley, did not respond. Schools in the lower mainland area, especially Vancouver and Richmond were less likely to respond.

Based on an analysis of these survey data, 49 schools were selected from eight school districts in British Columbia. These schools were selected strategically, with a view to maximizing the diversity of student intake; that is, to ensure the sample included some schools with significant percentages of single-parent, ethnic-minority and working-class families, and some schools that were predominantly serving middle-class families. The selected sample also included some schools from Vancouver. Although this strategic sample may not be representative of all the B. C. elementary schools, we expect it will provide more accurate estimates of the relationships between parental involvement and student outcomes because there is likely to be greater variation in the independent variables of interest, and because the strategic sample included a number of students from Vancouver. Student and teacher data were collected on two occasions. A pilot study was conducted in 15 schools in three school districts in May 1995. The reliability of all items were analyzed. Minor modifications were then made to the questionnaires. In October and November 1995, the main study was conducted in another 34 schools. In addition to the two sets of questionnaires, a set of achievement tests were administered to grade five students in the selected schools. Since the major purpose of the project is to examine the school climate and school effectiveness of elementary schools in B.C.; therefore, grade five students were sampled in this study. A total of 1024 students and 404 teachers completed the student and teacher questionnaires.
4.2 BACKGROUND OF THE PARTICIPATING SCHOOLS

4.2.1 Principal Respondents and School Backgrounds

One thousand five hundred principals were sent questionnaires through the mail and a total of 831 completed and returned them. These 831 principals represented 74 of 75 school districts in British Columbia, Canada. The return rate was 55.4 percent. Table 3 summarizes the characteristics of the participating schools.

Table 3. Characteristics of Responding Schools (n=831)

<table>
<thead>
<tr>
<th>School Characteristics</th>
<th>Number (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School size</td>
<td></td>
</tr>
<tr>
<td>Less than 150</td>
<td>255 (30.7%)</td>
</tr>
<tr>
<td>150-500</td>
<td>544 (65.5%)</td>
</tr>
<tr>
<td>more than 500</td>
<td>32 (4.8%)</td>
</tr>
<tr>
<td>2. Geographic location</td>
<td></td>
</tr>
<tr>
<td>rural</td>
<td>189 (23.8%)</td>
</tr>
<tr>
<td>small town</td>
<td>114 (14.4%)</td>
</tr>
<tr>
<td>city (5000-50000)</td>
<td>234 (29.5%)</td>
</tr>
<tr>
<td>larger cities (over 50000)</td>
<td>256 (36.1%)</td>
</tr>
<tr>
<td>3. Single parents in school</td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>61 (8.8%)</td>
</tr>
<tr>
<td>5-19%</td>
<td>281 (40.5%)</td>
</tr>
<tr>
<td>20-49%</td>
<td>312 (45.0%)</td>
</tr>
<tr>
<td>50-74%</td>
<td>28 (4.0%)</td>
</tr>
<tr>
<td>over 75%</td>
<td>11 (1.7%)</td>
</tr>
<tr>
<td>4. Non-English speaking parents in school</td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>287 (47.1%)</td>
</tr>
<tr>
<td>5-19%</td>
<td>200 (32.8%)</td>
</tr>
<tr>
<td>20-49%</td>
<td>83 (13.6%)</td>
</tr>
<tr>
<td>50-74%</td>
<td>28 (4.6%)</td>
</tr>
<tr>
<td>over 75%</td>
<td>11 (1.9%)</td>
</tr>
<tr>
<td>Professional and white collar parents in school</td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>63 (9.5%)</td>
</tr>
<tr>
<td>5-19%</td>
<td>256 (38.8%)</td>
</tr>
<tr>
<td>20-49%</td>
<td>196 (29.7%)</td>
</tr>
<tr>
<td>50-74%</td>
<td>83 (12.6%)</td>
</tr>
<tr>
<td>over 75%</td>
<td>62 (9.4%)</td>
</tr>
</tbody>
</table>
4.2.2 Teacher and Student Respondents and Parent Backgrounds

Teacher and student questionnaires were administered to 49 schools from eight school districts in 1995. The schools in the sample were selected to achieve variation in the types of schools and in the percentage of students from single parent households, non-English speaking families and professional and white collar workers within each school district. Among the 49 schools, 15 schools participated in the pilot study and 34 schools participated in the main study. A pilot study of the student and teacher questionnaires was conducted in May of 1995. Teacher questionnaires were sent to all the teachers in 15 schools. A total of 113 teachers in 14 schools completed and returned the questionnaires. The main study was conducted in 34 schools in November of the same year. A total of 291 teachers from 33 schools returned the teacher questionnaires. Therefore, a total of 404 teacher questionnaires were available for final analysis. On average, there was about 5 teachers returned questionnaires per school.

Grade 5 students in the 49 selected schools also completed the student questionnaires in the pilot and main study. A total of 1042 students completed the student questionnaires under the guidance of a research assistant in the classroom. In addition to the student questionnaires, a reading test and a mathematics test were administered in the main study in November, 1995. A total of 967 students from the 34 schools in the main study completed the achievement tests.

Table 4 shows the characteristics of parents for the schools that responded to the principal survey (n=831) and the selected schools (n=49). There is no significant difference in the average percentage of non-English speaking parents between the original sample and selected sample, and the differences between the two samples in the average number of single
parents, and the percentage of parents from professional and white collar occupations in the selected sample were statistically significant, but relatively small. Yet, standard deviations in Table 4 reveal greater variability of family structure, ethnicity and occupation in the selected schools. This can be seen as the strength of the selected sample because the main purpose of this part of study is not to generalize our findings to all the B. C. elementary schools. Rather, the design of the study attempts to maximize variation in types of school climate so that we can get a more accurate estimate of the relationship between school policies and parental involvement, and the possible impact of parental involvement on students from different social backgrounds.

Table 4
Characteristics of Responding Schools in Principal Sample and Selected Sample

<table>
<thead>
<tr>
<th>Parent Characteristics</th>
<th>Principal Sample (N=831)</th>
<th>Selected Sample (N=49)</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (Std.Dev.)</td>
<td>Mean (Std.Dev.)</td>
<td></td>
</tr>
<tr>
<td>Single parents</td>
<td>22.78 (17.70)</td>
<td>28.20 (21.19)</td>
<td>4.444*</td>
</tr>
<tr>
<td>Non-English speaking parents</td>
<td>12.47 (18.62)</td>
<td>11.49 (19.78)</td>
<td>.151</td>
</tr>
<tr>
<td>Parents from professional and white collar workers</td>
<td>28.52 (26.56)</td>
<td>33.63 (31.08)</td>
<td>4.676*</td>
</tr>
</tbody>
</table>

* p < .05

4.3 DEFINITION AND OPERATIONALIZATION OF MAJOR CONSTRUCTS

*Parental involvement:* Parental involvement is defined as a process of mobilizing the potential of parents both at home and in *school.* Making use of the conceptual model reviewed in chapter two, "parental involvement" is construed as a multi-dimensional construct: 1) Home-based involvement exists in two forms: home discussion and home
supervision; 2) School-based involvement exists in three forms: school communication, school participation, and school governance. These five forms of parental involvement were measured from three different perspectives. Students' responses to thirteen items in the student questionnaire were used to measure four aspects of parental involvement. These are described in Table 5. A principal components analysis with varimax rotation was conducted in the pilot study, which identified four factors with eigen values greater than one. Two items were deleted because they reduced the overall reliability of the measure.

These four factors accounted for 60 percent of variance in the set of 11 variables. Factor loadings are shown in Table 5. Consistent with the model constructed in Chapter 2, the four factors were categorized as follows: Home Discussion, Home Supervision, School Communication, and School Participation. These four indices of parental involvement were standardized at the student level; therefore, they had a mean of zero and a standard deviation of 1. The reliability of the four measures of parental involvement were assessed using Cronbach's alpha (See Table 5). The alphas ranged from .631 to .797 for the four measures, and the overall alpha for the 11 items was .815. These are considered satisfactory.

Data pertaining to "school-based" parental involvement were also collected from teachers' and principals' questionnaires. Classroom volunteering was measured by the number of parents volunteering in the classroom; PTC participation was measured by number of parents attending parent-teacher conferences, and requesting parent-teacher conferences; PAC participation was measured by the number of parents participating in the school Parent Advisory Committee. The measures for different types of parental involvement from multiple perspectives are listed in Table 6.
### Table 5.
Factor Analysis and Reliability of Parent Involvement Variables

<table>
<thead>
<tr>
<th></th>
<th>FACTOR 1</th>
<th>FACTOR 2</th>
<th>FACTOR 3</th>
<th>FACTOR 4</th>
<th>RELIABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home Discussion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Alpha=.797</td>
</tr>
<tr>
<td>talk about students behaviour</td>
<td>.789</td>
<td>.030</td>
<td>.091</td>
<td>.105</td>
<td></td>
</tr>
<tr>
<td>discuss about mathematics</td>
<td>.726</td>
<td>.251</td>
<td>.170</td>
<td>-.075</td>
<td></td>
</tr>
<tr>
<td>discuss about hurtful things</td>
<td>.724</td>
<td>-.004</td>
<td>.077</td>
<td>.276</td>
<td></td>
</tr>
<tr>
<td>discuss about reading</td>
<td>.685</td>
<td>.267</td>
<td>.208</td>
<td>-.040</td>
<td></td>
</tr>
<tr>
<td>talk about school project</td>
<td>.610</td>
<td>.382</td>
<td>.010</td>
<td>.096</td>
<td></td>
</tr>
<tr>
<td><strong>Home Supervision</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Alpha=.631</td>
</tr>
<tr>
<td>help homework</td>
<td>.188</td>
<td>.819</td>
<td>.075</td>
<td>.021</td>
<td></td>
</tr>
<tr>
<td>check homework</td>
<td>.197</td>
<td>.777</td>
<td>.150</td>
<td>.218</td>
<td></td>
</tr>
<tr>
<td><strong>School Communication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Alpha=.712</td>
</tr>
<tr>
<td>talk with teacher about behaviour</td>
<td>.188</td>
<td>.035</td>
<td>.861</td>
<td>.061</td>
<td></td>
</tr>
<tr>
<td>talk with teacher about school work</td>
<td>.120</td>
<td>.176</td>
<td>.845</td>
<td>.111</td>
<td></td>
</tr>
<tr>
<td><strong>School Participation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Alpha=.652</td>
</tr>
<tr>
<td>help in classroom</td>
<td>.090</td>
<td>.059</td>
<td>.048</td>
<td>.853</td>
<td></td>
</tr>
<tr>
<td>help with school activities</td>
<td>.080</td>
<td>.137</td>
<td>.108</td>
<td>.815</td>
<td></td>
</tr>
<tr>
<td><strong>Percentage of Variance Explained</strong></td>
<td>34.6</td>
<td>12.7</td>
<td>10.9</td>
<td>9.2</td>
<td>Overall Alpha=.815</td>
</tr>
</tbody>
</table>

81
<table>
<thead>
<tr>
<th>Variable (Codebook Name)</th>
<th>Questionnaire Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home Discussion</strong> (S_18b,d,f,g,j)</td>
<td>How often do your parents a) talk with you about how students treat you; b) discuss how well you are doing in math; c) discuss how well you are doing in reading; d) talk with you about school projects; e) discuss hurtful things that children might say? e) say how important school work is? (0=never, 1=once or twice, 2=three or four times, 3=more than 4 times)</td>
</tr>
<tr>
<td><strong>Home Supervision</strong> (S_18a,c,e,h,i)</td>
<td>How often do your parents a) help you with your homework; b) limit how much TV you may watch; c) listen to you read; d) check your homework for mistakes? (0=never, 1=once or twice, 2=three or four times, 3=more than 4 times)</td>
</tr>
<tr>
<td><strong>School Communication</strong> (S_18k,l)</td>
<td>How often do your parents talk with your teacher a) about your behavior b) about your school work? (0=never, 1=once or twice, 2=three or four times, 3=more than 4 times)</td>
</tr>
<tr>
<td><strong>School Participation</strong> (S_18m,n)</td>
<td>How often do your parents a) help in the classroom b) help with school activities? (0=never, 1=once or twice, 2=three or four times, 3=more than 4 times)</td>
</tr>
<tr>
<td><strong>Volunteering, PTC &amp; PAC Participation</strong> (T_30a to 30d)</td>
<td>For students that you are teaching this year, how many of their parents a) volunteer to help in the classroom; b) regularly attend parent-teacher conference; c) request a parent-teacher conference with you? d) participate in the school Parents Advisory Committee?</td>
</tr>
<tr>
<td><strong>Principal Questionnaire</strong></td>
<td></td>
</tr>
<tr>
<td><strong>School Volunteering</strong> (P_C23)</td>
<td>On average, how many parents volunteer each week in each of the following grade levels? a) Kindergarten, b) Grade 1, c) Grade 2, d) Grade 3, e) Grade 4, f) Grade 5, g) Grade 6.</td>
</tr>
<tr>
<td><strong>PAC Participation</strong> (P_C24)</td>
<td>How many families of your students are represented at a typical meeting of the Parent Advisory Council or similar parent group?</td>
</tr>
</tbody>
</table>
Family Factors and Student Characteristics: Five constructs were derived from the student-level data: economic capital, cultural capital, social capital, ethnicity, and family structure. These variables were reported by students.

1) Economic capital: According to Bourdieu's study (1986), material resources can also be seen as measures of economic capital. In this study, economic capital is measured by parents' investment in material resources for their children's education. The total amount of economic capital available to each child is calculated by summing positive responses to the presence of eight educational resources in the home: "books of my own", "my own magazines", "a dictionary", "a calculator", "a phone", "a musical instrument", "a computer", and "a specific place to study in the home".

2) Cultural capital: Bourdieu (1986) defines "cultural capital" broadly as the general cultural background, knowledge, disposition, and skills that are passed on from one generation to another within the family. In this study, cultural capital is operationalized as cultural consumption activities of students with their families, such as visiting a library or parks, attending theaters and concerts, regular tutoring, and attending extra-curricular lessons.

3) Social capital: Coleman (1988) defines "social capital" as social relationships existing between persons that can facilitate children's learning. He identifies three major forms of social capital: (a) obligations, (b) information, and (c) social norms. Parental involvement in home and school activities can be interpreted as the activation of social norms nurtured by the family. The disciplinary climate, social climate and academic press established by school actors can be seen as other indicators of social capital for students within schools.
4) Time investment after school: Three constructs of time investment after school were measured: (a) peer group activity time, (b) relaxation time, and (c) education time. Previous studies suggested that the effect of parental involvement on students' academic and social development is mediated by students' time investment after schools (Keith et al., 1993).

5) Ethnicity: Students were asked to indicate the cultural group in which they belong. Canadian is the reference group, and three dummy variables were constructed to indicate students who identified themselves with cultural groups categorized as Asian or Asian-Canadian, European or European-Canadian, and First Nations or Native-Canadian.

6) Family Structure: There are two measures of family structure: traditional family is a dummy variable that indicates whether or not students live with both their mother and father; number of siblings is the sum of the number of sisters and brothers reported by students.

Classroom Characteristics and Teacher Factors: Three categories of factors are of particular interest in the study: classroom characteristics, including grade level and class size; teachers' backgrounds, including teachers' gender, their teaching experience, educational qualification, and their expectations of students' achievement; teachers' attitudes and practices toward parental involvement, including zone of acceptance for school governance, requests for parental assistance, contact with the parents in various ways, and talk with parents for various reasons.

1. Zone of Acceptance: Teachers' attitudes toward parental involvement in school governance are indicated by their zone of acceptance for parental participation in setting school rules or goals, planning the school budget, hiring teachers, and recruiting school volunteers.
2. Request for Parental Assistance: Teachers' practices in requesting parental assistance with students' education, both at home and in school were assessed.

3. Contact parents in various ways: Teachers' practices in initiating home-school communication was measured by the number of parents having been contacted by teachers through the following ways: formal individual interviews, open house, phone calls, parent-teacher committees, notes sent home, and informal contact before or after school.

4. Talk to parents individually for various reasons: The reasons for communication between teachers and parents were further explored by measuring the number of parents who were contacted by teachers about the following particular aspects of school life: low academic performance, adequate or high academic performance, misbehavior in the school, good classroom or school behavior, the students' social interactions, or their absence from school.

School Factors: Preliminary analysis of principal data revealed that two categories of factors have significant impact on the level of parental involvement: 1) School decentralization and partnership policy; 2) School contextual factors.

1) Decentralization and Partnership policy: The level of *decentralization* can be seen as an indicator of parental participation in School Governance. This construct was measured with four items. The extent of parental involvement in setting school goals, the extent of parental involvement in setting rules regarding student behavior, and the extent to which principals perceive the parent-school partnership as having been implemented in the primary program at school.

2) School Contextual Factors: Previous studies indicate that the socioeconomic composition, the racial and ethnic mix, and the urbanicity of the school are major school
contextual factors affecting the level of parental involvement. Five contextual variables were constructed: percentage of single parents; percentage of parents from working class backgrounds, percentage of parents from ethnic minority groups, urbanicity, and school size.

**School Outcomes:**

1) Student achievement: Reading scores and mathematics scores were used as indicators of student achievement. Reading achievement was assessed with the Canadian Achievement Test, Second Edition (CAT/2). It included 49 items measuring students' reading comprehension. Each student completed one of two forms of 20 items. The Cronbach's alphas were .769 for Form A and .824 for Form B. Mathematics achievement was measured with the Canadian Achievement Test, Second Edition (CAT/2). It included 45 items measuring mathematics concepts and applications. Each student completed one of two forms with 22 items. Cronbach's alpha for the sample was .843 for form A and .803 for form B, indicating that both tests were reliable in terms of their internal consistency among items. The test scores were standardized so that each student's score was a z-score within the 957 sample students in the main study.

2) Self-esteem: Twenty items were constructed to measure students' psychological and social attitudes towards self and peers, and academic attitudes towards reading and mathematics. These items were factor analyzed and the results indicated the 20 items measuring self-esteem could be categorized into four dimensions: general self-esteem, social self-esteem, reading self-esteem and mathematics self-esteem. Cronbach's alphas for each of these four constructs were .732, .673, .829, and .807 respectively. The scores for these self-esteem constructs were also standardized for the entire sample of 1042 students.
The detailed measures for each of these school factors, family factors and student outcomes are shown in Table 7 and 8.

Table 7. Measures for School Factors and Family Factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Questionnaire Items</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

1. School Factors

Parent set goal (P_B9D)
1) To what extent are parents involved in setting school goals? (recode 0=no involvement, 1=not very involved, 2=somewhat involved, 3=involved, 4=very involved)

Parent set rule (P_C19G)
2) To what extent are parents involved in setting rules regarding student behavior? (recode 0=no involvement, 1=not very involved, 2=somewhat involved, 3=involved, 4=very involved)

Partnership (P_C30)
3) To what extent have school-parent partnership practices been implemented in the Primary Program at your school? (recode 0=never involved, 1=minimally involved, 2=somewhat involved, 3=often involved, 4=always involved)

2. School Climate

Disciplinary climate (S_16A to 16O)
Disciplinary climate is a composite construct measuring the extent to which pupils internalize the norms and values of the school and conform to them. The construct constitutes five elements: classroom behavior, behavior outside of class, clear sets of rules, fairness of rules, and consistent consequences. Fifteen items have been constructed: a) Rules at this school seem to be always changing; b) Students call each other names; c) Students fool around during class; f) Students get into fights with each other; h) Troublemakers disrupt my teacher's lessons; o) Kids bully others outside the classroom (code 1=YES, 2=yes, 3=sometimes, 4=no, 5=NO)
d) Children at our school know what "good behavior" means; e) Students behave well in class; g) Rules at this school are fair; i) Often there is punishment for breaking the rules; j) The rules for behavior at this school are clear to me; k) Children know what will happen if they break a rule; l) If you break a rule and get caught, you get punished; m) Students have a say in making the rules at this school; n) Students agree with the rules at this school (recode 5=YES, 4=yes, 3=sometimes, 2=no, 1=NO)

Academic press (S_18A to 18G)
Academic press is a composite construct measuring the extent to which school staff value academic achievement and hold high expectations for their pupils. The construct constitutes five elements: academic demands upon
pupils made by teachers; academic challenge of all pupils by teachers; type and amount of homework; pupils' confidence in mastering the curriculum; pupils' academic norms and expectation of their own success. Fourteen items have been constructed: a) Our teacher expects all students to do well; c) Our teacher expects us to do a lot of homework; d) Our teacher encourages students to try harder; e) School work is quite hard for me; f) Doing my homework helps me learn; g) I can do well in school if I work hard; h) I think it is important to do well at school; i) I try hard to get good marks on tests; l) I usually do my homework on time; n) I feel we can do the work in class if we try. (recode 1=NO, 2=no, 3=sometime, 4=yes, 5=YES). b) Most of my school work is too easy for me; j) I could do better work if I tried harder; k) I find school work too difficult; m) I think it's more important to have fun than learn (code 5=NO, 4=no, 3=sometime, 2=yes, 1=YES); 

Social climate (S_20H to 20R)

Social Climate is a composite construct measuring the extent to which students have a sense of well-being and a sense of belonging in school. It includes the following items: a) I like school; c) We usually have a lot of fun at school; d) I enjoy learning new things at school; f) I feel like I belong at this school; h) I feel the teacher likes me; j) I make friends at school easily; k) Other children seen to like me. (recode 1=NO, 2=no, 3=sometime, 4=yes, 5=YES). b) Most of the time I do not want to go to school; e) I often feel bored at school; g) Often I feel awkward and out of place; i) Often I feel lonely at school (code 5=NO, 4=no, 3=sometime, 2=yes, 1=YES). 

Lack of bullying (S_13A to 13D)

Lack of bullying is based on students' reports of how often the following events happened to them: a) I have been teased or made fun of; b) One or more students have threatened to hurt me, c) I have been physically attacked by another student; d) I have been afraid to go to school because someone has threatened me. (code 0=never, 1=once or twice, 2=about 3 to 4 times, 3=more than 4 times)

II. Teacher Factors

Zone of Acceptance for School Governance (T_16A to 16E)

We would like to know your opinions regarding the extent to which parents should have the opportunity to participate in school governance including: a) set school rules regarding student behavior, b) develop academic goals for student learning, c) plan the school budget, d) hire new teachers or principal, e) recruit and train school volunteers? (0=no involvement, 1=informed, 2=being consulted, 3=directly involved)

Request for Parental Assistance (T_30A to 30l)

Have you requested parents' assistance in any of the following activities? a) help correct their child's homework; b) listen to their child read, or read aloud to their child; c) give spelling or mathematics drills; d) talk to their child about the school day; e) take their child to the library; f) watch and discuss TV shows with their child; g) help the child with particular assignments; h) work in the school as a volunteer; i) participate in the PAC or home school organization? (0=no, 1=yes)
Contact Parents in Various Ways (T_27A to 27F)

To what extent do you have contact with parents in the following ways: a) formal individual interviews; b) open house; c) phone calls; d) parent-teacher committee; e) notes sent home, f) informally before or after school? (recode 0=almost none, 1=about 25%, 2=about 50%, 3=about 75%, 4=almost all of the parents)

Talk to Parents Individually (T_29A to 29F)

Since the beginning of the current school year, approximately how many students' parents (or guardians) have you talked with individually concerning: a) low academic performance; b) adequate or high academic performance; c) misbehavior in the classroom or school; d) good classroom or school behavior; e) concerns about a child's social interactions? f) absence from school (0=none, 1=1-4, 2=5-9, 3=10-14, 4=15-19, 5=20+)

III. Family Factors and Student Characteristics

1. Family Resources Provided at Home

Economic capital (S_10A to 10H)

Economic capital is a composite construct which is assessed by the sum of the following items owned by the student: a) books of my own, b) my own magazine(s), c) a dictionary, d) a computer, e) a calculator, f) a musical instrument, f) a phone, g) a specific place to study. (0=no, 1=yes)

Cultural capital (S_11A to 11H)

Cultural capital is a composite construct which is measured by the sum of the following activities the student has done with family members over the past year: a) visited parks, b) went shopping, c) saw films at the movie theater, d) went to the public library, e) attended music concerts, f) went skiing, g) went on a holiday outside of Canada. (0=no, 1=yes)

2. Time Investment After School

Peer Time (S_10B,E,F)

Student usually spend time in peer group activity after school such as a) going to a friend's place, b) going swimming, c) going skating. (0=no, 1=yes)

Relax time (S_10I,A)

Student usually spends time in relaxing activities after school such as: a) watching TV, b) hanging around the school yard (0=no, 1=yes)

Education time (S_10D,G,H,J)

Student usually spends the time in educational activities after school such as: a) doing homework, b) going to guides or scouts, c) playing an instrument, d) taking dance lessons (0=no, 1=yes)

3. Family Structure

Traditional family

Most of the time I live with: a) mother and b) father (1=both yes, 0=others)

Number of Siblings

The total number of brother(s) and sister(s).
4. Ethnicity
Categorization based on a open-ended question: Which cultural group do I belong to? (Canadian is used as a reference group)

Asian
Filipino, Korean, Japanese, Chinese, Vietnamese, Malaysian, Hindu, East Indian, Asian=1, Others=0

Native
Inuit, Native Indian, Metis, Shushwap=1, Other=0

European
Swedish, Norwegian, Hungarian, German, French, Ukrainian, Dutch, Italian, Greek, Swiss, New Zealander, Yugoslav, Belgian, Spanish, Romanian, British, European=1; Other=0.

5. Gender
Female=1, Male=0

6. Home language
Language spoken at home: English=1, Others=0

---

Table 8.
Measures for Student Outcomes

1. Self-Esteem
The scores are standardized based on the entire sample of 1042 students.
(all items recode 1=NO, 2=no, 3=sometimes, 4=yes, 5=YES)

General Self
(S_14B,G,O,Q)
General Self-esteem measures student's general sense of self:
b) In general, I like being the way I am; g) Overall, I have a lot to be
proud of; o) When I do something, I do it well; q) A lot of things about
me are good.

Peer Self
(S_14A,F,L,K,P)
Peer Self-esteem measures student's sense of self in relating to peer
group: a) I get along with kids easily. f) Other kids want me to be their
friend; k) I have more friends than most other kids; l) Other people think I
am a good person; p) I am popular with kids of my own age.

Math Self
(S_14D,I,N,S)
Mathematics Self-esteem measures student's sense of self in learning
mathematics: d) I like mathematics; i) I am good at mathematics; n) I enjoy
doing work in mathematics; s) I learn things quickly in mathematics.

Read Self
(S_14C,H,M,R)
Reading Self-esteem measures student's sense of self in reading: c) I get
good marks in reading; h) I am interested in reading; m) Work in reading
is easy for me; r) I look forward to reading.

2. Achievement
The scores are standardized based on the sub-sample of 967 students.

Reading
Test score in reading test.

Mathematics
Test score in mathematics test
4.4 HIERARCHICAL LINEAR MODELING

The study employed a multilevel design. Cross-sectional data were collected from two levels of the system, with pupils and teachers nested within schools. The Hierarchical Linear Model (HLM) is an important methodological advance for dealing with the hierarchical structure of educational data. First, the analysis takes account of the nested structure of the data by estimating separate regression equations for students or teachers within each school. The method solves the unit-of-analysis problem by estimating the contribution of both individual-level and school-level factors on student outcomes.

Moreover, the multilevel approach allows us to ask questions that might contribute to our understanding of parental involvement in education. First, we can ask whether levels of parental involvement vary significantly among schools. If so, we can examine whether this variation can be explained with measures of family background, school factors, and other contextual factors. In addressing these questions, the multilevel analysis provides estimates of the effects of different aspects of family background on each dimension of parental involvement. It also indicates whether school factors have an effect, after controlling for the effects of individual-level characteristics. Second, it is possible to examine the relative contribution of parental involvement and parents' investment of family resources on different types of students' learning outcomes. Finally, a multilevel analysis allows one to examine whether parental involvement reduces inequalities between high and low SES students.

4.5 METHOD AND STRATEGY FOR ANALYSIS

The analysis is separated into three parts: (1) Effects of school context and administrative practices on parental involvement; (2) Effects of teacher attitudes and practices on parental
involvement; (3) Nature and impact of parental involvement and involvement on students' learning outcomes.

(1) Effects of School Context and Administrative Practices on Parental Involvement

Subjects for the analysis are the 831 principals who participated in the B. C. Elementary School Study in 1994. The first analysis explores the impact of institutional factors on the two types of school-based parental involvement — parental volunteering and participation in school parent-teacher associations, as reported by principals. Institutional characteristics include the level of decentralization and school contextual background factors as two major elements. Four measures of decentralization are: direct involvement of parents in setting academic goals; direct involvement of parents in setting school rules; implementation of partnership practices; informing parents about students' progress. Five contextual factors are: school size, urbanicity, percentage of parents from single-parent families, ethnic minority groups, and professional and white collar workers. ANOVA and correlation analyses are used to identify the essential elements affecting school-based involvement. The significant factors identified are used for further analysis in the HLM analyses at both the student and teacher levels.

(2) Effects of Teacher Attitude and Practices on Parental Involvement

Subjects for analysis are the teachers who participated in the 1995 B. C. Elementary School Study. Since two schools did not return teacher questionnaires, they are excluded from the HLM analysis. The resulting unweighted sample consists of a total of 404 teachers from 47 schools. The following questions are addressed: Is there significant variation among schools in numbers of classroom volunteers, parental participation in parent-teacher
conferences (PTC), and parental involvement in parent advisory committees (PAC)? If so, are teachers' background factors (e.g., gender and teaching experience) and teachers' attitudes and practices (such as teachers' levels of acceptance for parental involvement in school governance, request for parental participation, contact with parents in various ways, and talk with parents individually) significant predictors of these three aspects of parental involvement?

Using HLM, we can address these questions. The first model is a null model with no independent variables. It investigates the variation of parental involvement within and among schools for each of the four measures, including the number of parents who volunteered in the classroom, participated in the PAC, attended a PTC, and requested a PTC. For example, the model for volunteering is given by equations (1) and (2):

\[ \text{Volunteering}_{ij} = \beta_{0j} + \epsilon_{ij} \quad (1) \]
\[ \beta_{0j} = \theta_{00} + \mu_{0j} \quad (2) \]

where \( \text{Volunteering}_{ij} \) is the extent of parent volunteering in the classroom for teacher \( i \) in school \( j \). \( \beta_{0j} \) is the average number of volunteers of school \( j \) without any adjustment, and \( \theta_{00} \) is the grand mean number of volunteers. The \( \text{var} (\epsilon_{ij}) \) is the within-school variance of volunteering, and \( \text{var} (\mu_{0j}) \) is the between-school variance of volunteering.

Then, a full model is constructed by adding teachers' background variables, teachers' attitudes and practices, and school-level variables to the null model. The within-unit model regresses teachers' reports of parental involvement upon class characteristics and teachers' background factors, including grade level and enrollment of the class, students' family background, teachers' gender, teachers' teaching experience, teachers' qualification, their
expectations for student performance, teachers' attitudes and practices on parent involvement.

The following within-school regression equations are used:

**Teacher-level (Within-school) Regression Model**

\[
Volunteering_{ij} = \beta_{0j} + \beta_{1j}(\text{grade level}) + \beta_{2j}(\text{class size}) + \beta_{3j}(\% \text{ of single parent}) + \\
\beta_{4j}(\% \text{ of non-English speaking parents}) + \beta_{5j}(\% \text{ of parents from professional and white collar occupation}) + \beta_{6j}(\text{female}) + \beta_{7j}(\text{years of teaching}) + \beta_{8j}(\text{teachers' education}) + \\
\beta_{9j}(\text{teachers' expectation}) + \beta_{10j}(\text{zone of acceptance}) + \beta_{11j}(\text{request for parental assistance}) + \beta_{12j}(\text{teachers contact parents}) + \beta_{13j}(\text{teachers talk individually with parents}) + \epsilon_{ij}
\] (3)

Estimates of \( \beta_{0j} \) are estimates of each school's mean volunteering, after adjusting for the 13 predictor variables. \( \beta_{1j}, \beta_{2j}, \ldots, \beta_{13j} \) are sets of coefficients of the individual variables representing classroom characteristics, teacher characteristics, and teachers' attitudes and practices, and \( \epsilon_{ij} \) is the unique contribution of each teacher \( i \) in school \( j \).

In this analysis, I have fixed the effects of the classroom background, teachers' background and teachers' attitude and practices to be the same (parallel) across all schools. In other words, the slopes of all the teacher and classroom factors are assumed to be consistent among schools, an assumption that was verified in preliminary analyses.

**School-level (Between-school) Regression Model:**

For the variation of parental involvement among the 47 schools, the following between-school regression equations are used:

---

3. These errors, \( \epsilon_{ij} \), are assumed independently and normally distributed with constant variance \( \sigma^2 \). Since the control variables are centered on the sample means, \( \beta_{0j} \) is the mean involvement in a school after the effects of teachers' background and classroom factors are adjusted. Since there are 47 schools in which teachers have completed the teacher questionnaires, we have 47 regression equations.

4. The HLM program includes Chi-square tests of whether these variances differ significantly from zero. If they are not statistically significant, I constrain the slopes to be parallel in subsequent regressions.
\[ \beta_{0j} (\text{Intercept}) = \theta_{00} + \theta_{01} (\text{decentralization policy}) + \theta_{02} (\text{school size}) + \theta_{03} (\text{percentage of professional or white collar parents}) + \theta_{04} (\text{percentage of single parents}) + \theta_{05} (\text{percentage of non-English speaking parents}) + \theta_{06} (\text{urbanicity}) + \mu_{0j} \] 

For each \( \beta_{ij} \) in equation (3), we can specify a number of school level factors to model it.

In this study, we are interested in the size and statistical significance of the institutional factors on the level of parental involvement perceived by teachers. Therefore, we allow the school mean level of parental involvement to vary (random effect) and attempt to model their variation by the institutional factors. \( \theta_{01}, \theta_{02}, \theta_{03}, \theta_{04}, \theta_{05}, \text{ and } \theta_{06} \) are estimates of the effects of school context and school decentralization practices on the adjusted average number of volunteers. The \( \text{var}(e_{ij}) \) is the within-school variance of volunteering, and \( \text{var}(\mu_{0j}) \) is the between-school residual variance of volunteering after controlling for the 13 teacher-level predictors and 6 school-level predictors. I also calculate the extent to which these teacher-level and school-level factors explain the within-school and between-school variance.

(3) Effects of Family Factors and School Factors on Parental Involvement

Subjects for the analysis are students who participated in the B. C. Elementary School Study in 1995. As HLM requires that there must be no missing data at the school level, schools with missing data and the students associated with those schools have been eliminated from the analysis. The resulting unweighted sample for the analysis of parental involvement and students' self-esteem consists of 1042 students in 49 schools. The analysis of students' achievement consists of 957 students from 34 schools.

First, a null model has been used to partition the variance of the four types of parental involvement: home discussion, home supervision, school communication, and school
participation, into within- and between-school portions. The model for home discussion, for example, is given by equations (5) and (6).

\[
\text{Home Discussion}_{ij} = \beta_{0j} + \epsilon_{ij} \tag{5}
\]

\[
\beta_{0j} = \theta_{00} + \mu_{0j} \tag{6}
\]

where Home Discussion\(_{ij}\) is the extent of home discussion for student \(i\) in school \(j\). \(\beta_{0j}\) is the mean home discussion of school \(j\) without any adjustment, and \(\theta_{00}\) is the grand mean of home discussion. The \(\text{var} (\epsilon_{ij})\) is the within-school variance of home discussion, and \(\text{var} (\mu_{0j})\) is the between-school variance of home discussion.

A full model is then constructed to estimate the impact of students' characteristics and school factors on the level of parental involvement. The following equations are used to predict the level of parental involvement perceived by students within schools:

Student-level (Within-school) Regression Model

\[
\text{Home Discussion}_{ij} = \beta_{0j} + \beta_{1j} (\text{female}) + \beta_{2j} (\text{traditional family}) + \beta_{3j} (\text{number of siblings}) + \beta_{4j} (\text{Asian}) + \beta_{5j} (\text{Native Indian}) + \beta_{6j} (\text{European}) + \beta_{7j} (\text{home language}) + \beta_{8j} (\text{economic capital}) + \beta_{9j} (\text{cultural capital}) + \beta_{10j} (\text{social climate}) + \beta_{11j} (\text{academic press}) + \beta_{12j} (\text{disciplinary climate}) + \beta_{13j} (\text{lack of bullying}) + \ldots + \epsilon_{ij} \tag{7}
\]

\(\beta_{0j}\) is the intercept of school \(j\) after adjusting for the 13 student-level factors; \(\beta_{1j}, \beta_{2j}, \beta_{3j}, \ldots\) are sets of coefficients of the individual variables representing student characteristics, family background, and school climate; and \(\epsilon_{ij}\) is the unique contribution of each student \(i\) in school \(j\).\(^5\) For the variation of parental involvement among the 49 schools, both school level factors and aggregate teacher factors are used in the between-school model:

\(^5\) These errors, \(\epsilon_{ij}\), are assumed to be independently and normally distributed with constant variance \(\sigma^2\). Since all variables are centered on the sample means, the \(\beta_{0j}\) is the mean home discussion in a school after the effects of student and family influence, and school climate are adjusted. Since there are 49 schools in our sample, we have 49 within-school regression lines.
\( \beta_{ij} (\text{Intercept}) = \theta_{00} + \theta_{01} (\text{decentralization policy}) + \theta_{02} (\text{school size}) + \theta_{03} (\text{percentage of professional or white collar parents}) + \theta_{04} (\text{percentage of single parents}) + \theta_{05} (\text{percentage of non-English speaking parents}) + \theta_{06} (\text{urbanicity}) + \theta_{07} (\text{teachers' zone of acceptance}) + \theta_{08} (\text{teachers' request for parental assistance}) + \theta_{09} (\text{teachers' contact with parents}) + \theta_{10} (\text{teachers' communication with parents}) + \mu_{ij} \) (8)

4) Effects of Parental Involvement and Investment on Student’s Learning Outcomes

Finally, I examine whether students’ learning outcomes are related to different dimensions of parental involvement, and compare the relative contribution of different types of capital on students’ learning outcomes. Two models are constructed. The first set of models is null models with two measures of students’ achievements and four measures of self esteem as the predicted variables. Again, no predictor variables are used in the null model. This model determines the percentage of variation in the six constructs of student outcomes (four types of self-esteem and two achievement scores) that lie within schools and between schools, before entering individual or school predictor variables. The null model for "General Self-esteem", for example, is given by equation (9) and (10):

\[
\text{General Self-esteem}_{ij} = \beta_{ij} + \epsilon_{ij}
\]

\[
\beta_{ij} = \theta_{00} + \mu_{ij}
\]

where \( \text{General Self-esteem}_{ij} \) is the general self-esteem score for student \( i \) in school \( j \). \( \beta_{ij} \) is the mean general self-esteem of school \( j \) without any adjustment, and \( \theta_{00} \) is the grand mean of general self-esteem. The \( \text{var} (\epsilon_{ij}) \) is the within-school variance of general self-esteem, and \( \text{var} (\mu_{ij}) \) is the between-school variance of general self-esteem.
The second set of models builds on the null model by adding student background factors, family resources, parental involvement factors, and school climate factors. The models examine the relative contribution of social capital, cultural capital and economic capital to six outcome measures: students' general self-esteem, peer self-esteem, mathematics self-esteem, reading self-esteem, reading test scores, and mathematics test scores. The models also compare the effectiveness of social capital established within school (measured by four school climate factors) and social capital nurtured at home (measured by four parental involvement factors). The full model used to predict students' general self-esteem is given by equations (11) and (12):

\[
\text{General Self-esteem}_{ij} = \beta_{0j} + \beta_{ij} (\text{female}) + \beta_{2j} (\text{traditional family}) + \beta_{3j} (\text{number of siblings}) + \beta_{4j} (\text{Asian}) + \beta_{5j} (\text{Native Indian}) + \beta_{6j} (\text{European}) + \beta_{7j} (\text{home language}) + \beta_{8j} (\text{economic capital}) + \beta_{9j} (\text{cultural capital}) + \beta_{10j} (\text{home discussion}) + \beta_{11j} (\text{home supervision}) + \beta_{12j} (\text{school communication}) + \beta_{13j} (\text{school participation}) + \beta_{14j} (\text{social climate}) + \beta_{15j} (\text{academic press}) + \beta_{16j} (\text{disciplinary climate}) + \beta_{17j} (\text{lack of bullying}) + \epsilon_{ij}
\]

\[
\beta_{0j} = \theta_{00} + \mu_{0j}
\]

Finally, in the analysis of student achievement scores, I have extended the models to include "students' activities after school". Therefore, I could also attempt to discern the impact of students' own time investment after school on student achievement scores over and above the effect of family factors and school climate. I expect that students' time spent on academic tasks has a significant effect on students' achievement scores even after controlling for family and school factors.
CHAPTER 5

RESULTS

This chapter examines the nature and impact of parental involvement. The analyses are based on data collected from a total of 1024 students, 404 teachers and 831 principals. The results are organized in three parts: (1) Extent of parental involvement; (2) Factors related to the extent of parental involvement; (3) Effects of parental investment and involvement on students’ academic achievement and self-esteem.

5.1 EXTENT OF PARENTAL INVOLVEMENT

5.1.1 Extent of Parental Involvement at the School Level

In the principal questionnaire, principals were asked to report the average number of parents who volunteered each week at different grade levels, and the number of parents represented at a typical Parent Advisory Council (PAC) meeting. The results suggest that involving parents in school volunteering and in PAC meetings is common in B.C. elementary schools. Table 9 shows that 92.3 percent of the B.C. elementary schools reported having parent volunteers in school and only 7.7 percent reported no volunteers. The Table also provides data from a study conducted in the United States asking similar question about parental involvement (Michael, 1990, p. 109).

<table>
<thead>
<tr>
<th></th>
<th>Number of Parent Volunteer Each Week per School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Schools</td>
</tr>
<tr>
<td>B.C.</td>
<td>831</td>
</tr>
<tr>
<td>U.S.A</td>
<td>40909</td>
</tr>
</tbody>
</table>
These figures indicate that the percentage of schools having parent volunteers in B.C. elementary schools in 1995 was more than that of the United States in 1988. However, when the average numbers of school volunteers are compared, the B.C. elementary schools appear to have fewer volunteers than those of the United States. Of those schools reported having parent volunteers, the B.C. elementary schools averaged about 18 parent volunteers each week per school, whereas the United States elementary schools reported an average of 24 volunteers per school during 1988-89. A plausible explanation is that this study recorded only parent volunteers, whereas Michael's U.S. study reported all types of volunteers, including community members and student volunteers. Another difference is that this study recorded numbers of parent volunteers per week, whereas Michael's study reported the average number of school volunteer for the whole year 1988-89. Therefore, to achieve more valid comparisons, further studies should focus upon who constitute the volunteers and the time period of volunteering. The findings of this study do suggest that volunteering is popular in the B.C. elementary schools.

Table 10 displays the percentage of schools having different numbers of parent volunteers by grade; (the figures in each row sum to 100%). Greater use of parent volunteers was evident at the kindergarten level: parent volunteers were found in 92.7 percent (100% - 7.3%) of kindergartens, and in over 30 percent of them (i.e. 15.2% + 15.5% = 30.7%), more than six parent volunteers were recruited each week. At the grade six level, only about 45.7 percent (100% - 55.3%) of the schools reported the use of parent volunteers, and in only about 4 percent of them (i.e. 2.2% + 1.4% = 3.6%) was there more than six parent volunteers per week. These figures show that the lower grades tended to have more parent volunteers than the higher grades. These findings are consistent with Epstein's (1982) study which pointed out that parental involvement
programs were well developed for lower grade students, but not for the upper grades. In B.C. schools it is likely that primary grade teachers feel more comfortable having parent volunteers because there are more well-defined roles for parents to help, and because classes are less formal. Also, parents may feel more at ease working with younger children.

Table 10. Parent Volunteers in B.C. Elementary Schools by Grade Level

<table>
<thead>
<tr>
<th>Percentage of Schools</th>
<th>no volunteers</th>
<th>1-2</th>
<th>3-5</th>
<th>6-8</th>
<th>more than 8 volunteers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>7.3</td>
<td>30.9</td>
<td>31.1</td>
<td>15.2</td>
<td>15.5</td>
</tr>
<tr>
<td>Grade 1</td>
<td>10.8</td>
<td>34.6</td>
<td>31.7</td>
<td>13.4</td>
<td>9.5</td>
</tr>
<tr>
<td>Grade 2</td>
<td>13.0</td>
<td>38.1</td>
<td>30.4</td>
<td>10.7</td>
<td>7.8</td>
</tr>
<tr>
<td>Grade 3</td>
<td>18.2</td>
<td>43.5</td>
<td>24.8</td>
<td>7.9</td>
<td>5.6</td>
</tr>
<tr>
<td>Grade 4</td>
<td>35.1</td>
<td>43.9</td>
<td>15.0</td>
<td>4.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Grade 5</td>
<td>47.8</td>
<td>36.0</td>
<td>11.5</td>
<td>2.7</td>
<td>2.0</td>
</tr>
<tr>
<td>Grade 6</td>
<td>55.3</td>
<td>31.9</td>
<td>9.2</td>
<td>2.2</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Table 11 shows that among the 831 schools, 97.5% of the principals reported the existence of a PAC or home-school organization in the school. This is a remarkable improvement in the development of home school organizations in British Columbia. Parent teacher associations were organized in B.C. in the early 1920's. After 1959, there was a steady decline in the number of parent teacher associations because they were viewed as ineffective organizations for influencing educational policy and quality (Rowse, 1994). By 1972, most schools had no parent group of any kind. Revitalization of parent teacher organizations occurred in 1990 when the B.C. Confederation of Parent Advisory Councils was formed. Under the School Act of 1989, all school districts in B.C. were legally obliged to establish PACs at the district and school levels. The Act
provides parents not only with financial support and administrative assistance for the
establishment of PACs, but also encourages parents to be involved in school governance. This
study demonstrates the substantial growth of PACs in the past two decades. Our findings indicate
that by 1995, school PACs had been formed in nearly all B.C. elementary schools in the sample.
The proliferation of PACs may bring a new era of parental involvement and home-school
relationships.

Table 11 displays the percentage of parents participating in a typical meeting of a school
PAC in B.C. elementary schools. Over 50 percent of the schools had less than ten percent of their
parents represented in the School PAC meeting. About 30 percent of the responding schools had
ten to twenty-nine percent of parents in a typical school meeting, and only about 8 percent of the
schools had more than fifty percent of their parents participating. These results should not be
interpreted as discouraging, because they are related to school size and other social factors.

<table>
<thead>
<tr>
<th>Percent of Parents Participated in PAC</th>
<th>Number of Schools</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>With no PAC</td>
<td>20</td>
<td>2.5</td>
</tr>
<tr>
<td>With PAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 10%</td>
<td>410</td>
<td>51.1</td>
</tr>
<tr>
<td>10-29%</td>
<td>244</td>
<td>30.4</td>
</tr>
<tr>
<td>30-39%</td>
<td>43</td>
<td>5.4</td>
</tr>
<tr>
<td>40-49%</td>
<td>18</td>
<td>2.2</td>
</tr>
<tr>
<td>50-59%</td>
<td>14</td>
<td>1.7</td>
</tr>
<tr>
<td>60-69%</td>
<td>19</td>
<td>2.4</td>
</tr>
<tr>
<td>70-79%</td>
<td>6</td>
<td>0.7</td>
</tr>
<tr>
<td>80-89%</td>
<td>16</td>
<td>2.0</td>
</tr>
<tr>
<td>more than 90%</td>
<td>12</td>
<td>1.5</td>
</tr>
</tbody>
</table>
5.1.2 Extent of Parental Involvement at the Classroom Level

In this study, teachers were asked to write down the approximate number of parents in their class who had: 1) volunteered to help in the classroom; 2) regularly attended parent-teacher conferences (PTC); 3) requested a PTC; and 4) participated in the school PAC. The first two columns of Table 12 show the average number and percentage of parents involved per class across the 404 teachers surveyed. The last two columns show the variation of the four dimensions of parental involvement within and between schools.

The teachers' reports suggest that the most prevalent form of parental involvement was attending a PTC. About 77.5 percent of teachers reported that they had met parents in PTCs in that school year. Teachers reported that they had met an average of 21 parents in PTCs; that is, 78.8 percent of the parents in the class. Thus, 21.2 percent of parents had no PTCs. This percentage is slightly less than that reported in Epstein's (1986) study of first, third, and fifth grade classrooms in Maryland. She found that over 35 percent of parents did not attend parent-teacher conferences (Epstein, 1986, p. 281). It appears that teachers are used to organizing school to home communication through PTCs in the B.C. elementary schools, yet not all parents could attend the meetings. Moreover, only a few parents took the initiative to request a PTC. On average, only 6 parents per class requested a PTC, that is 23.9 percent of the parents in the class.

For the two forms of school participation, teachers reported an average of 5 parents per class volunteering in the classroom; and about 3 parents per class participating in the PAC meeting.

Overall, most parents attend PTCs but only a few take the initiative to request a PTC, be involved as volunteers, or participate in the PAC.
Table 12.
Descriptive Analysis of Parental Involvement at the Classroom Level
(n=404, m=47 schools)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description of the items</th>
<th>Average No of Parents per Class</th>
<th>Average % of Parents per Class</th>
<th>Variation Between Schools</th>
<th>Variation Within Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attend PTC</td>
<td>attended parent-teacher conference</td>
<td>20.87</td>
<td>78.8%</td>
<td>.054</td>
<td>.948</td>
</tr>
<tr>
<td>Request PTC</td>
<td>requested parent-teacher conference</td>
<td>6.45</td>
<td>23.9%</td>
<td>.156</td>
<td>.848</td>
</tr>
<tr>
<td>Volunteer</td>
<td>volunteered in Classroom</td>
<td>5.15</td>
<td>20.2%</td>
<td>.178</td>
<td>.832</td>
</tr>
<tr>
<td>PAC</td>
<td>participated in the school PAC meeting</td>
<td>2.95</td>
<td>10.9%</td>
<td>.079</td>
<td>.933</td>
</tr>
</tbody>
</table>

The last two columns of Table 12 display the extent to which these four types of parental involvement varied among classrooms within and between schools. The results show that the average levels of parental involvement reported by teachers were relatively uniform across the 47 schools in the sample. About 82 percent of the variation of "parent volunteering" and about 84 percent of the variation of "parents requesting PTC" were within schools. Over 90 percent of the variation in "PTC attendance" and "PAC participation" was within schools. The between-school variance ranged from a high of 18 percent to a low of 5 percent. It appears that teachers' individual actions, rather than school policies, are a stronger determinant of the extent of parental involvement.

5.1.3 Extent of Home-based and School-based Parental Involvement at the Student Level

Table 13 shows the descriptive analysis of parental involvement reported by the 1024 fifth grade students in the B.C. elementary schools. Twelve items, with responses ranging from never (0), once or twice (1), about 3 or 4 times (2), to more than four times (3), were used to assess the
extent of parental involvement. The first eight items concern home-based involvement, and the last four items concern school-based involvement.

Overall, the level of the two forms of home-based involvement was higher than that of the two forms of school-based involvement. The majority of students reported that their parents had supervised and helped them with their homework. Among the three items of home supervision, parents helping their children with their homework was the most common supervision activity engaged in during the school year. About 51 percent of the students reported that their parents often (more than 4 times) helped them with their homework and only about 5.2 percent said their parents never helped. Of the rest, about 43 percent (26.3% + 17%) reported that their parents sometimes (once to four times) helped them. These findings are consistent with Epstein's (1995, p. 141) study in the United States, which reported that about 44.5 percent of the eighth-graders said that their parents often checked their homework, and about 10 percent never checked.

Of the five items measuring home discussion, students reported that their parents often discussed their academic work with them. “Talked with their child about school project” was the most common form of involvement. About half (23.2% + 25.9%) of the parents had talked with their children about school work more than twice since the beginning of the school year. The amount of home discussion concerning their child's social interaction was less than the amount of discussion pertaining to academic matters. About two-thirds of the students reported that they had never, or only once or twice, discussed with their parents how other children treat them.

The average frequencies of the two forms of school-based involvement were generally low. Parents “talked with the teacher about their child's school work” or “talked about their child's behavior” generally had occurred only once or twice since the beginning of the school year.
About a third (25.5% to 46.3%) of the students said their parents had *never* talked with the teacher that school year. This pattern of school communication is about the same as that of Epstein's (1995, p. 141) study which found that over a third of the parents had not talked with a teacher or counselor by phone or in person that school year. The extent of school participation was even lower than that of school communication. About 57.8 percent of the student said their parents had *never* volunteered in the classroom and 43.4 percent had *never* helped with school activities in the school year. In Epstein's study (1995), a majority (80%) of the parents *never* served as volunteers at the school, yet most students (63%) reported that their families attended some school events. Overall, B.C. elementary schools appear to have more parent volunteers in the classroom than in elementary schools in the U.S.. However, regarding parental participation in school activities, such as assistance in field trips, about 63% of parents had been involved in the U.S. elementary schools, which is similar to the 57% (100% - 43.4% = 56.6%) reported for B.C. elementary schools. The last two columns of Table 13 show the variation within- and between-schools for each of the four parental involvement constructs. Only about 4 percent of the variation of "home supervision" and "home discussion", and about 3 percent of the variation of "school communication" were among schools. For "school participation", the variation among schools was about 9 percent. This variation was higher than that of the other three types of involvement; however, when compared with the national data of the United States (Ho & Willms, 1996), the variation is still very low. Overall, the four dimensions of parental involvement did not vary substantially across schools.
Table 13.
Descriptive Analysis of Four Types of Parental Involvement at the Student Level
\( n=49 \) schools, \( m=1024 \) students

<table>
<thead>
<tr>
<th>Parental Involvement Reported by Students</th>
<th>Percentage of Parents</th>
<th>Mean (S.E.)</th>
<th>Variation Between Schools</th>
<th>Variation Within School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Once or Twice</td>
<td>About 3 or 4 Times</td>
<td>More than 4 Times</td>
</tr>
<tr>
<td>Home Discussion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talked with you about school project</td>
<td>13.2</td>
<td>37.6</td>
<td>23.2</td>
<td>25.9</td>
</tr>
<tr>
<td>Discussed about mathematics</td>
<td>17.4</td>
<td>39.3</td>
<td>18.5</td>
<td>24.6</td>
</tr>
<tr>
<td>Discussed about reading</td>
<td>28.7</td>
<td>34.6</td>
<td>17.7</td>
<td>18.7</td>
</tr>
<tr>
<td>Talked about how students treat you</td>
<td>26.7</td>
<td>40.3</td>
<td>16.6</td>
<td>16.1</td>
</tr>
<tr>
<td>Discussed hurtful things children say</td>
<td>34.2</td>
<td>33.8</td>
<td>14.9</td>
<td>16.8</td>
</tr>
<tr>
<td>Home Supervision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helped you with your homework</td>
<td>5.2</td>
<td>26.3</td>
<td>17.0</td>
<td>51.3</td>
</tr>
<tr>
<td>Said how important school work is</td>
<td>9.3</td>
<td>27.3</td>
<td>17.2</td>
<td>46.2</td>
</tr>
<tr>
<td>Checked your homework for mistakes</td>
<td>15.6</td>
<td>28.7</td>
<td>17.4</td>
<td>37.9</td>
</tr>
<tr>
<td>School Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talked about your school work</td>
<td>25.5</td>
<td>49.9</td>
<td>14.6</td>
<td>9.9</td>
</tr>
<tr>
<td>Talked about your behavior</td>
<td>46.3</td>
<td>36.8</td>
<td>9.3</td>
<td>7.5</td>
</tr>
<tr>
<td>School Participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helped with school activities</td>
<td>43.4</td>
<td>34.0</td>
<td>11.6</td>
<td>10.8</td>
</tr>
<tr>
<td>Helped in the classroom</td>
<td>57.8</td>
<td>25.0</td>
<td>7.5</td>
<td>9.6</td>
</tr>
</tbody>
</table>

107
Taken together, this section portrays the extent of parental involvement in B.C. elementary schools. The results indicate that different dimensions of parental involvement did not vary substantially across the 49 elementary schools. An important implication is that it is difficult to identify schools which have particularly high or low levels of parental involvement. These findings suggest that teachers' preference and students' family backgrounds, rather than school policies, were more likely to be the major determinants of the extent of parental involvement. The next section will test this hypothesis and examine the extent to which family factors, teacher factors and school factors are related to the extent of parental involvement.

5.2 FACTORS RELATED TO THE EXTENT OF PARENTAL INVOLVEMENT

5.2.1 Effects of Contextual Factors and School Policies on School Volunteering and PAC Participation

Impact of Contextual Factors on School Volunteering and PAC Participation

Tables 14 and 15 show the relationships of five school contextual factors with school volunteering and PAC participation. Small schools, those with less than 150 students, had an average of about 13 volunteers each week, while average size schools (100-150 students) had about 20 volunteers, and large schools with enrollemnts of over 500 students, had an average of about 26 volunteers. Assuming an average of about 25 to 30 students per class, these results indicate that small schools have about 3 volunteers per class, average size schools have about 2 volunteers and large school have only about 1 volunteer per class. Thus, the ratio of volunteers per class is greater in small schools. Similarly, there was a high percentage of parents in small schools who participated in the PAC, compared with larger schools. This trend is evident also
with respect to geographic location because rural areas tend to have smaller schools, while most of the large schools are in the cities.

The extent of volunteering was fairly consistent across schools with different proportions of single parent families. However, the percentage of parents represented in the PAC evidently decreased as schools had over 75 percent single parents. These findings are not totally consistent with previous studies in the United States (e.g., Epstein, 1990; Ho and Willms, 1996), in which single parents were less likely to be involved in both classroom volunteering and PTO participation. This result indicates that single parents in B.C. are willing to help as volunteers as much as other parents although they may have the economic and time constraints. However, if the majority of the children in the school are from single-parent families, teachers might have greater difficulties to involve parents participating in the school PAC.

The number of parents in a school who were from ethnic minority groups or professional and white collar occupations had a significant impact on the number of volunteers. As the percentage of parents from professional and white collar occupations increased, the number of parent volunteers in the school increased. Schools with more than 50 percent non-English speaking parents (ethnic minority groups) tended to have many fewer parent volunteers. Together, these data suggest that important contextual factors affecting the level of volunteering and participation in the PAC are: school size, geographic location, and the proportions of parents from ethnic minority groups and with professional and white collar occupations.
Table 14.
Parent Volunteers in B.C. Elementary Schools, by Selected Community Characteristics

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Schools</th>
<th>Average Number of Parents in the PAC per school</th>
<th>S.E.</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>831</td>
<td>18.12</td>
<td>0.47</td>
<td></td>
</tr>
<tr>
<td><strong>School size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 150</td>
<td>255</td>
<td>13.04</td>
<td>0.72</td>
<td>31.4232***</td>
</tr>
<tr>
<td>150-500</td>
<td>544</td>
<td>20.03</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>more than 500</td>
<td>32</td>
<td>26.12</td>
<td>3.47</td>
<td></td>
</tr>
<tr>
<td><strong>Geographic Location</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rural</td>
<td>189</td>
<td>15.30</td>
<td>0.89</td>
<td>4.2508**</td>
</tr>
<tr>
<td>small town</td>
<td>114</td>
<td>16.89</td>
<td>1.06</td>
<td></td>
</tr>
<tr>
<td>city (5000-50000)</td>
<td>234</td>
<td>19.20</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>large city(over 50000)</td>
<td>256</td>
<td>19.25</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td><strong>Percentage of Single Parents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>61</td>
<td>17.57</td>
<td>2.03</td>
<td>1.3856</td>
</tr>
<tr>
<td>5-19%</td>
<td>287</td>
<td>19.55</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>20-49%</td>
<td>312</td>
<td>18.17</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>50-74%</td>
<td>51</td>
<td>18.37</td>
<td>1.84</td>
<td></td>
</tr>
<tr>
<td>over 75%</td>
<td>16</td>
<td>12.50</td>
<td>2.04</td>
<td></td>
</tr>
<tr>
<td><strong>Percentage of Minority Parents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>287</td>
<td>20.39</td>
<td>0.79</td>
<td>8.1456***</td>
</tr>
<tr>
<td>5-19%</td>
<td>200</td>
<td>20.25</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>20-49%</td>
<td>83</td>
<td>19.42</td>
<td>1.64</td>
<td></td>
</tr>
<tr>
<td>50-74%</td>
<td>28</td>
<td>9.00</td>
<td>1.37</td>
<td></td>
</tr>
<tr>
<td>over 75%</td>
<td>11</td>
<td>4.63</td>
<td>1.53</td>
<td></td>
</tr>
<tr>
<td><strong>Percentage of Parents in Professional or White Collar Occupations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>63</td>
<td>17.08</td>
<td>1.56</td>
<td>4.3246**</td>
</tr>
<tr>
<td>5-19%</td>
<td>256</td>
<td>17.13</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>20-49%</td>
<td>196</td>
<td>18.53</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>50-74%</td>
<td>83</td>
<td>22.47</td>
<td>1.62</td>
<td></td>
</tr>
<tr>
<td>over 75%</td>
<td>62</td>
<td>22.71</td>
<td>1.87</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001.
<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Schools</th>
<th>Average Number of Parents in PAC per school</th>
<th>S.E.</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>802</td>
<td>19.46</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>School Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 150</td>
<td>241</td>
<td>27.38</td>
<td>1.52</td>
<td>40.5922***</td>
</tr>
<tr>
<td>150-500</td>
<td>529</td>
<td>16.01</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>more than 500</td>
<td>32</td>
<td>16.88</td>
<td>1.88</td>
<td></td>
</tr>
<tr>
<td>Geographic Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rural</td>
<td>183</td>
<td>23.38</td>
<td>0.15</td>
<td>4.1743**</td>
</tr>
<tr>
<td>small town</td>
<td>110</td>
<td>18.73</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td>city (5000-50000)</td>
<td>229</td>
<td>18.65</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>larger city(over 50000)</td>
<td>244</td>
<td>17.83</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>Percentage of Single Parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>58</td>
<td>27.93</td>
<td>3.02</td>
<td>7.7479***</td>
</tr>
<tr>
<td>5-19%</td>
<td>284</td>
<td>20.21</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>20-49%</td>
<td>303</td>
<td>16.50</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>50-74%</td>
<td>50</td>
<td>18.60</td>
<td>2.51</td>
<td></td>
</tr>
<tr>
<td>over 75%</td>
<td>16</td>
<td>12.50</td>
<td>1.44</td>
<td></td>
</tr>
<tr>
<td>Percentage of Minority Parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>279</td>
<td>16.84</td>
<td>0.75</td>
<td>1.2004</td>
</tr>
<tr>
<td>5-19%</td>
<td>198</td>
<td>17.22</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>20-49%</td>
<td>79</td>
<td>19.62</td>
<td>1.96</td>
<td></td>
</tr>
<tr>
<td>50-74%</td>
<td>27</td>
<td>14.07</td>
<td>2.28</td>
<td></td>
</tr>
<tr>
<td>over 75%</td>
<td>10</td>
<td>21.00</td>
<td>5.47</td>
<td></td>
</tr>
<tr>
<td>Percentage of Parents in Professional or White Collar Occupations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 5%</td>
<td>63</td>
<td>18.73</td>
<td>1.91</td>
<td>1.4463</td>
</tr>
<tr>
<td>5-19%</td>
<td>247</td>
<td>17.85</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>20-49%</td>
<td>192</td>
<td>19.84</td>
<td>1.27</td>
<td></td>
</tr>
<tr>
<td>50-74%</td>
<td>82</td>
<td>18.53</td>
<td>1.67</td>
<td></td>
</tr>
<tr>
<td>over 75%</td>
<td>60</td>
<td>23.17</td>
<td>2.25</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001.
Impact of School Policies on School Volunteering and PAC Participation

Principals in this study were asked to report the extent to which parents having been involved in three parental policies. The first two policy factors measure the direct involvement of parents in setting school rules and academic goals. The last factor measures the extent to which parents are involved in partnership programs. These three factors are considered as indicators of the extent of decentralization toward parents. Table 16 shows that over 70 percent of the principals reported that they did involve parents in all three areas to a certain extent, and only 2 percent had never involved parents. It appears that involving parents in setting school goals, disciplinary rules and home-school partnership programs are common practices in B.C. elementary schools.

Table 16.
Descriptive Analysis of Decentralization towards Parental Involvement (N=831)

<table>
<thead>
<tr>
<th>Decentralization Policies</th>
<th>Percentage of Principals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Involvement</td>
</tr>
<tr>
<td>a. Setting Academic Goals</td>
<td>2.4</td>
</tr>
<tr>
<td>b. Setting Disciplinary Rules</td>
<td>2.0</td>
</tr>
<tr>
<td>c. Home-school Partnership program</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Table 17 shows the correlation between these three parental policy factors and the two types of parental involvement: school volunteering and PAC participation. The results indicate that all three parental policy factors are positively correlated with the level of volunteering and PAC participation (n=831). Schools with higher levels of direct involvement of parents in setting school rules and academic goals are likely to have more parent volunteers and a higher percentage
of parents represented in their PACs. Schools with a greater sense of partnership with parents are likely to have more parent volunteers and greater participation in the PAC. It can be argued tentatively that the extent of decentralization of authority toward parents is positively correlated with the extent of parental involvement in volunteering and PAC meetings.

Table 17.
Correlation Between Parental Policy Factors and School Participation

<table>
<thead>
<tr>
<th>School Participation</th>
<th>Parents Set Academic Goal</th>
<th>Parents Set Disciplinary Rules</th>
<th>Create Partnerships With Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteers</td>
<td>.1662***</td>
<td>.0817*</td>
<td>.1824</td>
</tr>
<tr>
<td>Parent Advisory Council</td>
<td>.2188***</td>
<td>.1155**</td>
<td>.1004*</td>
</tr>
</tbody>
</table>

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

5.2.2 Effects of Teacher Attitudes and Practices on Classroom Volunteering, PTC and PAC Participation

For many teachers, there are areas of authority and responsibility into which parents should not be permitted to intrude. They feel that because of their own professional experience and training, they are better placed to make decisions about matters concerning the curriculum and classroom practices. In most jurisdictions, teachers have historically enjoyed a high degree of autonomy with respect to classroom practices. In this section, I attempt, first of all, to clarify teachers' zones of acceptance for parental involvement in school governance and how teachers actually included parents in educating their children at home and in school. Then I examine how these teachers' attitudes and practices were related to the extent of parental participation in volunteering, parent teacher conferences (PTC) and parent advisory committees (PAC).
Descriptive Analysis of Teacher Attitudes and Practices toward Parental Involvement

Teachers, in this study, were asked whether parents should have "no involvement", should be "informed" or "consulted", or should "make decisions" about particular school matters. Their responses are considered a measure of their "zone of acceptance" towards parental involvement in school governance. Descriptive analysis of the teachers' attitudes and practices are displayed in Table 18.

Table 18.
Descriptive Analysis of Teachers' Attitude Toward Parental Involvement
(N=404)

<table>
<thead>
<tr>
<th>Zone of Acceptance</th>
<th>Percentage of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Involvement</td>
</tr>
<tr>
<td>Set school rules regarding student behavior</td>
<td>3</td>
</tr>
<tr>
<td>Develop academic goals for student learning</td>
<td>8</td>
</tr>
<tr>
<td>Recruit and train school volunteers</td>
<td>19</td>
</tr>
<tr>
<td>Plan the school budget</td>
<td>21</td>
</tr>
<tr>
<td>Hire new teachers or principal</td>
<td>41</td>
</tr>
</tbody>
</table>

About 80 percent of the teachers would like to inform or consult parents on setting academic goals and disciplinary rules, but only 13 percent of the teachers accepted that parents should have a direct influence on these two school issues. Half of the teachers endorsed parents' right to be informed or consulted in recruiting school volunteers, and about 28 percent of the teachers would like parents to have decision-making authority. But for school budgeting and staffing, about 41 percent of the teachers would refuse any form of parental involvement, and only 6 percent of them would have parents make the decisions. The message is clear: the majority of teachers felt parents should be informed or consulted, but on most issues, not have any real decision-making authority. Teachers were more willing to inform or consult parents about...
educational issues, such as setting disciplinary rules and academic goals, rather than administrative events. Then, HLM was used to partition the variability of the composite variable of zone of acceptance into within-school and between-school components. Therefore, it enables us to answer: Does zone of acceptance vary significantly among schools? The between-school variation is 21 percent (P<0.001). This means that we can identify schools with particularly high or low levels of acceptance.

Figure 2 displays the frequency of the nine types of parental assistance activities being requested by teachers. Consistent with teachers' zone of acceptance, educationally related activities such as "listen to their child read", or "read aloud to their child and "help the child with particular assignments" were the activities most frequently requested by teachers. Seventy-nine percent of the teachers reported that they requested parents to read to or listen to their children read. This percentage is higher than the 66 percent in the U.S. elementary schools reported by Becker and Epstein (1983). The second most common activity requested by teachers was "help with particular assignments". About 64 percent of the teachers asked parents to help their child in school assignments, whereas Becker and Epstein (1983) reported only 25 percent requesting the same activity. Teachers also placed least emphasis on requesting parents to watch and discuss TV shows. Overall, the findings demonstrated that requesting parental assistance in home-based educational activities was a common practice among the B.C. elementary school teachers. Teachers often made requests for parents to work as volunteers, but seldom asked them to participate in the PAC.
Figure 2. Percentage of Teachers Requests for Parental Assistance on Various Activities

![Bar chart showing percentage of teachers' requests for parental assistance on various activities.]

Figure 3 shows the percentage of parents contacted by teachers by various means. The results suggest that formal individual interview was the most common means by which teachers made contact with parents. Over 80 percent of parents had "formal individual interviews" with teachers. About 75 percent of parents were contacted through "open house" or "notes sent home", and about 50 percent of parents were contacted by "phone call" and "informally before or after school". Parent-teacher committees appeared to be the least popular way of communication between teachers and parents.
Figure 4 displays the major issues teachers discussed with parents. Contact made by teachers to parents of fifth graders was infrequent. A majority of the teachers reported that by November they had contacted less than 10 parents in their class since the beginning of the school year. It is noteworthy that the subject of their communication was not limited to students' academic or behavior problems. Previous studies conducted in the United States (Epstein & Lee, 1995; Ho & Willms, 1996) and in Hong Kong (Wan, 1992) suggested that most of the home-school contacts reported by students or parents were problem-oriented. In B.C., however, some
teachers had contacted parents with more positive aspects about students, such as "good classroom or school behavior" and "adequate or high academic performance". This can be construed as progress in the quality of mutual home-school communication.

![Figure 4. Subject Matters of Teacher-Parent Communication](image)
Effect of Teachers' Attitudes and Practices on Parental Involvement in volunteering, PTC and PAC

This section examines how teachers' attitudes and practices are related to the extent of parental involvement in volunteering, PTC and PAC. A full HLM model was constructed to examine the effect of three categories of factors upon the extent of parental involvement – student and classroom characteristics, teachers' characteristics, and teachers' attitudes and practices regarding parental involvement. Table 19 displays the estimates of the regression coefficients and their standard errors for models explaining each of the four involvement constructs: parent volunteering, attending PTC, requesting PTC, and participating in PAC.

The results in Table 19 suggest that grade level was related to the extent of parental volunteering and attending PTC, but not to requesting PTC and PAC participation. The lower the grade level, the more likely the parents were to volunteer in the classroom and to attend the parent-teacher conference. This pattern is consistent with several empirical studies from the United States (Epstein, 1983; Michael, 1990). The greater extent of parental involvement in early childhood might be due to teachers' beliefs that parents of young children are more willing to perform useful functions in an educational program than are parents of older children. Class size was related to PTC participation. The greater the class size, the greater number of parents

---

6. At the school level, no school-level predictors (including school size, geographic location, percentage of single parents, percentage of parents from professional occupations, and percentage of non-English speaking parents) had significant effects on the degree of parental involvement; therefore, all the school level predictors were dropped in the final analysis.

7. In this analysis, the four outcome variables were standardized to have a mean of 0 and standard deviation of 1. The regression estimates shown in Table 19 are the average within-school equations across the 47 schools. For example, the regression estimates of grade level for parent volunteering, - .116, was the weighted average of the 47 within-school coefficients of grade level. The estimate represents a one-unit increase in the predictor variable, grade level, is associated with 11.6 percent of a standard deviation decreased in the outcome variable, volunteering. This can be interpreted as the effect size of the predictor variable.
attended and requested parent-teacher conferences. The effect of percentage of single parents in the class was not significant in all types of involvement. Contrary to some previous studies (e.g. Ho, 1995), in which the percentage of non-English speaking parents was positively related to the extent of parents’ requesting PTC meetings, this study suggests that ethnic-minority groups did not necessarily take a passive role in parental involvement. Our findings support Comer’s (1987) argument that although parents from ethnic minority groups might have language problems, many overcome this barrier and take the initiative to participate in their children's education. No significant relationship was evident between percentage of parents from professional and white collar occupations and the extent of parental involvement in classroom volunteering and PTC meetings. However, classes with more parents from professional and white collar occupations tended to have a greater number of participants in PACs. Its effect size on PAC participation is about .221, which is the greatest among the 13 predictors in the model. The relationships between teacher characteristics and all types of involvement were not significant except for PTC participation. An interesting point is that male teachers were more likely to have parents attending and requesting PTC meetings.

Teachers’ attitudes and practices have a significant relationship with different types of parental involvement even after classroom characteristics and teachers’ background have been taken into account. Teachers with a greater zone of acceptance toward parental involvement were more likely to have parents requesting PTCs and participating in the school PAC. Teachers’ practices had a significant effect on volunteering and attending PTCs. The more teachers requested parents’ assistance, and the more strategies they used to contact parents, the more likely parents were to participate in classroom volunteering.
Table 19.
Effects of Teachers' Attitudes and Practices on Parental Involvement at Classroom Level
(n=47 schools, m=329 teachers)

<table>
<thead>
<tr>
<th>Parent Volunteer</th>
<th>Attending PTC</th>
<th>Requesting PTC</th>
<th>Participating PAC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient (S.E.)</td>
<td>Coefficient (S.E.)</td>
<td>Coefficient (S.E.)</td>
</tr>
<tr>
<td>Intercept</td>
<td>-.084 (.152)</td>
<td>-.329 (.172)</td>
<td>.048 (.165)</td>
</tr>
<tr>
<td>Student and Class Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.116*** (.026)</td>
<td>-.090*** (.028)</td>
<td>-.030 (.028)</td>
</tr>
<tr>
<td>Class Size</td>
<td>.019 (.006)</td>
<td>.034*** (.007)</td>
<td>.016* (.007)</td>
</tr>
<tr>
<td>percentage of single parents</td>
<td>-.075 (.065)</td>
<td>.100 (.074)</td>
<td>.034 (.073)</td>
</tr>
<tr>
<td>percentage of non-English speaking parents</td>
<td>.008 (.060)</td>
<td>-.031 (.061)</td>
<td>.133* (.061)</td>
</tr>
<tr>
<td>percentage of prof. or white collar parents</td>
<td>.022 (.051)</td>
<td>.046 (.054)</td>
<td>.053 (.054)</td>
</tr>
<tr>
<td>Teacher Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>.003 (.135)</td>
<td>-.312*** (.147)</td>
<td>-.445*** (.151)</td>
</tr>
<tr>
<td>Years of Teaching</td>
<td>.058 (.052)</td>
<td>-.055 (.058)</td>
<td>.008 (.057)</td>
</tr>
<tr>
<td>Teachers' Education</td>
<td>.030 (.049)</td>
<td>-.067 (.055)</td>
<td>.000 (.055)</td>
</tr>
<tr>
<td>Teachers' Expectation</td>
<td>-.035 (.051)</td>
<td>-.015 (.056)</td>
<td>-.026 (.054)</td>
</tr>
<tr>
<td>Teachers' Attitude and Practices in Parental Involvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone of Acceptance</td>
<td>.104 (.054)</td>
<td>.043 (.058)</td>
<td>.143* (.060)</td>
</tr>
<tr>
<td>Teachers' Request for Parental Assistance</td>
<td>.141*** (.053)</td>
<td>.075 (.061)</td>
<td>.001 (.060)</td>
</tr>
<tr>
<td>Teacher Contact Parents</td>
<td>.139*** (.052)</td>
<td>.098 (.063)</td>
<td>.063 (.061)</td>
</tr>
<tr>
<td>Talk individually with Parents</td>
<td>-.031 (.052)</td>
<td>.042 (.057)</td>
<td>.023 (.057)</td>
</tr>
<tr>
<td>Final Estimation of Variance Components</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>.151</td>
<td>.041</td>
<td>.119</td>
</tr>
<tr>
<td>Within School</td>
<td>.861</td>
<td>.892</td>
<td>.840</td>
</tr>
<tr>
<td>Percentage of Variance Explained</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>15.2%</td>
<td>24.1%</td>
<td>23.7%</td>
</tr>
<tr>
<td>Within School</td>
<td>3.5%</td>
<td>5.9%</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001.
The bottom portion of Table 19 shows the percentage of within- and between-school variation explained by the set of teachers' attitudes and practices, and classroom characteristics. The four models explained about 15 to 27 percent of the between-school variation in the four types of parental involvement and less than 6 percent of the within-school variations. For instance, the full model of PAC participation accounts for 27.1 percent \( \left(\frac{.079-.067}{.079}\right) \) of the between school variance and 5.3 percent \( \left(\frac{.933-.884}{.933}\right) \) of the within school variance.

Two conclusions can be drawn from the analysis. First, the 13 classroom level predictors explained only a very small proportion of the within-school variation, but a considerable proportion of between-school variation. For parent volunteering, they accounted for only 3.5 percent of the variation, and 86.1 percent of the within-school variation remained unexplained, which suggests that there are a number of unmeasured factors that determine the extent of volunteering within schools. The same is true for the other three involvement constructs. But for the between-school variation, only about .041 to .151 of the variation remained unexplained. Second, even after controlling for teachers' backgrounds and classroom characteristics, teachers' zones of acceptance still had a positive effect on the extent of "requesting PTC" and "PAC participation"; and teachers' actual practices in requesting parental assistance and contacting parents had a similar positive impact on the extent of "parent volunteering".

5.2.3 Effect of Family Factors and School Factors on Parental Involvement

The full models of the HLM analysis for each of the four involvement constructs are displayed in Table 20. Thirteen variables were included in the four models explaining the variations in four types of parental involvement: home discussion, home supervision, school communication and school participation. The first group of variables was student's characteristics,
Table 20.
Effects of Family Factors and School Climate on Parental Involvement
(n=49 schools, m=1024 students)

<table>
<thead>
<tr>
<th></th>
<th>Home Discussion</th>
<th>Home Supervision</th>
<th>School Communication</th>
<th>School Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient (S.E.)</td>
<td>Coefficient (S.E.)</td>
<td>Coefficient (S.E.)</td>
<td>Coefficient (S.E.)</td>
</tr>
<tr>
<td>Intercept</td>
<td>.006 (.037)</td>
<td>.003 (.037)</td>
<td>.011 (.034)</td>
<td>.006 (.049)</td>
</tr>
<tr>
<td><strong>Student Background</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>.067* (.029)</td>
<td>.013 (.029)</td>
<td>-.087** (.029)</td>
<td>-.032 (.027)</td>
</tr>
<tr>
<td>Traditional Family</td>
<td>-.009 (.027)</td>
<td>-.008 (.028)</td>
<td>-.056 (.028)</td>
<td>.012 (.026)</td>
</tr>
<tr>
<td>Number of Siblings</td>
<td>-.034 (.028)</td>
<td>-.084** (.074)</td>
<td>.038 (.029)</td>
<td>.013 (.027)</td>
</tr>
<tr>
<td>Asian</td>
<td>-.052 (.032)</td>
<td>-.033 (.033)</td>
<td>.002 (.032)</td>
<td>-.091** (.032)</td>
</tr>
<tr>
<td>Native Indian</td>
<td>-.011 (.028)</td>
<td>.008 (.029)</td>
<td>.035 (.029)</td>
<td>-.021 (.027)</td>
</tr>
<tr>
<td>European</td>
<td>.024 (.029)</td>
<td>.035 (.029)</td>
<td>-.008 (.029)</td>
<td>-.011 (.027)</td>
</tr>
<tr>
<td>Home Language</td>
<td>-.060 (.030)</td>
<td>.013 (.031)</td>
<td>-.012 (.030)</td>
<td>.044 (.028)</td>
</tr>
<tr>
<td><strong>Family Resources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Capital</td>
<td>.011 (.028)</td>
<td>.006 (.031)</td>
<td>-.024 (.031)</td>
<td>.024 (.029)</td>
</tr>
<tr>
<td>Cultural Capital</td>
<td>.133*** (.030)</td>
<td>.079* (.031)</td>
<td>.018 (.031)</td>
<td>.175*** (.028)</td>
</tr>
<tr>
<td><strong>School Climate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Climate</td>
<td>.154*** (.035)</td>
<td>.083* (.036)</td>
<td>.016 (.035)</td>
<td>.097** (.032)</td>
</tr>
<tr>
<td>Academic Press</td>
<td>.057 (.029)</td>
<td>.090** (.030)</td>
<td>.058 (.030)</td>
<td>.021 (.027)</td>
</tr>
<tr>
<td>Disciplinary Climate</td>
<td>-.030 (.034)</td>
<td>-.040 (.034)</td>
<td>-.043 (.034)</td>
<td>.011 (.032)</td>
</tr>
<tr>
<td>Lack of Bullying</td>
<td>-.244*** (.030)</td>
<td>-.125*** (.031)</td>
<td>-.170*** (.030)</td>
<td>-.086** (.028)</td>
</tr>
<tr>
<td><strong>Final Estimation of Variance Component</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>.029</td>
<td>.025</td>
<td>.017</td>
<td>.079</td>
</tr>
<tr>
<td>Within School</td>
<td>879</td>
<td>.932</td>
<td>.931</td>
<td>.755</td>
</tr>
<tr>
<td><strong>Percentage of Variance Explained</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>14.7%</td>
<td>28.6%</td>
<td>30.4%</td>
<td>11.4%</td>
</tr>
<tr>
<td>Within School</td>
<td>12.2%</td>
<td>3.0%</td>
<td>5.0%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .001.
including students’ sex, their family structure and their ethnicity; the second group of variables was family resources, including cultural capital and economic capital provided by parents for their child; the third group included four school climate factors – social climate, academic press, disciplinary climate and lack of bullying.8

The results suggest that there were significant differences between boys and girls in home discussion and school communication. Girls tended to communicate more with their parents, and their parents generally contacted school teachers less frequently than boys’ parents did. This pattern of gender difference in parental involvement is consistent with the United States studies (Ho, 1995; Ho and Willms, 1996). One interpretation given by Reynold (1992), Epstein (1995) and Ho and Willms (1996) is that children usually associate ‘home-school contact’ with trouble. Since boys in elementary schools were more likely than girls to have behavioral problems, their parents were more often contacted by school teachers. The impact of family structure and ethnicity on parental involvement was not obvious in this study. Consistent with the findings from teachers' and principals' data, the effect of living in a non-traditional (single-parent or no-parent) versus traditional (two-parent) family was not significant for all types of involvement. The number of siblings at home related only to home supervision. Families with more children tended to provide less supervision of their children's homework. This is consistent with some recent Canadian studies (Rowse, 1994; Brown, 1996). Our findings support that family structure is not a major determinant of the extent of parental involvement in B.C. elementary schools.

8 Since the data were collected at different times in the pilot and main studies, a dummy variable, named 'study', was created in order to control the influence of 'time' on the variation of parental involvement. The value of 'study' was '1' as the data were collected at the end of the school year (that is from pilot study); '0' as the data were collected at the beginning of the school year). Preliminary analysis using HLM showed no significant impact of this variable in all models; therefore, this variable was dropped in the final analysis.
The results show a significant difference in the extent of school-based involvement among different ethnic groups. For instance, Asian parents tended to maximize their investment of time and energy in supervising their children’s learning at home rather than participating in school. Contrary to previous studies, home language was shown to have no significant association with all types of involvement. Previous researchers have suggested that the inability of non-English speaking parents to communicate with teachers could pose considerable barriers for school participation. These findings of this study challenge such an interpretation, and suggest that parents from ethnic minority groups in B.C. elementary schools play an active role in their children’s education. It would be worthwhile to examine whether this pattern is related to particular multi-cultural parent policies and practices in the B.C. school system.

Of the two types of family resources, the cultural capital of a family appeared to be more important than economic capital in determining the extent of parental involvement in their children's education. Cultural capital was positively related to home discussion, home supervision, and school participation, but economic capital had no significant relationship with any type of involvement. Neither were these two kinds of family resources related to home-school communication. As explained by Ho and Willms (1996), this type of involvement was more likely to be related to the incidence of students' behavioral and learning problems at the school.

Of the four measures of social capital nurtured within the school, social climate was positively related to home discussion, home supervision and school participation. Students with a higher sense of well being and sense of belonging to school tended to discuss more about their school life with their parents, and their parents tended to engage in more supervision at home and participated more in school activities. Academic press was also positively related to home-based
involvement. As schools placed greater emphasis on academic achievement, the message might be passed on to parents, which encouraged more home supervision. Disciplinary climate had no significant relationship with any of the four types of involvement. “Lack of bullying” had a significant negative relationship with all types of involvement. In other words, as students perceived serious bullying problems in school, they tended to discuss more about their school life with their parents and their parents tended to engage in more supervision at home and had more contact with school teachers. The analysis also revealed some interesting findings that schools with serious bullying problems tended to have higher levels of parental participation in school activities. One possible reason is that parents might attempt to understand and learn how to solve the problems encountered by their children through direct observation and participation in school.\(^9\)

The bottom portion of Table 20 shows the percentage of within- and between- school variation explained by the set of family and school factors. The full models explain about 15 to 30 percent of the between-school variation in the four types of parental involvement and only 3 to 12 percent of the within-school variation. Two inferences can be drawn from these results. First, there was very little between-school variance remaining after family background and various types of capital had been taken into account. For instance, the between-school variance of Home Discussion that remained unexplained after controlling for the family factors was only 2.9 percent. The same is true for Home Supervision, School Communication, and School Participation, for

\(^9\) I extended the four HLM models to include these six school level factors (including - school size, geographic location of school, family structure, parents’ ethnicity, parents’ occupation, the degree of decentralization toward parental involvement) and four aggregated teacher-level factors (including teachers’ attitudes and practices toward parental involvement. Yet the results indicated that these factors were not related to the level of parental involvement perceived by students, except the percentage of parents from ethnic minority groups (where non-English speaking families tend to have less home discussion). Therefore, I dropped the school level factors in the final analysis.
which the "remaining unexplained variation" were only 2.5 percent, 1.7 percent, and 7.9 percent respectively. Second, cultural capital provided by the family and social capital nurtured within the school are major determinants of parental involvement, even after students' social background factors had been taken into account.

5.3 Effects of Parental Involvement and Investment on Students' Learning Outcomes

This section investigates the relative contribution of different types of parental investment and parental involvement to students' self-esteem and achievement scores. I first investigate how self-esteem and achievement scores vary within schools and between schools. Then, I examine the effects of students' background, specifically the contributions of cultural capital, economic capital, and social capital to the children's self-esteem and academic achievement.

5.3.1 Variation of Students' Self-Esteem and Achievement Between Schools

Table 21 displays the results of the null models which partition the variation of the four types of self-esteem and two achievement scores into within-school and between-school components. The models determined the overall percentage of variation in the six learning outcomes that lie between schools before controlling for individual and school factors. Therefore, it enables us to answer the question: Do self-esteem and achievement scores vary significantly between schools?

Children's levels of self-esteem did not vary substantially among schools. The proportion of variation between schools ranged from a low of 3 percent \([(.027+.905)/.027 = .029]\) for peer self-esteem to a high of 9 percent \([.084/(.084+.854)=.089]\) for reading self-esteem. For each of the four measures, the within-school variation was over 90 percent. This means that it was
difficult to identify schools that had particularly high or low levels of self-esteem. The same is true for reading. About 9 percent \( \frac{0.092}{0.092 + 0.912} = 0.092 \) of the variation in reading scores was between schools and 91 percent was within schools. However, considerable variation among schools was found in mathematics. About 18 percent \( \frac{0.175}{0.175 + 0.811} = 0.177 \) of the variation in mathematics was between schools and 82 percent was within schools. Thus, schools differed considerably more in their average levels of mathematics achievement. Although the between-school variations for reading and the four self-esteem measures were quite small, they were all statistically significant \( (p < 0.001) \). In the next analysis, six HLM models were constructed to explain the variation on each of the six learning outcomes with measures of students' background characteristics, different types of capital invested by parents and schools, and different types of parental involvement.

<table>
<thead>
<tr>
<th>Table 21.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation of Six Dimensions of Students' Learning Outcomes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Variation of Students' Self-estees</td>
</tr>
<tr>
<td>(n=49 schools; m=1024 students)</td>
</tr>
<tr>
<td>General Self-esteem</td>
</tr>
<tr>
<td>Peer Self-esteem</td>
</tr>
<tr>
<td>Mathematics Self-esteem</td>
</tr>
<tr>
<td>Reading Self-esteem</td>
</tr>
<tr>
<td>Variation of Students' Achievements</td>
</tr>
<tr>
<td>(n=34 schools; m=953 students)*</td>
</tr>
<tr>
<td>Reading</td>
</tr>
<tr>
<td>Mathematics</td>
</tr>
</tbody>
</table>

* Achievement tests were conducted only in the main study.
5.3.2 Contribution of Parental Involvement and Investment toward Students' Self-esteem

Table 22 displays the estimates of the regression coefficients and their standard errors for models explaining each of the four self-esteem constructs.\textsuperscript{10} School-level variables had been included in the analysis; however, none of them had a significant relationship to the mean score of self-esteem,\textsuperscript{11} and therefore were not included in the final analysis. The results in Table 22 suggest that the effects of the seven measures describing student characteristics were relatively small. Only gender, family structure, and home language had a small to moderate effect on certain types of self-esteem. For the two academic dimensions of self-esteem, boys’ mathematics self-esteem was about 8 percent of a standard deviation higher than girls; however, girls' reading self-esteem was 11 percent of a standard deviation higher than that of boys. These results are consistent with the findings of Skaalvid (1986) who found that males tend to score higher on some dimensions (such as mathematics, general, and peer relationships) while females tend to score higher on other scales (such as reading and verbal self-esteem). The impact of family structure on students' self-esteem was not so obvious as that of gender. Mathematics self-esteem for children living in two-parent families were 9 percent of a standard deviation higher than for those living in single-parent families. Students using English as their mother language were more likely to have a higher level of general self-esteem.

\textsuperscript{10}In these analyses, the outcome measures - general self-esteem, peer self-esteem, mathematics self-esteem and reading self esteem - were standardized to a mean of zero and a standard deviation of one on the entire sample (1024 students). In the HLM analysis, the grand means (intercepts) and other regression estimates were all weighted average of the within-school equations across the 49 schools. The grand means were weighted across schools according to the sample of students taken from each school, with school means having larger samples carrying more weight into the grand mean; therefore, the four grand means (intercepts) in Table 22 were close to zero.

\textsuperscript{11}Except that the percentage of parents from professional or white collar workers had a very small positive association with students' reading self-esteem.
Table 22. Hierarchical Linear Model Explaining Variation in Four Dimensions of Students' Self-Esteem (n=49 schools, m=1024 students)

<table>
<thead>
<tr>
<th></th>
<th>General Self-esteem Coefficient (S.E.)</th>
<th>Peer Self-esteem Coefficient (S.E.)</th>
<th>Math Self-esteem Coefficient (S.E.)</th>
<th>Reading Self-esteem Coefficient (S.E.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-.020 (.040)</td>
<td>.008 (.032)</td>
<td>-.004 (.038)</td>
<td>-.008 (.040)</td>
</tr>
<tr>
<td>Student Background</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>-.027 (.024)</td>
<td>-.038 (.025)</td>
<td>-.084** (.027)</td>
<td>.111*** (.026)</td>
</tr>
<tr>
<td>Traditional Family</td>
<td>.004 (.023)</td>
<td>-.040 (.024)</td>
<td>.093** (.026)</td>
<td>.037 (.025)</td>
</tr>
<tr>
<td>Number of Siblings</td>
<td>-.008 (.024)</td>
<td>.020 (.025)</td>
<td>.008 (.027)</td>
<td>-.012 (.026)</td>
</tr>
<tr>
<td>Asian</td>
<td>.006 (.029)</td>
<td>.000 (.028)</td>
<td>.002 (.031)</td>
<td>-.021 (.030)</td>
</tr>
<tr>
<td>Native Indian</td>
<td>.008 (.024)</td>
<td>-.031 (.025)</td>
<td>.022 (.027)</td>
<td>.001 (.026)</td>
</tr>
<tr>
<td>European</td>
<td>-.006 (.024)</td>
<td>-.052 (.025)</td>
<td>-.017 (.027)</td>
<td>-.007 (.026)</td>
</tr>
<tr>
<td>Home Language</td>
<td>.061* (.026)</td>
<td>.051 (.026)</td>
<td>.045 (.028)</td>
<td>.013 (.027)</td>
</tr>
<tr>
<td>Family Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Capital</td>
<td>.133*** (.026)</td>
<td>.130*** (.027)</td>
<td>.050 (.029)</td>
<td>.121*** (.028)</td>
</tr>
<tr>
<td>Cultural Capital</td>
<td>.064* (.026)</td>
<td>.127*** (.027)</td>
<td>.053 (.029)</td>
<td>.081* (.028)</td>
</tr>
<tr>
<td>Parental Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Discussion</td>
<td>.051 (.030)</td>
<td>-.011 (.031)</td>
<td>.014 (.033)</td>
<td>.007 (.032)</td>
</tr>
<tr>
<td>Home supervision</td>
<td>.005 (.028)</td>
<td>.008 (.029)</td>
<td>-.103** (.031)</td>
<td>-.039 (.030)</td>
</tr>
<tr>
<td>School Communication</td>
<td>-.039 (.026)</td>
<td>-.009 (.027)</td>
<td>.019 (.029)</td>
<td>-.031 (.028)</td>
</tr>
<tr>
<td>School Participation</td>
<td>.076** (.027)</td>
<td>.088** (.027)</td>
<td>-.051 (.029)</td>
<td>.031 (.028)</td>
</tr>
<tr>
<td>School Climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Climate</td>
<td>.357*** (.030)</td>
<td>.316*** (.031)</td>
<td>.371*** (.033)</td>
<td>.316*** (.032)</td>
</tr>
<tr>
<td>Academic Press</td>
<td>.126*** (.025)</td>
<td>.065* (.023)</td>
<td>.045 (.028)</td>
<td>.038 (.026)</td>
</tr>
<tr>
<td>Disciplinary Climate</td>
<td>.059 (.029)</td>
<td>-.055 (.030)</td>
<td>.067* (.032)</td>
<td>.078* (.031)</td>
</tr>
<tr>
<td>Lack of Bullying</td>
<td>.096** (.026)</td>
<td>.019*** (.027)</td>
<td>.009 (.033)</td>
<td>-.017 (.028)</td>
</tr>
<tr>
<td>Time Investment After School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Time</td>
<td>.030 (.026)</td>
<td>.077* (.028)</td>
<td>.005 (.029)</td>
<td>-.031 (.028)</td>
</tr>
<tr>
<td>Relax Time</td>
<td>.009 (.025)</td>
<td>.042 (.026)</td>
<td>.039 (.027)</td>
<td>-.042 (.026)</td>
</tr>
<tr>
<td>Education Time</td>
<td>.004 (.026)</td>
<td>-.056 (.028)</td>
<td>.034 (.029)</td>
<td>.071* (.028)</td>
</tr>
<tr>
<td>Final Estimation of Variance Component</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>.056</td>
<td>.023</td>
<td>.035</td>
<td>.029</td>
</tr>
<tr>
<td>Within School</td>
<td>.652</td>
<td>.729</td>
<td>.776</td>
<td>.740</td>
</tr>
<tr>
<td>Proportion of Variance Explained</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>17.6%</td>
<td>14.8%</td>
<td>35.2%</td>
<td>65.5%</td>
</tr>
<tr>
<td>Within School</td>
<td>24.6%</td>
<td>19.4%</td>
<td>14.1%</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

*p < .05  ** p < .01  *** p < .001
Effects of Cultural Capital and Economic Capital on Students' self-esteem

Both economic and cultural capital had significant impact on general, peer and reading self-esteem; however, the effect sizes were fairly small, ranging from .050 to .133. A one-unit increase in economic capital was associated with 13.3 percent of a standard deviation increase in general self-esteem, 13 percent of a standard deviation increase in peer self-esteem, and 12.1 percent of a standard deviation increase in reading self-esteem. A one-unit increase in cultural capital was associated with 6.4 percent of a standard deviation increase in general self-esteem, 12.7 percent of a standard deviation increase in peer self-esteem, and 8.1 percent of a standard deviation increase in reading self-esteem. These results support the expectation that students with more family resources would tend to have more positive self-esteem.

Effects of Social Capital on Students' self-esteem

Social capital refers to two measures: parental involvement and school climate. Of the four types of parental involvement, school participation had the most significant positive effect on the development of students' general self-esteem and peer self-esteem. School communication and home discussion generally had no significant association with students' self-esteem. Home supervision had a negative relationship with students' mathematics self-esteem. This finding suggests that parents might provide more supervision at home for academically at-risk children.

Among the four school climate factors, *social climate* was the most powerful factor for all types of self-esteem. The effect size of social climate on the four types of self-esteem ranged from 31.6 to 37.1 percent of a standard deviation. The findings indicate that schools which nurtured a positive social climate, particularly students' positive feeling about their school and their feeling of being accepted by classmates and teachers, made the strongest contribution to students' self-
esteem in both academic and social aspects. Academic press perceived by students also showed significant positive impact on students' self-esteem. As school staff valued academic achievement and held high expectations for their pupils, students tended to have higher general and peer self-esteem. Schools with a rigid and orderly disciplinary climate had a positive impact on students' academic self-esteem, and low levels of bullying perceived by students tended to have a positive impact on the social aspects of students' self-esteem.

**Effects of Time Investment on Students' Self-esteem**

The effects of time investment on students' self-esteem were generally very small. Of the three time investment variables, only education time and peer time had significant effects on peer and reading self-esteem. The effect of TV viewing on self-esteem was insignificant. The results suggest that when students were engaged in well-structured educational activities such as doing homework, taking dance lessons, playing a musical instrument or going to Guides or Scouts, they tended to have higher reading self-esteem. When students spent more of their time playing with their peer groups after school, they tended to have a higher level of peer self-esteem.

The bottom portion of Table 22 shows the percentage of between- and within-school variation explained by the full models. Very little between-school variation remained unexplained after controlling for student background, family resources, school climate, and parental involvement in all the four types of self-esteem. For instance, only .068 of the variation in general self-esteem lay between schools (see Table 21) and the full model accounted for 17.6 percent \[\frac{(0.068 - 0.056)}{0.068} = 0.176\] of it, which leaves .056 unexplained. The same is true for peer and mathematics self-esteem. For reading self-esteem, the full model accounted for 65.5 percent of the between-school variation, which left only 0.029 unexplained. However, relatively little of the
within-school variations were explained. The explained within-school variabilities ranged from a low of 13.3 percent for general self-esteem to a high of 24.6 percent for reading self-esteem. One plausible reason is that the model is incompletely specified. Further studies need to look not only at what goes on at home and in school, but at the students' lives outside these two parameters of adult supervision.

5.3.3 Contribution of Parental Involvement and Investment toward Student Achievement

Table 23 displays the estimates of the regression coefficients and their standard errors for models explaining each of the two achievement scores. The results indicate that girls scored ten percent of a standard deviation higher on the reading tests than boys. However, there was no significant difference between boys and girls in the mathematics test. English-speaking students were more likely to have higher scores in both reading and mathematics. A one unit increase in 'Home Language' (i.e. from being non-English speaking to being English speaking) was associated with a 9.3 percent of a standard deviation increase in reading scores and 6.6 percent of a standard deviation increase in mathematics scores. Contrary to Ho and Willms (1996), no significant differences were associated with family structure. Students from single-parent families with a large number of siblings did not have lower achievement scores than those from traditional two-parent families with a small number of siblings. The differences among ethnic groups were also not significant for both reading and mathematics. One plausible explanation is that our model included 'home language', which showed a significant impact on the two achievement scores. Therefore, 'home language' appeared to be the crucial mechanism through which ethnicity registered an effect upon achievement.
Table 23.
Hierarchical Linear Model Explaining Variation of Students' Achievement Scores
(n=34 schools; m=953 students)

<table>
<thead>
<tr>
<th></th>
<th>Reading Coefficient (S.E.)</th>
<th>Mathematics Coefficient (S.E.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-.040 (.053)</td>
<td>-0.007 (.075)</td>
</tr>
<tr>
<td><strong>Student Level Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Student Background</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>.100* (.033)</td>
<td>-.008 (.032)</td>
</tr>
<tr>
<td>Traditional Family</td>
<td>.001 (.030)</td>
<td>.054 (.029)</td>
</tr>
<tr>
<td>Number of Siblings</td>
<td>-.031 (.032)</td>
<td>-.046 (.031)</td>
</tr>
<tr>
<td>Asian</td>
<td>.001 (.033)</td>
<td>.022 (.032)</td>
</tr>
<tr>
<td>Native Indian</td>
<td>-.009 (.031)</td>
<td>.037 (.029)</td>
</tr>
<tr>
<td>European</td>
<td>.038 (.032)</td>
<td>.027 (.031)</td>
</tr>
<tr>
<td>Home Language</td>
<td>.093* (.031)</td>
<td>.066* (.030)</td>
</tr>
<tr>
<td><strong>Family Resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Capital</td>
<td>.081* (.033)</td>
<td>.048 (.032)</td>
</tr>
<tr>
<td>Cultural Capital</td>
<td>.044 (.033)</td>
<td>.107** (.032)</td>
</tr>
<tr>
<td><strong>Parental Involvement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Discussion</td>
<td>.024 (.039)</td>
<td>-.058 (.037)</td>
</tr>
<tr>
<td>Home Supervision</td>
<td>-.015 (.036)</td>
<td>-.066 (.035)</td>
</tr>
<tr>
<td>School Communication</td>
<td>-.132** (.034)</td>
<td>-.090* (.032)</td>
</tr>
<tr>
<td>School Participation</td>
<td>-.078* (.032)</td>
<td>-.073* (.031)</td>
</tr>
<tr>
<td><strong>School Climate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Climate</td>
<td>.092* (.035)</td>
<td>.047 (.033)</td>
</tr>
<tr>
<td>Academic Press</td>
<td>-.053 (.032)</td>
<td>-.018 (.031)</td>
</tr>
<tr>
<td>Disciplinary Climate</td>
<td>-.061 (.032)</td>
<td>.019 (.033)</td>
</tr>
<tr>
<td>Lack of Bullying</td>
<td>.001 (.033)</td>
<td>.035 (.032)</td>
</tr>
<tr>
<td><strong>Time Investment After School</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Time</td>
<td>.101** (.033)</td>
<td>.063* (.031)</td>
</tr>
<tr>
<td>Peer Time</td>
<td>-.141** (.033)</td>
<td>-.090* (.032)</td>
</tr>
<tr>
<td>TV &amp; Relax time</td>
<td>-.036 (.031)</td>
<td>-.046 (.030)</td>
</tr>
<tr>
<td><strong>School Level Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean School Participation</td>
<td>.119 (.063)</td>
<td>.087 (.086)</td>
</tr>
<tr>
<td>Mean Lack of Bullying</td>
<td>.042 (.075)</td>
<td>.025 (.104)</td>
</tr>
<tr>
<td>Mean Disciplinary Climate</td>
<td>.050 (.066)</td>
<td>.021 (.091)</td>
</tr>
<tr>
<td>Mean Academic Press</td>
<td>.079 (.060)</td>
<td>.137 (.081)</td>
</tr>
<tr>
<td><strong>Final Estimation of Variance Component</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>.041</td>
<td>.117</td>
</tr>
<tr>
<td>Within School</td>
<td>.819</td>
<td>.749</td>
</tr>
<tr>
<td><strong>Percentage of Variance Explained</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between School</td>
<td>55.4%</td>
<td>33.1%</td>
</tr>
<tr>
<td>Within School</td>
<td>10.2%</td>
<td>7.6%</td>
</tr>
</tbody>
</table>

* p < .05 ** p < .01 *** p < .001
Effects of Cultural and Economic Capital on Students' Academic Achievement

Both parental investment of cultural capital and economic capital exerted a significant impact upon children's academic achievement. Students with more economic capital tended to have higher reading scores. A one-unit increase in economic capital was associated with 8.1 percent of a standard deviation increase in reading achievement. Children in families providing more cultural capital tended to have higher mathematics scores. A one-unit increase in cultural capital was associated with an 10.7 percent of a standard deviation increase in mathematics achievement. These findings are consistent with those of previous studies by De Graaf (1986) and DiMaggio (1982). They found that economic and cultural resources provided by families consistently had a positive impact on children's educational attainment in the Netherlands and the United States.

Effect of Social Capital on Students' Academic Achievement

The impact of social capital on achievement was found to be more complicated and inconsistent with previous studies. Contrary to much of the literature and empirical studies on parental involvement (e.g., Epstein, 1995; Ho & Willms, 1996), this study did not reveal a significant positive impact of parental involvement on students' academic achievement. Both home discussion and home supervision did not show any significant effects on reading scores and mathematics scores. The findings that school communication had negative associations with the reading and mathematics scores are consistent with previous studies (Ho & Willms, 1996; Muller, 1993). One plausible explanation is that the parents of students who are academically at risk are more likely to contact their children's teachers. Thus, the involvement is of a reactive rather than a proactive nature. The negative association between school participation and student achievement
was counter-intuitive and divergent from many previous studies conducted in the United States (e.g. Ho & Willms, 1996). It is possible that, within the cultural context of B.C., parents perceived school activities as within teachers' professional autonomy and responsibility. They might participate in this area only when their child is academically in trouble.

Four measures of social capital were aggregated at the school level because average level (school mean) of each of these four constructs are verified to be reliable\textsuperscript{12}. They included: school participation, lack of bullying, disciplinary climate and academic press. The results suggest that all of them made a positive contribution to students' achievement, although the magnitude of the regression coefficients were not significant. The average levels of school participation and academic press had the greatest impact on reading and mathematics. A one-unit increase in mean participation was associated with 11.9 percent and 8.7 percent of a standard deviation increase in reading and mathematics respectively. Similar impact was found for academic press. A one-unit increase in average level of academic press in the school was associated with 7.9 percent and 13.7 percent of a standard deviation increase in reading and mathematics respectively. At the student level, only social climate had a significant positive impact on reading scores. A one-unit increase in social climate was associated with 9.2 percent of a standard deviation increase in reading scores.

Effects of Time Investment After School on Students' Academic Achievement

Students' time investment after schools had strong effects on the two academic achievement scores. Educational time made a significant positive contribution to the two

\textsuperscript{12} The reliabilities based on the HLM analysis for each of the four measures are .621 for mean academic press; .819 for mean disciplinary climate; .717 for mean lack of bullying; and .663 for mean school participation. These were considered satisfactory for assessing differences among schools.
achievement scores. Peer time had significant negative effects on achievement. The effect of TV viewing on achievement was also negative but not statistically significant. The results suggest that when students were engaged in well-structured educational activities such as doing homework, taking dance lessons, playing a musical instrument or going to guides or scouts, they tended to have higher test scores in both reading and mathematics. When students spent more of their time playing with their peer groups after school, they tended to have lower test scores. It appears that educational time might displace peer time, so students who spent time on learning activities would have less time hanging around with their peer groups after school. These two time variables, being both under partial parent control, were possible intervening variables by which parental involvement might indirectly affect children's learning.

The last four rows of Table 23 show the percentage of within- and between-school variance explained by the models. The percentage of the between-school variance explained was 55.4 percent \[\left(\frac{.092-.041}{.092}\right)=.554\] for reading scores and 33.1 percent \[\left(\frac{.175-.117}{.175}\right)=.331\] for mathematics scores. Only 10.2 percent of the within-school variance was explained for reading scores and 7.6 percent for mathematics scores. The between-school variance remained unexplained was .041 for reading scores, which was relatively smaller than the between-school variance of .117 for mathematics scores.

Overall, at the student level, the two forms of home-based involvement did not have a significant association with the two achievement scores. The two forms of school-based involvement even had considerable negative associations with both reading and mathematics achievement. Consistent with the results of self-esteem, school communication appeared to be associated with socially and academically at-risk students. However, school participation was
positively related to students' general and peer self-esteem but not related to the two academic achievement scores. These findings should not be misinterpreted as "school participation would make students feel good but do poorly". Rather, it is likely that parents of academically at risk students might attempt to participate in school events by phoning the schools, volunteering in the classroom, or helping in school activities. Rather than solving their children's academic problems by themselves, these parents might choose to work with school teachers. Their participation might help to improve students' self-esteem and it takes times for all parties to figure out how to better serve at-risk children academically. It appears that the nature of parental involvement is more likely reactive than proactive in B.C. elementary schools. Longitudinal studies are needed to explore if school participation might, in the long run, improve students' academic achievement over time. Different findings might emerge if there were measures of student growth. At the school level, the average level of school participation, lacking of bullying, disciplinary climate and academic press had positive contribution to students’ academic achievement though the effect sizes were not significant.

The findings also suggest that a child's academic achievement might depend not only on parental investment of economic and cultural capital, but also on students' own time investment after school. An important implication is that parental involvement focusing on home discussion, home supervision, school communication, and school participation might not have direct effects on achievement; however, an indirect mechanism is possible through the monitoring of their child's time investment in learning activities after school.
CHAPTER 6
CONCLUSIONS AND IMPLICATIONS

This chapter summarizes the major findings of the study, examines implications for policy and practice, discusses limitations of the study, and offers recommendations for further research.

6.1 Sampling and Data Analysis

The research was conducted in two phases. Data were collected from students, teachers and school administrators. Phase I of the study was conducted in 1994. Questionnaires were sent to a population of fifteen hundred B. C. elementary school principals. A total of 831 school administrators returned the questionnaires. Phase II of the study was conducted in 1995, and employed a strategic sampling. Forty-nine schools were selected according to the variability of parents' socioeconomic backgrounds, based on information collected from Phase I. A total of 404 teachers and 1042 fifth-grade students completed questionnaires. Multi-level analysis based on Hierarchical Linear Modelling (HLM) was then used to investigate variation in parental involvement within and among schools. Next, the model was extended to include measures at the individual level (including economic capital, cultural capital, family structure, and ethnicity) and at the school level (including level of decentralization, teachers' attitudes and practices toward parental involvement) in order to discern the relative influence of family background and institutional factors upon different dimensions of parental involvement. The final set of HLM analysis used measures of pupils' achievement scores and self-esteem as dependent variables, and determined the contribution of parental involvement and investment on these outcomes. Although the HLM model can be
seen as a methodological advance in assessing the variation of parental involvement as related to institutional level factors and individual level factors, we cannot claim their causal relationship.

6.2 Major Findings

1. The study identified four types of parental involvement: home discussion, home supervision, school communication, and school participation. Levels of home-based involvement were generally higher than levels of school-based involvement.

Among the various forms of parental involvement, home-based involvement was the most extensive practice in which most parents were involved. The majority of students reported that their parents had supervised and helped them with their homework; and about half of their parents had discussed their academic school work with them. However, parents were less likely to be involved in school communication and school participation. Teachers reported that many parents did not participate, even though schools had provided the opportunity. About 21 percent of the parents had never turned up at a Parent Teacher Conference (PTC) meeting, and parents seldom took the initiative to request a PTC with teachers. This result is consistent with students' reports that, on average, about one-third of their parents had never talked with a teacher that school year. For school volunteering, although over 90 percent of the schools had recruited parent volunteers, principals reported only 18 parent volunteers each week per school, and teachers reported that an average of just 5 parents volunteered in their classroom in the school year. Almost all elementary schools in B.C. have Parent Advisory Committees (PAC), yet the majority of these PACs had only 10
percent of the parents represented in the PAC meetings. These findings indicate that, similar to the U.S. elementary schools, most parents in the B.C. elementary schools were involved more actively in home-based involvement, but were relatively passive in volunteering, or attending PTC and PAC meetings.

2. B.C. elementary schools did not vary substantially in their levels of parental involvement. However, teachers' zone of acceptance for parental involvement in school governance did vary considerably among schools.

Levels of parental involvement did not vary substantially across schools. For all four types of involvement, most of the variation was among parents within schools, such that the average levels of involvement were more or less the same for every school. Although a few schools may have had particular strategies for promoting high levels of parental involvement, our findings indicate that it is difficult to identify schools which have particularly high or low levels of involvement. These findings suggest that teachers' preference and students' family backgrounds, rather than school policies, were more likely to be the major determinants of the extent of parental involvement. For parental involvement in school governance, teachers' ratings on zone of acceptance toward parental involvement was a composite measure of five items: setting academic goals, disciplinary rules, staffing, budgeting and recruiting school volunteers. More than 20 percent of the variation in zone of acceptance was between schools, which suggests that teachers from different schools varied substantially in their zones of acceptance. In other words, we can reliably distinguish among B.C. elementary schools in the levels of zone of acceptance toward parental involvement in school governance.
3. School-level characteristics including school size, geographic location, and the socioeconomic status of parents were the major school contextual factors affecting the levels of parental volunteering in classroom and participation in school PACs.

The findings suggest that a higher percentage of parents participated in the PAC in small schools than in larger schools. These findings can be compared to the 1987 national figures for volunteering in U.S. elementary schools. Michael (1990) reported that U.S. schools with fewer than 150 students had about seven volunteers per school. This average is lower than that of small B.C. elementary schools, which in 1995 had about 13 volunteers per school. Schools with more than 500 students reported to have about 30 volunteers per school in the United States, whereas large B.C. schools had about 26 volunteers per school. These findings suggest that the impact of school size on the proportion of school volunteers in B.C. is fairly consistent with that of the United States.

Schools located in rural areas tended to have fewer parent volunteers than schools in suburban and urban areas. Michael (1990) reported that rural areas and small towns had the smallest number of volunteers, fewer than 20 per school on average. Similarly, the B.C. average was 15 volunteers per school in rural areas and 17 in small towns. These figures were significantly smaller than those for suburban and urban areas in both the B.C. and the United States elementary schools. In the U.S., there was an average of about 32 volunteers per school in suburban areas and 25 in urban areas, whereas in B.C., there were about 19 volunteers per school in both suburban and urban areas. We can see that the geographic location of a school affects its ability to attract volunteers.
Schools with over 75 percent single parents tended to have less parental participation in the school PAC. Schools with over 50 percent of parents from ethnic minority groups and working class tended to have fewer parent volunteers. Lareau (1987, 1989) argued that because of language barriers, parents from ethnic-minority groups and working-class occupations often do not have the confidence to volunteer. However, the findings do not imply that they are uncaring parents. Often they attempt to understand their child's school life through participating in the PAC.

4. Classroom level characteristics including grade level, class size, and teacher's sex were major determinants of the extent of parental involvement.

Parents of children in lower grade levels were more likely to volunteer in the classroom and attend Parent Teacher Conferences (PTCs). The implication is that programs for parental involvement for older children have not been so well developed as those for the lower grade levels. Class size had a small but significant effect on PTC participation. The greater the class size, the greater number of parents who requested and attended PTCs. Teacher's sex was strongly associated with levels of PTC participation: male teachers were more likely to have parents request and attend PTC meetings.

5. Student level characteristics including student's ethnicity, sex, and number of siblings, have moderate effects on the extent of parental involvement.

Ethnicity had a significant relationship with levels of school participation. Asian parents, for instance, tended to participate less in PACs and as volunteers than other parents.
This finding is consistent with previous studies (Brown, 1995; Ho & Willms, 1996; Morrow, 1991) that indicated Asian parents in the United States and Canada tended to maintain a more distant relationship with the school. The disposition that “contact with the school means there is a problem with their child” and that “teachers are highly trusted and respected” has been encultured by their country of origin. Moreover, given the language barrier, most Asian parents exclude themselves from school volunteering or participation in school PAC, yet they are usually involved in most home-based educational activities, with which they feel more comfortable and confident (Lareau, 1987, 1989).

Sex differences were evident in home discussion and school communication. Parents of female students tended to communicate more with their daughters, yet they generally contacted school teachers less frequently than boys' parents did. The effect of living in a single-parent versus two-parent families was not significant for all types of involvement. Single-parents were no less likely to be involved, either at home or at school, than other parents. The number of siblings at home was related to home supervision: families with more children tended to provide less supervision on their children's homework.

6. Decentralization policies had a significant impact on the level of school volunteering and PAC participation.

Schools with a higher level of parental involvement in setting academic goals and disciplinary rules were more likely to have more parent volunteers and a higher percentage of parents represented in the school PAC. Moreover, schools with well designed home-school partnership programs were more likely to have more parents participate in both volunteering
and school PAC. An important implication for decentralization policies is that: authority concerning instructional affairs such as setting academic goals and behavioral rules can be delegated to parents to encourage greater parental involvement.

7. Teachers' Attitudes and Practices toward Home-Based Involvement were different from those toward School-Based Involvement: teachers welcome and actively request parental assistance in a number of home-based involvement activities. Teachers' acceptance of parental involvement in school governance was generally low, yet it had a significant positive effect on parental participation in PTCs and PACs. Furthermore, the frequencies of contact between teachers and parents was related to the levels of parent volunteering in the classroom.

The majority of teachers requested parental assistance in home-based activities such as: "listening to their child read"; "helping with particular assignments"; and "talking about school life". Comparing these findings with those from previous North American studies, there appears to be a substantial increase over the past two decades in the extent to which teachers request assistance at home. Teachers generally do not accept parents having authority to 'make decisions' in school governance issues such as budgeting and staffing. They find it acceptable, however, to 'inform' or 'consult' with parents in setting disciplinary rules and academic goals for students. The findings indicate that, for those administrative aspects which are not directly related to students' learning, most teachers feel that parents should only be informed but not be involved in making decisions. Moreover, a parent is more likely to take initiative to request a PTC and participate in the school PAC if the teacher has a high level of
acceptance for parental involvement in school governance. Also, the more a teacher requested parental assistance and the more strategies a teacher used to contact parents, the more likely parents were to volunteer in the classroom.

8. School climate, which was considered a form of social capital nurtured within schools, was the most important type of capital affecting all types of parental involvement. Cultural capital is more important than economic capital in determining levels of home discussion, home supervision and school participation.

Of the four measures of school climate, bullying had the greatest association with all types of involvement. In other words, as students perceived serious bullying problems in school, they tended to discuss more about their school life with their parents. Parents concerned about bullying engage in more supervision at home, tended to have more contact with teachers, and participated more in school activities. 'Social climate' was positively related to "home discussion", "home supervision" and "school participation". If students had a high sense of well being and sense of belonging, they tended to discuss more about school life with their parents, and their parents provided more supervision at home and participated more in school events. Academic press also had a positive impact on home supervision. When schools emphasized academic achievement, the message might have been passed to parents, inducing more home supervision and academic support.

Cultural capital rather than economic capital determined the extent of parental involvement in children's education. Cultural capital of a family had a significant association with the levels of home discussion, home supervision, and school participation. Economic
capital had no significant association with any type of parental involvement. This finding indicates that families with less advantaged social backgrounds were not necessarily uncaring families. For instance, some Asian families might have little financial capital, but their embodied cultural capital, that is, strongly held educational values, results in a high level of participation in certain types of involvement. This can be seen as a utilization of embodied and objectified forms of cultural capital (cultural values and activities) for the creation of social capital (parental involvement).

9. The findings did not support the existing literature that parental involvement has a direct positive effect on students' learning outcomes. Only school participation had a significant impact on students' general and peer self-esteem. Home supervision was negatively associated with children's mathematics self-esteem. School communication and school participation also had a significant negative association with student's academic achievement.

Once again the results support the notion that parents become involved in school or have more contact with school when their children are academically at risk. The results present a more complex picture of involvement than originally expected. Parents might expect that their involvement can help their child, or that improving the overall school climate will create a better learning environment for their child. Future research on what prompts involvement is needed to verify this interpretation. In-depth case study or longitudinal surveys might explicate whether this involvement helps to reduce the risks of failure for less advantaged children.
Another interpretation, given by Keith et al. (1993), is that parental involvement may have indirect effects on students' learning by influencing their time investment after school. Involved parents may influence their children to spend more time on academic pursuits. The findings indicate that time spent on educational activities after school was related to both reading and mathematics achievement scores. When students participated in well-structured educational activities such as dance lessons or playing musical instruments, they tended to have higher achievement in reading and mathematics than those hanging around with their peers after school. However, most of these enriched educational activities do require parents to have economic, cultural and social capital. They cost money (economic capital); their cultural value needs to be appreciated (cultural capital); and access to them often depends on social networks (social capital).

10. Of the three types of capital, social capital nurtured by the school was the most powerful determinant of students' self-esteem. Economic capital had a significant impact upon self-esteem and reading achievement. Cultural capital had a significant impact on children's self-esteem and mathematics achievement.

The results confirm that schools with fewer bullying problems, a positive social climate, an orderly disciplinary climate and high academic press were more likely to nurture higher levels of self-esteem. Among the four measures of school climate, social climate was the most powerful in its influence on children's self-esteem. The findings suggest that students with a sense of well being and a sense of belonging to school tended to have higher levels of general, peer, mathematics and reading self-esteem. Social climate also had a moderate
positive effect on reading achievement. The implication is that nurturing the ethos of well-being and sense of belonging within schools is important for the social and academic learning of students.

Educational resources had a crucial role in influencing children's reading achievement. This finding suggests that parents' economic capital, as measured by the possession of educational facilities at home, correlated with children's general, peer, reading self-esteem and reading achievement. However, the impact of material resources on reading cannot be generalized across other subjects such as mathematics. Rather, the cultural activities done with family members could help children's performance on mathematics tests. A plausible reason is that mathematics learning may require more personal guidance and feedback. Cultural activities, such as going to the public library and attending music concerts reflect the concern and guidance parents are ready to provide for their children's learning. Taken together, these results suggest that material resources and non-material resources appear to have different effects on different subjects.

6.3 Revisiting The Conceptual Framework of Parental Involvement

The conceptual framework constructed in Chapter One displayed the mechanisms through which family background, institutional factors and wider environmental factors might affect parental involvement and how parental involvement might influence schooling outcomes. In light of the findings of this study, the framework has been revised. The new framework is shown in Figure 5.

In exploring the contextual factors, the total enrollment, the geographic location of
schools, parents' socio-economic background, class size, grade level, sex of teachers, number of sibling, home language, and sex of students were found to be major background factors affecting the extent of parental involvement. At the institutional level, the relationships between parental involvement and decentralization policy, teachers' attitudes and practices, and school climate appear to be "dialectic". For instance, positive school climate might enhance parental involvement, and enhanced parental involvement could in turn improve school climate. The same is true for decentralization policy and teachers' attitudes and practices. At the student level, cultural capital rather than economic capital had a positive effect on parental involvement. Yet both cultural and economic capital have positive effect on students' academic achievement and self-esteem.

Overall, the extent of school-based parental involvement in B.C. elementary schools at grade 5 was found to be generally lower than that of home-based involvement. Levels of parental involvement did not vary substantially among schools; therefore, it was difficult to identify schools which could induce particularly high or low levels of involvement. The effects of different types of parental involvement on students' self-esteesms were generally very small. The two school-based forms of involvement even had negative associations with students' academic achievement. It appears that parental involvement tended to be "reactive" rather than "proactive". Parents with children at risk academically or socially were more likely to be involved. The construct of 'time investment after school' was added to the conceptual framework. Investment of educational time and monitoring of peer activities were possible intervening variables through which parental involvement might indirectly affect learning outcomes.
In the framework, learning outcome is viewed as a function of the availability of three major forms of resources: economic capital, cultural capital and social capital provided at home and in the school. The results support the expectation that both cultural capital and economic capital available to the family, and social capital nurtured within school have a significant positive impact on students' learning outcomes. Yet, the study suggests the importance of distinguishing among the three forms of capital in assessing and explaining their effect. Among the three forms of capital, social capital nurtured within school is the most important one affecting students' self-esteem. Its impact is much stronger than the social capital provided by parents. Cultural capital and economic capital appear to have effects on both cognitive and non-cognitive aspects of children's development, their contribution seems varying from one cognitive characteristic to another.

In sum, the evidence from the study challenges an uncritical reliance upon either the family deficiency theory or the institutional discrimination theory. These findings support an 'inclusive model' that integrates Coleman's social capital thesis and Bourdieu's cultural capital thesis. Economic capital and cultural capital from the family, as well as school-based social capital, can be invested to enhance children's self-esteem and academic achievement.
Figure 5.
Revised Version: The Conceptual Framework of the Study of Parental Involvement and Student Performance

Contextual Background:
School level: school size, geographic location, percentage of parents from professional occupations and ethnic-minority groups;
Classroom level: class size, grade level, teacher's sex;
Family level: students' sex, number of sibling and home language.

School Level

Decentralization Policy
Parents setting academic goals
Parents setting disciplinary rules
Home-school partnership

Teachers' Attitudes & Practices
Acceptance of parental governance
Request for parental assistant
Teacher Contact with parents

School Climate
Social Climate
Academic Press
Lack of bullying
Disciplinary Climate
(Social capital nurtured within school)

Family Level

Parental Investment
Cultural capital
Economic capital

Parental Involvement
Home Discussion
Home Supervision
School Communication
School Participation
(Social capital nurtured by family)

Time Investment after school
Educational time
Peer time

Learning Outcomes
Self-esteem
Achievement
6.4 Implications for Policy and Practice

The implications for (a) policy makers at the district level, (b) school administrators and teachers at the school level, and (c) parents and students are discussed below:

1. Implications for Policy makers:

Policy makers have to clarify 'to what extent' and 'in what areas' teachers and principals are willing to share their authority in school governance. Our analysis shows that decentralization of authority in instructional-related activities, such as involving parents in setting academic goals and disciplinary rules, is generally accepted by teachers. However, the levels of acceptance towards parental governance varies from school to school, and even among teachers within the same school. If we accept that the parent is a vital resource for the educational process, it is important to clarify the roles of parents and teachers in the decision-making process. Our findings suggest that teachers generally welcome home-based involvement and they are ready to inform or consult parents regarding aspects of instruction.

Evidence from other studies indicates that home-based parental involvement can be very effective in improving children's learning (e.g. Esptein, 1995; Ho and Willms, 1996). However, the findings of this study suggest that few schools engender a high level of home involvement through their policies or practices. Furthermore, home-based involvement had relatively weak effects on student performance in this sample of students. Administrative strategies, techniques, and the overall knowledge base for designing and implementing effective home-school partnership at the district level are yet to be fully developed.
2. Implications for School Administrators and Teachers:

Our findings corroborate that the contribution of parental involvement to children's schooling is small. One plausible reason is that the caring norms and learning norms have declined precipitously in many families. Parents' material resources or cultural resources have not been translated into actions (involvement) that may help students to develop their own potential (human capital). Therefore, existing policies and practices concerning parental involvement at home should be reviewed to explore the major barriers and facilitators of parental involvement.

Consistent with previous studies, our results confirm that parents' cultural backgrounds are major factors affecting the extent of parental participation at home and in school. For instance, Asian families have a strong tradition of home-based assistance, but tend not to participate in school. This value toward education translates into involvement which favors the academic success of their own children. However, the mechanisms they use to motivate and discipline their children to achieve this goal are yet to be found and applied by other cultural groups. Moreover, this type of home-based involvement does little to improve overall school climate and school effectiveness.

A positive school climate nurtured within school, has been found to have significant and positive effects on children's self-esteem. Previous studies also indicate that schools with high levels of parental involvement can improve the school climate and thus the students' learning outcomes regardless of the social origin of parents and students. However, evidence from this study suggests that parents' attitude toward involvement in B.C. elementary schools appears to be reactive rather than proactive. Parents tend to maintain a distant relationship
with schools and their involvement is usually problem-oriented. Parental attitude toward
school and school personnel can be improved through school-directed programs to increase
the quantity and quality of communication between parents and teachers. Teachers can
improve parents' attitudes by sending information to parents about such matters as school
schedules, rules, goals, or by reporting on students' progress. More active parental
participation including attendance at parent-teacher conference, helping with extracurricular
activities or fund raising, and involvement in parent teacher organization have been found to
benefit not only to individual child but also improves the caring and learning norms of the
school as a whole (Ho & Willms, 1996).

3. Implications for Parents and Students:

When considering the application of a parental involvement program in a specific
home, attention should be paid to home resources and cultural activities. Our analysis shows
that both economic and cultural resources available at home had significant impact on
students' learning outcomes. Children need a quiet place to study with appropriate books,
reference materials and other learning materials. However, the emphasis is on the use of these
material resources rather than on their mere presence in the home. Family use of books,
newspapers, magazines and television programs can have great value in stimulating
discussions and exchanges of ideas. Although not all families can supply a separate room and
a great variety of learning materials, many families can provide a place for children to work
and a quiet period to study. When organizing family activities, preference should be given to
such activities as visiting libraries and museums, and engagement in cultural activities over
activities that are primarily recreational.

Educational activities after school, which are partially under the control of both parents and teachers, can make a major contribution to students’ learning outcomes. Our analysis indicates that well-planned extra-curricular educational activities are essential for high academic achievement. Parents can help their children develop educational activities which enhance performance. Teachers can help by suggesting ways for parents to involve their children in educationally enriched activities after school. For instance, teachers may send parents suggestions for instructional-related games or group activities that can be played by either parent and child, or amongst siblings. Teachers can also suggest how students might use home materials (economic resources) and arrange activities (cultural resources) to foster their interest in reading, mathematics, and other subjects. Some regularity in the use of time at home is essential to develop good work habits in the school.

6.5 Limitations and Recommendations for Future Research

This study was of intermediate size, covering 55 percent of elementary schools in B.C. in the Phase I study. The findings might not be generalizable to other provinces in Canada. Studies covering other provinces would be worthwhile; levels of parental involvement across Canada could be ascertained, and interesting comparisons among provinces could be made.

Second, phase II of the study resulted from a strategic sampling of 49 schools. Schools were chosen from eight school districts to achieve a sample of schools that included a wide range of socioeconomic backgrounds. This could be considered a strength of the study because we have attempted to take social background into account when investigating the
nature and impact of parental involvement in education. Strategic sampling is also a limitation because of the small sample size. We selected only 49 schools out of the 1500 elementary schools in B.C.; therefore, it may not be safe to generalize the findings to all schools within the province.

Third, although the HLM model can be seen as a methodological advance in assessing the variation of parental involvement as related to institutional level factors and individual level factors, we cannot claim their causal relationship. It is not possible to say for certain that student's learning outcomes are affected by the practices of parental involvement and parental investment. For instance, the study has found a negative association between school-based involvement of individual parents and academic achievement of their children. The causal relationship in this case might be reciprocal: First, parents with special needs children are legally obliged to be involved in the planning, development and implementation of educational programs for their children; therefore, some of the involvement observed in this study could have been mandatory rather than voluntary. This might explain some of the negative association between achievement and parental involvement. Second, parents are more likely to communicate with teachers and participate in school if their children are academically at risk. It is necessary to assess whether this school-based parental participation, in the long run, does aid learning, especially for the at risk children. Further longitudinal study would be useful in this regard. It would also aid understanding of continuities or

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13. According to Special Education Services: A Manual of Policies, Procedures and Guidelines (1995, Section B, p.9): "Parents are entitled under the School Act [sections 7(1) and (2)] to be informed of a student's attendance, behavior and progress in school.... Ministerial Order 150/89, the Special Needs Students' Order, requires that parents be consulted regarding the placement of their student with special needs....Districts are therefore advised to involve parents in planning, development and implementation of educational programs for their children...."
changes in parental involvement over time. Future research should include measures of prior performance or cognitive ability if one wants to estimate the impact of parental involvement on the growth of students' learning outcomes. An interesting question arising from the research is whether parents of children who are having problems tend to donate more time and energy - not only to help their own “at risk” children - but also to benefit other children?¹⁴

Fourth, the data collected in the study are thin in terms of unraveling the dynamics of home-school interaction. This study does not claim to explain the whole story of parental involvement in B.C.; rather it aims to provide a general picture of some relationships among school practices, parental involvement and students' learning outcomes. These findings need to be supplemented by those from in-depth case studies which explore the subtle mechanism of "how" and "why" certain parents choose to participate in particular types of involvement. Moreover, the study lacks data from the parents themselves. Funding for the study was not sufficient to include data collection from parents, as set out in the research proposal. The New Brunswick Department of Education, which is now using the instruments as part of its ongoing monitoring efforts, is planning to fund the development and administration of parent questionnaires in 1997-98. Parent data will help extend our understanding of parental involvement by linking specific teachers' attitudes and practices with parents' willingness and readiness to be involved.

¹⁴ A fascinating subject for further in-depth study would be to investigate the impact of parental involvement from parents of “at risk” students. A mother with a Attention Deficit Disorder (ADD) child told me her experience, “My own experience with my daughter’s ADD has introduced me to some fascinating people who are pushing for changes in schools and in the whole education system.”
Finally, the theoretical and empirical application of the concepts of cultural and social capital is relatively rare in research on parental involvement. Little has been done to examine to what extent and in what way different forms of capital are associated with different types of parental involvement, which in turn influence students' educational outcomes. This study has taken a preliminary step to operationalize these crucial constructs of capital. Yet the measures of both cultural and social capital in our study are limited, as we were restricted to collect data only from the students. For instance, in measuring cultural capital, the study has looked for the kinds of *cultural consumption* that help students do well academically and personally in school. Measures of whether the student has gone to the theater or attended music concerts, which have been used in previous studies, may not be the best measures of cultural capital in the Canadian context. Moreover, cultural consumption is only one aspect of cultural capital. *Embodied forms* of cultural capital, such as habit, taste, and attitude, which are not easily measured, were not included in this study. It would be worthwhile to explore how these "embodied forms" of cultural capital and social capital are related to children's learning. Similarly, our measure of social capital is limited. School climate and parental involvement are two measures of social capital in the study. Other forms of social capital, such as 'social connections and information channels', are not included. Further studies might begin with clarifying the constructs of cultural and social capital both theoretically and empirically. More detailed items should be included and factor analysis may be helpful to clarify the multi-dimensionality of the constructs.

While comparing the relative contributions of cultural capital and social capital to a child's learning outcomes, the study has found that both forms of capital are significant.
Consistent with the arguments of Lareau (1987, 1989), Harker et al., (1993), and Bernstein (1975), cultural capital (including home language) transmitted by the family is significantly associated with children's learning outcomes. Bourdieu argues that schools are largely middle-class institutions. Middle class children have a form of cultural capital that enables them to adapt more readily to school life. However, families from working class and ethnic minority groups may not have the form of cultural capital valued by the school; thus their children's chances to succeed in schools are reduced.

However, it is the social capital nurtured within the school (as measured by school climate) rather than within the family (as indicated by parental involvement) that appears to be more important for children's education. The learning, caring and disciplinary norms nurtured within school were found to have the greatest contributions to students' learning. This finding supports Coleman's thesis that social capital established by the school community is of greatest value for children without extensive social capital in the home. It seems that there could be a greater investment of social capital by many families in their children's education. This result has pointed to the gap in Bourdieu's structural view of cultural capital and Coleman's rational view of social capital, and has led us to develop an inclusive model — by integrating resources from family and school community. As Brown argued, parents' human (cultural) capital and physical (economic) capital available to the child may be multiplied if the social capital between child and parent is sufficiently strong. Given that there has been an erosion of educationally relevant social capital within families and continual reductions in budgets within the public school system, the creation of various forms of capital through home-school cooperation is a crucial avenue to explore in future research.
REFERENCE


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