AN ABSTRACT OF THE DISERTATION OF

Cristian Mihai Dogaru for the degree of
Doctor of Philosophy in
Human Development and Family Studies presented
on September 4, 2008.

Title: Applying Theories of Capital to Understand Parent Involvement at School as a Component of Family-School Interaction: The Special Case of Children with Special Needs

Abstract approved:

Sharon E. Rosenkoetter Carolyn M. Aldwin

This study used a nationally representative dataset of 21,260 kindergartners, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999 (National Center for Education Statistics, 2001a), and a conceptual framework of theories of cultural and social capital (Bourdieu, 1986) embedded in an ecological framework (Bronfenbrenner, 2005) to identify unobserved socio-cultural classes in families of kindergartners and investigate these families' involvement at school. The study focused on the differences between families of children with and without disabilities.

Latent Class Analysis (LCA) was used for determining unobserved group membership in parents. First analysis revealed four socio-cultural classes: a low class of predominantly White, English-speaking, low education, and low socio-economic status (SES) parents; a middle class of predominantly White, educated, English-speaking, and high SES parents; a high class of educated, high SES parents, regardless of race or home language; and an "atypical" class of moderately educated, non-White, and non-English-speaking parents, regardless of their SES. Presence of disability did not influence socio-

cultural class membership, but within each class, families of children with and without disabilities differed on a number of characteristics.

The second analysis identified three groups of parents based on school involvement: low, medium, and high involved. Group membership was predicted by four family factors: socio-cultural class, family structure, family-school ethnic match, and family's perception of school's involvement practices. Two-parent families, of higher socio-cultural class, with higher ethnic match, and with more positive perceptions of school practices belonged to the higher involvement group. School and teacher factors, including resources, views, and practices, had a weaker influence on parent involvement. School practices for parent-school involvement had only an indirect effect on parent involvement, through parent's perception of school practices. Disability status did not predict parent involvement group membership; however, within each group, the parents of children with disabilities were generally more involved, especially in the low-involvement group. The parents in the atypical and the low socio-cultural classes differed on a number of characteristics, including prevalence of disability and school involvement, differences that a classical SES categorization would more likely obscure. The study has important implications for informing better school-family connections.

Applying Theories of Capital to Understand Parent Involvement at School as a Component of Family-School Interaction: The Special Case of Children with Special Needs

by
Cristian Mihai Dogaru

A DISSERTATION

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of
Doctor of Philosophy

Presented September 4, 2008
Commencement June 2009

Doctor of Philosophy dissertation for Cristian Mihai Dogaru
presented on September 4, 2008.

APPROVED:

Co-Major Professor, representing Human Development and Family Sciences

---

Co-Major Professor, representing Human Development and Family Sciences

---

Chair of the Department of Human Development and Family Sciences

---

Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorization release of my dissertation to any reader upon request

---

Cristian Mihai Dogaru, Author

TABLE OF CONTENTS

Page:

INTRODUCTION 1

Definitions 1

Family-School Interaction 1

Education-Related Parental Involvement 2

Parent Involvement at School 2

Rationale 3

LITERATURE REVIEW 6

Theoretical Framework 6

Ecological Systems Theory 6

Capital Theories 7

Cultural Capital 7

Types of Cultural Capital 9

Field, Habitus, and Doxa 10

Social Capital 12

Symbolic Capital 15

Why Capital Theories? 16

How Do the Systems from the Child's Ecology Interact? 18

Family-School Interaction and Education-Related Parent Involvement 18

Family-School Interaction 18

Education-Related Parent Involvement 19

Parent Involvement for Parents of Children with Disabilities 22

Factors Influencing Education Related Parent Involvement 24

TABLE OF CONTENTS (CONTINUED)

Page:

Importance of Parent Involvement *28*

Critiques of Policy and Educational Research Views on Parent Involvement *30*

Conclusion **32**

THE PRESENT STUDY 35

Research Questions **36**

Specific Aim #1 ..... **39**

Specific Aim #2 ..... **40**

Specific Aim #3 ..... **41**

Specific Aim #4 ..... **43**

Specific Aim #5 ..... **44**

METHODS 46

Dataset **46**

Sample **47**

Measures **48**

General Description of the Instruments *48*

Parent Interview *49*

Teacher Questionnaires *50*

School Administrator Questionnaire *51*

Kindergartners' Profile Variables *52*

Variable Used in the Bivariate Comparison *53*

Child Variables 53

Family Variables 55

TABLE OF CONTENTS (CONTINUED)

Page:

School and Community Variables....56

Variable Used in the Latent Class Family Cultural Capital....*56*

Formative Indicators....57

Reflective Indicators....57

Parent Involvement at School – The Measurement Model....*61*

Family Social Capital....*61*

School Cultural Capital....*64*

School Social Capital....*67*

Teacher Cultural Capital....*68*

Teacher Social Capital....*70*

Family-School Racial/Ethnic Match....*70*

Analysis....73

Kindergartners' Profile....*73*

Parent Involvement at School Model....*76*

RESULTS....78

Kindergarteners' Profile (Aim #1)....*78*

Kindergartners' Profile - Bivariate comparison....*79*

Child Variables....79

Family Factors....80

School and Community Factors....82

Kindergarteners' Profile - Latent Class Analysis....*83*

Latent Class Analysis without the Disability Variable in the Model....83

TABLE OF CONTENTS (CONTINUED)

Page:

Latent Class Analysis with Disability Variable in the Model....96

Parent Involvement at School (Aim #2)....*98*

Parent Involvement Latent Classes – LCA Results....*98*

Parent Involvement Latent Classes – Class Characteristics....*100*

Family Factors and Parent Involvement at School (Aims #3 and #4)....*104*

Full Model: School Factors and Family Factors (Aim #5)....*109*

DISCUSSION....117

Kindergartners' profile....118

Specific Aim #1....*118*

Bivariate comparison....*119*

Latent Class Analysis – Socio-Cultural Classes....*123*

Parent Involvement at School: Latent Class Model and its Predictors....126

Specific Aim #2....*127*

Specific Aims #3 to #5....*128*

Disability Status....*129*

Socio-Cultural Class, Family Structure, and Parent Involvement....*130*

Family's Perception of School Activities....*131*

Parent-School Ethnic Match....*133*

School Predictors....*134*

Conclusion....135

APPENDIX A....140

BIBLIOGRAPHY....150

LIST OF FIGURES

Figure: Page:

1. The representation of family-school interaction and school-related parent involvement as two concepts that overlap 3

2. The representation of family-school interaction and school-related parent involvement as two concepts that overlap. 22

3. The analytical model for parent involvement at school.....36

4. Parent Socio-Cultural class operationalization: formative and reflective indicators. 57

5. Parent involvement in activities with the child at home 58

6. Parent involvement with the child in activities outside home.....58

7. Number of extracurricular activities the child participates in regularly 59

8. Parent's educational expectation for their child.....59

9. Parent involvement with the child in activities related to family's heritage 60

10. Parent endorsement of normative and non-normative parenting reactions.....61

11. The relative distribution for the variable measuring the number of types of involvement activities the parent has been engaged in during the kindergarten year.....63

12a. School resources indicator: total number of facilities that the school has.....65

12b. School resources indicator: playground adequacy distribution 65

12c. School resources indicator: classroom adequacy distribution 66

13. School Resources Predictor: Additional funds sources.....66

14. Socio-cultural class Latent Class Model, with indicators and predictors.....84

15a. Latent Class Analysis socio-cultural class, 3-class solution. x-axis represents the means of the indicators for each class. 85

15b. Latent Class Analysis socio-cultural class, 4-class solution.....86

16. Socio-cultural latent classes, 4-class solution model, based on indicators' z-scores. The x-axis represents the means of the indicators for each class.....87

LIST OF FIGURES (CONTINUED)

Figure: Page:

17a. Socio-cultural class membership probability by parent education *90*

17b. Socio-cultural class membership probability by socio-economic status *91*

17c. Socio-cultural class membership probability by mother's race *92*

17d. Socio-cultural class membership probability by family's home language *93*

18. Percentage White, percentage non-English users, and mean of education SES, by socio-cultural group *94*

19. Latent Class Analysis for parent involvement at school: the 3-class solution *99*

20. The model for parent involvement and family characteristics predictors. *104*

21. Latent parent involvement categories compared across disability status. *108*

22. Parent involvement at school – final model. *111*

23. Path regression coefficients and odds ratio for the full model of parent involvement at school *112*

LIST OF TABLES

Table: Page:

1. Variables and constructs used in the parent involvement at school model 37

2. ECLS-K dataset: parent interview topics.....49

3. ECLS-K teacher questionnaire.....50

4. ECLS-K school administrator questionnaire 51

5. Frequency and marginal frequency distribution for the two operationalizations of disability status: based on parent-reported diagnosis and based on presence of IEP on records. 54

6. Confirmatory Factor Analysis factor loadings for Parent Perception of School Practices construct.....64

7. Confirmatory Factor Analysis factor loadings for School Resources construct 67

8. Confirmatory Factor Analysis factor loadings for School Practices construct.....68

9. Confirmatory Factor Analysis factor loadings for Teacher Views construct 69

10. Confirmatory Factor Analysis factor loadings for Teacher Practices construct.....70

11. Summary statistics for the general profile variables, by disability status, based on the two operationalizations of disability: child diagnosed with a disability and presence of an IEP with the school records 80

12. Socio-economic status (quintiles) frequency distribution, by disability status (child diagnosed with a disability).....81

13. Parent education relative frequency distribution by disability status (child diagnosed with a disability) 82

14. Relative frequency distribution of urbanicity by disability status (child diagnosed with a disability). 83

15. Fit indices for four successive Latent Class Analyses for socio-cultural class.....84

16. Parent socio-cultural Latent Class Analysis statistics (indicators' means for each class), 4-class solution 88

17. Socio-Cultural Class odds ratios for predictors 89

18. Racial distribution within the "atypical" class compared with the general population 95

LIST OF TABLES (CONTINUED)

Table: Page:

19. Frequency distribution for race and home language for the parents in the atypical class, entire sample 96

20. The relative distribution in socio-cultural classes, by disability status. 97

21. The relative distribution in disability status categories, by socio-cultural status 97

22. Fit indices for the parent involvement latent class analysis 98

23. Latent Class Analysis for parent involvement at school: class membership probabilities 99

25. Family background characteristics comparisons across disability groups (listwise deletion) 101

26. The relative frequency distribution of parent involvement categories by socio-cultural class for all children in the study (listwise deletion) 103

27. Logistic regression coefficients (and odds) for the model of parent involvement and family characteristics predictors. 106

28. Fit indices comparison for the models of latent parent involvement categories, with and without disability status as multiple group analysis 107

29. Parent involvement measurement model coefficients, standard errors, and p-values 113

30. Parent involvement structural model coefficients, standard errors, and p-values .. 114

Applying Theories of Capital to Understand Parent Involvement at School as a Component of Family-School Interaction: The Special Case of Children with Special Needs

INTRODUCTION

This study used a combined theoretical framework based on theories of capital (social, cultural, and symbolic capital) embedded in an ecological framework to initiate an investigation of family-institution interaction. The term "institution" here refers to the *educational system*, that is, to the multiple aspects of the educational environment with which children and their families interact. Institution can include schools, special education agencies, and other institutions providing educational and intervention services, as well as professionals such as teachers (general and special education teachers), therapists, early intervention specialists, and educational administrators. For this study, I focused my attention on the interaction between families and the general school setting. This study address a particular component of the family-school interaction, namely, parent involvement at school, with special attention to families of kindergartners with disabilities compared with families of typically developing children. The data were drawn from a large, nationally representative dataset, the Early Childhood Longitudinal Study – Kindergarten Class of 1998-1999 (ECLS-K).

Definitions

Family-School Interaction

Family-school interaction is a complex notion that can be conceptualized and studied in different ways, depending on the focus of the research and on the perspective used. It can be analyzed as an outcome or as a predictor for outcomes. It can be studied in terms of quantity or in terms of quality, cross-sectionally or longitudinally. One way to conceptualize family-school interaction is as representing a form of social capital. Social capital is defined as investment in social networks with expected returns (Bourdieu, 1987; Lin, 1999). Families and school form a social network with embedded resources that can be accessed and mobilized for the benefit of all actors involved, children, parents, and school. Regardless of how family-school interaction is conceptualized and operationalized, it can

be an influential factor in children's and families' lives and it, therefore, must be granted serious attention.

Education-Related Parental Involvement

Another popular construct in the education literature and educational policy that is related to family-school interaction is *school-related parental involvement,* which is defined as parental involvement in aspects related to academic learning[1]. School-related parent involvement is commonly conceptualized and operationalized based on locus of involvement as *parent involvement at home* and *parent involvement at school*.

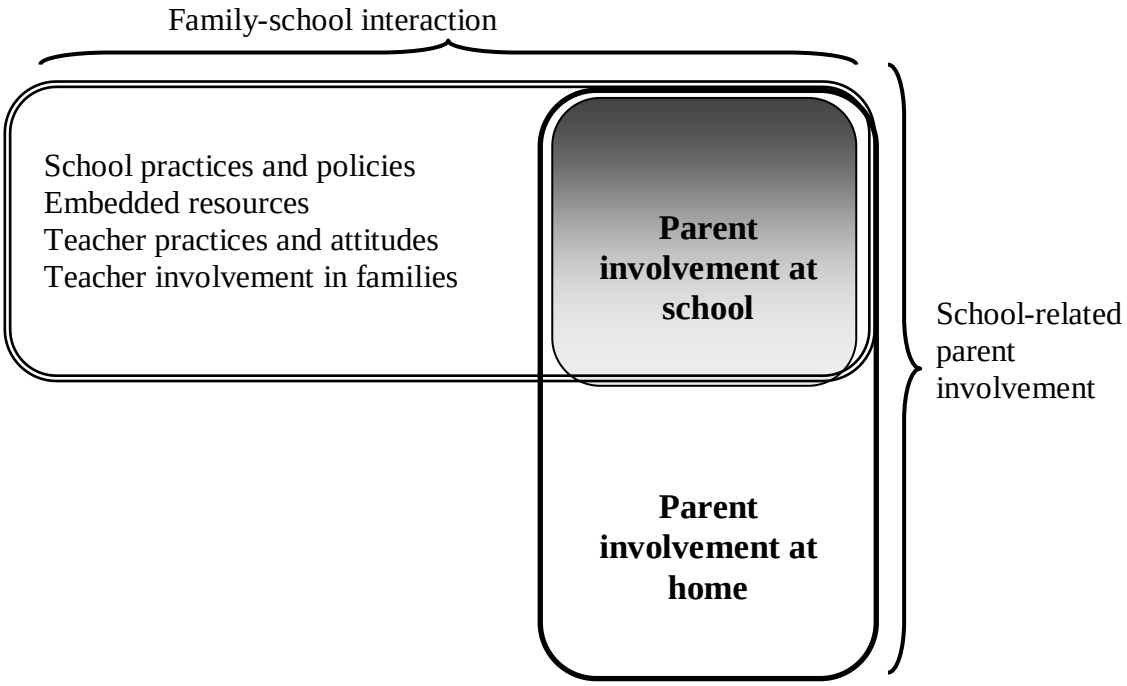
Parent Involvement at School

There seems to be confusion, in the educational research and policy fields, related to family-school interaction and school-related parental involvement. In the education literature and educational policy, these two concepts have commonly been presented as representing the same construct. I argue that these two concepts are two different, distinct constructs that overlap, and that they should be clarified in conceptualization, implementation, and research. The area of intersection, i.e., the area that is common to both constructs, is that of *parent involvement at school* (see Figure 1). Parent involvement at school represents the component of school-related involvement that happens at school and with school professionals; because it involves the school and school professionals, it is also a component of family-school interaction. As Lareau (1987) pointed out,

> …home-school partnerships, in which parents are involved in the cognitive development of their children, currently seems to be the dominant model, but there are many possible types of family-school relationships (Baker & Stevenson 1986). As in other social relationships, family-school interactions carry the imprint of the social context: Acceptance of a particular type of family-school relationship emerges as the result of social processes ….When home-school relationships are evaluated exclusively in terms of parental behavior, critical questions are neither asked nor answered (pp. 74-75).

[1] The literature uses the term "parent involvement in school" or "schooling." However, to avoid any confusions, I decided to use the term "school-related parent involvement"

Figure 1. The representation of family-school interaction and school-related parent involvement as two concepts that overlap



Rationale

It seems important to study parent involvement at school from the perspective of capital theory embedded in ecological theory because parent involvement at school has strong support from the educational policy and literature. Numerous studies have found that parental involvement in the child's education at school and at home is important, for a number of outcomes, especially for academic achievement (Barnard, 2004; Christenson, 2004; Coleman, 1988; Epstein, 2001c; Fan & Chen, 2001; Henderson & Mapp, 2002; K. Hoover-Dempsey & Sander, 1995; Hoover-Dempsey et al., 2001; Jeynes, 2003, 2005; Lee & Bowen, 2006; Lin, 1999; McNeal, 1999; Perna & Titus, 2005).

Epstein's (2001a, 2001b, 2002) framework on parental involvement stressed the importance of parental involvement in all aspects of the child's education, including involvement at school at different levels of involvement. Epstein recommended detailed strategies that educators can use for helping parents to become more involved with their school. Two meta-analyses of the influence of parent involvement on children's academic achievement reported significant relationships (Fan & Chen, 2001; Jeynes 2003). A

comprehensive literature review conducted by Henderson and Berla (1994) and, later, by Henderson and Mapp (2005) yielded a similar conclusion, noting that one of the important factors in predicting school success is parent involvement at school: “The evidence is now beyond dispute. When schools work together with families to support learning, children tend to succeed not only in school, but throughout life” (Henderson & Berla, 1994, p. 1). Educational policies follow this trend, strongly encouraging parent involvement in school (National Educational Goals, 2000; No Child Left Behind, 2001).

For families of children with disabilities, the call for parents to be involved is even more vocal. There are six main principles of the federal law that protects the educational rights of children with disabilities, the Individuals with Disabilities Education Improvement Act of 2004 (IDEA). Of the six, two principles directly address parents’ participation at their child’s school: Principle 5, “Parent and Student Participation in Decision Making,” and Principle 6, “Procedural Safeguards.” Parents are called to participate in decision making over diagnostic procedures, placement, and services.

However, not all voices are so supportive. Other authors take a different stance, warning against the embrace of family involvement in children’s academic education as the main key to student academic success. These authors are especially cautious about parent involvement at school (de Carvalho, 2001; Fine, 1993; Ho, 1999; Horvat, Weininger, & Lareau, 2003; Lareau, 1987, 1996, 2000; Lareau & Shumar, 1996; Pomerantz et al., 2007; Smrekar & Cohen-Vogel, 2001). Among the principal criticisms that these authors note the most important is their observation that commentators tend to overlook the relationship of power between school and family, where families from minority backgrounds (low socio-economic status, racial/ethnic minorities) experience disadvantage compared with more mainstream families.

This study uses a capital theory approach, especially that of cultural capital, to explain the differences in parental attitudes and behaviors related to involvement at school. Capital theory, which offers a counter argument to the common parent involvement literature, has to date not been applied in a large, quantitative study. Rather most studies that used cultural capital for understanding parent involvement at school have been conducted within an ethnological framework.

One challenge in conducting the present study with a large dataset and a quantitative approach lies in the fact that the operationalizations of the various capital theories, especially cultural capital, are difficult and not unanimously agreed upon. However, I considered that it is important to attempt to study parental involvement in school from the perspective of capital theory, using a large dataset and a complex, quantitative approach, because this focus on resources promises to bring greater understanding to this particular – and important – educational issue.

To summarize, a comprehensive analysis of parent involvement in school using a theory of capital promises to bring improved understanding to the family-school relationship. The present work aimed at exploring whether the patterns of parent involvement in school can be explained and understood from a set of capital theories, especially cultural capital. Potentially, a cultural capital approach is better than a deficit approach for explaining differences in parent attitudes and behavior related to the school. It is difficult to change families' culture, but it may be more feasible to attempt to change schools' policies once these patterns of relationship are better understood.

This study focuses on a particular age; while the family-school relationship is thought to be important throughout the school years, I decided to study the families of children in kindergarten as they prepare to move forward in elementary school. The main reason for this age focus is that kindergarten represents a major transition period for children (with and without disabilities) and their families, and thus it is a very important time in children's and families' lives (Mangione & Speth, 1998; Pianta & Cox, 1999; Pianta & Kraft-Sayre, 2003). Kindergarten is also a time for establishing competencies critical for later successful outcomes. For many families, the complex system of interaction with the educational system begins in kindergarten, and it can set the tone for future interactions, with a whole range of possible outcomes depending on the quality of these interactions. For most families of children with disabilities, kindergarten is not the first encounter with the educational system; however, enrollment in kindergarten does represent the beginning of interaction with a new, more formal educational setting, and it constitutes a transition into a different system, one that is less family oriented from what families may have encountered previously (Carta & Atwater, 1990).

LITERATURE REVIEW

Theoretical Framework

This study will use a theoretical framework composed of theories of capital (economic, social, cultural, and symbolic capital) embedded in an ecological view. The following sections will present the main assumptions and concepts of these theories, and the way they can be employed for the purpose of this study.

Ecological Systems Theory

The ecological view is the encompassing theoretical framework for this study. It has been routinely used by numerous authors for studying the family-school interaction, either referenced directly or just implied as an unspoken assumption.

The main characteristic of an ecological model is that it is composed of a series of systems existing at different levels of organization and complexity that interact with each other: the microsystem, the mesosystem, the exosystem, and the macrosystem (Bronfenbrenner, 2004). In our studies, the systems that interact are the child, the family, and the school. The interactions are family-child, family-school, and school-child. If the model is centered on the child, as it should be given that the child is the main beneficiary of the both the schooling and the family-school interaction, these systemic interactions represent, at minimum, two microsystems and one mesosystem. The child resides in two microsystems, the family and the school, whereas the interaction between the child's family and the school represents the mesosystem.

Using an ecological approach for studying family-school interaction is justifiable theoretically. One can study the family-school interaction purely from an ecological perspective. However, it is my opinion that the ecological model is a necessary model but not sufficient. It sets the stage for understanding a phenomenon but does not explain the details. This position is rightly so, for Bronfenbrenner's ecological systems theory is a large, encompassing theory that can be applied to a great number of particular situations. The particulars of each situation, though, need to be addressed with more specific theoretical approaches. The ecological model speaks of interactions among the systems, family and school in this case, but it does not specify what type of interactions happen and when, how

they happen and why, or what are the particular factors influencing these interactions. In order to better understand the intricacies of the interaction between the family and the school, this project will build on a set of theories of capital. Following is a short presentation of these theories of capital and then an explanation of the reasons that the investigator chose to use these theories.

Capital Theories

The concept of capital was defined by the French sociologist Pierre Bourdieu as "accumulated labor" (1987, p. 244), who further delineated it into economic, cultural, and social resources (1983). The term capital has been used for some time, described, conceptualized, investigated, and applied in different fields. Capital is defined, however, not only in a strictly economic sense but also in a larger, social sense, as an asset that requires an investment of resources in order to be created and which, in turn, can be used to accrue benefits.

> Depending on the field in which it functions, and at the cost of the more or less expensive transformations which are the preconditions for its efficacy in the field in question, capital can present itself in three fundamental guises: as *economic capital*, which is immediately and directly convertible into money and can be institutionalized in the forms of property rights; as *cultural capital*, which is convertible, on certain conditions, into economic capital and may be institutionalized in the forms of educational qualifications; and as *social capital*, made up of social obligations ("connections") (Bourdieu, 1983, p. 244)

In other words, capital is something that one has to invest and that can be used to obtain benefits. In a short and comprehensive definition, capital is investable, convertible resources.

Cultural Capital

Bourdieu first articulated the concept of cultural capital in *La Reproduction* (Bourdieu & Passeron, 1970, 1977) and developed it further in *The Forms of Capital* (Bourdieu, 1980/1986) and *Distinction* (Bourdieu, 1984). The concept was defined as "high status cultural signals used in cultural and social selection" (Lamont & Lareau, 1988, p. 153) and has been used to analyze how culture and education contribute to social

reproduction. Expanded, the concept of cultural capital was further defined (Bourdieu & Passeron, 1977) as cultural goods or values that are transmitted "through class differentiated families and whose *value* as capital varies with its cultural *distance* (similarity or dissimilarity) from the *dominant cultural culture* promoted by dominant agencies of socialization" (Lamont & Lareau, 1988, p. 157, italics in original). Lamont and Lareau (1998) proposed a definition that they hoped would bring some clarification to the

> polysemy [that] makes for the richness of Bourdieu's writings, and is standard in French academia.. . . .for this reason I propose to define cultural capital as *institutionalized, i.e., widely shared, high status cultural signals (attitudes, preferences, formal knowledge, behaviors, goods and credentials) used for social and cultural exclusion*, the former referring to exclusion from jobs, and the later to exclusion from high status groups (p.156, italics in original).

The concept of cultural capital was imported into the English language and used in educational research with contradictory results, due to the misunderstanding of the concept by various scholars. Lareau & Weininger (2003) provided an extensive review of studies that used the concept of cultural capital and concluded that, in educational research, two dominant interpretations arose, both representing misunderstandings of the original concept. In the first interpretation, cultural capital was defined as knowledge and familiarity with "high-brow" esthetic culture and cultural products. In the second interpretation, also wrong, cultural capital was considered analytically and causally as distinct from human capital, the later defined as forms of knowledge, competence, and skills accumulated through the process of education. These two interpretations that are dominant in the literature are either incomplete or misinterpretations of Bourdieu's concepts. First, according to Lareau and Weininger, the "cultural signals" that constitute cultural capital need not be limited to knowledge and consumption of classical culture, such as attending opera concerts and reading the German philosophers; rather, the attitudes, preferences, knowledge, and behaviors that constitute cultural capital vary from society to society and from one historical period to another. Any attitude, behavior, preference, or knowledge that is particular to a social class can qualify. Attitudes toward child rearing and what constitutes a "good parent," including parenting style and being an involved parent, are examples of such cultural signals that constitute cultural capital. Second, human capital as described by

Becker (1980, 1993) and defined as the knowledge, skills, and abilities that a person has acquired through the process of education, informal as well as formal, is not separate or distinct from cultural capital. It is actually included within cultural capital, and it is often difficult to distinguish it as a separate type of capital, or to separate the creation and the outcomes of human capital from those of the larger cultural capital. Bourdieu himself (1983) declared that the concept of human capital misses the point that natural aptitudes and educational investment cannot fully predict "the profits of scholastic investment" (p. 48) and that the investment in education (which, in turn, yields human capital as an outcome with further social and economic benefits) is not only of economic capital (time and money), but also of cultural capital:

> From the very beginning, a definition of human capital, despite its humanistic connotations, does not move beyond economism and ignores, inter alia, the fact that the scholastic yield from educational action depends on the cultural capital previously invested by the family capital. Moreover, the economic and social yield of the educational qualification depends on the social capital, again inherited, which can be used to back it up (p. 48).

Types of Cultural Capital

Bourdieu (1983) stated that cultural capital exists in three states: embodied, objectified, and institutionalized.

Embodied cultural capital. The embodied cultural capital is also known as the incorporated or internalized state; it is represented by legitimate cultural *attitudes, preferences, behaviors, tastes*, "dispositions of the mind and body" (p. 247), that is, lasting, acquired *schemes of perception, thought, and action.* A particular form of embodied cultural capital is *linguistic capital*, defined as the mastery of and relation to language. The embodied state of cultural capital resembles the concept of human capital, as described by Becker (1980, 1993), but is not identified with it. The appropriation, that is, acquisition, of cultural capital starts at the very beginning of an individual's life through the nurturing and education that he or she gets in the family, and it continues with more formal education at school. Bourdieu maintained that the educational system contributes, by favoring a particular type of cultural capital, to the reproduction of social classes, arguing against the meritocratic claim assumed by public education and by the human capital perspective,

which states that the position and mobility through the stratified social system can be determined solely based on human capital and merit.

Objectified state of cultural capital. This state is represented by transmissible goods such as writings, paintings, books, instruments or, nowadays, computers and other high-tech and high-status gadgets, such as cell phones and iPods. A necessary precondition for possessing objectified cultural capital is the possession of the associated embodied cultural capital, represented by the ability to *consume* objects, to understand their cultural meaning, to "appropriate" them (Lamont & Lareau, 1988, p. 155).

Institutionalized state of cultural capital. The institutionalized form of cultural capital is represented by degrees, diplomas, and other official credentials that certify the embodied capital:

> . . . the objectification of cultural capital in form of academic qualifications is one way for neutralizing some properties it derives from the fact that, being embodied, it has the same biological limits as its bearer. This objectification is what makes the difference between the capital of the autodidact . . . and the cultural capital academically sanctioned by legally guaranteed qualifications, formally independent of the person of their bearer (Bourdieu, 1986, pp. 247-248).

Field, Habitus, and Doxa

The concept of cultural capital is closely related to other concepts introduced by Bourdieu. One of these concepts, *field*, represents any social setting that has specific rules in which people and their social positions are located and struggle in pursuit of desirable resources. The school system is a good example of such a social structure, where the actors (children, parents, teachers, and administrators) occupy different positions and interact bringing different resources and aiming at various outcomes.

Another concept, called *habitus*, represents a system of dispositions (lasting, acquired schemes of perception, thoughts, and action). Habitus actually constitutes the embodied state of cultural capital, because it represents the internalization of patterns of modes of thinking, tastes, norms, belief systems, sets of meaning, and qualities of style, and behavior schemes that are characteristic for the social and cultural structure (the field) in which the person develops.

These two concepts, *field* and *habitus*, are closely related and influence each other. The relationship between habitus and field is a two-way relationship. The field exists because individuals who possess habitus participate in the creation of the field and infuse it with meaning. On the other hand, by participating in the field, individuals incorporate into their personal habitus the structures and dispositions that have been integrated into the field. Bourdieu thus sees habitus as the key to social reproduction, because it is central to generating and regulating the practices that make up social life. This interrelationship between field and habitus has a great importance in the social sciences, for it represents Bourdieu's attempt to reconcile the epistemological break between objective and subjective, structuralism and phenomenology.

Closely related to the concepts of field and habitus, and resulting from their interrelationship, is the concept of *doxa*,[2] which represents the ideas that are taken for granted in a particular society. Doxa is represented by the fundamental, deep-founded, unthought beliefs taken as self-evident universals that inform a person's actions and thoughts within a particular field. Doxa tends to favor a particular social arrangement of the field, thus privileging the dominant and taking their position of dominance as self-evident and universally favorable. Doxa and cultural capital are in close relationship.

> Cultural capital is primarily transmitted through the family. It is from the family that children derive modes of thinking, types of dispositions, sets of meanings and qualities of style. These are then assigned a specific social value and status in accordance with what dominant classes label as the most valued cultural capital (Reay, 2000, p. 570).

As Lareau and Horvat (1999) pointed out, the cultural capital an individual possesses does not have the same value in various fields. The value of cultural capital and its convertibility (and, by the same token, the value of social capital) depends on the dominant culture's doxa. This is a key-factor in family-school interactions, because the school, both as an institution and through its members, has a culture that is aligned with that of a particular social and cultural class, i.e., the middle-class, and more particularly, the White middle-class. This alignment influences the way that families and schools interact, the quality and amount of interaction, and, more importantly, the outcomes of the

[2] **Doxa** (δόξα) is a Greek word meaning common belief or popular opinion.

interaction. For families who possess the type of cultural capital that is considered normative within the school culture, the interaction with the school is likely to be smooth, feel natural, and yield greater outcomes. For families coming from a lower social class than most school personnel or for the families with a different cultural background (e.g., ethnic minorities, recent immigrants, etc), this interaction has a different pattern and is likely to yield lower outcomes.

Social Capital

Social capital is a concept extensively used in fields such as business, economics, organizational behavior, political science, education, sociology, and public health. The first systematic conceptualization and analysis of social capital was the result of Bourdieu's work in a brief article (1980) published in *Actes de la Recherche en Sciences Sociales*, a French journal founded by Bourdieu himself in 1975. The article was not translated into English until 1986, and it failed to gain widespread attention in the English-speaking world (Portes, 1998). Bourdieu defined social capital as the resources that come from group membership, relationships, or networks of influence and support, "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition." (1986, p. 248). It is apparent from Bourdieu's definition that social capital is composed of two elements: first, the social relationships and second, the amount and quality of resources present in the field that can be accessed through these social relationships.

There are several other definitions for social capital, ranging from Coleman's (1988) functional definition to Putnam's (1995) and Fukuyama's (1999) focus on trust and shared norms and values. However, all of these definitions have in common the fact that social capital is conceptualized as a characteristic of *social relations*. A good conceptualization and operationalization for social capital was offered by Lin (1999, 2008), who reviewed the concept, its roots, development, and theory and then offered a short, concise definition of the concept: social capital is "investment in social relations by individuals through which they gain access to embedded resources to enhance expected returns of instrumental or expressive actions" (Lin, 1999, p. 39). This definition reveals three processes involved in social capital: (a) investment in social capital, (b) access to and mobilization of social

capital, and (c) returns from social capital. A complete model of social capital requires three "blocks of variables in causal sequence" (p. 41): (a) preconditions of social capital: these are represented by collective assets such as trust, norms, and a person's position within the social structure, a position that can facilitate or impede the investment in social capital; (b) the social capital elements of investment, access, and mobilization of resources; and (c) the returns, which are instrumental (wealth, power, reputation, or information) and/or expressive (life satisfaction, physical and mental health).

If we look at both capital concepts, social and cultural, we can see that they interrelated and interdependent; social capital requires assets such as trust and norms, which can be though as cultural capital assets. On the other hand, cultural capital involves investment and return, which cannot happen in a social vacuum, and which are better maximized if there is a strong social capital available. This interchangeability and interdependence represents, in my opinion, the attractive characteristic of capital theories: these various constructs can be thought in terms of resources that can be exchanged, converted, invested.

Lin (2008) introduced another important idea within social capital theory, specifically, that depending on the affinity and similarity of the actors, there are different types of social capital. *Homophilous* social capital is the type of capital characterized by networks of high density and closure, strong bonds or ties among individuals who are similar with regard to many demographic, intrapersonal, and behavioral characteristics (McPherson, 2001), including lifestyles. This type of social capital enhances collective solidarity and expressive types of returns. On the other hand there is *heterophilous* social capital, which is characterized by open networks, bridging ties rather that bonding ties, and heterogeneity among the people involved with regard to different characteristics such as ethnicity, education, or other personal characteristics. These two types of social capital are not necessarily mutually exclusive; the same network can be homophilous over some characteristics and heterophilous over other characteristics.

Lin (2008) maintained that heterophilous social capital is more significant than homophilous social capital because it can lead to greater and more diverse returns by its very characteristics, that is, by the diversity of the social actors involved and by the diversity of resources that these social actors bring to the table. It is true that homophilous

social capital is important for stability and for maintaining the resources available. Lin noted that all networks are, to some extent, homophilous, because any network requires a sufficient amount of interaction and commonalities. However,

> the presence of heterophily suggests a greater likelihood that some of the members, engaged with other networks, bring more diverse resources to the focal network, resources beyond those already shared by members in the network, thus enriching the potential pool of resources available in the network (Lin, 2008).

This distinction between homophilous and heterophilous social capital is particularly relevant to the topic of family-school interaction. The social network represented by the interaction of the family with the school is, first, a network that was imposed, rather than spontaneous (Keyes, 2002). Children must go to school and, in the case of children with disabilities, also to interventions and therapies. Therefore, families must enter some kind of relationship with the school, regardless of their personal affinities and preferences. Second, this network is, by definition, a heterophilous network; even if the backgrounds of teachers and other school personnel tend to be more homogeneous, generally middle class and white, the families who participate in this family-school network may come from a variety of different cultural, social, and racial/ethnic backgrounds. This heterophily can be a positive thing because it brings new ideas and exposes the individuals to a variety of potential resources. It can also become an obstacle, because there is the risk that within this social network people with similar characteristics will group together, albeit not necessarily consciously and purposefully, forming homophilous subgroups within the larger heterophilous network, thus diminishing the potential advantages resulting from a heterophilous network. In most locations, a school institution is predominantly a middle class white culture with particular norms, beliefs, lifestyles, and other characteristics, or, in other words, a particular type of cultural capital. Families coming from a similar background, who have the cultural capital that is considered “good currency” within the school culture will accrue greater benefits with lesser efforts from this network, while the families from a low socioeconomic class or with different ethnic, racial, and or cultural backgrounds was hindered in obtaining for their children all the benefits of schooling. It has been shown that this homophilous grouping happens for children in school (Joyner & Kao, 2000; Shrum, Cheek, & Hunter, 1988);

namely, middle class parents are more congruent in their relationships with middle class teachers than are working class parents (Lareau, 2000).

Symbolic Capital

Symbolic capital is another term introduced by Bourdieu, who considered it as a crucial source of power. Symbolic capital is closely related to other forms of capital because *it represents any other species of capital that confers to its holder prestige, honor, or the right to be listened to.* Bourdieu (1983) linked cultural capital to symbolic capital:

> because the social conditions of its [cultural capital] transmission and acquisition are more disguised than those of economic capital, it is predisposed to function as symbolic capital, i.e., to be unrecognized as capital and recognized as legitimate competence, as authority exerting an effect of (mis)recognition (p. 245).

The school's authority as expert in children's education, including the theories and recommended practices related to parental involvement in education, is an example of symbolic capital. Symbolic capital leads to symbolic violence defined as the imposition of the dominant's class categories of thought, dispositions, and values through the process of misrecognition. Bourdieu (1983) used the term "misrecognition" with the meaning of acceptance, by those who experience domination, of the imposed values as legitimate and natural – as "doxa". In the case of family-school relations, and particularly in the case of school-related parental involvement, the imposition, during everyday educational discourse, local or national, of the idea that parents are responsible for their children's education, in contrast to the widely held but non-dominant notion that schools are charged with children's learning, is an example of symbolic violence. A dominant cultural view that parental responsibility includes being actively involved at school represents another example of symbolic violence to parents who do not share this view but are nevertheless judged based on it. The concepts of symbolic capital and symbolic violence are particularly relevant to the educational field, because the relationship between families and the school is rarely an equal one; the participant who has more symbolic capital will exercise, admittedly unknowingly, symbolic violence toward the other participant.

Why Capital Theories?

There are at least three reasons why capital theories can help to illuminate the concept of parent involvement in schools and aid interpretation of the family-school interactions that are analyzed in this study.

First, the theories of capital, based on the concept of investable, convertible resources, appear to fit well with the ecology of children, families, and education, and the interactions among these systems. The interaction among these three systems is a relationship of resource access, investment, and return. For example, cultural capital requires investment (education, schooling, learning, money, time) and can be used to obtain benefits (better income, better social position, prestige). Family members invest and convert multiple types of capital to enhance their children's benefit. However, families have access to different types and amounts of capital, and they invest this capital in different ways, with different returns. The nature of family-school interaction can be conceptualized as a form of social capital. However, the pattern of interaction between the parent and the school as well as the benefits gained from this interaction are influenced by the types and levels of other forms of capital that the parents possess, including social capital (beyond the particular social capital represented by the school system), cultural capital, and, very important, the degree of congruence between parents' cultural capital and the types of cultural capital that the institution endorses via its teachers and other professionals. The main purpose of the educational system, both general and special education and all affiliated services, is to produce or increase capital in both the child and the family. This concept is elegant in that that it yields a dynamic view of resource utilization aimed at particular outcomes, specifically, transforming the family-school interaction into true social capital.

Second, the theories of capital have already been used by other scholars for studying the child and the family in the educational context (Dumais, 2005; Lamont & Lareau, 1988; Lareau, 1987; Lareau & Horvat, 1999; Lareau & Shumar, 1996; Lee, 2006; McNeal, 1999; Perna & Titus, 2005; Reay, 1999, 2000, 2004; Weininger & Lareau, 2003). Actually, when the theory of cultural capital was first articulated in 1973 by Bourdieu and Passeron, it was offered as an attempt to explain the differences in educational outcomes in France during the 1960s. Since its inception, the theory has been elaborated and developed

by Bourdieu and other scholars. Many studies have employed ethnographic research and focused specifically on class-related inequality in educational opportunities and outcomes and have successfully used theories of capital, especially cultural and social capital, to study school-related parent involvement. However, this application of capital theory has not reached all areas of education. The special education/early intervention field has been nearly void of an articulated theoretical framework as it conducted research and created policies, although this field has frequently stressed in practice and in policy the importance of the interaction between the family and school services (Barbour, Barbour, & Scully, 2005; IDEA, 2004). In realms of both general education and special education, public policies for "involving parents" in children's education continue to be developed, refined, and implemented (de Carvalho , 2001; Pomerantz, Moorman, & Litwack, 2007) . Without an articulated and comprehensive theoretical framework to guide these policies in addressing real problems and real solutions, these efforts are likely to be in vain and can even have negative consequences (Lareau, 2000).

This factor then leads to the third reason for using capital theories in the following research, namely, the theories of capital can be employed to explain the unequal distribution of resources in the society, as well as the reason for which people from different social classes get different returns from their investments. In other words, the theories of capital can explain the inequalities in the inputs, interactions, and outcomes of the educational system related both to children with disabilities and to their typically developing peers.

How Do the Systems from the Child's Ecology Interact?

In the following section I will present a review of the literature of the complexity of the interaction between family and school, and integrate it within a capital theory perspective.

Family-School Interaction and Education-Related Parent Involvement

As described above, these two constructs are overlapping but not congruent. Each concept will be discussed in turn.

Family-School Interaction

Historically, family-school interactions[3] have changed over time, as the family and the school have themselves changed: "family-school relationships are socially constructed and are historically variable" (Lareau, 1987, p. 74). Family-school interaction can be described both from an ecological perspective and from a social capital perspective. From an ecological perspective, family-school relationship represents the interaction between the child's two main microsystems, i.e., the family and the school. This interaction is influenced by and influences the interacting systems: child, family, and school. From social capital theory, family-school interaction represents a form of social capital, in which both parties invest resources in order to get benefits. Social capital has three distinct elements that are common across the different understandings of the term: structure, norms, and resources (Lin, 1999, 2008). Structure, or form, is represented by the many organizational aspects of social relations. Norms of obligations and reciprocity assure the sense that the investment will yield a return. Finally, the resources that can be mobilized and accessed can be found both within the network (for example, a parent drawing information from the school on current ways to do math problems) and outside the network, as with resources accessible indirectly (for example, a parent of a child with disability being connected with a therapist by the child's teacher; the therapist did not belong to the parent's network initially, but the parent benefited from the teacher's social network). Such indirect connections have been named weak ties or *bridging network* (Granovetter, 1983; Lin 2001). Thus the family-

[3] the terms "family-school interaction(s)" and "family-school relationship(s)" are used interchangeably in this study

school relationship represents a form of social capital, in which all actors invest in a relationship that has a particular structure, infused with a set of norms of trust and reciprocity, and from which all parts can draw benefits such as information, access to a bridging network, knowledge, and skills (Horvat, Weininger, & Lareau; McNeal, 1999; Perna & Titus, 2005). The family-school interaction contains the actors (parents, on one hand, and school personnel, on the other) and their beliefs, attitudes, and behaviors, as well as the resources embedded within this network. For example, this model of interaction includes teacher involvement with the family (both attitudes and practices), as well as the school's policies regarding parents and the school's atmosphere. The latter are not conceptually part of school-related parent involvement.

Education-Related Parent Involvement

This concept represents actual parental involvement in various aspects related to academic learning, both at school and at home. It is important to note here that school-related parent involvement is not to be confounded with parenting and nurturing. The concept under discussion refers strictly to involvement in the child's academic environment and learning, either at home (e.g., helping with homework) or at school (e.g., participating in a parent-teacher conference). For families of children with special needs, this type of involvement extends beyond academic involvement to more specific and technical aspects of decision-making regarding diagnostic procedures, selection of services, service-delivery model and intensity, and special instruction and intervention. Parents can be involved by their own choice and based on their resources and expertise, but the very reasons for which the school as an institution appeared place the main responsibility for academic education on the school in the form of the teacher. Parents can provide their input, information, help, and support, but, in an ideal situation, they are not expected to have equal responsibility for children's academic education and its outcomes or, in the case of children with special needs, equal responsibility for special interventions and their outcomes.

Many parents elect to be involved, in their child's academic life, both at home and at school. Capital theorists would say that they are investing their resources in order to advance their child's future opportunities. School-related family involvement can be conceptualized as *attitudes, beliefs,* and *behaviors.* Attitudes and beliefs related to parent

involvement in education include, among others, notions about school readiness (for parents of kindergartners or younger children), about the role of the school, about parents' own role as parents, and about their educational expectations for their child (Walker, Wilkins, Dallaire, Sandler, & Hoover-Dempsey, 2005). These beliefs and attitudes are likely to be influenced by the types and levels of cultural capital that parents possess (Lareau, 2000).

Behaviors related to parent involvement in education can be categorized along several different dimensions (Ho, 1997). One dimension of parent involvement in education is concerned with *locus of involvement* (Epstein, 1987; Gordon, 1977), that is, involvement at home and/or involvement at school or both. Parent involvement at home, or what Ho (1997) called home communication and home supervision, includes help with homework and discussions with the child on school-related topics (Epstein, 1990, 1992, 2001a, 2002; Epstein & Van Voorhis, 2001; Erb, 2001; Hoover-Dempsey et al., 2001), setting rules about television viewing, or selecting particular schools for attendance. Parent involvement at school includes communicating with the school by telephone or email, participating in parent teacher conferences, IEP meetings, volunteering activities, PTA/PTO meeting, school events, fundraising, school advisory board activity, or what Ho (1997) called communication, participation, and governance. Similarly, Fantuzzo, Tighe and Childs (2000), in a study that developed and evaluated a questionnaire specifically designed to assess parental involvement in schooling (what I am calling school-related parent involvement), described three types of involvement, namely school-based involvement, home-based involvement, and home-school conferencing. Hoover-Dempsey et al. (2005) described three types of parent involvement: home-based such as helping with homework, school-based activities such as participating in school events, and parent-teacher communications such as talking with the teacher about homework or calling the teacher on the telephone.

A second dimension of parent involvement in education is the *intensity of involvement*. This dimension has been restricted in most research reports to parental involvement at school. Beattie (1985), in a study that involved four European countries, identified three levels of parent involvement based on intensity: pseudo-participation, partial participation, and full participation. For *pseudo-participation*, parents mostly accept

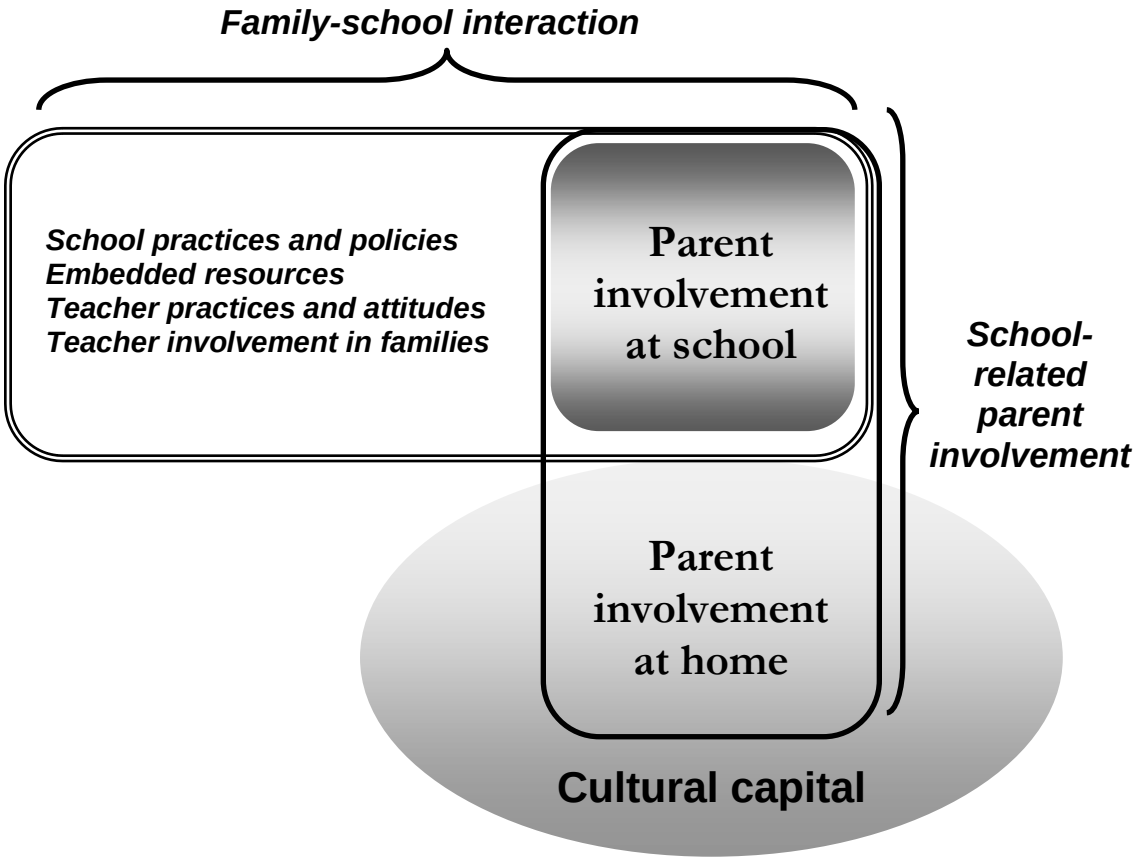
decisions that have already been taken by school personnel. While parents are informed of the activities in which they are expected to be involved, they do not contribute to the planning and decision-making related to these activities. In *partial participation*, parents might influence the decision making, but the final decision is taken by school personnel, while parents, chiefly, play a consultant role. Lastly, in *full participation*, parents have real power to make the decisions regarding particular educational activities. With this type of involvement, parents actually participate in school governance. Similarly, Comer and Haynes (2001) identified three levels of parent involvement at school: level 3-- general participation, in which parents get minimally involved in general activities at school, such as school performances, athletic events, or open houses; level 2 -- helping in classroom, including activities such as volunteering, participating in fundraising activities, or sponsoring and supporting schools; and level 1 -- involvement in school governance and advocacy.

The most widespread concept of parent involvement in education was developed by Epstein (Epstein, 1985, 1990, 2001a, 2001b, 2002; Epstein & Connors, 1992; Epstein & Dauber, 1991; Epstein & Lee, 1995). It is composed of six categories of involvement that are not hierarchical in nature but, nevertheless, represent multiple levels, overlapping with the two dimensions presented above, locus and intensity of involvement. According to Epstein, the six major types of parent involvement are (a) parenting; (b) communicating; (c) volunteering; (d) learning at home; (e) decision-making, and (f) collaborating with the community.

There have been a number of efforts to merge the locus of involvement and intensity of involvement constructs. Ho (1997) summarized the literature on parent involvement in education and conceptualized parent involvement along two dimensions: locus of involvement (home and/or school) and forms of involvement. The latter was grouped under home communication and home supervision for home-based involvement, and school communication, school participation, and school governance, for school-based involvement. Communication, participation, and governance represent different levels of parent involvement intensity. This conceptualization is useful because it puts together several views on parent involvement in a coherent and easy to operationalize way. For these reasons, this study will use this conceptualization.

It is worth to note again that, while these two concepts (family-school interaction and school-related parent involvement) interact and overlap, they are not identical. Figure 2 presents, again, these two constructs and their relationship, with the addition of the cultural capital concept which is, indeed, infusing this pattern of relationship.

Figure 2. The representation of family-school interaction and school-related parent involvement as two concepts that overlap.



Parent Involvement for Parents of Children with Disabilities

The field of Special Education places a great value on the involvement of the parents of children with disabilities. The federal law that protects the educational rights of children with disabilities, IDEA of 2004, spells out clearly the rights of parents to be involved in all stages of decision making regarding their child's diagnosis, placement, and services received. A number of factors have contributed to this impetus for the support of family involvement in special education. According to Heward (2008)

> many factors have contributed to the increased emphasis on collaboration between parents and teacher in the education of exceptional children, three issues are clear: (1) many parents want to be involved; (2) educational effectiveness is enhanced when parents and families are involved, and (3) federal law requires collaboration between schools and families (p. 91).

There is ample evidence that the effectiveness of educational programs for children with disabilities is greatly increased when families are actively involved (e.g., Guralnik, 1997; Keith et al., 1998; Raimondo & Henderson, 2001; Resetar, Noel, & Pellegrini, 2006; Senechal & Lefevre, 2002). Heward presented several reasons for which involvement of families in the education of exceptional children is a "cornerstone for relevant and longitudinal educational planning.": (a) the parent knows the child best; (b) families have the greatest vested interest in their child's education; (c) the parents are likely to be the only persons involved with their child's education throughout the entire school career and beyond; and (d) the families are the ones who must live with the outcomes of their child's ducation all day, every day.

The philosophy of including parents in the educational process of children with disabilities has been translated into the family-centered model of service delivery (Bailey, 1992; Dunst, 1997; McBride, 1993; McWilliam, Tocci, & Harbin, 1998). Children with disabilities and their families have particular characteristics and needs compared with typically developing children and their families, especially when transitioning into the school system in kindergarten. According to Harry (2002), Rosenkoetter and Rosenkoetter (2001), and Wolery (1999), the families of children with disabilities face additional stressors and changes. These include meeting new service providers and developing relationships with them as well as confronting questions about the availability of services and technologies, how the children will fit into the new school environment, and how the new teachers will treat their children. Some families worry about discrimination and rejection of their children, the location and duration of their children's attendance, the special education label to be applied, or the means of transportation. The diagnosis of a disability for their child may be an intense and traumatic event for families (Heward, 2008), and families typically go through an adjustment process (Blacher, 1984). Involvement and collaboration with educational personnel can help families to go more successfully through this adjustment process. Kochhar-Bryant (2008) developed a resilience model that

identifies parents' experiences as they move from the identification of their child's disability to acceptance and adjustment. The authors maintain that collaboration with professionals is essential for navigating the stages of this resilience model (Kochhar-Bryant, 2008)

It is apparent from the literature that parent involvement at school and parent-professional collaboration are important topics in Special Education. However, the main concerns mentioned regarding involvement at school for families of children without disabilities continue as well. The dynamics of power may lead to educators overriding parents' values, intentionally or not. Moreover, the literature on children with disabilities and their families has focused on the families' interaction and involvement with special education professionals. There is little literature on these parents' interaction and involvement with general education personnel. In an era when inclusion in the regular classroom is common practice for children with disabilities (Heward, 2008; Rosenberg, Westling, & McLeskey, 2007), investigating family-school interaction and parent involvement at school is particularly important for this population. The application of ecological and capital theories for examining this interaction may bring a richer insight into the matter. The theories of capital, and particularly that of cultural capital, have been minimally used in understanding this particular topic.

Factors Influencing Education Related Parent Involvement

Numerous studies have focused on the factors that influence the level of parental involvement in schooling. These studies used different theoretical approaches, but they shared a common set of findings. Within the ecology of the child and family, authors noted that the factors influencing the level and choice of involvement can be grouped in child factors, factors related to the family, and factors related to the school and the larger community (Eccles & Harold, 1996; Hoover-Dempsey et al., 2005; Smith et al., 1997; Walker et al., 2000). Noteworthy is that while parent involvement in education is conceptualized as involvement at home and/or involvement at school, most of the studies conducted to date focused on school-based involvement.

Eccles and Harold (1996) presented a model of parent involvement that is consisting of several sets (or levels) of factors: a group of exogenous factors, teachers' and parents' beliefs and attitudes, and teachers' and parents' actual practices that in turn influence children's outcomes. According to the authors, the exogenous (first level) of factors are those that have a direct or mediated global effect on parent involvement and children's outcomes. These factors were grouped in (a) parent/family characteristics, such as education, income, gender, age, ethnicity, number of children, marital status, employment, and social and psychological resources; (b) neighborhood characteristics, such as resources and opportunities, norms, social controls, role models, cohesion, social networking, and presence of undesirable and dangerous factors; (c) child characteristics, such as age, gender, ethnicity, talents, interests, and temperament; and (d) teacher and school characteristics such as teacher's age, gender, ethnicity, and years of teaching experience, and schools' climate, resources, and philosophies.

The second level of factors in Eccles' and Harold's (1996) model is represented by the teachers' and parents' beliefs, both in general and those specific to the child. For the parents, the general beliefs refer to one's proper role as a parent, sense of general self-efficacy, and views of school receptivity, knowledge, and values. The parents' beliefs specific to the child refer to the achievement expectations and goals for the child, perceptions of the child's abilities, and the affective relationship with the child. For the teachers, the general beliefs refer to factors similar to parents' beliefs: perceived role of the parent, perceived sense of general self-efficacy, stereotypes, values, and knowledge of techniques. The parents' practices of involvement in children's education are, in the authors' model, (a) direct instruction, involvement, and monitoring, (b) volunteering at school, (c) supporting school activities, (d) attending school conferences, (e) requesting information about child's performance and involvement opportunities, and (f) participating in school governance. While the Eccles and Harold (1996) model is not presented in terms of cultural and social capital, it is apparent that the constructs the authors used can be mapped on constructs from cultural and social capital theory

Hoover-Dempsey and her colleagues (Hoover-Dempsey & Sandler, 1995; Hoover-Dempsey et al., 2001; Hoover-Dempsey et al, 2005) developed and tested a model for parent involvement from a psychological perspective. According to the authors, both the

decision to get involved and the actual behavior (choice of parent involvement types and then the involvement itself) are influenced by three sets of factors: first, they are affected by (a) parents' motivational beliefs, represented by perceived parental role construct and perceived parental self-efficacy in helping the child succeed in school. If parents believe that they have an important role and that their actions fulfill a normal parental role, then they are more likely to be involved in their child's education. The role construct is further conceptualized as having three types: *parent-focused*, in which parents believe and act as if they are primarily responsible for their child's education; *school focused*, in which parents believe that the school is ultimately responsible for their child's education; and *partnership focused*, where the responsibilities are truly shared (Hoover-Dempsey & Sandler, 1995); second, the decisions and behaviors are influenced by (b) parents' perceptions of opportunities, invitations, and demands from the school or from their own children; and, third, (c) the parents' life context, such as time and energy. Also, the educational expectations that the parents have for their children play an important role in influencing parent involvement at school.

The practices that the schools employ to involve parents influence parents' decision about whether to become involved as well as their choice of involvement types and amounts (Hoover-Dempsey et al., 2005). However, from a symbolic-interactionist perspective, it is not the school practices in themselves that are the most important influence on parent involvement; rather, more significant are the parents' perceptions of school practices for stimulating parent involvement with the school (Eccles & Harold, 1996; Hoover-Dempsey et al., 2005; Smith et al., 1997). If the parents do not perceive that the school is inviting and offers opportunities for parents, then parental involvement with the school will be low, regardless of the amount of invitations and opportunities that the schools actually offer. In other words, for the schools to be successful in their attempts to involve parents, the message of welcome has to be received by the parents. The way that the message is conveyed to the parents depends upon many factors, which include the parents' characteristics and the school climate, as well as teachers' beliefs and actions (Eccles & Harold, 1996).

Among the family factors found to influence parental involvement in education, especially school-based involvement, the most common are family socio-economic status,

family structure, parents' education, and ethnic background (Deslandes & Bertrand, 2005; Eccles & Harold, 1996; Fantuzzo, Tighe, & Childs, 2000; Ho, 1997; Hoover-Dempsey et al., 2005; Jordan, Orozco, & Averett, 2001; A. Lareau, 1996, 2000; Lilly, 2004; Smith et al., 1997) as well as parents' mental health, particularly level of depression (Kohl, Lengua, & McMahon, 2000; Seefeldt, Denton, Galper, & Younoszai, 1998). Not only has social class an important influence on parents' perceptions and parents' involvement, but also does their ethnic background. Sontag and Schacht (1994) conducted a study in a southwestern state with a sample of 536 subjects representing a mix of rural and urban families and a diverse ethnic representation. They found, among other results, that Hispanic and American Indian families reported more difficulties in obtaining information about their children than did White families. The authors concluded that the findings of their study suggest six implications for improving family involvement, one of them being that

> Families with diverse ethnic and cultural experiences differ in important ways from families who more readily identify with the dominant culture of our health, education, and social systems, requiring strategies tailored to unique family needs so that all families was fully included in the family decision-making process of early intervention (p. 430).

Cultural and social class background could be particularly important for children with disabilities. Harry (2002) asserted that an important factor that should be considered in serving children with disabilities (and implicitly in studying the parent involvement of children with disabilities) is the fact that these children might come from different cultural backgrounds. The author noted a general tendency in the field toward (a) an ethnocentric approach that makes it difficult for researchers and practitioners to recognize the different family patterns and practices for those families from non-mainstream groups and (b) a perception of the disability as the master status of the minority of children with disabilities, ignoring their cultural and linguistic identities. In another study involving children with disabilities from various cultural and linguistic backgrounds, Al-Hassan and Gardner (2002) found that the most important barriers that limit parent involvement at school are (a) language, (b) lack of information, (c) teachers' unfamiliarity with the parent's culture, (d) negative educational experiences (e.g., parents not invited, rejected, or not welcome at school, (e) unfamiliarity with the U.S. educational system, and (f) different views regarding involvement in school.

Importance of Parent Involvement

Educational research continues to explore the impact of parent involvement in the child's learning at school. Numerous studies have found that parental involvement in the child's education, at home and at school, influences children's academic outcomes (Barnard, 2004; Christenson, 2004; Coleman, 1988; Epstein, 2001c; Fan & Chen, 2001; Henderson & Mapp, 2002; K. Hoover-Dempsey & Sander, 1995; Hoover-Dempsey et al., 2001; Jeynes, 2003, 2005; Lee & Bowen, 2006; Lin, 1999; McNeal, 1999; Perna & Titus, 2005). Two meta-analyses of the influence of parent involvement on children's academic achievement reported significant relationships. Fan and Chen's analysis (2001) included 25 empirical studies and concluded that "the findings of this meta-analysis make a good case for the positive influence of parental involvement on students' academic achievement" (p. 17). The second meta-analysis, conducted by Jeynes (2003), looked particularly at minority children's academic achievement as related to parent involvement and found that "the impact of parental involvement overall is significant for all minority groups under study" (p. 202).

Particularly for children transitioning to kindergarten, parent involvement in their children's education is considered to be both a predictor and an outcome of a successful transition to school (Christenson, 1999; Pianta & Cox, 1999). Transition to kindergarten is negotiated not only by the children but also by their families, their school, and the whole community (Bruder & Chandler, 1996; Ramey & Ramey, 1999; Rosenkoetter, Hains, & Fowler, 1994), and this process requires time, planning, and commitment for various participants (Pianta & Cox, 1999; Rosenkoetter, Hains, & Fowler, 1994). The success of transition to kindergarten has been found to depend on comprehensive collaboration and communication among the parties involved especially the family and the school (Bruder & Chandler, 1996; Fowler, Schwartz, & Atwater, 1991; Mangione & Speth, 1998). For children with disabilities and their families, transition to kindergarten is even more complex than for typically developing children. When disabilities are involved, participants may experience the transition to kindergarten differently from their typically developing peers. The differences between prekindergarten settings and kindergarten may be greater for them than for typically developing children (Katims & Pierce, 1995; Carta & Atwater,

1990). For many children with disabilities, transition to kindergarten coincides with transition from one service provider to another, and each is likely to have unique regulations and types of service delivery (Wolery, 1999). Parent involvement may be required to ease this passage.

Not all researchers agree with this stated importance of parental involvement, especially parental involvement at school. A number of authors caution against this dominant view, warning against the embrace of family involvement in children's academic education (de Carvalho, 2001; Fine, 1993; Ho, 1999; Horvat, Weininger, & Lareau, 2003; Lareau, 1987, 1996, 2000; Lareau & Shumar, 1996; Pomerantz et al., 2007; Smrekar & Cohen-Vogel, 2001). A very important factor, in their opinion, is the fact that the commentators tend to overlook the power relationship within the school, wherein families from minority backgrounds are at disadvantage. The fact that family background influences the way parents perceive the opportunities offered by the school and their attitudes toward involvement was also supported by Lareau and her colleagues (Lareau, 1987, 1996, 2000a, 2000b, Lareau & Horvat, 1999; Lareau & Shumar, 1996; Lareau & Weininger, 2003). Lareau stated that when studying parent-school relationships, many scholars start from the wrong premise, namely, that virtually all parents and teachers share their own aspirations for parent involvement with the school and also inappropriately assume that all share their own views regarding appropriate childrearing strategies – in other words, there is an unspoken assumption that the families and the school share the same cultural capital. Based on ethnographic research, Lareau stated that, first there are major social class differences in regard to the meaning that parents in different social classes give to parent involvement. Second, in lower-class families, the beliefs about childrearing may conflict with teachers' beliefs. Third, researchers should pay more attention to the impact of class differences in social networks on parent involvement at school. The author concluded:

> Many family-school proponents have a flawed analysis. They do not consider systematic variations in families' approaches to school, especially the meaning attributed to be helpful, the number of serious conflicts in childrearing strategies, the perceived power and threat of teachers in their lives, and the social networks connecting parents one to another (Lareau, 1997, p. 62).

Critiques of Policy and Educational Research Views on Parent Involvement

The educational policy and educational research discourse views the family-school relationship as represented by school-related family involvement and particularly by parent involvement at school. According to de Carvalho (2001), this interpretation places the burden of responsibilities on the parent. The term itself, "parent involvement," and the message that these policies send, such as "inviting" parents or "educating" parents (see Epstein 1990a, 1990b, 1992, 2001a, 2001b, 2001c), rest on the undeclared assumption that, while parent involvement is important and can lead to positive outcomes, the problem or the solution – hence the responsibility – lies with the parent. Parent involvement is interpreted as an obligation for parents and is presented as a strategy for enhancing and, at the same time, for equalizing educational outcomes for all children (de Carvalho, 2001). "Most of the discourse (of policy and research) exalts the school-family partnership ideal, taking for granted its desirability and viability" (de Carvalho, 2001, p. 3). Educators can help, with well developed and well informed policies and programs, but the message that is sent out clearly places the burden on the parent. This can be seen from the implementation of parent involvement activities; they basically are meant to fill the school's agenda with volunteering, fundraising, school events, and so forth. The discrepancy between a school's agenda and a parent's agenda is deepened for families who do not belong to the same culture as the school (de Carvalho, 2001).

In her analysis, Christenson (2004) talked about "the disconnect of the two primary socializing agents for educational success" (p. 83), i.e., the family and the school. The author identified a set of problems but based her argument on the same view as other authors, that there should be a shared responsibility across school and home for educational outcomes: "parents are essential partners and a philosophy of shared responsibility permeates school policies and practices" (p. 85). For instance, among the obstacles to good family-school relationship, Christenson (2004) lists "parents adopting a passive role by leaving the education to schools." (p. 88). While subtle, this concept is pervasive in public school policies: parents have, or should have, equal ("shared") responsibilities regarding their children's education, which translates into "parents should be (more) involved in children's education as much as the schools are;" if they are not, there should be in place

programs and policies that will address this very "problem." The discourse is based on the partnership paradigm but it is suggested that the school is, ultimately, responsible for stimulating more parent involvement:

> the stimulus for engaging parents in education lies with educators; therefore, addressing barriers for educators is necessary. At the school level, it appears that strong leadership and administrative support are essential to increasing meaningful family involvement (p. 90),

leaving the school with latitude to define what "meaningful" involvement is.

On a similar note is the work of Epstein (1985, 1990, 2001a, 2001b, 2002; Epstein & Connors, 1992; Epstein & Dauber, 1991; Epstein & Lee, 1995), whose comprehensive theoretical framework and research agenda have emphasized this concept: "the nation's schools must improve education for all children, but schools cannot do this alone. More was accomplished if schools, families, and communities work together to promote successful students" (National Network of Partnership Schools, 2008). The author developed a framework of six major types of involvement that "helps educators develop more comprehensive programs of school and family partnerships and also helps researchers locate their questions and results in ways that inform and improve practices" (Epstein, 2001, p. 408). Four of the six types of parent involvement in children's education relate to involvement at school or involvement with academic work, what I called school-related parent involvement. Epstein's model has a clear focus on the institutional standards and norms vis-à-vis family-school relationship, uncritically accepting these standards and norms as legitimate and, therefore, worthy to be sought and encouraged (Lareau & Weininger, 2003). Epstein's model is extensively used to inform research and policies. A similar model exists for families of children with special needs. Simpson's (1996) model contained five levels or steps: information exchange, partnership and advocacy training, home and community program implementations, and parent and family coordinated services (Lilly, 2004).

From a cultural capital perspective, this model of parent involvement puts at advantage a certain culture, that is, the dominant white middle class. Other authors (Smerkar & Cohen-Vogel, 2001) pointed out that schools are institutions, and institutional theory hypothesizes that institutions have ritual experiences and maintain appearances;

school-based activities for parents are ritualized, prescribed, and organized by the school. This fact limits the interaction between parents and school to formal exchanges, formal in the sense that they are prescribed by the school. Parents are expected, consciously or not, to fit the school's agenda, and not the other way around. When teachers or other school personnel contact families, it usually is to inform or to signal a serious problem (Smerkar & Cohen-Vogel, 2001). Thus, the relationship between the family and the school usually follows a provider-receiver model that is most efficacious when there is congruence between parental style and school style.

Conclusion

The family-school interaction is a complex and inevitable phenomenon in every parent's life. It represents a form of social capital in which all parties invest resources and from which all parties draw benefits. Parent involvement at school is a component of family-school interaction, and is defined as parent participation and involvement in the child's academic life that happens at school and involves school personnel. Past research has shown that school-related parent involvement, including parent involvement at school, can have positive outcomes for the child, especially in the academic realm – children whose parents are involved in their education do better in school. Based on these findings, the trend in today's public discourse is toward a partnership type of relationship between school and family, in which the school and the family share an equal responsibility for academic education of the children. As a consequence, parent involvement, both at home and at school, is seen now as an obligation that the parents must fulfill. However, from a cultural capital perspective, parent involvement in the child's education, and especially parent involvement at school, does not necessarily follow only one line of relationship. The interaction between family and school, and the outcomes of this relationship, are influenced by the type and amount of cultural capital each partner possesses and, more importantly, by the match between the family's cultural capital and that of the school's. For families whose cultural capital is aligned with that of the school's, namely middle class, the interaction is likely to be smooth, the involvement at school consistent and intense, and the outcomes maximized. For families coming from a different cultural and social background, such as families from lower socioeconomic classes or families from racial/ethnic and linguistic

minorities, the alignment between their cultural capital and that of the schools is not always ideal, the involvement at school is less intense, and it has poorer outcomes. These outcomes tend to be considered as a parent's deficit for which programs can be designed and implemented, to improve the level and quality of parental involvement. A number of researchers, most of them from an ethnographic research tradition, disagree with this discourse and argue that the academic education of children is primarily the school's responsibility. Parental involvement in education is to be encouraged, but should not be considered as the key factor for school success. The cultural background of the family influences the patterns and the differential outcomes of family-school relations. Several studies have demonstrated that the meanings and the perceptions families give to the relation with their child's school varies across social and cultural classes; usually the relationship with the school is a relationship of power at which families from ethnic/racial and linguistic minorities as well as families from a low socio-economic background face a disadvantage. As mentioned before, most of these studies used a qualitative research approach, with few studies using large samples and quantitative analyses.

A parallel literature for families of children with disabilities addresses family-school collaboration, matched by similar educational policy and legislation. However, the literature and public discourse related to the family-school interaction for families of children with disabilities is generally geared toward the particulars of these families' situation, namely the interaction, involvement, and collaboration between families and special education professionals, therapists, and other service providers. There is little focus in the literature on the experiences of these families in the general context of education. Little is known about how the additional factor of dealing with a disability influences families' pattern of relationships with the general school setting, how the child's disability changes parents' perceptions of school and their behavior related to school. There is no reason to believe that having a child with disability has a direct influence on the cultural capital the family possesses (although the social capital is likely to be influenced), but there is evidence that they are indirectly correlated: families of children with disabilities tend to be of lower socio-economic status and, at least for school-age children, overrepresented in some ethnic/racial minority groups. It is important, thus, to try to understand how families of children with disabilities interact with their child's school and how this interaction is

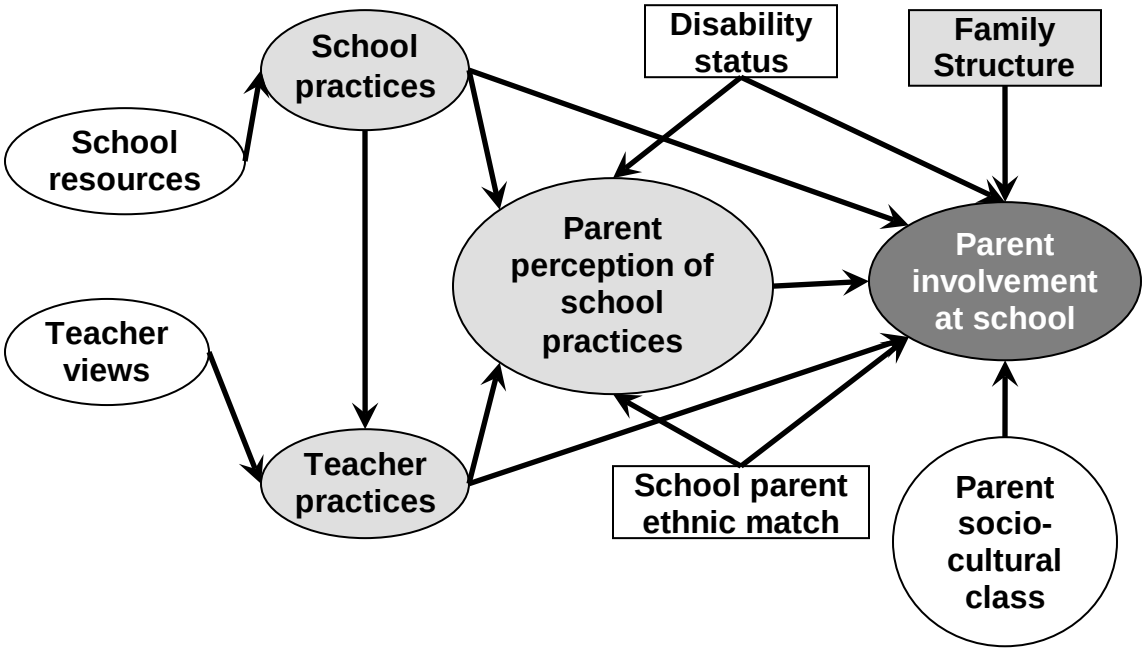
different – if it's different – from that of families of children without disabilities, as they begin their journey through the school system.

THE PRESENT STUDY

This study used a combined theoretical framework based on theories of social and cultural capital embedded in an ecological framework to investigate family-school interaction. This study addressed a particular component of the family-school interaction, namely parent involvement at school, with special attention to families of kindergartners with disabilities compared with families of typically developing children. This research used a capital theory approach, especially cultural capital, to study the differences in parental attitudes and behaviors related to involvement at school. Capital theory offers a counter argument to the common parent involvement literature that to date has not been applied in a large, quantitative study. In contrast, most studies using cultural capital for understanding parent involvement at school have been conducted with an ethnological approach. For this particular study, the family's cultural capital was conceptualized and operationalized using concepts that are related to families' role as parents, including creating a stimulating cognitive environment for their children and various types of interaction with the child.

A structural equation model (SEM) with Maximum Likelihood Estimation with missing values technique was used to analyze the model. Figure 3 presents the initial analytical model for this study. The ovals represent latent variables, either continuous or categorical, while the rectangles represent observed variables. The constructs pictured in white represent cultural capital constructs, while the grey ones represent social capital constructs. The constructs that are used in the model and their corresponding variables are presented in some detail in Table 1. A more detailed presentation of the items used in the model can be found in Appendix A.

Figure 3. The analytical model for parent involvement at school



Research Questions

Several research questions were addressed during this investigation:

Who are the U.S. kindergartners, and who are their families, communities, and schools? How do children with disabilities compare to their typically developing peers in regard to a number of child-related, family-related, teacher-related, and school-related characteristics?

1. What are the latent, unmeasured social classes of kindergartners and their families, beyond the socio-economic status classification, and how do these classes differ for kindergartners with disabilities compared to typically developing children?
2. Which types of parent involvement at school occur and to what degree during kindergarten, for parents of children with and without disabilities? What are the patterns of involvement at school?
3. What factors drawn from capital theories predict parent involvement at school for families of kindergartners, with and without disabilities, and how are these factors related?

4. How does the presence of disability in their child influence a family's types and pattern of involvement at school?

These research questions can be grouped into five main aims of the study. The first aim is to create a profile of kindergartners of the1998-1999 class based on child, family, and school factors, and to compare the profile of children with disabilities with that of typically developing children. This includes testing of a latent class model for families, based on cultural capital indicators. The second aim is to analyze parents' pattern of involvement at school and to demonstrate that there are at least three groups of parents, based on their involvement choices. The third aim is to demonstrate that a series of family factors, including child's disability status, family socio-cultural status and family structure, influence parents' patterns of involvement at school, both directly and indirectly. The fourth aim is to demonstrate that the match between the family's and the school's cultural capital, operationalized as racial/ethnic match, has an indirect influence on parent involvement at school, being a moderator variable for the relationship between family's socio-cultural status and parent involvement at school. Finally, the fifth aim is to demonstrate that a series of school factors (school institution and the teachers within the school) influence, directly and indirectly, parents' patterns of involvement at school.

Table 1. Variables and constructs used in the parent involvement at school model

Family	
Cultural Capital	Socio-Cultural Class
	race/ethnicity
	income
	language
	family education
	home cognitive environment
	child participation in activities outside school
	parent activities with the child outside home
	parent activities with child at home
	involvement with the child in cultural-related activities
	parent educational expectations for the child
	parenting style
	normative parent-child interaction
	non-normative parent child interaction

Social Capital	**Parent Involvement at School**
	Family Perception of School Practices
	school provides information on how child is doing
	school provides information on chances to volunteer
	school provides workshops, materials, and advice
	school provides information on community services
	Family Structure
	Child Disability Status
Teacher	
Cultural Capital	Teacher's Views
	teacher's views on readiness
	teacher's views on children's preparation for school
Social Capital	Teacher's Practices for Family-School Relations
	transition to kindergarten activities
	number of parent-teacher conferences offered during the year
	percent of parents in classroom involved at school
	number of times per year the teacher sent home information
School	
Cultural Capital	School Resources
	rating of classrooms adequacy
	rating of playground adequacy
	number of extra facilities the school possesses
	number of extra-funding resources the school has
	School-Parent Ethnic/Racial Match
	parent race/ethnicity
	teacher race/ethnicity
	percent of minority children in school
	percent of minority teachers in school
Social Capital	School Practices for Family-School Relations
	programs or services for children available at school
	programs or services for families available at school
	number of family-school interaction activities offered by school
	activities for communicating with kindergartners' families offered

Specific Aim #1

The first aim was to develop two comprehensive profiles of kindergartners, with and without disabilities, and their families, their schools, and their communities, and subsequently to compare these two profiles. This analysis will help in understanding the ecology of children and their families, using a more complex analysis method and a more comprehensive theoretical framework than has previously been used. The two profiles were analyzed from two standpoints: first, a classical approach using a set of observed variables (demographic, school-related, and community variables) was used to describe and compare kindergartners with disabilities and their typically developing peers. The second approach used theories of capital to reveal unmeasured, latent groups of social class stratification that are not directly apparent from analyzing observed variables and that will go beyond the classical socio-economic status classification[4]. This second goal was achieved by using a Latent Class Analysis technique. For this particular study, the family's cultural capital was conceptualized and operationalized using concepts that are related to families' role as parents, including creating a stimulating cognitive environment for their children, and the types of interaction with the child; these concepts were operationalized based on questions from the parent interview as "home learning environment" and "parenting style." Other constructs that are commonly associated with a family's social and cultural background were used in this study as predictors for class membership; they are SES, education, race/ethnicity, and language spoken at home.

Hypothesis 1-1. Based on past literature, I expected that children with disabilities will differ in age, gender distribution, socio-economic status, school-related variables, and community characteristics from their typically developing peers, as follows: children with disabilities to have a wider age range, to be predominantly boys, and to be of lower socio-economic status. Also, compared with typically developing children, kindergartners with disabilities were expected to be more likely to attend public schools in smaller communities. The racial distribution at kindergarten level for students with disabilities was expected to be similar to that of children without disabilities, although, according to the literature, the racial distribution will change throughout the students' school years. In addition, it is

[4] The social categorization obtained through LCA under Aim #1 was called, by the author, "socio-cultural class," to contrast if from the more commonly used "socio-economic class."

expected that children with disabilities are more likely to repeat kindergarten compared with children without disabilities. For other variables the literature is scarce, therefore this study was exploratory.

Hypothesis 1-2. Based on the research literature, I expected that variables related to the family's cultural capital would combine in unique ways to reveal a clear, comprehensive social stratification among families of kindergartners. Since this type of analysis has not been done before, the comparison would have an exploratory attribute. However, I expect that families of children with disabilities would present a pattern of latent social stratification different from that of typically developing children, who has less amount of capital available.

Specific Aim #2

The second aim was to determine the pattern and intensity of parent involvement at school for the parents in the study. This aim was achieved by performing a Latent Class Modeling analysis using eight items for parent involvement at school and determining the unmeasured group membership of families in the study based on their pattern of involvement at school. The eight questions from the parent interview asked whether or not the parent has been involved in a particular activity with the school during the kindergarten year. The activities are (a) contacted school, (b) parent-teacher conferences, (c) open-house or back-to-school activities; (d) class events such as sports, a play, or a science fair, (e) volunteering at school, (f) fundraising activities at school; (g) meetings of parent advisory or policy council groups; and (h) PTA/PTO meetings. In addition, the eight parent involvement indicators were used to create a single parent involvement at school index variable, obtained by taking the sum of the eight indicators. This variable, with a possible range from 0 to 8, is a direct indicator of the number of *types* of parent involvement activities that a parent chose to be involved in during the kindergarten year.

Hypothesis 2-1. The eight dichotomous variables would yield a 3- or a 4-class solution, with a group of parents uninvolved or minimally involved, and another group of parents involved only in low-intensity activities (calling teacher and parent teacher conferences), whereas a third group was highly involved in all types of activities, from communication to school governance. It is possible that a fourth group would have an

intermediate type of involvement, being more involved in less intense activities such as communication and classroom participation, and less involved in school governance. Due to the fact that, to our knowledge, nobody has attempted a similar analysis, this particular part of the study is exploratory.

Hypothesis 2-2. The variable indicating the number of types of involvement a parent chose to be involved in was expected to have statistically significant different values across the parent involvement categories; this fact is, of course, a direct consequence of the way the latent classes were modeled. However, this study allowed us to determine the level of involvement, in terms of number of types of involvement the parent chooses to be involved in, for each parent involvement latent class. Since this type of analysis has not been performed previously, this particular aim was exploratory, with no clearly defined hypothesis regarding the mean parent involvement in each group.

Specific Aim #3

The third aim was to demonstrate that a series of factors related to the family will influence parental involvement at school; more precisely, these factors will predict class membership for the latent class variable obtained through aim #2. The research questions were addressed using a Structural Equation Model with latent variables (Figure 4). The model contains constructs that operationalize family's and school's cultural and social capital and the relationship among them.

Hypothesis 3-1. It is hypothesized that the most important influence on parent involvement at school is represented by the family characteristics. The family socio-cultural class (from hypothesis 1-2) was expected to have a direct effect in predicting class membership for the pattern of involvement at school. Families with high cultural capital, represented, among other characteristics, by high income, high education level, high expectation for child's education, and high involvement at home with the child would tend to be more involved at school, especially in the more intense types of activities, such as school governance.

Hypothesis 3-2. Another family variable measures parents' perception of school's practices regarding family-school interaction and parent involvement. Since this factor is a component of family-school interaction and influences the involvement at school, it was

conceivable to consider it as a social capital component. I expect that the families who perceive schools as being uninviting or offering few opportunities for involvement to be less involved at school. From a cultural capital theory, there needs to be a common ground for the communication between parents and school to be smooth and efficient or, as Lareau (2000) pointed out, the family's cultural capital needs to be aligned to that of the school's. This leads to hypothesis 3-3.

Hypothesis 3-3. Family structure is another important predictor of family involvement at school. Single-parent families have fewer resources and are less likely to get involved. They usually have a lower socio-economic status than two-parent families and have less time available for involvement at school. According to Coleman (1988), the family structure represents one way of operationalizing the amount of social capital existent within the family. Literature on parent involvement at school identified family structure as a predictor of the amount of involvement, with single-parent families, or, in other words, families with less amount of within-family social capital, being less involved at school.

Hypothesis 3-5. Child disability remains the main unknown factor in this model. It was expected that families of children with disabilities would be more involved at school, due to the nature of their child's situation; parents of children with disabilities were expected and encouraged to be an active part of the decision making regarding their child's diagnosis, placement, and services received (IDEA, 2004). All these activities happen, after age 3, within the school system. On the other hand, parents of children with disabilities have more hassles in life and are generally busier dealing with their child disability and with service providers, therapies, paperwork, etc, so their involvement at school might be more selective than the involvement of parents of typically developing children. For instance, parents of children with disabilities could be more likely to be more involved in parent-teacher conferences and volunteering at school and less involved in other activities compared with other parents. These hypotheses were tested in this model.

Hypothesis 3-6. Besides the direct effect of child's disability status on parent involvement at school, it was expected that families of children with disabilities would have a better knowledge of the school system and therefore be more likely to assess correctly the programs and parent involvement practices that the school is offering. Based on this hypothesis, it was expected that the disability status variable would have a direct

effect on parents' perceptions of school practices, with families of children with disabilities having more positive perceptions.

Specific Aim #4

The fourth aim of this study was to show that not only would the family characteristics per se have an influence on parent involvement at school, but also that the match between the family's cultural capital and that of the school will have a strong influence on parent involvement. This is a central tenet of the capital theory as applied to family-school interaction. So far this factor has been studied using ethnographic, qualitative research methods. It is hypothesized that the match variable will have both direct and indirect effects on parent involvement at school. In this study the match is conceptualized as the racial/ethnic match between the parent and the teacher, and also the parent and the school, in terms of school's racial/ethic composition for its students and its teachers. The operationalization of this construct is described in the Methods section.

Hypothesis 4-1. The higher the match between the family and school in terms of racial/ethnic background, the more intense the involvement at school. It was expected that parent involvement group membership, determined through Latent Class Analysis, would be influenced by the match variable: the greater the match between parent and school, the more likely that the parent is in a higher involvement latent class. The theory of cultural capital, supported by ethnographic research, supports the idea that parents communicate better with the school and, therefore, are more involved, if their cultural capital is aligned with that of that school. This idea has not been tested, to my knowledge, in a big dataset using a quantitative approach; therefore this aim is exploratory.

Hypothesis 4-2. Is hypothesized that he match between family and school would have a direct effect not only on parent involvement, but also on family's perception of school practices. This hypothesis is in accord with the literature on cultural capital and parent-school interaction (Lareau, 2004), which states that if the family's and school's cultural capital match, the communication is smoother and the message conveyed more clearly. A positive relationship was expected, that is, the higher the match, the more positive the family's perception would be.

Specific Aim #5

The fifth aim was to demonstrate that, in addition to the factors related to the family, a series of factors related to the school would influence parental involvement at school; more precisely, these factors would predict class membership for the latent class variable obtained through aim #2 (parent involvement group). Two lines of relations between the school system and the family system were hypothesized in this model. One refers to school institution's general culture and practices for family-school relationship, while the second is related to child's teacher's particular characteristics.

Hypothesis 5-1. The school institution's cultural capital was operationalized as school resources, a latent variable having as indicators school's extra facilities, schools' additional funding sources, and indicators assessing the adequacy of school's facilities. The resources the school has available would influence the types and levels of practices for family-school connection that the school has in place. A positive relationship was expected to be found: schools with more resources would have more practices in place.

Hypothesis 5-2. School practices, the school social capital component operationalized based on six indicators, would in turn influence the actual parent involvement at school both directly and indirectly through parents' perception of school practices. For the direct effect, it was expected that schools with more practices in place would incite more intense parental involvement at school. For the indirect effect, it was expected that schools with more practices in place would motivate parents to perceive their practices as inviting.

Hypothesis 5-3. The line of relations between the focal child's teacher characteristics and parent involvement at school parallels that of the school. A construct conceptualized as teacher's cultural capital was expected to influence teacher's practices for family-school relations. Teacher cultural capital (related to education) was conceptualized as "teacher's educational views," and was operationalized using items that addressed teacher's views on evaluation criteria for children, school readiness, and preparation for school. It was expected that teachers who score high on these items would possess a higher level of embodied cultural capital, in this case views and attitudes toward education and the role of school. Since parent involvement in education, and especially parent involvement at school, is highly valued within such a culture, it was expected that

the teachers with higher attitudes toward child's education would have a larger repertoire of parent involvement practices. In other words, teachers who score high on the readiness and preparation items would also score high on the teacher practices variable.

Hypothesis 5-4. Similar to school practices, it was expected that there would be a positive relationship between teacher practices and parent involvement, both directly and indirectly through parent perception of school practices. Teacher practices for involvement with the family were represented in the model as a latent variable with four indicators from the teacher interview. The first item asked about transition to kindergarten activities that the teacher offers to new students and their families. The second item inquired about the number of regular parent-teacher conferences the teacher is offering, while a third question asked about the number of times the teacher sent home letters and portfolios. Finally, a fourth item asked about the percentage of children in the classroom whose parents participated in different types of parent involvement activities. This latter item was introduced in the model because supposedly it is an indirect indicator of the teacher's practices.

Hypothesis 5-5. School practices would have a direct positive effect on teacher practices.

METHODS

Dataset

The data analyzed in this study come from the ECLS-K dataset. Commissioned by the National Center for Education and Statistics (NCES) of the U.S. Department of Education (USDE), ECLS-K employed elaborate techniques to ensure that its findings truly represent all American kindergartners in the target year. When appropriately weighted, the sample is representative of the 3,679,000 children enrolled in kindergarten in the fall of 1998. The present study uses the ECLS-K Base Year File which contains data collected from 21,260 children attending kindergarten in 1,289 schools (943 public and 346 private) during the 1998-1999 school year, their families, and their schools from throughout the United States.

The ECLS-K employed a multistage probability sample design in order to select a nationally representative sample of children attending kindergarten in 1998-1999. The primary sampling units (PSUs) were geographical areas consisting of counties or groups of counties. The second stage units were schools within the PSUs, and the third (final) stage units were students (kindergartners) attending the sampled schools. The initial sample frame contained 1,404 PSUs, representing counties or groups of contingent counties. Each PSU that did not have at least 350 five-year old children was collapsed with an adjacent PSU. The final ECLS-K PSU frame contained 1,335 PSUs. From those a school frame of 100 PSUs was selected for ECLS-K. The school frame contained 18,911 public schools and 12,412 private schools.

Within each PSU, schools with fewer than 24 kindergartners for public schools and 12 kindergartners for private schools were clustered together before the second-stage sampling. The public and private schools represent different, distinct sampling strata; within each of these strata, the schools were sorted to ensure good sample representation. The second-stage sampling (sampling the schools within each PSU) was done by, first, ranking the schools by size and grouping them in three categories of roughly equal aggregate size, and, second, sorting the schools within each size category. The third stage of sampling, the child-level sampling was done by trying to obtain an approximately self-weighting sample of students and to achieve a minimum sample size for each targeted

population. The only subgroup that was oversampled was the Asian and Pacific Islander (API) population. A complete list of kindergartners in each sampled school was obtained and two independent sampling strata were created for each school, one containing API students and the other containing all other students. Within each stratum, students were selected using equal probability systematic sampling. Twins were sampled as a unit (if one of the twins was sampled, then both children were automatically included). Generally, the number of children targeted at one school was 24. Subsequently, the sampled children's parents or guardians were located, contacted, and informed about the purpose of the study. Informed consent was obtained for child assessment and parent interview (U.S. Department of Education & National Center for Educational Statistics, 2003). The final sample contains 21,260 children attending kindergarten in 1,289 schools (943 public and 346 private).

A set of sampling weights was created by the data collectors. Three types of weights were created: child-level weights, teacher-level weights, and school-level weights. Several child-level weights were computed for each round of data collection (fall kindergarten and spring kindergarten) and for children who have complete data on both rounds. The teacher-level weights were computed for each round of data collection, with no longitudinal teacher-level weights. The school-level weights were computed for use with data collected in spring-kindergarten through the School Administrator Questionnaire.

Depending on the source (i.e., child assessment, parent interview, teacher questionnaire) and the time of data-collection (fall or spring) of the data used in analyses, a specific sampling weight is to be used, strictly following the *ECLS-K Base Year User's Manual* guidelines. The sampling weight used in the present study should be used, according to the *Manual*, for analysis of parent interview data from both fall- and spring-kindergarten data collection, alone or in combination with fall- and/or spring-kindergarten teacher questionnaire A, B, or C. The computation of these sampling weights is presented in the *ECLS-K Base Year User's Manual*, but is not relevant for this study.

Sample

The dataset contains information from 21,260 participants, enrolled in 1,289 schools. The dataset is child centered, that is, the unit of analysis is the child. However, the data were collected from different sources, including the child's family (usually the

respondent was the mother) and the child's school. Data from the school were collected from the child's teacher, the child's school administrator (usually the principal), and the school's records.

Slightly half of the sample was represented by boys (51.14%). In terms of race/ethnicity, the distribution of the children in the study by racial/ethnic group follows the general population distribution, with 56.48% White, 14.68% African American, 16.77% Hispanic, and 5.79% Asian children.

A composite variable created by the data collectors was used to identify children with disabilities. This variable was based on a set of questions from the parent interview that asked about child's ability to pay attention, overall activity level, overall behavior and relations with adults, overall emotional behavior such as anxiety or depression, ability to communicate, difficulty in hearing and understanding speech, and visual acuity. For each disability or behavior, an additional question asked whether or not a diagnosis of a problem had been obtained from a professional and also whether or not the child received therapy services or participated in a program for children with disabilities. The disability variable was coded "Yes" if any of the professional diagnosis OR receiving therapy questions were answered "Yes." Thus, the data collectors tried to assure that the disability status of the children in the study is not based not only on parent's perception of a possible problem in their children, but also on an objective assessment of the problem. By this definition, ECLS-K dataset contains 2,135 subjects with disabilities, 15,933 subjects without disabilities, and 3,192 subjects with missing data on the disability status variable, for a total of 21,260 subjects. However, due to data missingness, the actual sample analyzed was smaller, the actual number varying across the different analyses.

Measures

General Description of the Instruments

The data were collected from the children, their parents, and their schools. The children were directly assessed twice, once in the fall of their kindergarten year and once in the spring, using instruments adapted from several copyrighted assessment batteries (National Center for Education Statistics, 2001b). However, this study does not use child

assessment variables. The measures used in parent, teacher, and administrator interview were unique to this study. The following three sections describe the instruments used by the ECLS-K designers to collect data from parents, teachers, and school administrators.

Parent Interview

The participating families were interviewed twice during the kindergarten year, once in fall and once in spring. The parent interview was conducted using a Computer Assisted Telephone Interview (CATI) or, for families without a telephone, a Computer Assisted Personal Interview (CAPI). The time of the parent interview averaged 65 minutes at each data collection point. The majority of parents participating in the base year of data collection were interviewed in the fall of 1998 and again in the spring of 1999. In the fall the respondents were selected for the interview according to the following order of preferences: first, the child's mother; second, another parent or guardian; and third, another household member. The source and psychometric properties of the instruments used in the parent interview were not reported by the data collectors.

Table 2 presents a list of the topics covered in parent interview, by interview time. An "X" represents whether or not the topic was addressed at that particular time. To avoid redundancy, questions from the same topic were split in two, for the two interview times.

Table 2. ECLS-K dataset: parent interview topics

Parent questionnaire	*Fall kindergarten*	*Spring Kindergarten*
Family Structure	X	X
Demographics	X	X
Household roster	X	X
Marital status	X	X
Primary language spoken at home	X	
Parent involvement with child's school		X
Child care	X	
Child's health and well being	X	X
Birth weight		X
Physical functioning		X
Services for children with special needs		X

Parent questionnaire	*Fall kindergarten*	*Spring Kindergarten*
Social skills rating	X	X
Home environment and cognitive activities	X	X
Frequency of literacy activities	X	X
Computer use		X
Television use		X
Parental educational expectations for the child	X	
Neighborhood safety		X
Parent education	X	
Parent employment	X	
Parent income		X
Welfare and other public assistance use	X	X
Parent-child interaction		X
Parent health and emotional well-being		X
Relationship and social support	X	X
Marital satisfaction		X

Teacher Questionnaires

The focal child's teacher was asked to complete two paper questionnaires, one in fall and one in spring. Similarly to family questionnaire, the data collectors did not provide information about the source of these questions and psychometric properties. Table 3 present a summary of the topics from the teacher questionnaires.

Table 3. ECLS-K teacher questionnaire.

Teacher questionnaire	*Fall kindergarten*	*Spring Kindergarten*
Part A	X	
Description of class	X	X
Class organization	X	X
Children with special needs		X
Class activities	X	
Parent involvement		X
Professional development	X	

Teacher questionnaire	*Fall kindergarten*	*Spring Kindergarten*
Part B		
Evaluation and grading practices for students	X	
Sharing information with parents	X	
Teacher's views on school readiness	X	
Perception about school climate	X	
Perception about personal influence on policies	X	
Teacher demographic information	X	
Teacher experience and education		
Job satisfaction		
Transition to school activities	X	
Part C		
Indirect child cognitive evaluation by teacher	X	X
Language, literacy, math, general knowledge	X	X
Social skills	X	X
Sampled child additional information		X
Participation in special services/programs		X
Overall academic skills and physical activity		X
Reading group participation		X

School Administrator Questionnaire

The school administrator (usually the principal) completed a questionnaire in the spring of the kindergarten year. The topics of the questionnaire are presented in Table 4.

Table 4. ECLS-K school administrator questionnaire

School administrator questionnaire	*Spring Kindergarten*
School characteristics	X
Type of school	
Admission requirements	X
School size	X
Student characteristics	
Race/ethnicity of students	X

School administrator questionnaire	*Spring Kindergarten*
Children eligible for special services	X
Types of kindergarten programs	X
School facilities and resources	
Equipment	X
Community characteristics and school safety	X
Teaching and other school staff characteristics	
Range of salary	X
Race/ethnicity of teachers	X
Schools policies and programs	
Assessment, testing, and retention	X
School-family-community connections	
Programs and activities for families	X
Parent involvement and participation	X
Programs for special populations	
ESL/bilingual education	X
Special education	X
Gifted programs	X
Principal characteristics	X
School governance and climate	X

Kindergartners' Profile Variables

The variables used to create kindergartners' profile are presented in the following sections. They are presented grouped as child variables, family variables, and school and community variables. A special section will be dedicated to the variables used in the Latent Class Analysis for determining family's socio-cultural profile. Table 5 at the end of this section presents the summary statistics of the variables used in the profile.

Variable Used in the Bivariate Comparison

Child Variables

The child variables that were used to create this profile include disability status, child's age at kindergarten entry, gender, child's race/ethnicity, and whether or not the child is repeating kindergarten. All these variables come from the parent interview.

Disability status. Child's disability status was determined using a composite variable created by the data collectors, based on a series of questions from the parent interview. These questions asked the parent about the child's ability to pay attention and learn, overall activity level, overall behavior and relations to adults, overall emotional behavior such as anxiety or depression, ability to communicate, difficulty in hearing and understanding speech, and eyesight. For each disability or behavior, a question was asked about whether a diagnosis of a problem was obtained by a professional. A question was also asked about receipt of therapy services or participation in a program for children with disabilities. The composite variable was coded 1 (Yes) if any of the source variables about diagnosis or therapy services were coded 1 (Yes). The final composite variable was a binary variable, coded *Yes/No.* This particular operationalization of disability status does not consider whether or not the child receives special education services. I decided to call this variable *parent-reported disability diagnosis,* and it is the main disability status variable that was use din this study. To test if this particular operationalization yields a sample that represents a different population than the population of children receiving special education services, an additional variable drawn from the Student Record Abstract was used. This second variable determined whether or not the child as an Individual Education Program (IEP) on records with the school, attesting thus that the child was eligible and received special education services. This second variable is also a binary variable, *Yes/No.* I decided to call this variable *IEP on records.*

Table 5 presents the frequency and relative frequency for the two variables operationalizing disability status. The table is presented for comparison purposes only; the variable that was used in the rest of the study for operationalizing disability status was the variable based on diagnosis, not the variable based on IEP.

Table 5. Frequency and marginal frequency distribution for the two operationalizations of disability status: based on parent-reported diagnosis and based on presence of IEP on records.

	Parent-reported disability diagnosis			
IEP on records	***Yes***	***No***	***Missing***	***Total (row)***
Yes	518	360	138	1,016
Row %	50.98%	35.43%	13.52%	100%
Column %	24.26%	2.26%	4.32%	4.78%
No	1,064	11,333	1, 837	14,234
Row %	7.48%	79.62%	12.91%	100%
Column %	49.87%	71.13%	57.55%	66.95%
Missing	553	4,240	1,217	6,010
Row %	9.20%	70.55%	20.25%	100%
Column %	25.20%	26.61%	38.13%	28.27%
Total (column)	2,135	15,933	3,192	21,260
Row %	10.04%	74.94%	15.01%	100%
Column %	100%	100%	100%	

Using the IEP-based variable, 14,234 (66.95%) of children do not have an IEP on records with the school, 1,016 (4.78%) have an IEP on records with the school, and for 6,010 (28.27%) the data regarding IEP is missing. Using the variable based on diagnosed disability, 15,933 children were not diagnosed with a disability based on parent's report, 2,135 (10.04%) were diagnosed with a disability, and 3,192 (15.01%) children have missing data on this variable.

Table 5 shows that half of the children diagnosed with a disability do not have an IEP with the school's records, meaning that the child does not receive special education services through that school. Interestingly, 360 children do have an IEP on records but the parents declared that the child does not have a disability. It is apparent from these results that these two samples do not overlap completely.

Age. Age at kindergarten entry was measured by a composite variable created by the data collectors, based on child's birthday. The dataset also contains child's age at the time when data were collected, but since both the fall and the spring data were collected

throughout a period of time spanning several months, this variable would not be a valid measure for comparison purposes. Using child's age at kindergarten entry is more appropriate both theoretically and methodologically.

Race. Child's race is represented by a nominal composite variable with 9 attributes. To create this variable I used a six dichotomous variables (*Yes/No*) that recorded child's race, one category at the time. The items asked if the child is: (a) Hispanic, (b) American Indian, (c) Asian, (d) Black, (e) Pacific Islander, and/or (f) White. The data collection procedure allowed the parent to select "yes" on more than one race. Since a participant can be found in more than one category, the comparisons cannot be done directly on these variables. The composite variable was created first by grouping these dichotomous variables using a command in Stata that produced a new variable with 42 categories, representing all possible combinations of the dichotomous race variables included (for example, on this new composite variable one level could be *"non-Hispanic, American Indian, Asian, non-Black, non-Pacific Islander, White"*). Second, the categories representing more than one race were recoded as *"Multiple race,"* while the category containing *"no"* from all initial six items was coded as *"Other race."* Also, the Hispanic category was divided in two, "race specified" if the child was classified as Hispanic plus any other race and "non-specified" if the child was classified as Hispanic only. The final composite variable had 9 categories as follows: White, African-American, Hispanic (race specified), Hispanic (race not specified), Asian, Pacific Islander or Hawaiian, Native American or Alaskan Native, Other race, and Multiple races.

Repeating kindergarten. This variable refers to whether or not the child is repeating the kindergarten year. This variable was based on a question from the fall parent interview.

Family Variables

Family structure. This variable determined whether the respondent has a spouse or a partner living in the household.

Socio-economic status (SES). There are two SES variables in the dataset; the first variable, continuous, was created by the data collectors based on a formula that included family's income, education, and job prestige. The second variable, categorical, was created

by collapsing the continuous SES variable in five quintiles. The lowest quintile represents the lowest SES.

Degree of poverty. The poverty indicator was determined by the data collectors using family income and the Census-defined poverty threshold for the time when data were collected. It reflects whether the family was below or above the poverty threshold.

Parent education. Parent education is measured on a 9-levels item, asking parent's highest education level. For families with two parents living with the child, this item reports the level for the parent with the highest education level.

Language spoken at home. This variable determines whether or not English is the family's primary language.

School and Community Variables

School type. This variable determines whether or not the school the kindergartner is attending is public or private.

School size. There are two variable operationalizing school size: one that measures the total student enrollment of the school, and another one that measures the total enrollment in kindergarten.

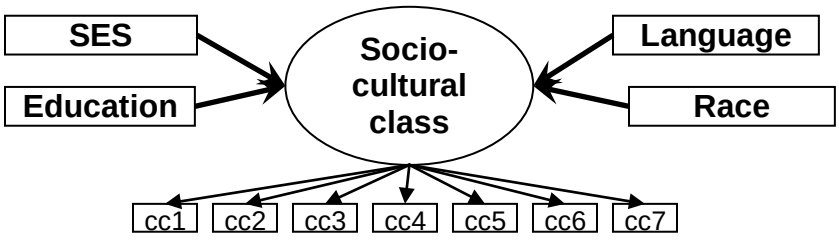
Urbanicity. This community variable was created by the data collectors using the sampling frame information. It denotes the school's urbanicity as defined by the Census Bureau's TIGER geographic information system (USDE & NCES, 2003). This variable has seven categories: (a) large city, (b) mid-size city, (c) large suburb, (d) mid-size suburb, (e) large town, (f) small town, and (g) rural.

Variable Used in the Latent Class Family Cultural Capital

Family cultural capital – or family's socio-cultural class – was operationalized using a Latent Class Analysis approach in order to determine unobserved group membership. The Latent Class was operationalized using both formative and reflective indicators. The reflective indicators are those indicators that are considered to be caused by the latent construct, therefore the arrows go from the construct to the indicators. Formative indicators are those indicators that are considered to be causing the latent construct; therefore the arrows go from the indicators to the latent construct. The latent class had

seven reflective indicators and three formative indicators (see Figure 4). A more detailed discussion regarding formative versus reflective indicators can be found under the Analysis section.

Figure 4. Parent Socio-Cultural class operationalization: formative and reflective indicators.



cc1= involvement at home
cc2= involvement outside home
cc3= extracurricular activities
cc4= educational expectations
cc5= involvement in family's cultural heritage
cc6= normative parenting interaction
cc7= non-normative parenting interaction

Formative Indicators

The four formative indicators are *mother's race/ethnicity, SES, family education* (highest level of education of either parent), and *language spoken at home* (coded 0 = *non-English*, 1 = *English*). For sake of simplicity, the *race/ethnicity* variable was collapsed into a dichotomous variable, 0 = *non-White* and 1 = *White*. I acknowledge that different racial/ethnic background represent different cultures, but in the context of education the discussion is usually around whether or not the family is of a racial/ethnic minority in general, versus White. The rest of the formative indicators have been described in the previous section.

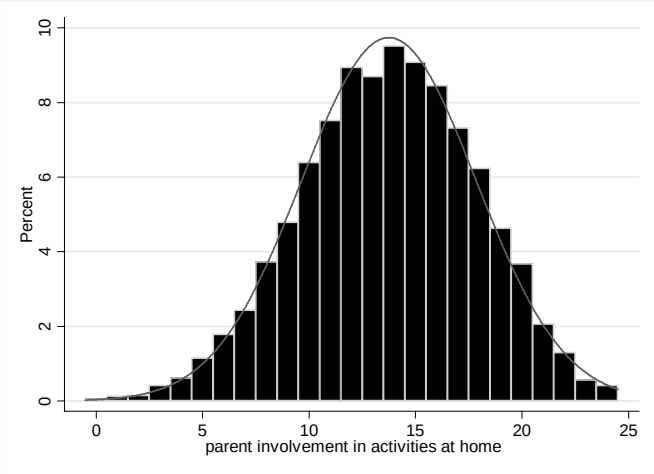
Reflective Indicators

The seven reflective indicators of the latent class reflect family's orientation toward creating a rich cognitive, learning environment for the child, and parents' parenting style.

Activities with child at home. The parents were asked how often, in a typical week, they do several things with their child at home, such as reading a book together or playing a sport or exercise together. There are 9 items, on a Likert scale from 0 = *not at all* to 3 =

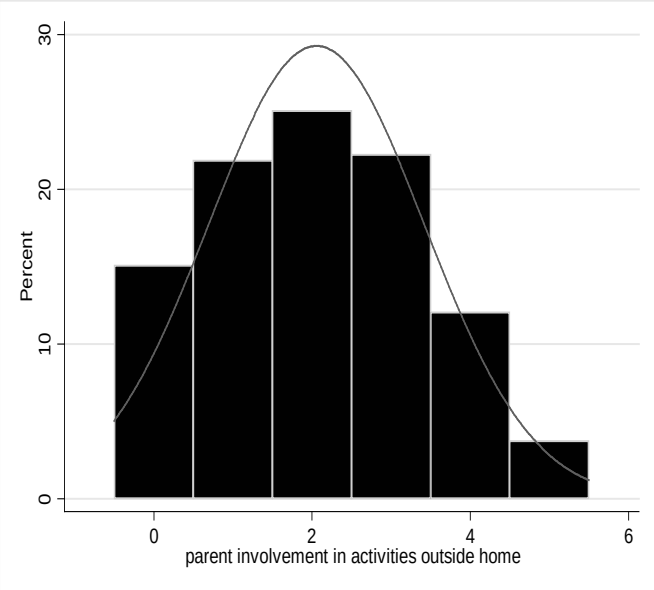
every day (see Appendix A). An index variable was created, by taking the sum of the 9 items. The resulting variable has a range from 0 to 24, *M*=13.75, *SD*= 4.09.

Figure 5. Parent involvement in activities with the child at home



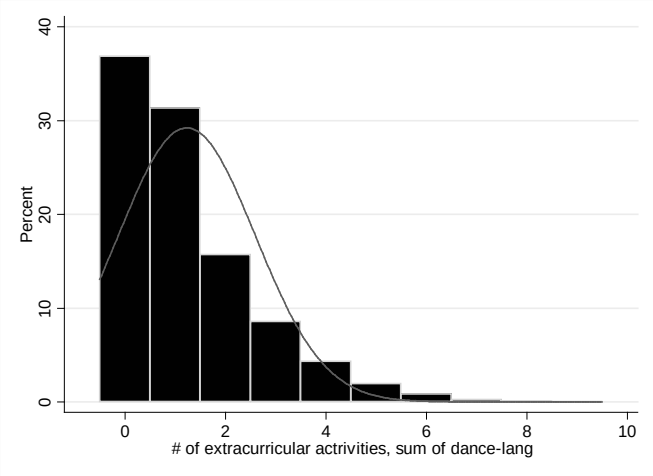
Activities with the child outside home. The parents were asked how often, in the past month, anyone in the family has done activities with the child, outside home, such as visiting a library or attending a sport event. The 5 items were coded 0 = *no* and 1 = *yes* answers. An index variable was created by taking the sum. The resulting variable has a range from 0 to 5, *M*=2.05, *SD*=1.36.

Figure 6. Parent involvement with the child in activities outside home



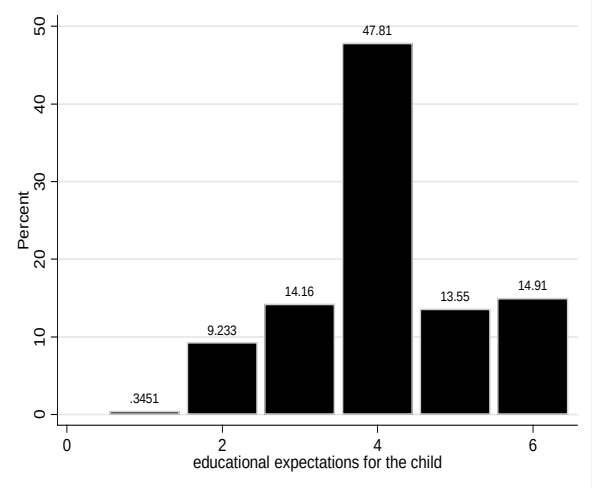
Child participation in extra-school (extracurricular) activitie. The parents were asked if their child ever participated in activities outside school, such as drama classes or craft classes. The 9 items are coded 0 = *no* and 1 = *yes* answers. An index variable was determined by taking the sum. The resulting variable has a range from 0 to 9, with a skewed distribution, M=1.23, SD=1.36.

Figure 7. Number of extracurricular activities the child participates in regularly



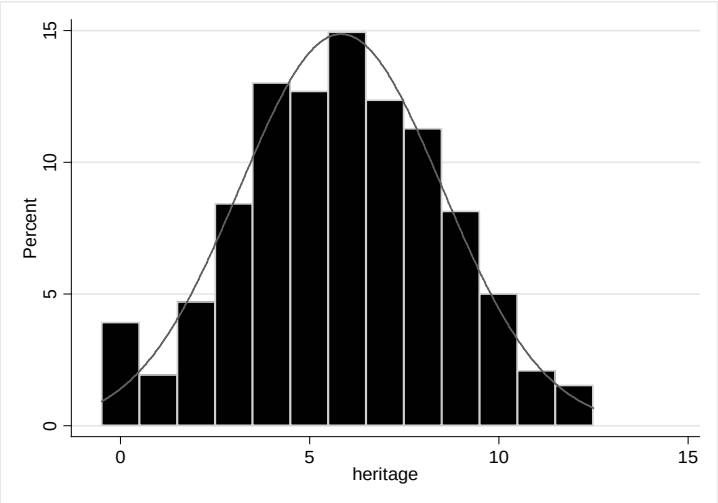
Parent's educational expectation for the child. The parents were asked how far in school they hoe their child will go. The answers ranged from 1 = to receive less than school diploma to 6 = to get PhD., MD, or other higher degree.

Figure 8. Parent's educational expectation for their child



Involvement in activities related to family's cultural heritage. The parents were asked how often they talk with their child about issues related to their family's ethnic, religious, and cultural heritage. The three items ranged from 0 = *never* to 4 = *several times a week or more.* An index variable was created, by taking the sum. The variable obtained ranged from 0 to 12, *M*=5.8, *SD*=2.7.

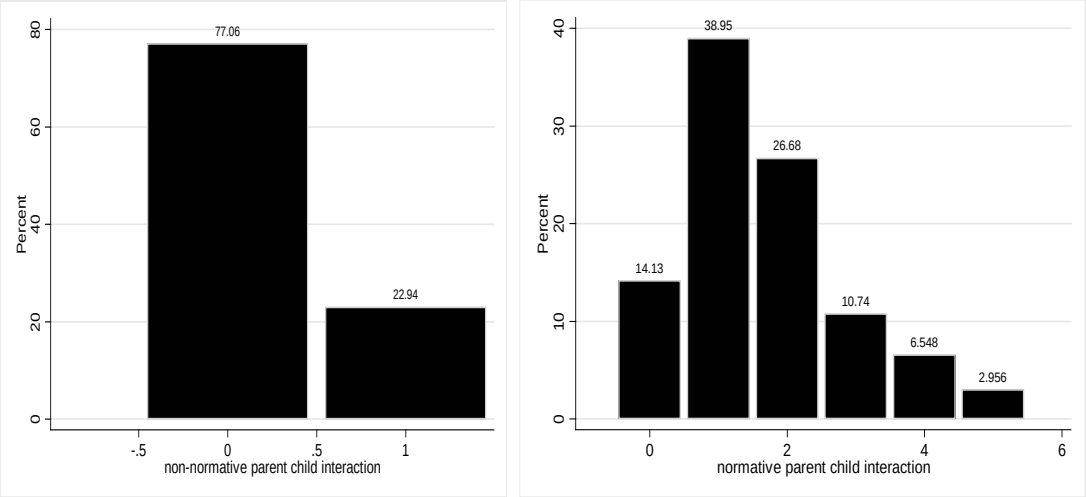
Figure 9. Parent involvement with the child in activities related to family's heritage



Normative and non-normative parent-child interaction. The parents were asked how they would react if their child hit them, and were offered eleven possible actions. The 11 *Yes/No* items were: *spank child, have child take a time out, hit child back, discuss what child did wrong, ignore it, make child do some chores, make fun of child, make child apologize, take away a privilege, give child a warning,* and *yell at the child.* A Factor Analysis revealed two possible factors; the distribution of the items on the two factors confirmed a common knowledge on parenting practices that considered developmentally appropriate: the items that could be considered normative and developmentally appropriate, such as *"discuss with the child"* and *"take away a privilege"* loaded on one factor, while the items that can be considered non-normative, such as "spank the child" and "make fun of the child" loaded on the other factor. This, in fact, goes along nicely with the cultural capital theory. Two index variables were created, *"normative parenting"* and *"non normative parenting"* by taking the sum of the items in each factor. The "*normative parenting"* variable had a distribution close to normal, ranging from 0 to 5, and interpretable as the number of normative parenting behaviors the parent endorses. On the

other hand, the "non-normative parenting" variable had a skewed distribution, with fewer than 2% of the parents endorsing more than one non-normative behavior. For this reason, this variable was dichotomized, being interpreted as whether or not the parent endorses a non-normative parenting behavior at all. Two items, *"have child take a time out"* and *"yell at child,"* did not load strong on a particular factor and were dropped from the analysis.

Figure 10. Parent endorsement of normative and non-normative parenting reactions



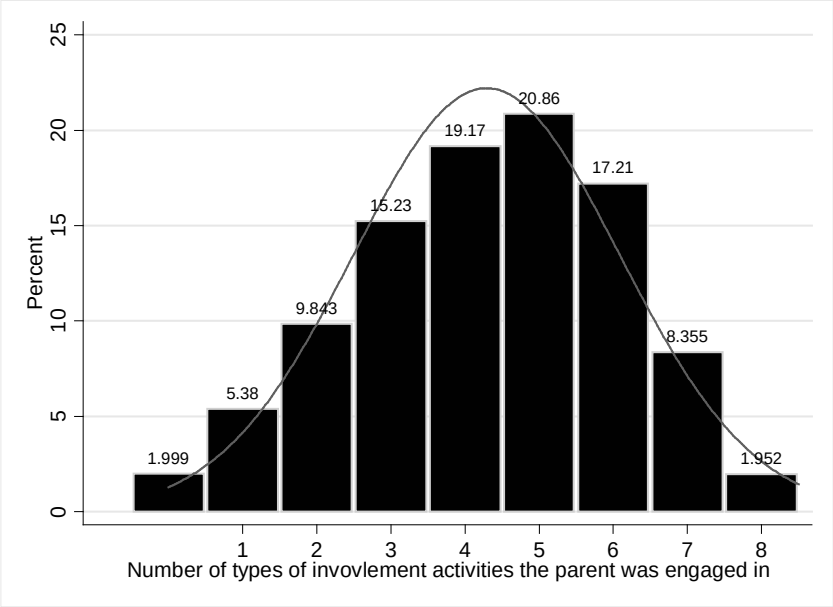
Parent Involvement at School – The Measurement Model

Family Social Capital

Parent involvement at school. Parent involvement at school is the dependent variable of the study. It was operationalized based on eight questions asked at the end of the kindergarten year. The survey asked the parents or guardians if they were involved in each of the following activities during the kindergarten year: (a) parent-teacher conferences, (b) contacted school, (c) open-house and back-to-school activities; (d) class events such as sports, a play, or a science fair, (e) volunteering at school, (f) fundraising activities at school; (g) meetings of parent advisory or policy council groups; and (h) PTA/PTO meetings. Parent involvement at school was operationalized using a Latent Class Analysis approach, with eight dichotomous reflective indicators (0 = *no*, 1 = *yes*). An initial Latent Class Analysis model was run, to determine the most likely class membership for the parents in the study.

A second operationalization of parent involvement at school was created by taking the sum of the eight dichotomous involvement variables. The resulting index measures the number of types of parent involvement activities the parent declared participated in. This variable ranges form o to 8, with a mean $M = 4.23$, $SD = 1.8$. Figure 11 presents the relative distribution for this variable.

Figure 11. The relative distribution for the variable measuring the number of types of involvement activities the parent has been engaged in during the kindergarten year.



Parent Perception of School Practices. This latent variable was operationalized using 4 items from the parent interview. These 4 items come from a set of questions that asked the parent *how well child's school has done with each activity during the kindergarten year:* (a) "school lets you know between report cards how the child is doing in school;" (b) "the school makes you aware of chances to volunteer at school;" (c) "the school provides workshops, materials, or advice e about how to help the child learn at home; (d) "the school provides information on community services to help the child and your family." These items were coded on a 3-points scale, 0 = *doesn't do it at all*, 1 = *just ok*, and 2 = *does this very well*. The original scale contains 6 items, but two of them were dropped due to poor fit and limited variance, after being analyzed using exploratory factor analysis. A confirmatory factor analysis was performed afterwards, using the 4 items that had a good fit. It is important to note here that the factor loadings in the final model will be slightly different from the loadings obtained when the measurement component is tested separately. Table 6 presents the unstandardized and standardized factor loadings. The model fit for this model was good, CFI=0.99, TLI=0.98, RMSEA=0.028.

Table 6. Confirmatory Factor Analysis factor loadings for Parent Perception of School Practices construct

Indicator	*Estimate*	*Standardized*	*S.E.*	*Estimate/S.E.*
How child is doing	0.305	0.440	0.009	35.437
Volunteer opportunities	0.269	0.463	0.009	31.006
Helps understand children	0.487	0.683	0.008	60.485
Information on community services	0.487	0.617	0.009	54.944

Note. S.E. in the table is unstandardized.

Family structure. Family structure, a social capital construct, is operationalized as a dichotomous variable, whether or not the child resides in a single-parent family.

School Cultural Capital

The school institution cultural capital is operationalized as *school resources.* A set of items from the school administrator interview had been set aside to be used as indicators for school resources. The school administrator was asked to rate the adequacy of a series of facilities the school has, such as the classroom, the library, the playground, the computer room, etc., for a total of 10 items. Unfortunately, the way the items were designed and administered proved to be problematic. The answers options available for these 10 items were: *do not have, never adequate, often not adequate, sometimes not adequate,* and *always adequate.* I wanted to use all items as factor indicators. It would make sense to consider them as reflective indicators, for the adequacy of the school's facilities would indeed reflect the resources a school possesses. Two things prevented the use of all items as indicators: first, the first option ("do not have") disturbs the categorical ordered quality of the indicator. If one can easily argue that the four remaining response options represent an ordinal variable, measuring levels of adequacy of the particular facility, the fact that the school does not have a particular facility does not mean that the school has fewer resources than a school that has the particular facility but is "never adequate." These two sets of response options measure different things. Second, for most of the items, the percentage of schools that reported that they do not have the particular facility is quite high, rendering the sample size too small if these cases were to be ignored. A solution of compromise was used, as follows: two items were used as they were, namely, the *adequacy of the classroom* and

the adequacy of the playground. Of course, no school declared that they didn't have a classroom, so this item is really an ordinal variable. The *adequacy of the playground* item has a relatively low number of cases with "*do not have"* answers (263 cases representing 1.24% of the sample). It is reasonable to think that a school that does not have a playground at all, especially considering that these are schools with kindergarten classes, has fewer resources than a school with a playground that is not rated as adequate. The eight remaining items were dichotomized (school has the facility, *Yes/No*) and added up. This index variable can be interpreted as the number of extra facilities the school has. It is reasonable to think that this indicator reflects school resources: the more extra facilities a school has, the more resources the school has.

Figure 12a. School resources indicator: total number of facilities that the school has

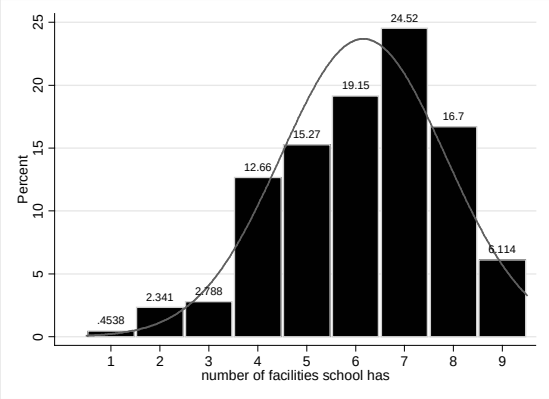


Figure 12b. School resources indicator: playground adequacy distribution

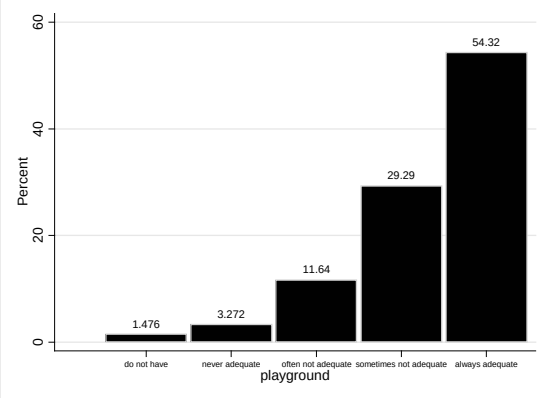
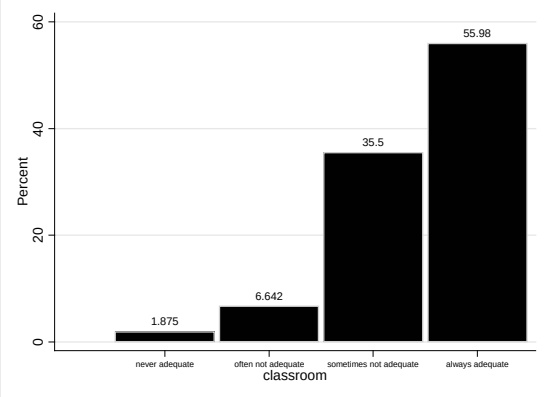
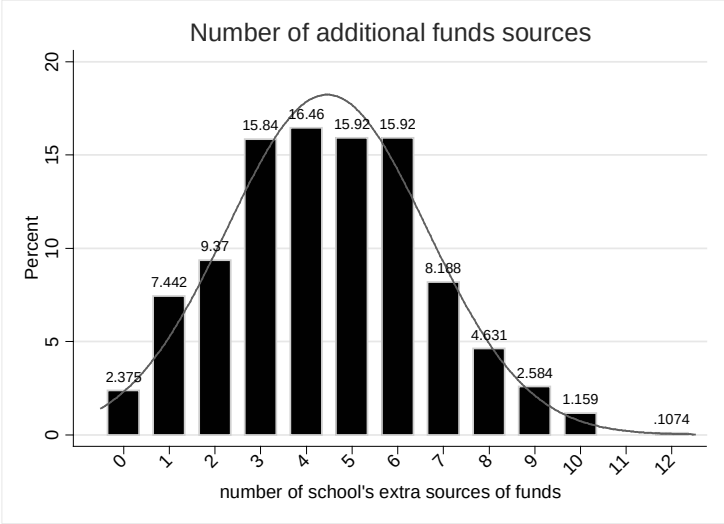


Figure 12c. School resources indicator: classroom adequacy distribution



In an initial model, in addition to these three reflective indicators, the school resources latent variable included two formative indicators, or predictors: school type (public or private) and school's total number of additional funding sources. The last variable was drawn from the 12 items school administrator questionnaire that asked whether or not the school receives a particular type of extra funding, such as Title 1 funds An index variable, *school additional resources variable,* was created by taking the sum. The variable has a quite normal distribution, as seen in Figure 13.

Figure 13. School Resources Predictor: Additional funds sources.



However, preliminary confirmatory factor analysis with predictors (also called a MIMIC model) revealed some puzzling results. First, the type of school (public or private) was not a significant predictor, and the model had a bad fit, therefore this item was dropped

from the model. One possible explanation is the fact that the group of private schools of this sample included schools associated with religious organizations, which do not necessarily have greater resources than public schools. Second, the index variable counting the number of extra funding sources that the school has was found to be negatively correlated with the latent variable measuring school resources. This is counterintuitive, since one would expect that the more funding resources a school has, the greater the overall school resources would be. After some consideration I realized that it actually makes more sense to use the "extra funding" variable as a reflective indicator rather than predictor. In this case the indicator can be interpreted from a needs standpoint: schools with fewer facilities and low adequacy for classroom and playground are more likely to be eligible – and therefore to receive and to report – extra funding. The measurement model with "additional funds" as reflective indicator actually has a better fit than the model with "additional funds" as predictor. In the final analysis, the school resources latent variable was modeled with all four indicators as reflective indicators. The model fit for Confirmatory Factor Analysis was relatively good, CFI=0.90, TLI=0.71, RMSEA=0.018. Table 7 presents the unstandardized and standardized factor loadings for the Confirmatory Factor Analysis that was performed on these items. The *extra founding sources* has a negative loading on the latent construct, but this can be explained on a need-base interpretations: schools that do not have adequate resources are more likely to be eligible for other types of funds, therefore the negative loading.

Table 7. Confirmatory Factor Analysis factor loadings for School Resources construct

Indicator	*Estimate*	*Standardized*	*S.E.*	*Estimate/S.E.*
Playground adequacy	0.408	0.460	0.101	4.060
Classroom adequacy	0.618	0.863	0.127	4.853
Extra funding sources	-0.459	-0.208	0.096	-4.767
Extra facilities	0.257	0.156	0.101	2.553

Note. S.E. in the table is unstandardized.

School Social Capital

School's social capital is conceptualized as s*chool practices for family-school interaction* and is operationalized based on four indicators. The first indicator was based on 11 *Yes/No* items (coded 0 = *no*, 1 = *yes*) that asked the school administrator if the school

was offering a series of *children programs* such as before and after school care and summer school. The score of this indicator was calculated by taking the sum. The second indicator was based on 6 *Yes/No* items that asked if the school is offering *family programs* such as parenting education programs or orientation to school for new families. The score of this indicator was calculated by taking the sum. The third indicator was based on 10 items that asked how many times a year a series of family-school activities are offered, such as PTA/PTO meetings or home visits. The items were coded on a scale from 0 = *never* to 4 = *7 or more times per year*. An index variable was created, by taking the sum. The fourth indicator was based on 5 *Yes/No* items that asked which of a list of practices are used to provide kindergartners' parents with information about their children's performance, e.g., progress report card or portfolio of child's work. The score was calculated by taking the sum.

With these four indicators for school practices, a decision had to be made whether or not these indicators could be used as reflective versus formative indicators. After careful consideration, it was decided that these indicators can be considered as reflective indicators. The latent variable that the indicators reflect can be reasonably thought as the school's policy or propensity toward ensuring an inviting, collaborative environment. This policy, in turn, would lead the school to implement a series of programs for families and children. The model fit for Confirmatory Factor Analysis was relatively good, CFI=0.92, TLI=0.76, RMSEA=0.017. Table 8 presents the unstandardized and standardized factor loadings for the Confirmatory Factor Analysis that was performed on these items.

Table 8. Confirmatory Factor Analysis factor loadings for School Practices construct

Indicator	*Estimate*	*Standardized*	*S.E.*	*Estimate/S.E.*
Programs for children	0.726	0.368	0.112	6.491
Programs for families	1.154	0.847	0.187	6.173
Programs for kindergartners	0.147	0.124	0.074	1.993
Parent involvement activities	1.375	0.335	0.280	4.909

Note. S.E. in the table is unstandardized.

Teacher Cultural Capital

Teacher's school-related cultural capital was conceptualized as "*teacher's educational views,*" more specifically views on evaluation criteria for children, school

readiness, and preparation for school. A latent factor with four reflective indicators was modeled. The items that were combined to create these four indicators came from the teacher interview, and are presented in detail in Appendix A.

The first indicator was based on a 10-item question from the teacher questionnaire, asking *"how important is each of the following in evaluating the children in your class(es)?";* e.g., *"daily attendance."* The items were scored on a scale from 1 = *not important* to 4 = *extremely important.* An index variable was created by taking the sum. The second and third indicators were based on a 13-item question from the teacher questionnaire, asking *"how important do you believe the following characteristics are for a child to be ready for kindergarten?"* e.g., *"can count to 20 or more."* The items were scored on a scale from 1 = *not important* to 5 = *essential.* A preliminary Factor Analysis of these items revealed that they actually underlay two latent factors; items related to academic readiness loaded on one factor, while items related to self regulation readiness loaded on the second factor. Thus, two indicators for teacher's views on school readiness were created by taking the sum of the indicators. Finally, the fourth teacher's school-related cultural capital indicator was based on an 8-items question from the teacher questionnaire, asking *"please indicate the extent to which you agree with each of the following statements on children's preparation for school,"* e.g., *"parents need help in learning how to teach their children how to read."* The items were scored on a scale from 1= *strongly disagree* to 5 = *strongly agree.* An index score was calculated by taking the sum.

The model fit for Confirmatory Factor Analysis was relatively good, CFI=0.92, TLI=0.75, RMSEA=0.049. Table 9 presents the unstandardized and standardized factor loadings for the Confirmatory Factor Analysis that was performed on these items.

Table 9. Confirmatory Factor Analysis factor loadings for Teacher Views construct

Indicator	*Estimate*	*Standardized*	*S.E.*	*Estimate/S.E.*
Child evaluation	1.134	0.336	0.113	9.996
School preparation	2.290	0.516	0.120	19.002
Academic school readiness	2.624	0.844	0.099	26.569
Self-regulation school readiness	3.093	0.696	0.136	22.666

Note. S.E. in the table is unstandardized.

Teacher Social Capital

Teacher practices for involvement with the family was represented in the model by a latent variable with three indicators based on items drawn from the teacher interview (see Appendix A). The first indicator was based on 7 *yes/no* items that asked whether or not a series of transition to kindergarten activities the teacher offers to new students and their families. The score of this indicator was calculated by taking the sum. The second indicator was based on four questions that asked about the percentage of children in the classroom whose parents participated in different types of parent involvement activities, such as parent-teacher conferences and volunteering. The items were coded on a scale from 0 = *none* to 4 = 76% *or more*. An index score was calculated by taking the sum. The third and indicator was based on one item from the teacher interview that asked how many times the teacher sent home letters during the school year, respectively, on a scale from 0 = *never* to 5 = *fifteen times or more*. Similar to the school practices latent variable, a decision had to be made whether or not the latent variable could be modeled with formative or reflective indicators. As it was in the case of school practices, it seemed reasonable to consider the indicators as reflective: the teacher had a particular attitude or tendency to be more or less involved and communicate with the parent and, as a consequence the teacher would offer fewer or more opportunities for communication and parental involvement.

The model fit for Confirmatory Factor Analysis was very good, CFI=1.0, TLI=1.0, RMSEA=0.0. Table 10 presents the unstandardized and standardized factor loadings for the Confirmatory Factor Analysis that was performed on these items.

Table 10. Confirmatory Factor Analysis factor loadings for Teacher Practices construct

Indicator	*Estimate*	*Standardized*	*S.E.*	*Estimate/S.E.*
Transition activities	0.649	0.551	0.061	10.561
Number of letters sent home	0.295	0.331	0.035	8.476
Parent involvement in teacher's classroom	1.750	0.512	0.163	10.708

Note. S.E. in the table is unstandardized.

Family-School Racial/Ethnic Match

The cultural capital match between the family and the school was conceptualized in this study as the match between the parent's racial/ethnic background and that of the school.

It was expected that the better the match is, the more involved the parents would be, even if they came from a low socio-cultural class. The match indicator was created based on four variables: parent race/ethnicity, focal child's teacher's race/ethnicity, percent of white students in school, and percent of white teachers in school. The four variables were combined into three match variables which, in turn, were combined to create the final match indicator.

The three match variables that were created are *mother-child's teacher match*, which determined the match between the mother and her child's teacher in terms of race/ethnicity; *mother-all teachers match*, which determined the match between the mother and the school's teacher population in terms of race/ethnicity, and *mother-students match*, which determined the match between the mother and the school's student population in terms of race/ethnicity. I decided to use mother's racial/ethic background because in most cases the mother was the parent more involved at school.

The first match variable, *mother-child's teacher match,* was obtained by combining mother's race/ethnicity and focal child's teacher race/ethnicity into a new variable coded 0 if they were of different race/ethnicity and 1 if they were of same race/ethnicity.

The other two match variables used mother's race/ethnicity on one hand and percent of white children in school and, respectively, percent of white teachers in schools on the other hand. Mother race/ethnicity was collapsed into white = 1, non-white = 0, for sake of simplicity. Percent of white children and percent of white teachers was further dichotomized, coded "0" if the school had 50% or less white teachers (or students, respectively) and "1" if the school had over 50% white teachers (or students, respectively). The *mother-all teachers match* variable was a dichotomous variable coded as follows: If mother was white and the school had over 50% white teachers OR the mother was not white and the school had fewer than 50% white teachers, *mother-all teachers match* was coded 1, indicating that the mother's race/ethnicity matched with that of the majority of teachers in the school. Otherwise, the variable is coded 0. The same procedure was followed for *mother-student match*: coded 1 if mother's race/ethnicity matched that of the majority of students in school, and 0 if it doesn't. These two variables were not perfect in that that they do not show absolute match (based on actual race/ethnicity), but rather a

match in terms of minority versus non-minority (white) status. However, to do it by actual ethnic/racial category would complicate the process without discernable benefit.

To summarize, the study ended up with three match variables coded 0 if there was no match between the parent and the school attribute (race/ethnicity of the focal child's teacher, percent of white teachers in schools, and percent of white students in school), and 1 if they did match. The next step was to create the composite variable, *mother-school racial/ethnic match*. This was created by taking the sum of the three match variables. The possible values for this composite variable were 0, 1, 2, and 3 indicating the number of attributes on which the mother and the school match on. This is an ordinal variable, with higher values indicating a better match between the mother and the school in terms of race or ethnicity. The relative frequency distribution for the "match" variables was as follows: 19.68% of the respondents are in the first category, with zero matches; 3.83% of the respondents were in the second category, with only one match; 16.44% of the respondents were in the third category, with two matches; finally, 60.04% of the respondents were in the fourth category, with three matches between them and the school.

Analysis

Before proceeding to the specific analyses, preliminary analyses and data handling were conducted. Statistical software *STATA 10* was used to clean the data, recode the variables that needed recoding, check the items for missingness and distribution, and run the first part of the kindergarten profile analysis. The latent class analysis component of the kindergarten profile, as well as the parent involvement model(s) were performed using *Mplus* 5.1 (Muthén & Muthén, 2007). All analyses included the appropriate sampling weight variable, provided by the data collectors, to account for non-equal probabilities of selection. Also, the analysis were performed keeping in mind that the data were collected using a complex sampling procedure; to get unbiased standard error estimates, the `Complex` option in *Mplus*, combined with `Cluster=schoolid` option was used, which tells *Mplus* that the children were clustered by school.

Kindergartners' Profile

The kindergartners in this study, their families and their communities were described using two main methods. First, in a typical approach the author performed a bivariate comparison of a set of observed variables observed variables, across disability status. The comparisons were done independently for each variable, using *t-test* and *chi-square* comparison tests. The observed variables compared were grouped under child variables, family variables, and school and community variables. In the original dataset, the subsample of children with disabilities was much smaller than the subsample of children without disabilities. To avoid biases in the comparison statistical tests, a randomly selected subsample of children without disabilities, of equal size to the subsample of children with disabilities, was drawn and used for the comparison. The two subsamples were recombined in a dataset with equal number of children with and without disabilities. This new dataset was used to perform profile bivariate comparisons. The authors acknowledged that the size of the sample (even reduced to have equal size across disability/non-disability groups, the sample analyzed here had over 4,000 subjects) was likely to influence the statistical tests of significance so that even small differences would appear as significant. Therefore, they decided to use, for interpretation, and alpha-level of 0.01 level instead of the more

commonly used, in the social sciences, 0.05 level. Also, the decision to interpret a difference as substantial was based not only on the statistical significance tests and effect size tests, but also on the author's personal interpretation of the results in the light of theoretical and applied considerations.

Second, a Latent Class Analysis using indicators informed by the cultural capital theory was performed to determine unobserved group membership among the parents in the study. For the purpose of this study the investigator sought to compare the latent structures – class solutions – across disability status. There are several approaches one can employ to determine what role the presence of disability plays in determining family's cultural capital. Past literature confirmed that children with disabilities are more likely to be of lower socio-economic status compared with their typically developing peers, and also to differ in terms of racial/ethnic distribution. One possible solution was to use disability status as a class membership predictor, and to determine if it significantly influences class membership. Other ways to compare latent structures in different groups are, first, to run the Latent Class Analysis separately for each group, and to make informal comparisons in terms of class solution, parameter values, or other aspects of the latent class model (Clogg, 1995). A second way, called *simultaneous latent structure analysis* analyzes group differences in the latent structures in a single analysis, which actually can be considered a Latent Class Analysis with categorical covariate. Since this type of analysis had not been done yet, to my knowledge, to determine class membership in a cultural capital framework, I decided, for this study, to start with a model that does not contain disability status variable and to introduce, in the second step, the disability status, as class membership predictor. The change in model fit was assessed, as well as the statistical significance of the disability status variable. The more sophisticated methods, such as multiple-group latent class analysis (Geiser, Lehmann, & Eid, 2006) or simultaneous latent structure analysis (Clogg, 1995), were not pursued in this study but are presented as recommendations for a follow-up studies. Technically speaking, the analysis was a Latent Profile Analysis because most of the indicators were actually continuous variables, excepting only one, non-normative parenting. As mentioned in the introductory chapters, the socio-cultural class model that was tested in this study does not attempt to be an exhaustive socio-cultural model, but

rather a model focused on the factors from the cultural capital theory that are relevant to the role of the respondents as parents.

I tested four successive models, with 2, 3, 4, and 5 latent-class solutions, in order to determine the optimal number of classes to be retained. To avoid solutions based on local maxima, 100 random sets of starting values were used initially and 10 final stage optimizations (Muthén & Muthén, 2007). The literature recommends criteria to be used in selecting the number of classes to be extracted; several statistical fit indices are used, such as Akaike information criterion (AIC), Bayesian information criterion (BIC), sample size adjusted Bayesian information criterion (SSABIC), and Lo-Mendell-Rubin's adjusted likelihood ratio test (Muthén & Muthén, 2007). AIC, BIC and SSABIC are goodness-of-fit measures that do not have a direct interpretation, but can be used to compare competing models; models with a smaller BIC, AIC, and/or SSBIC indicate better fit. Lo-Mendell-Rubin's adjusted LRT (2001) is used to compare models with different number of classes. A non-significant value (p <0.05) of this statistic indicates that the model with fewer classes should be accepted. Another statistics that can be used is entropy (Ramaswamy, DeSarbo, Reibstein, & Robinson, 1993; Shevlin, Dorahy, Adamson, & Murphy, 2007), which is a standardized measure of how accurately participants are classified. Entropy values can range from 0 to 1 with higher values indicating better classification. All these statistics and fit indices can and should be used in helping the researcher to decide on the number of classes to be extracted. However, one should not ignore the substantive theory and the practical interpretation of the number of classes to be retained.

A number of variables related to the concept of cultural capital, in the particular context of parenting, were used as indicators for class membership (see Measures section). The class solution was not meant to be an exhaustive operationalization of the family's cultural capital, but nevertheless it aims to go beyond the classical socio-economic status construct of social stratification. For the purpose of this study, the socio-cultural class reflected concepts that are relevant to the role of the families as parents. Several class solution were tested, until a solution with an optimal number of classes was obtained, based on both statistical tests and substantive interpretation; the final solution was a 4-class solution. Based on the final class solution a new nominal variable was created, determining participants' class membership. A new set of comparisons were performed across the levels

of the class membership variable using child and family variables. Further, the nominal variable determining class membership was dichotomized, obtaining 3 new dummy variables, which were introduced in the final parent involvement model as predictors.

Parent Involvement at School Model

The final model used a Structural Equation Modeling approach for predicting parent involvement at home, using constructs related to the family, teachers, and schools. Five constructs from the model were modeled as latent variables, represented with circles in Figure 22. There is a rich literature cautioning researchers to make sure they use the correct approach when they specify latent variables in a model. In a traditional factor analysis, latent variables are operationalized as *causing* the observable indicators, with arrows going from the latent variable to the indicators. These indicators are called "reflective indicators." However, not all latent constructs are suitable to be operationalized as such. In numerous cases it is not appropriate to specify the latent model with reflective indicators, but with the arrows pointing in the opposite direction. These indicators are called "formative indicators." For example, if I operationalize level of stress using indicators such us "I feel angry," "I feel depressed," or "my heart rate is very fast," it is conceivable to consider that there is a latent construct, "level of stress," that causes all these symptoms. Therefore the construct was modeled with the arrows pointing to the indicators. Therefore these indicators were reflective. On the other hand, if I want to operationalize level of stress with a set of indicators such as "in the past two weeks my car broke frequently," "lately I had problems getting along with my boss," and "I have lost my job several times during the past three months," it is more logical to consider that these events are causing the level of stress the person is experiencing, therefore I operationalize "stress" with the arrows pointing toward the latent variable, and these indicators was formative. A number of authors (Bollen & Lennox, 1991; Diamantopoulos, 2008; Diamantopoulos & Siguaw, 2006; Diamantopoulos & Winklhofer, 2001; Jarvis, MacKenzie, & Podsakoff, 2003; MacKenzie, Podsakoff, & Jarvis, 2005) have demonstrated that it is very important that the measurement model for latent variables is correctly specified as reflective versus formative, and they have provided some general guidelines on choosing the correct

specification. However, the correct specification of latent variables with formative indicators is more complicated than the specification for latent variables with reflective indicators, as is discussed by Jarvis et al (2003). To be correctly identified, a model with a latent variable with reflective indicators has to have at least two reflective indicators included (arrows pointing toward the indicators) or to emit paths to at least two unrelated latent or observed constructs.

In this study I took very careful steps to ensure that the models are specified correctly. In order to avoid problems, I tried to create latent variables that use only reflective indicators. The decision that a set of indicators for a latent variable can be treated as reflective rather than formative was taken after careful analysis and interpretation of various sets of possible indicators. Before proceeding to testing the final models, each component of the measurement model of the SEM was tested separately, using confirmatory factor analysis. Items with poor fit were dropped when necessary.

The final structural model was tested in several steps of increasing complexity. In a first step a Latent Class Analysis was run, in order to determine if the parents in the study can be grouped in distinct categories, based on based on their pattern of involvement at school. This initial LCA used only the eight parent involvement indicators. The analysis revealed that a 3-class solution has the best fit, and a substantive interpretation. Based on this class solution a new unordered categorical (nominal) variable with three categories was created, determining class membership for parent involvement at school. This new variable was used as a dependent variable in the subsequent analyses. In a second step a small SEM, including only family variables, was tested, using a multinomial logistic regression approach. At this step it was revealed that disability status is not a significant predictor neither for parent involvement at school, or for parents' perception of school practices, as has been proposed at the beginning of the study. Due to this finding the disability status was not used anymore as a predictor in the third structural model, the full model that included school and teacher constructs. The non-significant effect of disability is discussed extensively in the discussion section. A future study will test the model separately for each disability status subsample.

RESULTS

In the next sections the results are reported and analyzed, according to the major aims and hypotheses of the study. Aim #1 addressed the profile of kindergartners enrolled in the 1988-1999 school year. Data are presented by the two analytic approaches and hypotheses presented under Aim #1: bivariate comparison and latent class analysis for socio-cultural capital. Aim #2 addressed the pattern and intensity of parent involvement at school; the Latent Class Analysis results are presented, as well as the relationship between parent involvement group and parent involvement at school continuous variable. Aims #3 and #4 addressed the influence of family factors on parent involvement at school including (Aim #4) the ethnic match between family and school. The influences of the various family factors on parent involvement were analyzed in a single run, with parent involvement group as dependent variable, and socio-cultural class, family structure, perception of school practices, and family-school ethnic match as predictors. Finally, Aim #5 introduced the school component in the model, with the goal of investigating the role that the school, as an institution, and the teachers within the school play in influencing parental involvement at school. In the following section the results from the full model will be reported and analyzed. Therefore, the Data Analysis and Results section has the following headings: Kindergartners' Profile (Aim #1), Parent Involvement at School (Aim #2), Family Factors and Parent Involvement at School (Aims #3 and #4), and Full Model: School Factors and Family Factors (Aim #5).

Kindergarteners' Profile (Aim #1)

The kindergartners' profile was analyzed using two approaches: a classical approach, in which children with and without disabilities were compared on a series of variables, continuous and categorical, using bivariate comparison tests, such as t-test and chi-square, and a Latent Class Modeling approach in which the subsamples were contrasted and compared using a latent class analysis. The following sections presents the results from both approaches.

Kindergartners' Profile - Bivariate comparison

Child Variables

Age. The age of children in this study was reported in months. For children without disabilities the mean age was *M*=65.5, *SD*=0.09, while for the subsample of children with disabilities, the mean age at kindergarten entry was *M*= 66.00, *SD*=0.10. The mean difference *t*-test was significant, t (4,328) = -3.721, p <0.01, probably due to the size of the sample; the effect size is small, *Cohen's d* = 0.11. Indeed, a mean difference of 0.5 months in age is trivial. However, when looking at the age range for each group, it seems that at the lower end, children with disabilities were older, but also younger at the upper end. For children without disabilities the age ranges from 35 to 84 months, while for children with disabilities the age range is 41 to 83.

Gender. Children with disabilities were more likely to be male, 63.93% of children with disabilities were males, while 48.82% of children without disabilities were male. he difference is statistically significant, χ^2 (1, N = 4,335) = 100.61, p <.001.

Race. The racial distribution for children with and without disabilities is reported in Table 11. We can see that the racial distribution for children with disabilities differs from the racial distribution for children without disabilities, and the difference is statistically significant, χ^2 (8, N = 4,310) = 72.87, p <.001. The largest difference was for the White group: 66.78% of all students with disabilities were White, while in the group of children without disabilities the percent of White students was 55.86%, close to the overall percent of White students, 56.48%. From this sample it seems that, at least at kindergarten level, White children were overrepresented in the group of children with disabilities. Another big difference was found for the Asian group, with fewer Asian children without disabilities than with disabilities (5.14% versus 2.44%). The possible causes and implications of this finding are discussed in the Discussion section.

Repeating Kindergarten. The respondents were asked to report whether the child in the study was repeating kindergarten or not. Proportionally, there are three times more children with disabilities than children without disabilities repeating kindergarten. The difference is statistically significant, χ^2 (1, *N* = 4,330) = 87.31, p <.001.

Table 11. Summary statistics for the general profile variables, by disability status, based on the two operationalizations of disability: child diagnosed with a disability and presence of an IEP with the school records

	Overall (%)	**Parent-reported disability diagnosis (% within column)**	
Child variables		*No*	*Yes*
Gender			
Male	51.11	49.04	63.93
Female	48.83	50.96	36.07
Race			
White	53.21	56.86	66.37
African American	13.83	15.68	12.13
Hispanic (race specified)	8.26	8.14	7.63
Hispanic (race not specified)	8.48	8.95	5.53
Asian	5.45	5.14	2.44
Pacific Islander or Hawaiian	1.01	1.00	0.44
Native American or Alaskan	1.64	1.59	1.5
Other	0.16	0.18	0.23
Multiple race	2.19	2.23	3.09
Repeating kindergarten	4.00	3.93	10.36

Family Factors

Family Structure. The results showed that among the subgroup of children without disabilities, 20.76% live in single parent families. Among the subgroup of children with disabilities, the percent of children living in single parent families is higher, 24.64%. The difference is statistically significant at 0.01 level, χ^2 (1, N = 3,967) = 8.50, p = .004.

Socio-economic status

Table 12 reveals that the distribution across disability groups is not balanced. Proportionally, children with disabilities were more present in the lower SES categories than children without disabilities, and more children without disabilities than children with disabilities were present in the higher SES categories. The difference is statistically significant at .01 level, χ^2 (4, N = 4,335) = 14.52, p = .006. When considering the

comparison on the continuous SES variable rather than the categorical one, the difference is also significant at 0.01 level, t (5324) =3.193, p<0.01, but the effect size is small, *Cohen's d* = 0.1.

Table 12. Socio-economic status (quintiles) frequency distribution, by disability status (child diagnosed with a disability)

	Parent-reported disability diagnosis		*Overall*
SES, ordinal variable	*Yes*	*No*	
1st quintile (lowest SES)	20.23	17.45	18.72
2nd quintile	20.00	18.16	19.36
3rd quintile	20.94	18.44	19.73
4th quintile	18.55	19.57	20.55
5th quintile (highest SES)	20.28	20.53	21.65
Total	*100*	*100*	*100*

Poverty Indicator. Just considering family income, proportionally there are more children with disabilities living in poverty than children without disabilities, 23.47%. compared with 18.55%. This difference is statistically significant at 0.01 level, χ^2 (1, N = 4,335) = 15.83, p <.01.

Parent Education. Table 13 presents the distribution of parent education, by disability status. More parents of children with disabilities have high school diplomas as their highest level of education than parents of children without disabilities, with a reversed distribution seen for advanced levels of education. In other words, families of children with disabilities appear to be, overall, less educated than families of children without disabilities. Statistically, the difference is significant at 0.01 level, χ^2 (4, N = 4,335) = 19.94, p = 0.001. When running the analysis with parent education as a continuous variable, the difference is not significant at 0.01 level, t (4,333) = 2.338, p = 0.02, and the effect size is small, *Cohen's d* = 0.04.

Table 13. Parent education relative frequency distribution by disability status (child diagnosed with a disability)

	Parent-reported disability (column %)			*Overall (column %)*
Parent Education	*Yes*	*No*	*Missing*	
8th grade or below	2.06	3.01	2.69	2.87
9th-12th grade	6.79	6.80	6.23	6.71
High school diploma	28.06	25.64	18.08	24.75
Vocational/technical program	6.14	5.60	3.67	5.36
Some college	28.15	26.66	16.10	25.23
Bachelor's degree	15.83	18.14	10.03	16.69
Graduate/professional degree	2.48	2.33	1.16	2.17
Master's degree	6.65	7.23	4.45	6.75
Doctorate or professional degree	3.84	4.58	2.54	4.20
Missing	*0*	*0*	*0*	*35.06*

Language Spoken at Home. Proportionally, there are fewer families of children with disabilities using other language than English at home than families of children without disabilities, 8.17% compared with 15.84%. The difference is statistically significant, χ^2 (1, N = 4,321) = 59.89, p <0.001.

School and Community Factors

School Size. Total school enrolment was reported by the school administrator. The dataset contains information about both the total school enrollment, and about enrollment in kindergarten. Comparison tests were performed on both variables, using t-test. The size of the school, both general enrollment and kindergarten enrollment, did not differ statistically for the two groups in study, $t(4287) = 1.20$, $p = 0.22$ for general enrollment and $t(3652) = 0.40$, $p = 0.70$ for kindergarten enrollment, respectively.

School Type. The type of school the kindergartners in the study attended was coded as public school and private school. The study revealed that, proportionally, there were more children with disabilities attending public schools than there were children without

disabilities, 81.45% compared with 76.95%. The difference is statistically significant, $\chi^2(1, N = 4335) = 13.29, p < 0.001$.

Urbanicity. Urbanicity reflects the type of community in which the school is located. This variable has seven categories: (a) large city, (b) mid-size city, (c) large suburb, (d) mid-size suburb, (e) large town, (f) small town, and (g) rural. Table 14 presents the relative distribution by urbanicity for children with and without disabilities.

Table 14. Relative frequency distribution of urbanicity by disability status (child diagnosed with a disability).

	Child has a diagnosed disability	
Urbanicity	*no*	*yes*
Large city	21.18%	15.32%
Mid-size city	22.23%	23.33%
Large suburb	27.77%	26.93%
Mid-size suburb	6.64%	8.29%
Large town	2.14%	2.72%
Small town	8.64%	9.46%
Rural	11.41%	13.96%
Total	*100%*	*100%*

There is a slight tendency for children with disabilities to attend schools in smaller communities. The difference is most noticeable for the large city category (21.18% non disability versus 15.32% disability), with a consistent trend down the table: as we move toward smaller communities, the percent of children with disabilities is relatively greater than the percent of children without disabilities. The difference is statistically significant, $\chi^2(6, N = 4335) = 33.09, p < 0.001$, but whether or not this difference is meaningful appears open to discussion.

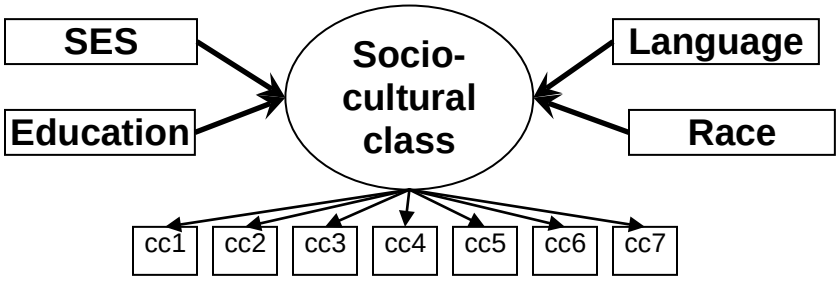
Kindergarteners' Profile - Latent Class Analysis

Latent Class Analysis without the Disability Variable in the Model

For a first step, the investigator conducted a Latent Class Analysis on the entire sample, using a set of class indicators and a set of class membership predictors, or what

some authors call a MIMIC Latent Class Analysis Model (Yang, 2005). At this stage, the disability variable was not introduced into the model.

Figure 14. Socio-cultural class Latent Class Model, with indicators and predictors



cc1= involvement at home
cc2= involvement outside home
cc3= extracurricular activities
cc4= educational expectations
cc5= involvement in family's cultural heritage
cc6= normative parenting interaction
cc7= non-normative parenting interaction

Table 15 presents the values of these statistics for the 2, 3, 4 and 5 latent-class solutions. A decision has to be taken regarding the choice between the 3-class, 4-class and the 5-class solution. Based on the statistics from Table 15, it seems that the 5-class solution would be a better choice. However, as Muthén (2004) noted, solutions with more classes many times represent just more elaborations of fewer classes; the choice should be based not only on statistics, but also on substantive interpretation.

Table 15. Fit indices for four successive Latent Class Analyses for socio-cultural class

# of classes	*Loglikeli-hood*	*# of parameters*	*BIC*	*AIC*	*Entropy*	*p-value for Lo-Mendell-Rubin*
2	-198347.322	25	396937.330	396744.643	0.829	0.000
3	-196305.840	37	392970.856	392685.680	0.673	0.000
4	-195082.852	49	390641.370	390263.704	0.686	0.003
5	-194332.360	53	389179.216	388770.720	0.770	0.000

The 5-class solution model, while valid statistically, did not bring a new substantive, interpretable latent class into the model, so the 5-class solution was abandoned. Finally, the

4-class solution was preferred, considered to be a balanced solution between parsimony and having meaningful, interpretable classes. Figure 15a presents the 3-class solution, while Figure 15b present the 4-class solutions; the x-axis of each graph represents the continuous indicators for class membership, and the y-axis presents the means of these indicators for each class. Here we note that for the three classes solution there is a quite ordered classification. One class has low means on all indicators (class 1 in Figure 15a). Class 2 and class 3 in the 3-class solution are very similar except for the "extracurricular" indicator, which measures the number of outside of school activities, such as sport club or theater club in which the child is enrolled.

Figure 15a. Latent Class Analysis socio-cultural class, 3-class solution. x-axis represents the means of the indicators for each class.

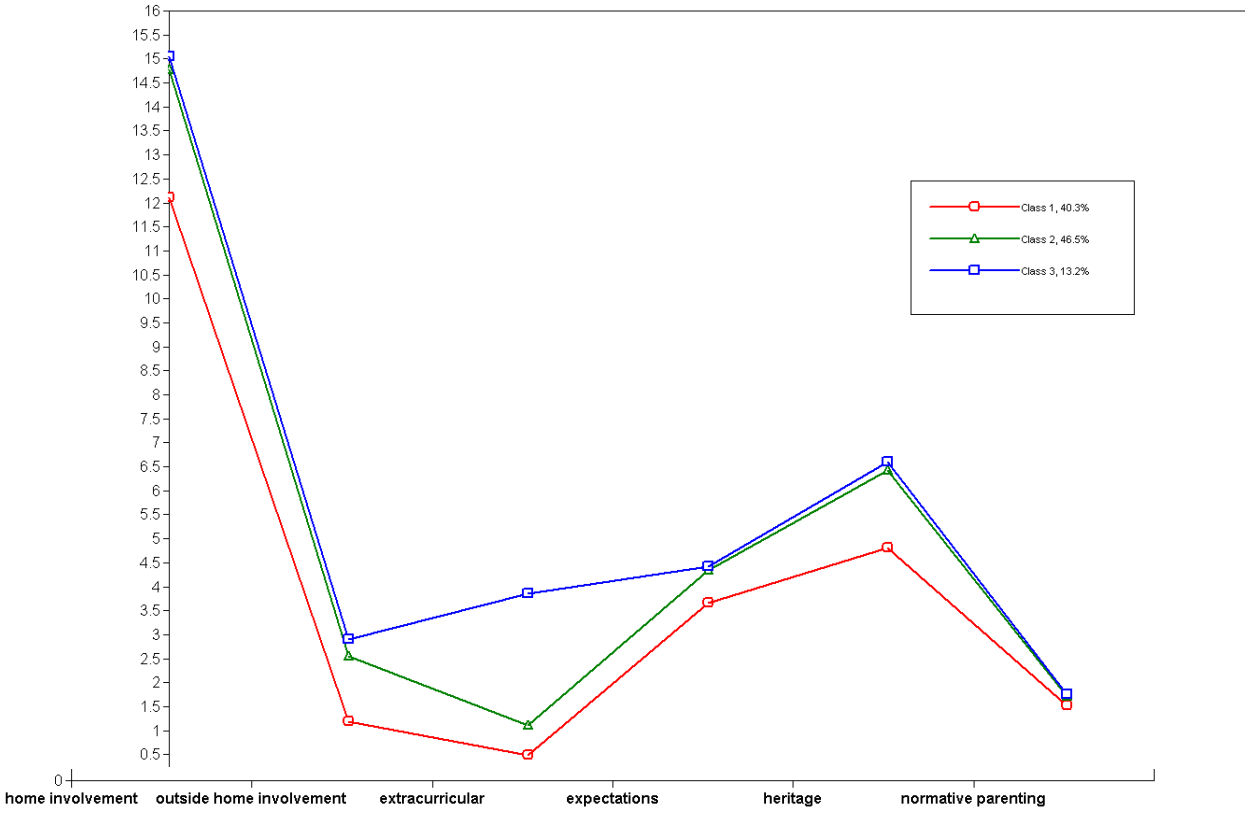
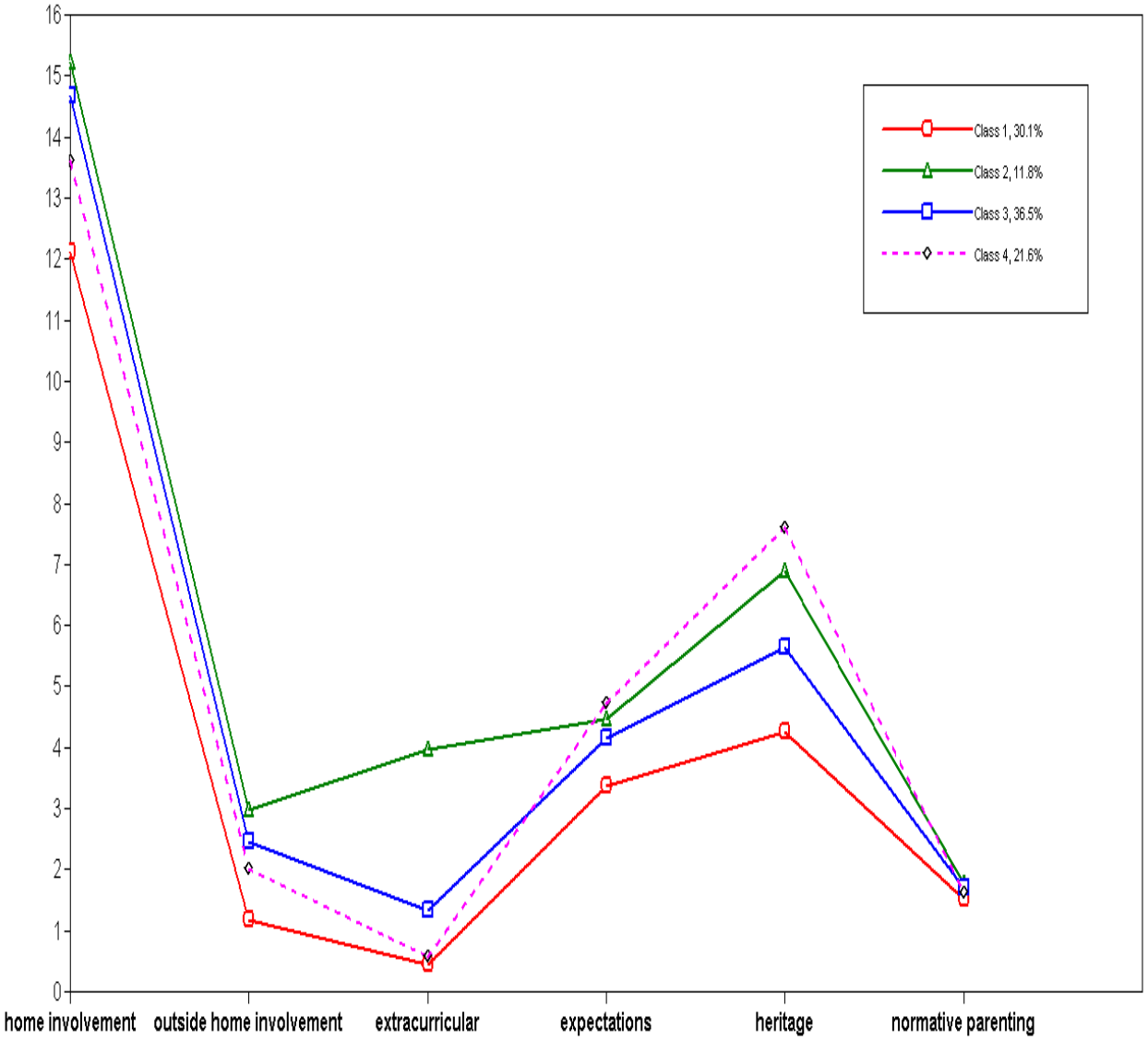


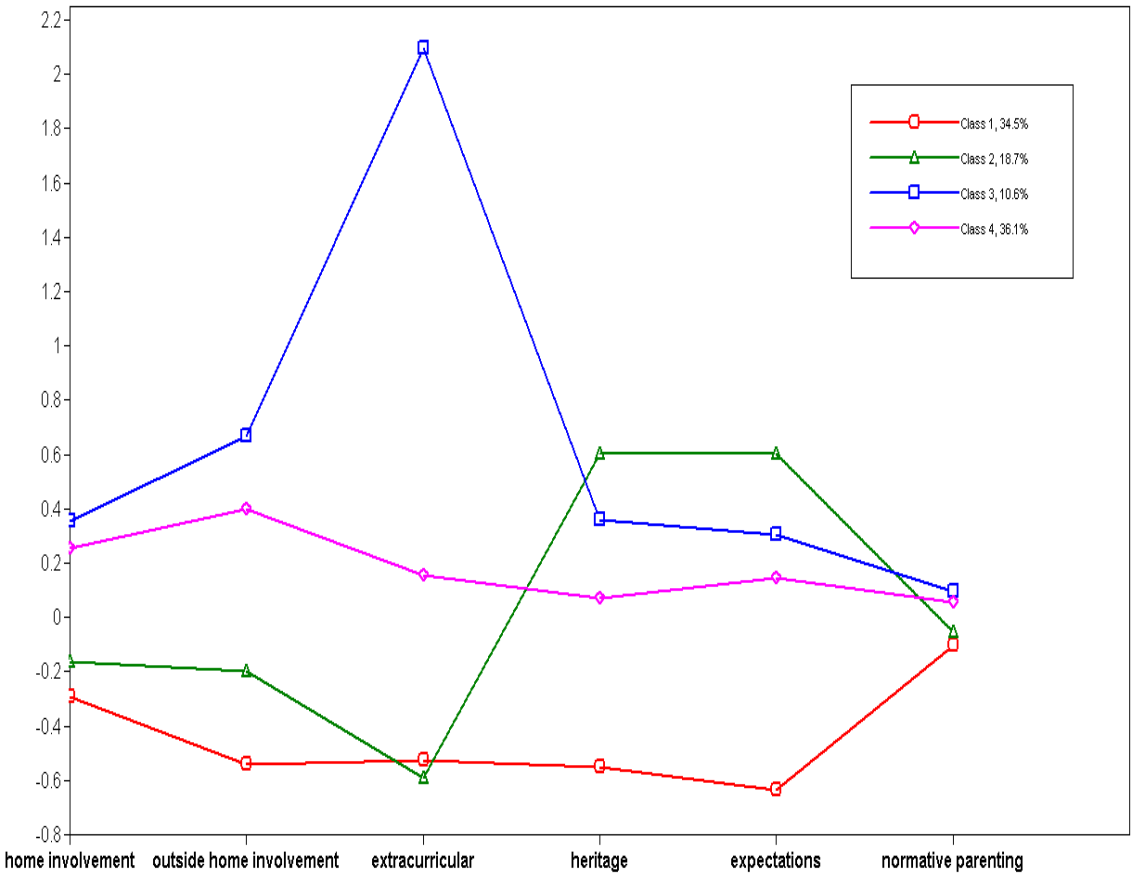
Figure 15b. Latent Class Analysis socio-cultural class, 4-class solution



The 4-class solution reveals that, first, the three ordered classes from the 3-class solution seem to be more clearly differentiated in the 4-class solution (they are pictured with solid-lines); second, a new class emerges in the 4-class solution, marked with a dashed line in Figure 15b, class that has a different pattern than the other three classes. A note here, since the graphs shown in Figure 15a and Figure 15b present the means of the indicator variables on a scale that has the range based on the widest range among indicators, for those indicators with a narrower range, such as "normative parenting," the figure tends to obscure the differences between classes for these variables. To present a clearer picture of

the differences between classes, another analysis was conducted where, first, individual scores for the indicator variables were converted into z-scores, based on the entire sample's mean, undifferentiated by latent classes, and then again the Latent Class Analysis was conducted, using the converted values. Now all indicators are on a common scale (standardized *z-scores*), and the differences between classes could be seen more clearly for each indicator and compared across indicators. Figure 16 presents the class pattern using the *z-scores.*

Figure 16. Socio-cultural latent classes, 4-class solution model, based on indicators' z-scores. *The x-axis represents the means of the indicators for each class.*



The results for the 4-class solution, for both class indicators and predictors, are presented in Table 16. The estimated class proportions are 11.8%, 36.5%, 21.6%, and 30.1%. Three classes out of four have an ordered appearance, going from low to medium to high on all indicators: there is a "low" class (30.1%), with about 0.5 SD smaller means than the overall sample on all continuous indicator variables; the "medium" class (36.5%), with

higher means than the "low" class on all the continuous indicators, distributed more or less around the overall sample means; and the "high" class (11.8%), with higher means than the "medium" class on all continuous indicators. However, the fourth class, pictured with a dotted line, has a different pattern than the other three: on four indicators (home involvement, outside home involvement, extracurricular activities, and normative parenting) this class has means between the "low" and the "medium" class. However, on the other two indicators (education expectation for the child and involvement in activities related to family's cultural heritage), this class has the higher means among all four classes. This class is therefore labeled the "atypical" class.

For the non-normative parenting indicator, the situation is almost reversed. Since the non-normative parenting indicator is a dichotomous variable, indicating whether or not the parent endorses any type of parenting interactions that are considered not- normative in the mainstream culture, the class membership is expressed in probabilities: parents in the "high" class have a 0.17 probability of endorsing this item, while parents in the "low" class have a probability of 0.32 of endorsing this item.

Table 16. Parent socio-cultural Latent Class Analysis statistics (indicators' means for each class), 4-class solution

	Socio-Cultural Class			
	High	*Middle*	*Low*	*Atypical*
% sample	*11.8%*	*36.5%*	*30.1%*	*21.6%*
Home involvement	15.21	14.68	12.12	13.60
Outside home involvement	3.00	2.46	1.18	2.02
Extracurricular activities	3.96	1.33	0.46	0.60
Educational expectations	4.48	4.14	3.36	4.72
Heritage	6.90	5.63	4.26	7.60
Normative	1.80	1.70	1.50	1.62
Non-normative *(probability)*	0.17	0.15	0.32	0.29

Table 17 presents the effect of the predictors on class membership, converted in odds ratio. The columns represent the reference classes. All values are significant at 0.01 level, except those marked with *. The numbers are interpreted in this way: when the predictor changes with one unit, the odds of being in that particular class versus the

reference class changes with the particular value. For instance, the value for *race* in the high class having as reverence the atypical class is 19.07; since *race* was coded 0=non-White, 1=White, the value can be interpreted "the odds of being in the high class versus the atypical class is 19.07 higher for White parents than for non-White parents"; if the reference class is the low class, the value is 0.56, translated "the odds of being in the high class versus the low class is 0.56 for White parents than for non-White parents."

Table 17. Socio-Cultural Class odds ratios for predictors

		Reference class			
Target class/predictor		*High*	*Middle*	*Low*	*Atypical*
High	Race	-	0.28*	0.56***	19.07***
	SES	-	1.62***	8.55***	3.64***
	Education	-	1.11*	1.56***	1.00
	Language	-	0.40***	0.60*	2.14***
Middle	Race	3.53*	-	1.98	67.26***
	SES	0.62***	-	5.28***	2.25***
	Education	0.90*	-	1.40***	0.90
	Language	2.48***	-	1.48	5.30***
Low	Race	1.78***	0.50	-	33.96***
	SES	1.12***	0.19***	-	0.42***
	Education	0.64***	0.71***	-	0.64***
	Language	1.68*	0.68	-	3.58***
Atypical	Race	0.05***	0.01***	0.03***	-
	SES	0.27***	0.45**	2.35***	-
	Education	1.00	1.12	1.57***	-
	Language	0.47***	0.19***	0.28***	-

Note. The values in the table should be interpreted this way: the odds of being in the *[target class]* versus the *[reference class]* change with *[value]* when *[predictor]* changes with one unit.
*p<0.05. **p<0.01. ***p<0.001.

Even more noteworthy are the findings regarding the influence of the predictors on class membership. The table does not offer a quick interpretation of the results, but the graphs showing the probabilities of being in a particular class for each predictor are suggestive (Figure 17a to 17d).

Figure 17a. Socio-cultural class membership probability by parent education

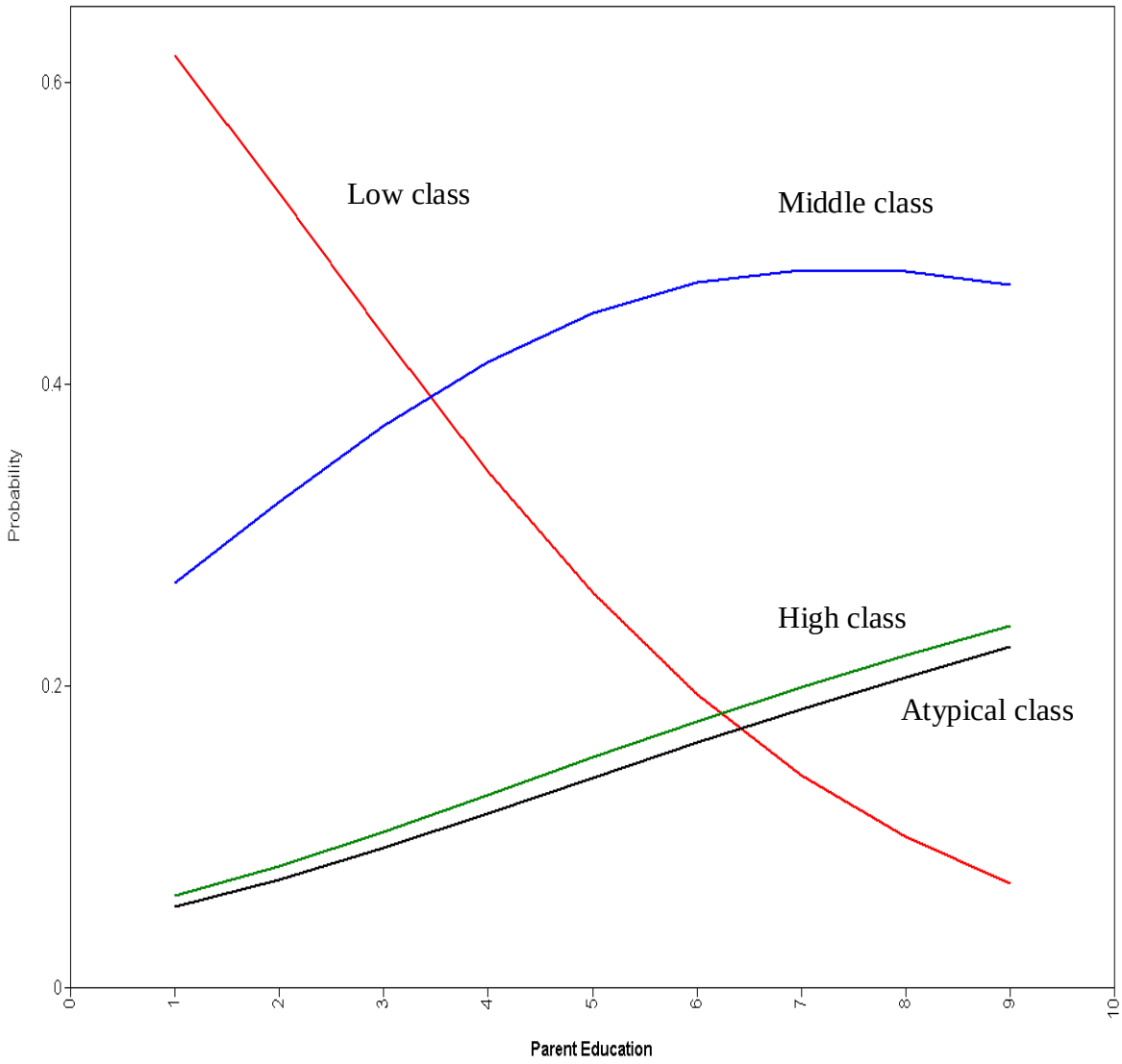


Figure 17b. Socio-cultural class membership probability by socio-economic status

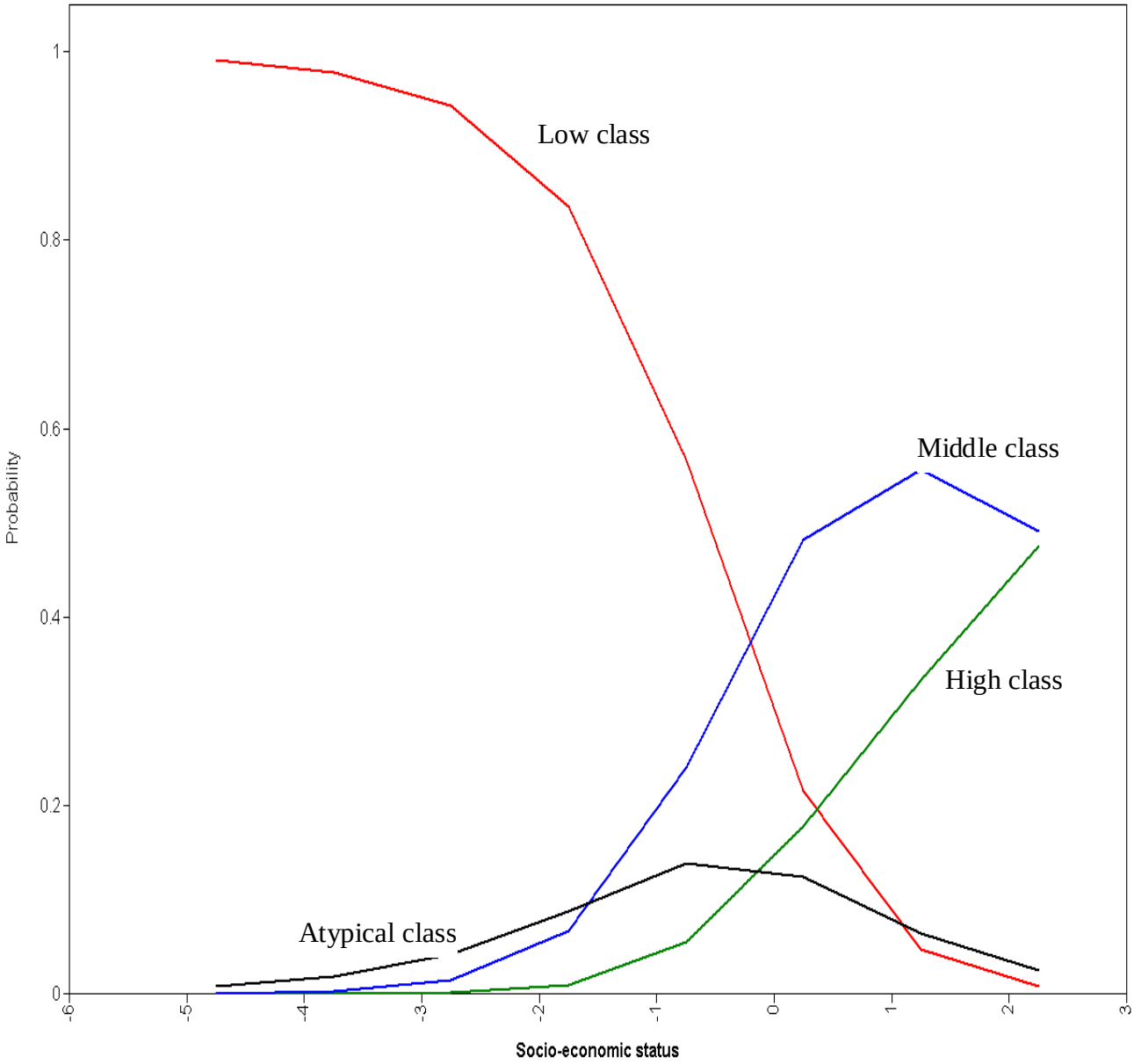


Figure 17c. Socio-cultural class membership probability by mother's race

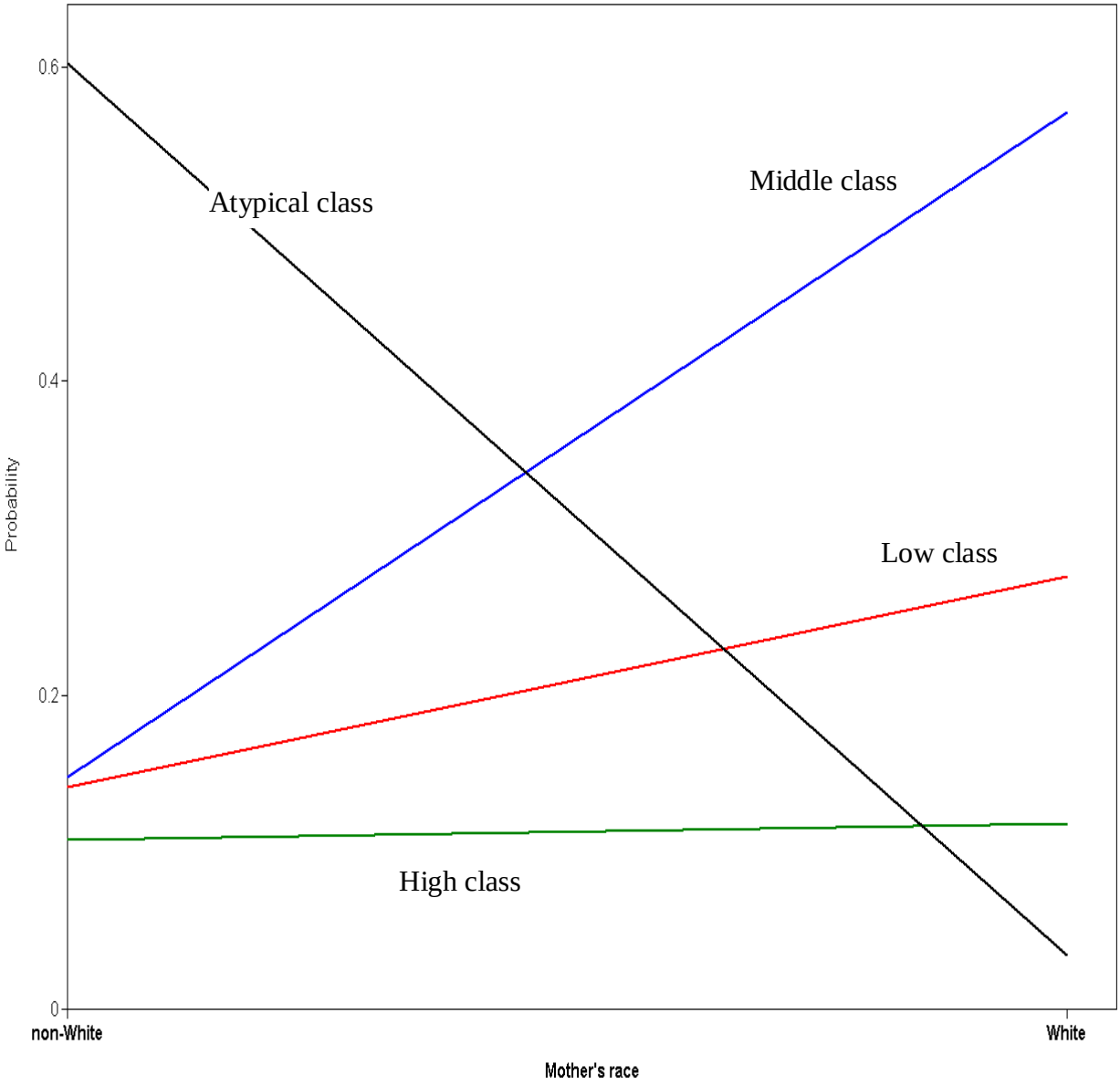
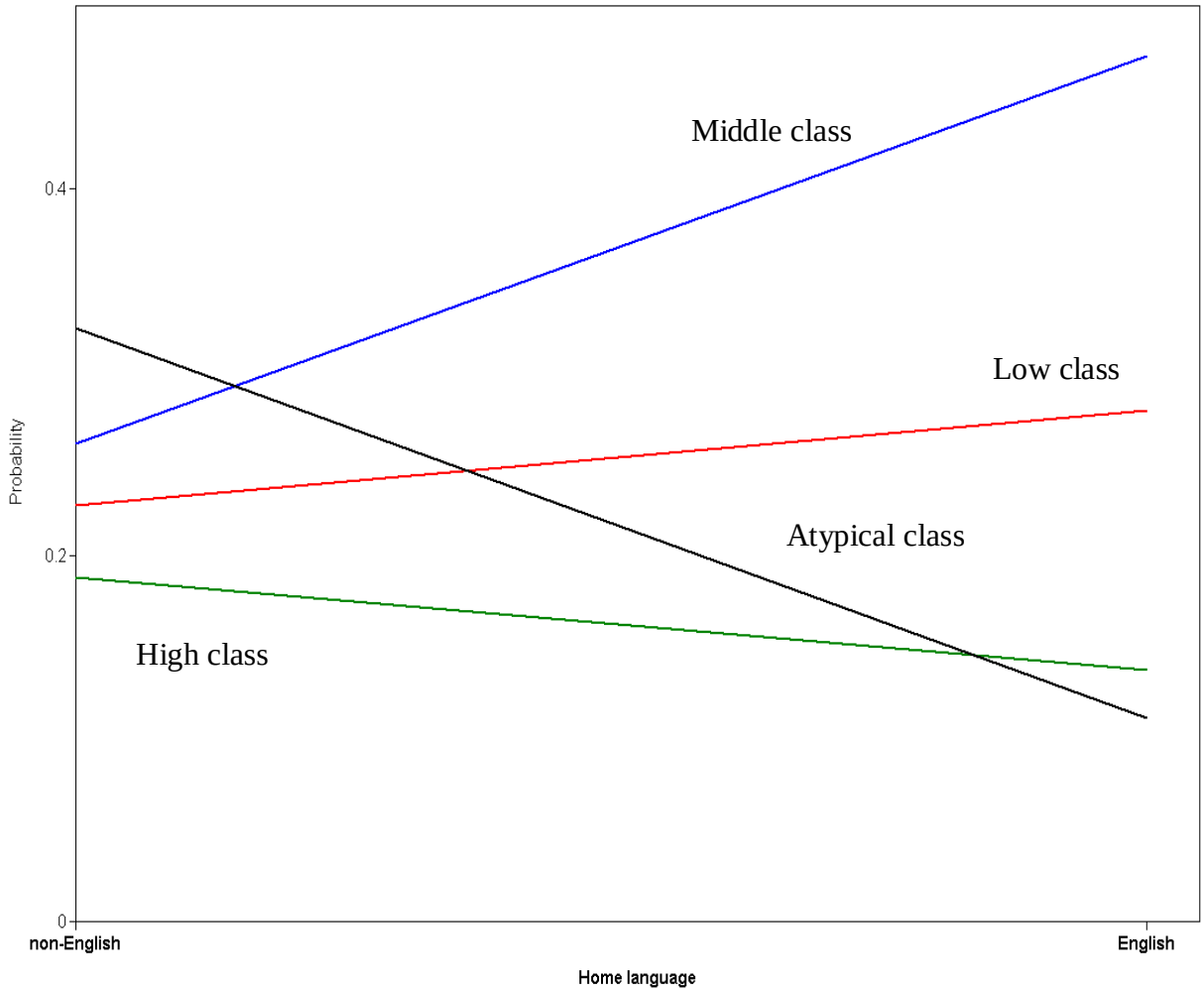


Figure 17d. Socio-cultural class membership probability by family's home language



The latent socio-cultural classes are described in more detail below:

Low class. The probability of being the low class decreases rapidly as SES and parent education increase, and is slightly higher for White versus non-White parents, and for English users than for non-English users. In other words, low-class parents are more likely have lower education and lower socio-economic status, and moderately more likely to be White and English users; being White and English users only makes a difference when compared with the atypical class – the probability of being in the low class versus the atypical class is much higher for White and English users.

Middle class. The probability of being in the middle class increases steeply with education and socioeconomic status, and also increases quite steeply for White and

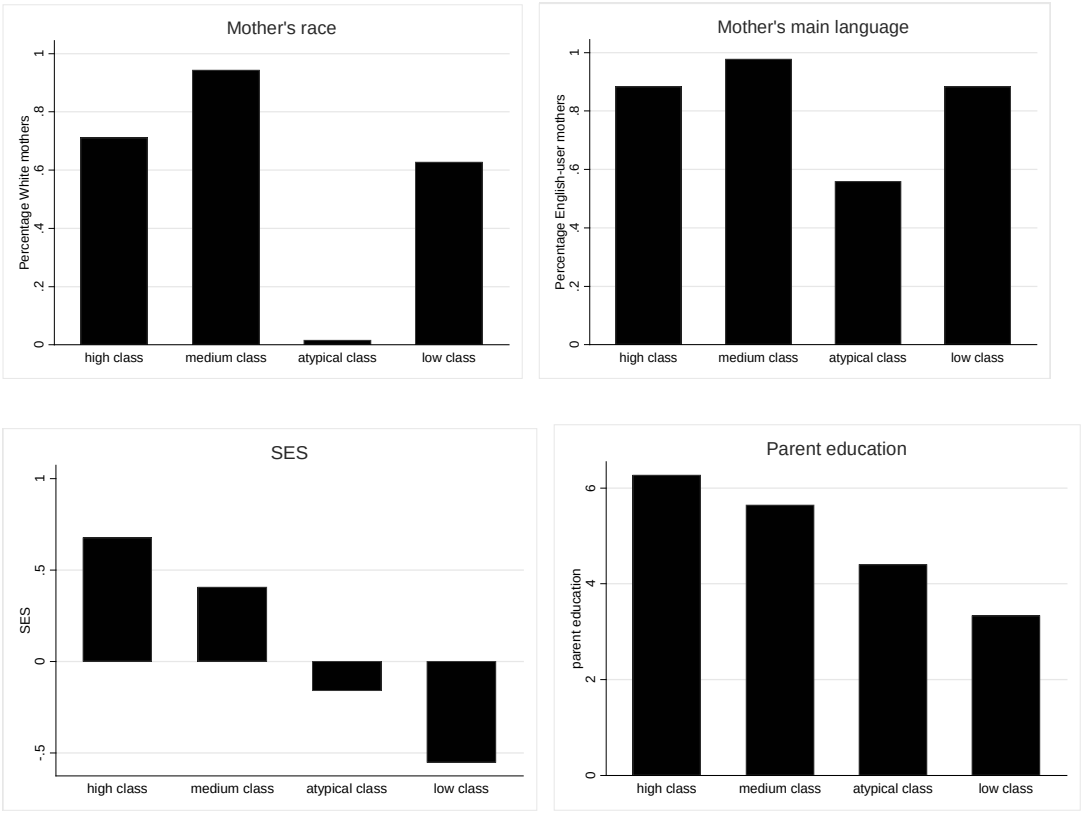
English-user mothers. In other words, the medium-class is more likely to be educated, of higher SES, White, and English users.

High class. The probability of belonging to the high-class increases with education and SES, but is not much influenced by race and language. In other worlds, parents in the high class tend to be educated and of high SES, regardless of their race or home language.

Atypical class. The probability of being in the atypical class is much higher for non-White than for White mothers, and also much higher for mothers who speak another language than English at home, compared with mothers who speak English at home. The probability of being in this class increases with education, but is not much influenced by SES. In other words, parents in the atypical class tend to be quite educated, non-White, non-English users.

The diagrams in Figure 18 present a visual of the four classes, using the means for SES and parent education, percentage White, and percentage of English users in each group.

Figure 18. Percentage White, percentage non-English users, and mean of education SES, by socio-cultural group



The differences in means for parent education and socio-economic status were tested for significance using one-way ANOVA test with Bonferroni multiple-comparison procedure. Both tests were significant, F (3, 16,436) =2643.39, p <0.001 for parent education and F(3, 16,436)=2491.36, p <0.001 for SES. All possible comparison pairs were also statistically significant at 0.001 level. For the categorical variables, mother's race and mother's home language, the differences between groups was tested using *chi-square* statistic. The percentage of mothers using other language than English at home was different by socio-cultural class, χ^2 (3, N = 16,440) = 3,200, p <0.001, *Cramer's V*=0.443. The percentage of mothers that were non-White differed by socio-cultural class, χ^2 (3, N = 16,440) = 8,600, p <0.001, *Cramer's V* = 0.721.

Table 18 presents a comparison of the racial/ethnicity frequency distribution between the atypical class and the overall sample. We can see that the atypical class is clearly different from the general population, having a greater percentage of racial/ethnic minority parents, compared with the general sample.

Table 18. Racial distribution within the "atypical" class compared with the general population

Race/Ethnicity	*Atypical class*	*General population*
White	1.50	60.81
Black, African-American	32.23	14.14
Hispanic	42.60	15.72
Asian	16.09	5.86
Native Hawaiian, Pacific Islander	2.57	1.19
Native American/Alaskan Native	3.65	1.62
More than one race	1.37	0.65

For a better understanding of the "atypical" class, the author created a cross tabulation of race and home language, the two variables that strongly characterize this particular class, and it's presented in Table 19.

Table 19. Frequency distribution for race and home language for the parents in the atypical class, entire sample

Mother's race	*Home language is English*	
	No	*Yes*
White	2.43	0.77
African American	1.88	56.22
Hispanic	68.61	22.04
Asian	23.62	10.13
Hawaiian/Pacific Islander	1.40	3.50
American Indian	1.64	5.23
Multiracial	0.43	2.11
Total	100	100

We can see that the highest percentages of non-English speakers in the atypical class are the Hispanic group (68.61%) and the Asian group (23.62%). Among the English-speaking parents in the atypical class, the great majority are African American (over 56%).

Latent Class Analysis with Disability Variable in the Model

A second set of analyses was performed in order to see if and how the presence of a disability in the family influenced family's membership in particular socio-cultural classes, or if the influence of disability status happened within the already existing latent classes. I tested this possible influence in two ways. First, I tested a similar Latent Class Analysis as the one presented in the previous section, with the disability status variable added as a class membership *predictor*, along with SES, parent education, home language and mother's race. The results showed that the class composition remained unchanged, compared with the model without disability as predictor. The model fit did not change substantially, and the disability variable was not statistically significant in predicting class membership, except for predicting class membership in the low class versus the high class.

The second analysis compared the relative frequency distribution of the socio-cultural variable across the disability status variable. First an unordered categorical variable was created, using the socio-cultural classes identified and described in the previous section, variable that determines class membership based on the posterior probability. Second, a

simple cross-tabulation of this new variable with the disability status variable asked for a chi-square statistic to test whether or not the frequency distribution was obtained by chance. The results are presented in Table 20.

Table 20. The relative distribution in socio-cultural classes, by disability status.

	Child has a diagnosed disability	
Socio-cultural class	No	Yes
High	1,839 (12.68%)	199 (10.31%)
Medium	5,375 (37.07%)	779 (40.36%)
Atypical	3,432 (23.66%)	296 (15.34%)
Low	3,859 (26.60%)	656 (33.99%)
Total	*14,505 (100%)*	*1,930 (100%)*

The results show some marked differences, especially for the low and atypical classes. While 23.66% of all children without disabilities are in the atypical class, only 15.34% of all children with disability are in the same class. For the low class the situation is reversed: while 26.6% of all children without disabilities are in the low class, almost 40% of all children with disabilities are in the low class. The difference is statistically significant, $\chi^2(3, N = 16{,}435) = 98.52$, $p < 0.001$. Another way to look at this distribution is by determining the percent of children with disabilities within each socio-cultural group; this will not change the overall χ^2 value (Table 21).

Table 21. The relative distribution in disability status categories, by socio-cultural status

Disability	*Socio-cultural class*			
	High class	Middle class	Atypical class	Low class
No	1,839 (90.24%)	5,375 (87.34%)	3,432 (92.06%)	3,859 (85.47%)
Yes	199 (9.76%)	779 (12.66%)	296 (7.94%)	656 (14.53%)
Total	2,038 (100%)	6,154 (100%)	3,728 (100%)	4,515 (100%)

Parent Involvement at School (Aim #2)

Parent Involvement Latent Classes – LCA Results

Eight dichotomous variables were used to test successive models for parent involvement latent classes. Three successive latent class models were tested, with 2, 3, and 4 classes, respectively. To decide the number of classes to be retained, I used similar criteria as for the socio-cultural latent class, presented in the previous section. First, the statistical fit indices were compared across different solution; ideally, the solution with the best fit has the smallest BIC and AIC. Second, the decision was based on the substantive interpretation of the classes extracted, coupled with the idea of selecting the more parsimonious model that can still have a meaningful interpretation. Table 22 presents the fit indices for the consecutive models.

Table 22. Fit indices for the parent involvement latent class analysis

# of classes	*loglikeli-hood*	*# of parameters*	*BIC*	*AIC*	*Entropy*	p-*value for Lo-Mendell-Rubin*
2	-83939.581	17	168046.612	167913.162	0.589	0.000
3	-83557.564	26	167371.228	167167.128	0.560	0.000
4	-83419.620	35	167183.990	166909.241	0.532	0.277

We can see from the table that the 3-class solution has the best fit; the Lo-Mendell-Rubin for the 4-class solution model suggests that the 3-class solution model should be preferred. For this study, the 3-class solution model was retained.

Table 23 and Figure 19 present the pattern of responses, in terms of probabilities, for this model, in numerical and graphic format, respectively. The 3-class solution offers a classification of the parents in the sample that is actually ordered. There exists a group of parents with low involvement at school who have lower probabilities on all indicators compared with parents in the next group, the medium involvement group who, in turn, have lower probabilities on all items compared with parents in the highest involvement group.

Figure 19. Latent Class Analysis for parent involvement at school: the 3-class solution

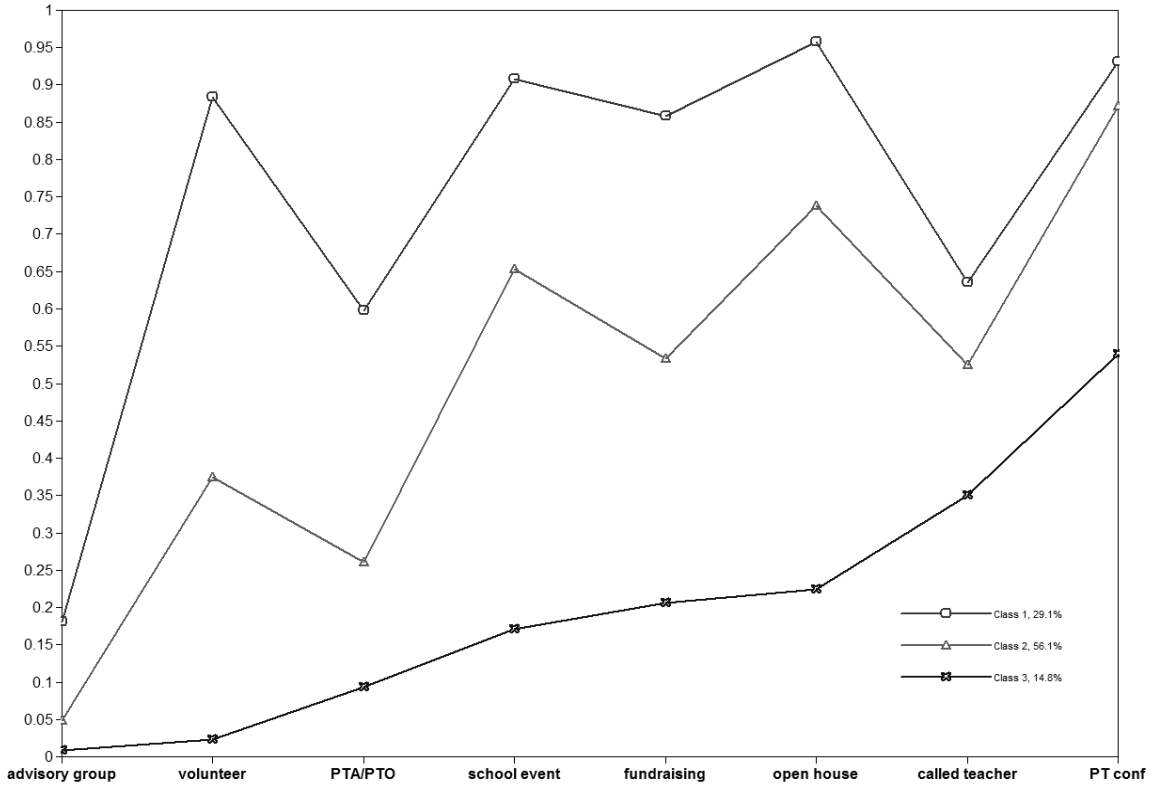


Table 23. Latent Class Analysis for parent involvement at school: class membership probabilities

	Class	*High*	*Medium*	*Low*
	% sample	*29.1*	*56.1*	*14.8*
Class indicators (probabilities)				
Advisory group		0.19	0.05	0.01
Volunteering		0.89	0.37	0.02
PTA/PTO meetings		0.61	0.25	0.10
School events		0.90	0.66	0.17
Fundraising		0.86	0.54	0.21
Open house		0.96	0.74	0.23
Called teacher		0.65	0.45	0.36
Parent-teacher conference		0.93	0.89	0.56

Figure 19 reveals that the pattern of involvement for the high and medium involved classes is similar, with lower levels of involvement in activities that are more intense and

more demanding, such as PTA/PTO meetings, fundraising, and participation in parent advisory group. The main difference between the high involvement group and medium involvement group is in level of involvement. On the other hand, the low involvement group shows a different pattern of involvement, along with the lower probabilities of involvement in the various activities. The involvement activities preferred by this group are those focused on communication, i.e., calling the teacher and participation in parent-teacher conferences.

Parent Involvement Latent Classes – Class Characteristics

Based on the results from the Latent Class Analysis for parent involvement, a new unordered categorical variable was created, with values 1="high involvement group," 2="medium involvement group," and 3="low involvement group." This new variable was subsequently used as dependent variable for parent involvement in school and also in the descriptive statistics presented below; the third category of the variable, "low involvement group" was used as reference class in the multinomial regression analyses presented in the next sections.

Another variable related to parent involvement at school was represented by the composite index variable measuring the number of types of parent involvement a parent chose to participate in. This variable was created by summing the values of the 8 parent involvement at school indicators. The variable ranges from 0 to 8. Since the latent class parent involvement variable was created based on the same indicators, it is expected that these two variables are strongly correlated. However, while the class membership variable divides respondents into classes, the "number of types" variable presents a different dimension of parent involvement at school. It is of particular interest to determine not only the existence of parent involvement latent classes, but also to determine the average number of involvement activity types that characterizes each class. This will give a more complete description of the parent involvement latent groups.

Several descriptive and comparative analyses were performed at this stage, in order to provide a better understanding of these parent involvement categories and to identify the characteristics that set them apart. The parents grouped in the three parent involvement groups were compared on a series of background variables, anticipating the more complex

model that was tested and presented in the next sections. These variables include disability status, family-school ethnic match, and parent socio-cultural class, as identified in the previous section. Also, a set of comparisons were performed on the variables used as predictors for socio-cultural class, namely parent education, parent socio-economic status, race, and language. Table 25 presents the descriptive statistics for these variables (percentages or means) by parent involvement group. Except for the disability status, all differences between parent involvement categories are statistically significant at the 0.001 level.

Table 25. Family background characteristics comparisons across disability groups (listwise deletion)

		Parent Involvement Class		
Comparison variables		*High involvement*	*Medium involvement*	*Low involvement*
	% of total sample	29.1	56.1	14.8
Disability	Yes	11.79	11.89	11.38
	No	88.21	88.11	88.62
Match	0	1.82	4.45	9.76
	1	3.38	4.53	9.95
	2	16.37	20.55	27.73
	3	78.43	70.47	52.56
Socio-cultural class	High	22.06	8.86	2.51
	Middle	51.90	34.50	11.30
	Atypical	13.89	25.47	33.84
	Low	12.15	31.17	52.35
Race	White	24.04	41.60	68.45
	non-White	75.96	58.40	31.55
Language	English	91.98	82.95	71.78
	non-English	8.02	17.05	28.22
Education (mean/SD)		5.6 (1.80)	4.5 (1.85)	3.5 (1.65)
SES (mean/SD)		0.39 (0.72)	-0.5 (0.74)	-0.54 (0.77)
Parent involvement types (mean/SD)		6.2 (0.85)	3.9 (1.01)	1.25 (0.72)

The first finding is that the three parent involvement categories contain, proportionally, similar numbers of children with disabilities. It seems that respondents' distribution across parent involvement groups is not influenced by the disability status of their children; in other words, the class membership is not predicted by disability status. This fact was tested (and confirmed) in the more complex model that will be presented in the next paragraph.

The results presented in Table 26 confirm that, excepting disability status, there is a strong relationship between family characteristics and parent involvement categorization. The parents in the higher involvement classes are more educated and have a higher SES than the families in the lower parent involvement categories. Proportionally, there are more White parents and English-speaking parents in the higher involvement categories than in the lower ones.

Of particular interest for this study was the relationship between the school-family ethnic match and parent involvement at school. In a first analysis the two variables (parent involvement categories and the match variable) were cross tabulated to determine the relative distribution across these two categorical variables. From Table 25 we can see that the ethnic match between the school and the parent is a strong factor differentiating parents in parent involvement categories, with a direct relationship: the high involvement group has a much higher percent of parents with a high match between them and the school, compared with other parent involvement groups, while the low involvement group has a greater percent of parents with little or no match compared with other parent involvement groups.

The socio-cultural class membership is also associated with parent involvement categorization; proportionally, there are more parents from the high and middle socio-cultural classes the in high involvement group than in the medium involvement group and more in the medium involvement group than in the low involvement group. Another way to look at the association between socio-cultural class membership and parent involvement categories is presented in Table 26, namely looking at the proportion of high, medium, and low involvement categories within each socio-cultural class.

Table 26. The relative frequency distribution of parent involvement categories by socio-cultural class for all children in the study (listwise deletion)

	Socio-cultural class			
Parent involvement group membership	*High class*	*Middle class*	*Atypical class*	*Low class*
High involvement	57.73	45.03	19.87	14.33
Medium involvement	39.96	51.54	63.04	63.71
Low involvement	2.31	3.43	17.09	21.96

The differences are quite visible, especially at the lower end of involvement categories: only about 2% of the parents in the high socio-cultural class are in the low involvement group, while for the low socio-cultural class, the percentage is ten times greater. There are fewer parents from the atypical socio-cultural class in the low involvement group compared with the low socio-cultural class, and more in the high involvement group. Table 26 reveals that one can actually rank-order the socio-cultural classes based on their distribution across parent involvement categories; the more involved parents are those in the high socio-cultural class, followed by the middle socio-cultural class, the atypical class and, finally, the low socio-cultural class.

There is also a strong relationship between involvement group and number of types of parent involvement activities. As mentioned above, the relationship is a direct consequence of the way the parent involvement categories were modeled. However, however, this variable yielded an average of involvement within each class, data that were not apparent from classification only. Parents in the high involvement group participated, on average, in over six types of activities during the kindergarten year out of the eight; the parents in the medium involvement group participated, on average, in almost four types of activities, while the parents in the low involvement group participated in just over one activity, on average.

Family Factors and Parent Involvement at School (Aims #3 and #4)

In this step, a more complex model for parent involvement at school was tested, putting together in a single path analysis the variables compared in the previous section. In addition, a new latent variable, "parent perception of school practices" (see Measurement section) was added in the model. Figure 20 presents a schematic of this model. Several notes: first, mother race, language, SES and education level were not introduced in this model because these variables were already used as predictors to determine the socio-cultural class membership; to use them again in this model would be redundant. Second, two variables, match and disability status, are presented with direct relationships with both parent involvement group and parent perception of school practices. These direct relationships tested Hypotheses 3.4, 3.5, 4.1, and 4.2.

Figure 20. The model for parent involvement and family characteristics predictors.

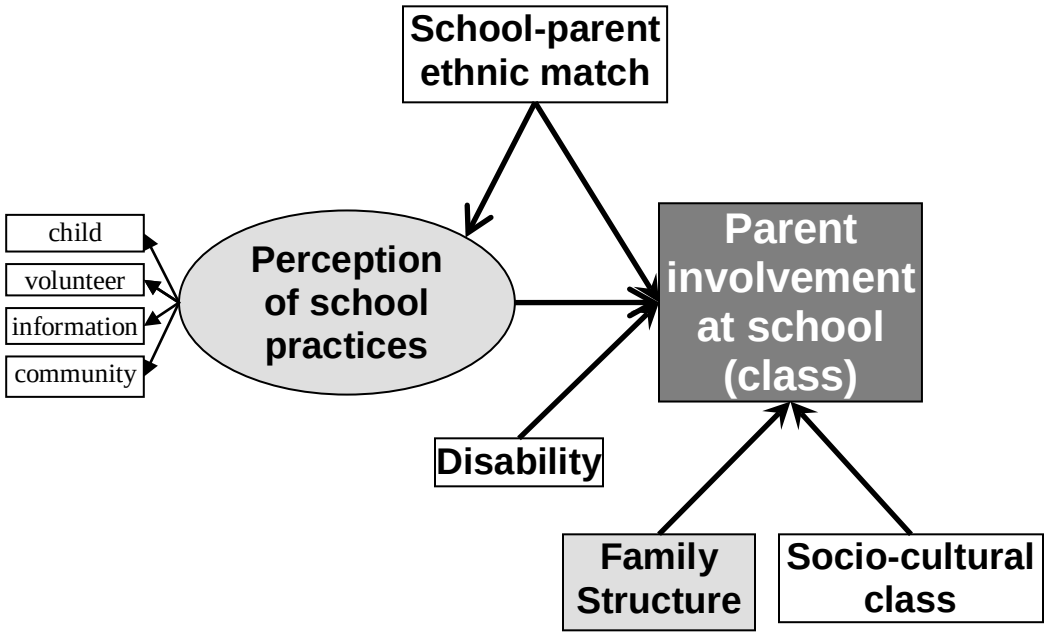


Table 27 presents the results of the multinomial logistic regression of the dependent variable, parent involvement group, on the predictors. The other three regression paths, pictured with dotted lines in Figure 20, came out as not significant at the 0.01 level. Therefore the coefficients are not reported here. All other regression coefficients are significant at the 0.01 level. Hypotheses 3.4 and 3.5 (the influence of disability on parent

perception of school practices and on parent involvement at school) were not confirmed. The possible causes and implications are discussed in the Discussion section.

The results presented in Table 27 are expressed in logistic regression coefficients. The logistic regression coefficients cannot be directly interpreted in the same way that the regression coefficients in a regular regression equation are interpreted. However, their sign (and, of course, their statistical significance) has the same interpretation: a positive logistic regression coefficient reflects a positive relationship, while a negative coefficient represents a negative relationship. The logistic regression coefficients can be transformed in odds values, which have an easier interpretation. These odds values are presented in parenthesis in Table 27. The odds are defined as the probability of being in one group divided by the probability of being in the reference group. For this model I elected the low involvement group as reference group. To give an example from the table, the regression coefficient for the high involvement group regressed on the variable "match" is 0.462, with the corresponding odds (calculated by exponatiating the value of the coefficient, that is, $e^{0.462}$) of 1.587. This can be interpreted as follows: the odds of being in the high involvement group versus the low involvement group increase with 1.587 when the match variable increases with one unit or, in other words, a respondent with a match value of 1 is 1.587 times as likely to be in the high involvement group rather than in the low involvement group compared with a person with a match value of 0.

Table 27. Logistic regression coefficients (and odds) for the model of parent involvement and family characteristics predictors.

	High involvement	*Medium involvement*
Intercept	-1.439**	0.354
	β (odds)	*β (odds)*
Disability	0.153	0.120
Single	-1.230** (0.292)	-0.598** (0.540)
Match	0.462** (1.587)	0.340** (1.405)
High class	3.604** (36.745)	1.786** (5.965)
Middle class	2.799** (16.428)	1.540** (4.664)
Atypical class	0.667** (1.948)	0.272** (1.312)
School practices perception	0.501** (1.650)	0.254** (1.290)

Note. The numbers outside parenthesis represent multinomial regression coefficients; the numbers in parenthesis represent odds. Disability doesn't have odds-ratio because disability is not statistically significant

**p<0.01.

The results show some important relationships between the family's social and cultural background characteristics and family involvement at school. Except for family structure variable, the other predictors in the model have positive logistic regression coefficients, reflecting positive relationships. Parents with a higher match value, being in either the high, medium, or atypical socio-cultural class (as opposed to the low socio-cultural class), and having a more positive perception of school practices are more likely to be in one of the higher involvement categories (high or medium) than in the low involvement group. For the family structure variable the relationship is opposite: being a single parent decreases the probability of being in the high involvement or medium involvement group. The results follow an ordered pattern, with all the positive coefficients being higher for the high involvement group compared with the low involvement group.

In conclusion, it was demonstrated that there are at least three categories of parents in terms of their involvement at school. These categories have an ordered rather than an unordered characteristic, with the medium involvement group containing more than half of the sample. Family's socio-cultural background has a strong relationship with parent involvement at school, that is, families of a higher socio-cultural class are more likely to be

in the higher involvement groups. Also, the parent perception of school practices has an important influence on parent involvement. The more positive the parent's perception of the school's practices, the more likely to be in a higher involvement group the parent is. The match between the school and the parent is another important predictor: The higher the match, the more likely it is that the parent belongs to a higher involvement group. The match variable, however, does not seem to directly influence the parent's perception of school practices.

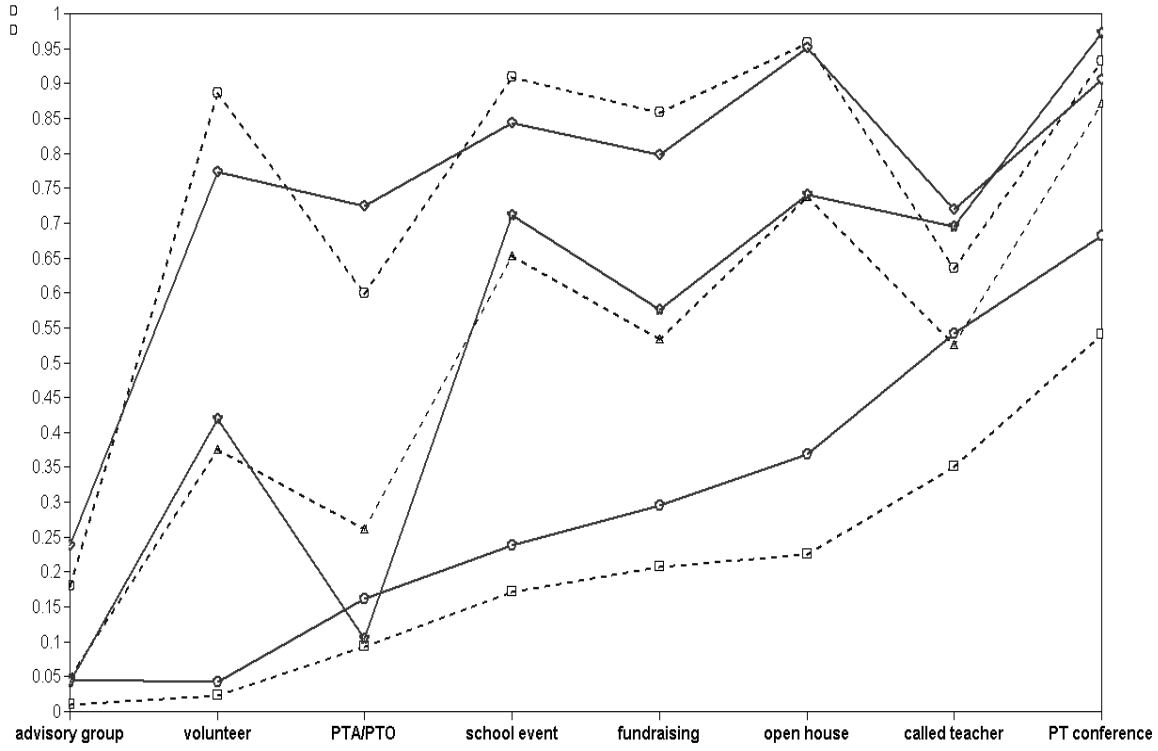
An important finding is the fact that child's disability status does not seem to influence directly the parent involvement group membership; however, it is still possible that disability status has an influence within each parent involvement group. To test for this presumed influence, I tested an alternative Latent Class Analysis model without predictors, in which I used the disability status variable as a multiple-group analysis variable. The analysis was performed in *Mplus* using the option KNOWNCLASS in the Analysis command. The model with disability status as multiple-group comparison variable actually has a better fit compared with the model without the disability variable, as can be seen in Table 28.

Table 28. Fit indices comparison for the models of latent parent involvement categories, with and without disability status as multiple group analysis

Model	*loglikelihood*	*BIC*	*AIC*	*Entropy*
No disability variable	-83557.564	167371.228	167167.128	0.560
Disability status as multiple-group variable	-80756.272	162028.503	161618.545	0.727

Figure 21 presents the latent class pattern. The dotted lines represent families of children without disabilities, while the solid line represents families of children with disabilities.

Figure 21. Latent parent involvement categories compared across disability status.



It is apparent from the figure that, while the three parent involvement categories maintain their pattern, within each category the parents of children with disability have a different pattern of involvement than the parents of children without disabilities. For the low involvement group the parents of children with disabilities have a higher probability of endorsing the involvement items, overall, compared with parents of children without disabilities. For the medium and high involvement categories, the patterns are different, with parents of children with disabilities having a higher posterior probability on only some of the items. What is constant throughout all three classes is that parents of children with disabilities have a higher probability, compared to parents of children without disabilities, to be involved in communication activities: calling the teacher and parent-teacher conferences.

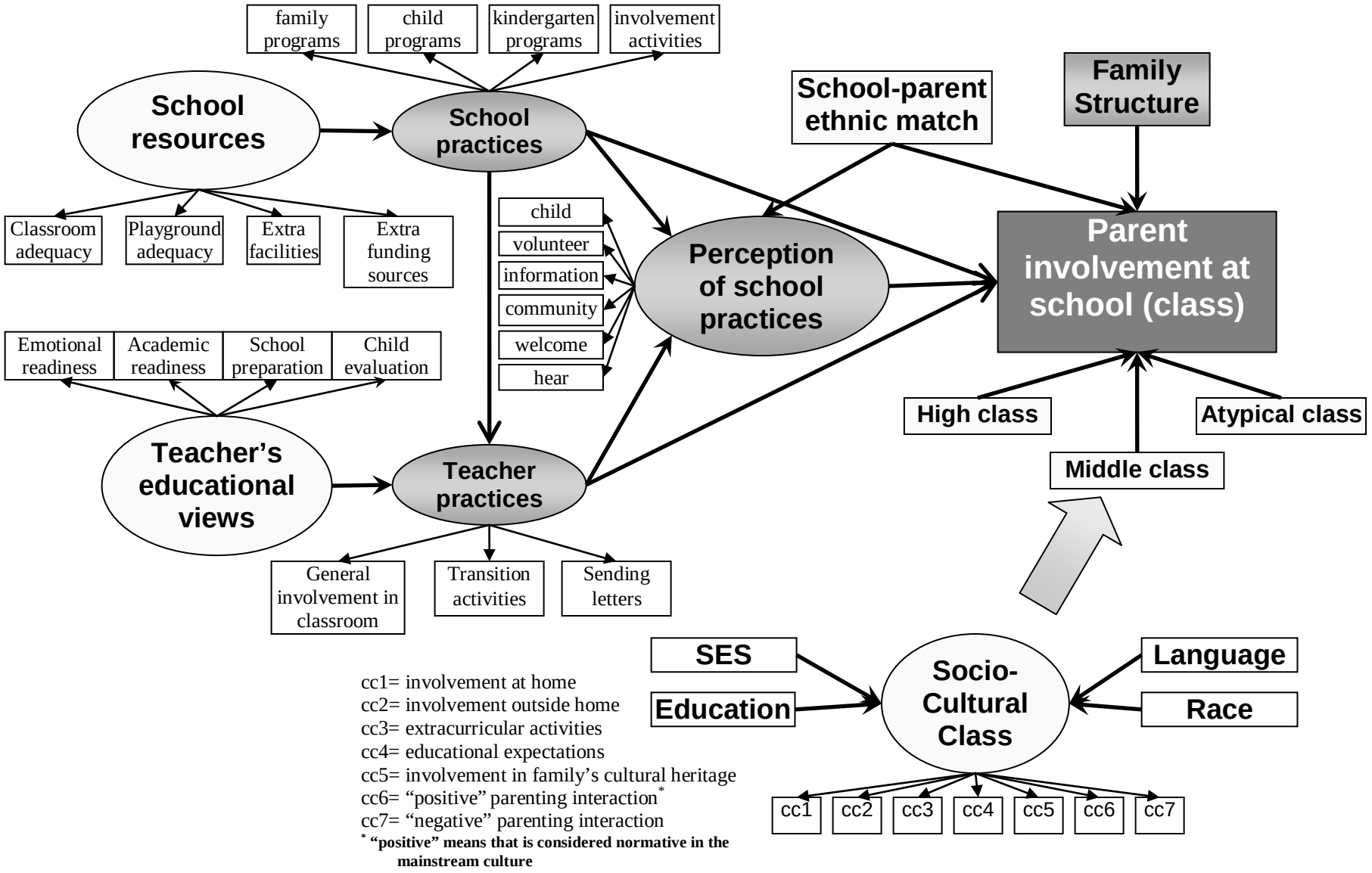
Full Model: School Factors and Family Factors (Aim #5)

The last step of the analysis was to test the final parent involvement model, with all variables included. The final model that was eventually tested and reported here differs in some aspects from the model initially intended; as it was apparent from the description of the analyses performed so far, the final model was reached in a step-wise manner, in which simpler models built toward a more complex model. These intermediate steps informed the decisions regarding the final model. The main difference between the initial intended model and the final model is that the final model does not contain the disability status variable. Previously reported results revealed that, while important in describing the patterns of parental involvement within a parent involvement group, the child's disability did not influence directly the parent's class membership, nor did it influence parents' perceptions of school practices, as was initially hypothesized. The full final model is pictured in Figure 22.

The final model introduces, besides the family factors, a new set of latent constructs, namely the school factors. These are school practices, school resources, teacher practices and teacher educational views, as were described in the Measurement section. The hypothesized relationships for this model were as follows: The level of resources that the school has available was expected to positively influence the level of practices for involving parents that the school was offering. On the teacher side, the educational views that the teacher holds was expected to positively influence the level of involvement practices that the teacher employed; that is, the higher standards in terms of academic, self regulation, preparation for school and child evaluation that the teacher holds, the more practices the teacher offer to parents. In addition, it was expected that the level of parent involvement activities that the school offered would directly influence the level of involvement practices the teacher offered, based on the logic that if a school has a strong policy and practice for parent involvement, this would influence teachers' practices independently from the teachers' views. Further up the model, it was expected that school and teacher practices for parent involvement would influence parent involvement group membership, both directly and indirectly. The indirect path was expected to run through

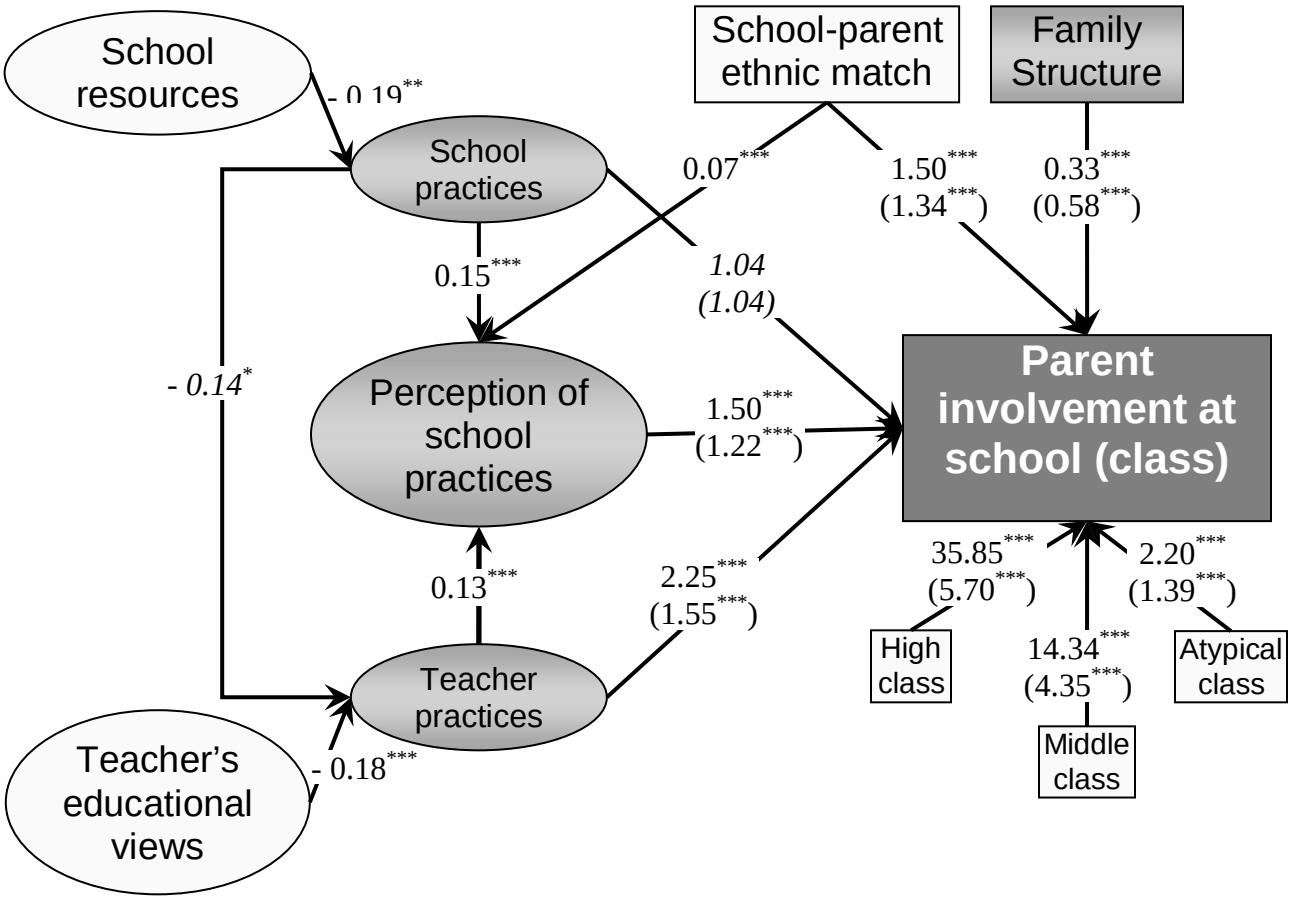
parents' perception of school practices: the more practices the school and the teacher offered, the more positive the parents' perception of these practices would be, which in turn would positively influence the parent involvement at school. Family structure and family socio-cultural class have the same expected relationship as in the half-model presented in the previous section.

Figure 22. Parent involvement at school – final model.



The results yielded by the final model that was tested are presented in a graphical form in Figure 23, and in numeric form in Tables 28a and 28b. The results are also analyzed and discussed within the following paragraphs.

Figure 23. Path regression coefficients and odds ratio for the full model of parent involvement at school



Note. a) The coefficients on the arrows going into Parent Involvement at School Class are odds ratio. The numbers outside parenthesis represent the change in odds of being in the high involvement class versus the low involvement class; the number in parenthesis represent the change in odds of being in the medium involvement class versus the low involvement class.
b) The coefficients on the rest of the arrows (not going into Parent Involvement at School group) represent standardized regression coefficients.
*p<0.05. **p<0.01. ***p<0.001.

Tables 28a and 28b present factors loadings and regression coefficients from the final model tested, their standard errors (S.E), and their significance tests. The coefficients presented in Tables 28a and 28b and Figure 23 have different interpretations, as it is described in the following paragraphs.

The regression coefficients for the multinomial logistic regression of parent involvement group on its predictors were converted in odds by exponentiating the values of the unstandardized regression coefficients; the interpretation is similar to that discussed in the previous section. In Figure 23, the number outside parenthesis represents the change in odds from being in the high involvement group versus the low involvement group (the reference class), while the number in parenthesis represents the change in odds of being in the medium involvement group versus the low involvement group. In Tables 28a and 28b the regression coefficients, converted in odds, are presented separately for high involvement group and medium involvement group. The factor loadings are the unstandardized coefficients. The other regression coefficients presented in the table are *standardized* regression coefficients. *Mplus* offers two types of standardized coefficients, depending on the nature of the predictor variable. First one, StdYX, is used when both the predictor and the outcome variable are on a continuous scale. This standardized coefficient β can be interpreted as *"outcome variable changes β standard deviations when the predictor variable changes one standard deviation."* The second type of standard coefficient, StdY, is used when the predictor variable is dichotomous, and therefore does not have a meaningful standard deviation. This coefficient can be interpreted as "the outcome variable changes in β standard deviations when the predictor variable changes from 0 to 1." Since all the predictors in the model are continuous, the StdYX standard regression coefficients were reported

Table 29. Parent involvement measurement model coefficients, standard errors, and p-values

Measurement model	*Estimate (loading)*	*S.E.*	*Estimate/ S.E.*	*Standardized*		*p*
				Estimate	*S.E.*	
Perception of practices by						
How child is doing	1.030	0.037	27.537	0.500	0.013	0.000
Volunteer opportunities	1.431	0.053	26.981	0.625	0.014	0.000
Helps understand children	1.833	0.062	29.736	0.716	0.012	0.000
Information on community services	1.633	0.050	32.598	0.675	0.011	0.000
School practices by						
Programs for children	0.766	0.107	7.167	0.395	0.048	0.000
Programs for families	0.971	0.074	13.088	0.723	0.048	0.000
Programs for kindergartners	0.173	0.068	2.565	0.149	0.058	0.010
Parent involvement activities	1.498	0.255	6.646	0.372	0.052	0.000
School resources by						
Playground adequate	1.437	0.201	7.139	0.621	0.053	0.000
Classroom adequate	2.487	0.449	5.537	0.808	0.051	0.000

Extra funding sources	-0.524	0.136	-3.844	-0.236	0.061	0.000
Extra facilities	0.280	0.091	3.090	0.169	0.055	0.002
Teacher practices by						
Send letters	0.647	0.103	6.302	0.344	0.047	0.000
Transition activities	0.518	0.044	11.728	0.453	0.035	0.000
General involvement in class	2.013	0.127	15.848	0.606	0.035	0.000
Teacher's educational views by						
Child evaluation	1.156	0.111	10.457	0.344	0.032	0.000
Readiness: self regulation	3.105	0.131	23.657	0.698	0.022	0.000
Readiness: academic	2.592	0.093	27.783	0.836	0.021	0.000
Preparation for school	2.323	0.125	18.646	0.523	0.023	0.000

Table 30. Parent involvement structural model coefficients, standard errors, and p-values

Structural model	*Estimate (coefficient)*	*S.E.*	*Estimate/ S.E.*	*Standardized* *Estimate*	*S.E.*	*p*
Perception of practices on						
School practices	0.114	0.022	5.221	0.115	0.022	0.000
Teacher practices	0.128	0.021	6.173	0.129	0.021	0.000
Match	0.133	0.011	6.622	0.074	0.011	0.000
School practices on						
School resources	-0.193	0.071	-2.658	-0.189	0.071	0.008
Teacher practices on						
School practices	-0.186	0.058	-2.352	-0.181	0.041	***0.020***
Teacher's views	-0.138	0.041	-4.380	-0.136	0.058	0.000
High involvement group on	*Estimate (odds change)*	*S.E*	*Estimate/ S.E*			*p*
Ethnic match	1.496	0.098	4.115	-	0.032	0.000
Family structure	0.327	0.091	-12.212	-	0.021	0.000
High socio-cultural class	32.851	0.192	18.218	-	0.029	0.000
Middle socio-cultural class	14.339	0.112	23.875	-	0.028	0.000
Atypical socio-cultural class	2.205	0.112	7.086	-	0.025	0.000
Perception of school practices	1.500	0.048	8.486	-	0.027	0.000
School practices	1.043	0.084	0.516	-	0.047	***0.606***
Teacher practices	2.279	0.085	9.732	-	0.039	0.000
Medium involvement group on	*Estimate (odds change)*	*S.E*	*Estimate/ S.E*			*p*
Ethnic match	1.348	0.077	3.897	-	0.047	0.000
Family structure	0.583	0.072	-7.472	-	0.031	0.000
High socio-cultural class	5.703	0.186	9.344	-	0.053	0.000
Middle socio-cultural class	4.350	0.098	14.994	-	0.046	0.000
Atypical socio-cultural class	1.395	0.085	3.894	-	0.036	0.000
Perception of school practices	1.216	0.041	4.828	-	0.044	0.000
School practices	1.044	0.068	0.634	-	0.071	***0.526***
Teacher practices	1.550	0.072	6.096	-	0.063	0.000

Note. The standardized values corresponding to the odds ratio change (regression of high involvement and medium involvement groups on predictors) are not presented in the table because the standardized coefficients cannot be transformed in odds ratio; the Est. /S.E. value is based on the untransformed regression coefficients.

Two regression coefficients in the model are not statistically significant, namely those of the relationship between parent involvement categories (high and medium,

respectively) and school practices for involving families. It seems that there is no direct effect of school practices on parent involvement at school. Unfortunately this particular model does not allow checking the significance of the indirect effects, although this can be obtained in other types of models in *Mplus*. Both regressions of the indirect path between school practices and parent involvement (parent involvement regressed on parent's perception of school practices, and second parent perception regressed on school practices) are significant, although rather weak, so we can conclude that school practices have an actual effect on parent involvement only through parent's perception of those practices.

If we follow the stricter α level of 0.01 versus the more common 0.05, there is another regression coefficient that is not significant statistically, namely the influence of school practices on teacher practices. In a model with a sample size of over 16,000 it is probable more reasonable to select a stricter α level, so I think it is safe to conclude that school practices do not have a direct effect on teacher practices. The relationship is puzzling anyway, since it is negative, which would mean that the more practices and programs the school has in place for families, the fewer such practices the teacher offers. In a stretch this negative relationship can be explained by hypothesizing that in schools that have actives programs and policies for parent-school collaborations, the teachers are not compelled to add extra practices for involving parents.

There are two unexpected regression coefficients in the model, in terms of sign: the regression coefficients for the relationship between school practices and school resources, on one hand, and teacher practices and teacher educational views, on the other hand, are both negative, suggesting that the more resources the school has available, the fewer involvement practices the school employs and, on the teacher side, the higher educational standards the teacher holds, the fewer or less intense practices for involving parents the teacher employs. These negative relationships can be due to measurement issues; it could be that the school and teacher constructs are measured with measurement errors, or that the constructs lack construct validity. On the other hand, there might be a substantial, legitimate explanation for these findings; the possible causes will be discussed in the Discussion section.

The stronger predictor for parent involvement group membership is family's socio-cultural class. The probability of being in the high involvement group is 35 higher than the

probability of being in the low involvement group for parents in the high socio-cultural class and 14 times higher for the parents in middle socio-cultural class. The parents from the class that I called “atypical” are also more likely to be in a higher involvement group than in the low involvement parent involvement group. Parent’s perception of school practices seems to be a reasonable predictor for parent involvement, although the relationship is rather weak: for one unit increase in parent’s perception of school practices the probability of being in the high involvement group versus the low involvement group increases with approximately 50%.

The match between parent and school, operationalized as ethnic match, remains and important predictor of parent involvement group membership; the odds of being in the high involvement group versus the low involvement group increase with about 50% for one unit increase in parent-school match, while the odds of being in the medium-involvement group versus the low involvement group increase with about 34%. The match variable also has a statistically significant effect, albeit small in size, on parent’s perception of school practices. The small value of the coefficient makes the interpretation of the relationship unsure; however, the fact that the relationship is significant and in the expected direction based on the theory of cultural capita makes it worth of future investigation

In conclusion, parent involvement group membership is strongly influenced by parent’s socio-cultural class, by family’s structure and by family’s perception of school practices. The school practices do not have a direct effect on parent involvement at school only an indirect effect through perception of school practices. Teacher practices for parent-school communication have both a direct and an indirect effect on parent involvement at school group membership.

DISCUSSION

This study had five aims grouped in two major goals: one, to create a profile of kindergartners and their families and second, to investigate patterns and predictors of parent involvement at school. A common theme across the two goals was determining what roles the presence of a child with disability in the family plays in influencing these two main concepts. Each goal was approached in a novel manner, using empirical data from a large, nationally representative database, and a theoretical perspective based on social and cultural capital theories embedded in an ecological framework. The main premises of this study were that a theoretical framework based on cultural and social capital theories, embedded in an ecological framework would better explain the social stratification among parents of kindergartners, and the family-school interaction, especially parent involvement at school.

The main assumptions and hypotheses of this study were tested successfully. The study revealed that, using a more comprehensive set of indicators informed by theory of cultural capital, an additional class of parents can be identified, beyond the classes determined by the usual socio-economic status classification. This class mostly includes parents with ethnic and linguistic backgrounds that are different from the main White culture, either middle class or lower class. This socio-cultural class differs from the White middle class and from the lower class on other characteristics beside ethnicity and language at home. Their parenting style and pattern of interaction with the school are different; comparing with most other parents, these parents were less involved in activities such as visiting libraries and museums or enrolling their child in various clubs, but held higher educational expectations for their children and were more involved in activities related to their cultural and religious heritage. Also, they were less likely to endorse parenting practices that are considered normative in the mainstream culture, and more likely to endorse non-normative parenting practices. This study seems to confirm the fact that the types of involvement with the child that were used as indicators for determining parents' socio-cultural class represent indeed forms of cultural capital that families belonging to different classes possess in different degrees. The theory of cultural capital does not state that a particular type of cultural capital is the best, or the one that should be sought, only

that different classes have different types of cultural capital and that the one held by the dominant class tends to be (mis)recognized as the normative one. Similarly, what I wanted to demonstrate with this study is not that a particular type of parent-child or parent-school interaction is the best, but that the socio-cultural classes that are more aligned with the school's culture have a more intense and smoother interaction. This assumption is supported by the results of this study.

Of course, this study has a series of limitations, and does not claim that it answers all the questions. First of all, this study uses a quantitative methods paradigm, trying to operationalize concepts that are difficult to define and conceptualize, let alone to operationalize in a quantitative fashion. Second, since this study used secondary data analysis, the author did not have control over the variables in the dataset; therefore the operationalization of the different constructs in the study had to be done with the measurements that were available in the data set. This proved to be a serious limitation, especially when trying to operationalize school and teacher constructs. Future studies, with carefully created measurements, are needed to test this model. Third, related to the previous one, the data was not collected with a capital theory in mind, therefore the way the questionnaires were designed did not always capture concepts that are relevant from a capital theory standpoint. However, despite these limitations, the results of this study are promising and worth pursuing further. The following sections summarize the results and offer the investigator's comments and interpretations in light of the social and cultural capital theories, divided into the two main goals of the study.

Kindergartners' profile

Specific Aim #1

The first goal of this study was to create a comprehensive profile of kindergartners, their families, and their communities, and to seek the particularities that emerge for children with disabilities and their families in such a profile. The aim was to determine what sets young children with disabilities apart when compared with their typically developing kindergartners. This goal corresponds with Aim #1. The literature on children with disabilities, both scholarly writings and official governmental reports, contains

numerous attempts to describe this particular population. However, most previous descriptions do not go beyond simple descriptive statistics on a handful of variables that are commonly used by social scientists, particularly by demographers. This study sought to create a more comprehensive profile of kindergarten-age children and their families, based, for the first time, on an integrated theoretical framework and considering additional characteristics besides the common demographic ones such as gender, ethnic/racial characteristics, socio-economic status, and academic achievement indicators. The study identified and tested a presumed cultural and social classification of parents beyond the one based on classical socio-economic status. This goal was achieved by using a Latent Class Analysis method, a statistical procedure that allowed identification, based on a set of indicators, of groups of parents who share similar characteristics within the larger group but are different across subgroups. To determine the presence and, subsequently, the characteristics of the presumed socio-cultural classes, the research employed a set of indicators based on constructs informed by cultural and social capital theories. Furthermore, the study compared these profiles across disability status.

Bivariate comparison

This study confirmed that children with and without disabilities differ on a number of characteristics that have been commonly found in the literature. Proportionally, there are more children with disabilities toward the lower end of the socio-economic status than toward the higher end. According to these findings, a higher percentage of children with disabilities are living in poverty and, more generally, in lower socio-economic classes than children without disabilities. There are also more children with disabilities living in single parent families. These present findings are consistent with the past literature in that that low socio-economic status and poverty were found to correlate with the presence of a disability (Birenbaum; Brooks-Gunn & Duncan, 1997; Brosnan, 1983; Duncan & Brooks-Gunn, 2000; Fujiura & Yamaki, 2000).

However, in terms of racial and linguistic differences, this study yielded some surprising findings. At least at kindergarten age, a lower percentage of children from racial and linguistic minorities are found among children with disabilities than is true for their typically developing peers and, proportionally, more White children. Studies on older

students have found that racial minorities are actually overrepresented among school-age children with disabilities, especially African American children (Brosnan, 1983; Coutinho, Oswald, & Best, 2002; Coutinho & Oswald, 2000; Cummins, 1995; Donovan & Cross, 2002; Oswald, Coutinho, Best, & Singh, 1999; Zhang & Katsiyannis, 2002). The results of this study show that the tendency to overrepresent minorities in the disability population starts after kindergarten, and not before, although other studies seem to contradict this (Hebbeler et al., 2001; Wagner, Marder, & Blackorby, 2002). The same is true for language minority students. While at older ages, language minority students tend to be overrepresented among children receiving special education (Garcia & Ortis, 1988; Gersten & Woodward, 1994), the results of this study show an opposite tendency; proportionally, there are fewer students with disabilities among non-English speakers than among English speakers in kindergarten. This is a major finding that warrants further investigation. The next logical step in studying this issue would be a longitudinal study, using ECLS data collected at subsequent ages to note the pattern of representation over time. Since the ECLS-K study was designed to collect longitudinal data from the participants up to the 12th grade, it would be possible to extend this study in a longitudinal study design. At the date of the present study, the ECLS investigators have completed and made public data collected up to 5th grade.

There are several possible explanations for the findings in the present study. First, the operationalization of *disability* differs between this study and the rest of the literature. While most of the literature defines disability as *eligible to receive special education services*, in this study the operationalization was intentionally slightly different, that is, *diagnosed with a disability, whether or not the children receive special education services.* This definition switched the focus from eligibility criteria, as defined by the school system, back to the family. One hypothesis would be that this different operationalization alone led to the difference in findings. Not all children with a diagnosed disability receive special education services. A parallel analysis, using a variable determining whether or not the child receives special education services through the school, revealed that indeed half of the children diagnosed with a disability did not receive special education services. The racial distribution for children receiving special education is more balanced, with relatively equal proportions of children from different racial groups across special education status.

Moreover, the ethnic/racial distribution of children receiving special education services is closer to the overall racial distribution, except for the Asian group, which is less represented in the special education population than in the general population (see Table 11, page 78). However, the variable determining whether or not the child received special education services has a great percent of missing data (over 30% of the information is missing). It is therefore difficult to draw a conclusion to whether this racial distribution is solely due to the different operationalizations of the disability status. The fact remains, though, that, regardless of the operationalization of children's disability status, the skewed ethnic/racial distribution that is reported at older ages was not found for kindergarten-age children.

The second possible explanation for this surprising finding could be related to contextual factors. The children in this study were identified with a disability before or right after they entered kindergarten, while the literature usually has reported statistics on school-age children. This means that for the children in this study the principal referrer was the parent, a preschool teacher, or a doctor, while for the children in the other studies and reports, the school teacher is usually the chief referrer. It is plausible that these two microsystems differ in what they are more likely to observe in children and classify as a problem. A parent, a doctor, or a preschool teacher is probably more likely to observe biological or developmental problems, while a school teacher is more likely to observe behavioral and learning problems. This hypothesis is supported by the fact that the school system offers a new set of requirements and performance standards for students than did the previous setting, and it emphasizes literacy and math skills. The official reports (e.g., U.S. Department of Education, 2007) revealed that the most prevalent disability category for students ages 6 to 21 was *Specific Learning Disability*. The overrepresentation of minorities in school-age children is very often reported for learning disabilities (Coutinho, Oswald, & Best, 2002), a problem area that is more likely to be observed in a school environment and by a teacher and often after a child has started in elementary school.

It is noteworthy that the relationship between minority status and disabilities is not a direct one. Problems related to school performance, such as learning disabilities, have a stronger link with the socio-economic status of the student than other types of disabilities have (Brooks-Gunn & Duncan, 1997; Duncan & Brooks-Gunn, 2000; Turnbull, &

Turnbull, 2002). It is also known that poverty and minority status are correlated, so most probably poverty has a spurious effect, being directly correlated with both minority status and disability status, especially the types of disabilities that are more prevalent in older students, such as learning disabilities. This spurious effect is probably less powerful in the pre-school[5] microsystem than in the school system, for the reasons presented above. However, other factors may be influencing this difference in representation.

A third possible explanation of this particular ethnic/racial distribution is directly informed by a cultural capital theory. This study revealed not only that the ethnic minorities are less represented within the sample of children diagnosed with disabilities, but also that the "atypical" class, composed mostly of parents coming from ethnic and linguistic minorities, contains a smaller proportion of children with disabilities, compared with any other socio-cultural class. It could be that, due to particular cultural norms and attitudes regarding disabilities, the parents coming from these particular cultures are more likely to underreport the presence of a disability in their families. As a consequence, the relative proportion of White parents reporting having a child with disability would increase. The literature supports the idea that different cultures have different views and attitudes toward disabilities.

It is plausible and worth exploring the idea that this difference can be better explained from a cultural capital perspective (Harry & Klingner, 2006). The results of this study, discussed in the next section, revealed that the socio-cultural stratification in the population is more complex than the classical socio-economic approach. Further studies, both quantitative and qualitative, are required to understand this concern and to speak definitely to the matter. The present study clearly cannot answer the question "is there a real relationship between disability and racial/ethnic background?" but the findings presented here offer a different angle than what was previously found. The fact that entering school appears to bring about such dramatic change in the distribution of disability across ethnic/racial groups is a quite convincing argument in favor of the differential referral theory versus the "real difference" theory.

[5] The term "pre-school" does not refer to the educational institution "preschool" but to the period of time before entering the school system.

Latent Class Analysis – Socio-Cultural Classes

The Latent Class Analysis approach to creating a profile of kindergartners and their families yielded even more interesting results. To the investigator's knowledge, such an analysis hasn't been previously performed. The socio-cultural latent classes revealed by the Latent Class Analysis and their characteristics have been reported in detail under the Results section. Each of the four classes is distinct and interesting to study. The main finding, however, was the fact that this four-class solution revealed a category of parents who do not follow the same pattern as the parents in the other three classes, a class that I called "the atypical class." The principal markers of this class are that the parents in this class are more likely to be non-White and more likely to be non-English users. From a cultural capital theory perspective, one way in which these parents differ from the parents in other socio-cultural classes is that their cultural capital is determined not only by their economic and human capitals, but also by race, ethnicity, and language. Especially language is an important factor here: the probability of being in this class is almost zero for English-speaking parents. I think it is safe to conclude that this fourth class is made mostly of first generation immigrants, especially non-White, and other non-White minority parents. The differences in racial distribution reported in Table 19 and Table 20 are very clear. By percentage, there are twice as many African Americans, almost three times as many Hispanics, and almost three times as many Asians in the atypical class than in the general population; a great majority of non-English speaking parents in this group are Asian or Hispanic, while more than half of the English-speaking parents are African American. It is apparent that what characterizes this class is a particular cultural background that is different from the mainstream White, English-speaking. Of course, one cannot expect that this class is homogenous but, nevertheless, there are sufficient similarities within this class to make it stand apart form the other socio-cultural classes.

It is worth noting that in terms of education, the parents in the atypical class do not differ markedly from the parents in either the high or the middle socio-cultural classes. The odds of being in the high or the middle class versus the atypical class are not influenced by the educational level of the parent (they very close to 1) and are not significant statistically. However, when it comes to socio-economic status, defined based on education but also on

income and job prestige, the parents in the atypical class differ from the parents in the high and middle socio-cultural class, in that that they tend to be of a lower SES.

The graph in Figure 16 shows other characteristics of the parents in the atypical class. They are similar to the low socio-cultural class in some aspects, namely involvement at home, involvement outside home, extracurricular activities, and parenting interactions, but more similar to the high class – and actually surpassing the high class – on cultural involvement with the child and educational expectations. This class shows a pattern that clearly does not fit with any of the classical socio-economic status categories.

My critique of the over-used socio-economic status (SES) categorization is that it fails to go beyond the pragmatic indicators of income and education. The first indicator, income, represents purely economic capital, while the second, income, represents purely human capital that ignores cultural capital, a practice criticized by Bourdieu. Thus the simpler formulation fails to capture the richness of the social stratification of the population.

The low, medium, and high socio-cultural classes found in this analysis were named so not in a value-laden manner, but based solely on the numerical values of the indicators. They overlap closely with the classical social classification of SES, namely low-class, middle class, and upper-class. The theory behind the SES categorization is not rejected by the findings of this study. However, as the findings prove, SES is not sensitive enough to differentiate the parents who have a different cultural background in terms of race/ethnicity, language, and cultural values and norms. Due to the fact that parents from linguistic and ethnic minorities tend to be at a lower level in terms of economic capital, the SES classification tends to lump them within the lower SES category. This study, however, revealed that the fourth category, while similar in some aspects to the other classes, is sufficiently different in other aspects as to be considered a separate category. This finding provides a richer view of societal membership than does the socio-economic status.

This study also sought to determine the role that the presence of disability within a family plays in determining the family's larger socio-cultural status. Of particular interest was whether or not the disability status was a factor in determining a family's socio-cultural class. Previous studies, and the initial findings of this study, suggested that presence of disability is correlated with a family's economic capital and, possibly, with the family's social capital. Namely, there are more children with disabilities in single parent

and low income families compared with typically developing children. But is the family's cultural capital restricted by the presence of disability? Does the disability create a separate culture? The findings from this study do not support this idea. Disability was shown not to be a significant predictor of class membership. Moreover, at least at kindergarten level and earlier, disability seems to be inversely correlated with race/ethnicity than it is later on during the school years. Therefore one can conclude that this correlation is an artifact, that is, has an external cause, and is not a true, direct relationship. However, if we consider the percentage of children with disabilities within each group, we see that there are some clear differences among them. The highest percentage of children with disabilities is in the low socio-cultural class, followed by the medium socio-cultural class, the atypical socio-cultural class, and finally the high socio-cultural class, which has the lowest percentage of children with disabilities. It is important to note that the percentage of children with disabilities in the atypical class is almost half that of those in the low socio-cultural class. This is another instance where the atypical socio-cultural class differs substantially from the low socio-cultural class with which, using just the SES categorization, this class is likely to be confused.

My interpretation of these findings is that the disability status does not determine socio-cultural class, but the other way around. This interpretation is supported by a risk-factors perspective, which indicates that children growing in families of lower socio-cultural class are more exposed to biological, environmental, and social risks than children in higher socio-cultural classes, and, therefore, they have a greater risk for various disabilities. Moreover, as mentioned in the previous sections, the low incidence of disabilities in the atypical class supports the idea that, if we add a cultural capital perspective, we gain a better understanding of the mechanisms and the reasons for which disabilities appear to be unequally distributed in the population.

To conclude, the main findings from the kindergartners' profile component of this study and a good starting point for future studies are (a) the racial-linguistic distribution and b) the isolation of the socio-cultural class labeled here *the atypical class*. This group of parents is different especially in matters related to their cultural background (race/ethnicity, language, involvement in cultural activities with their children, etc) from the other groups, and it should be considered and studied as such, especially in those studies that are

concerned with cultural differences. It is too soon to speculate about the reasons that this class has the lowest incidence of disabilities. The question is open for future studies.

Parent Involvement at School: Latent Class Model and its Predictors

The second goal of the study was to investigate parent involvement at school and to compare the patterns of involvement across disability status. This study used a novel approach in terms of conceptualization and operationalization of parent involvement than other studies of parent involvement at school. Other studies using similar indicators for parent involvement at school have added the values of the *"how many times…"* items, resulting in a parent involvement variable that reflected the total number of times a parent had been involved in specified activities with the school during the academic year. The investigator considered this approach unsuitable for two reasons. First, the commonly used approach assumes that the respondents accurately remember the exact number of times that they participated in a particular activity with the school. While for rare events this might be true, generally parents' recollection seems likely to be inaccurate. This can be easily seen in the frequency tables of the parent involvement indicators of the ECLS-K data. All items have unreasonably wide ranges with numerous outliers; for example, over 500 respondents declared that they participated in more than four open houses at school, an unlikely prospect. In contrast, reporting whether or not the respondent participated in that particular activity at all is likely to be a more reliable measure of parent involvement. Second, when the researcher reduces the parent involvement construct to a figure reflecting only the total number of activities in which the parent participated, the complexity of this phenomenon is lost. To avoid these issues, a new approach was adopted. First, for each of the eight parent-school activities, a dichotomous variable was employed to indicate whether or not the participant was involved at all in the particular school activity during the kindergarten year. This action presupposed that the dichotomous variables represent a more reliable measure than the standard approach, albeit not as quantitatively rich as the *"how many times"* variable, because remembering whether or not one participated at all in an activity is less likely to be prone to errors than remembering how many times one participated in the

activity. Second, the study took a person-centered approach instead of a variable-centered approach by employing a Latent Class Analysis using the eight dichotomous variables in order to detect unobserved categories of parents regarding their school participation. These methods yielded a classification of parents in three different categories of involvement at school, each with its own pattern. Furthermore, this study assembled the findings from the profile analysis and parent involvement Latent Class Analysis into a complex model which sought to determine what factors influence parental participation in school activities, and to what extent. In line with the ecological approach, the complete model contained family factors and school factors. The model of parent involvement at school was tested in a step-wise manner, addressing the 4 remaining aims of this study.

The first step, mentioned already above, was to run a Latent Class Analysis for parent involvement at school, using the eight indicators mentioned in the previous chapters and no predictors. Once a satisfactory class solution was extracted, a new unordered categorical variable was created, based on the results from the Latent Class Analysis posterior probabilities. The new variable indicated parent involvement class membership. The second step was to perform simple group comparisons across the parent involvement categories on a set of family variables. The third step was to test a SEM model with parent involvement group as the outcome variable and the family variables as predictors. Finally, the fourth step was to put together the final model, including school variables and excluding the variables that were found not to be significantly correlated with the parent involvement group variable in the previous step. Technically, steps three and four were cases of multinomial logistic regression with increased model complexity.

Specific Aim #2

The first step revealed that there are at least three categories of parents, based on their pattern of involvement at school. These unobserved categories have a clearly defined *ordered* quality. Across all three categories, the posterior probabilities of each of the eight indicators are rank-ordered, lowest probabilities in the low involvement class, higher in the medium involvement class, and the highest in the high involvement class. More than half of the parents in the study belong to the medium involvement group. The pattern of

involvement within each category, especially for the medium and high involvement categories, is consistent with the literature on parent involvement that operationalized involvement at school based on the intensity of the involvement activities. The activities with the lowest posterior probabilities are those that are considered more intense and demanding, namely, participation in advisory group, participation in PTA/PTO conferences, and participation in fundraising events.

Quite surprisingly, at least at a first glance, is the fact that for the parents in the high and medium involvement categories, calling the teacher has a lower posterior probability than other types of involvement. The activity is ranked sixth, from high to low, for parents in high involvement group, and fifth for parents in medium involvement group, while for the low involvement group parents calling the teacher is the second preferred activity, after parent teacher conferences. A reasonable explanation is that the parents in the high and medium involvement categories have more opportunities, through their increased involvement, to interact and exchange information with the teacher, rendering phone calls less necessary.

The hypotheses under Aim #2 were supported by the results of this study. An ordered three-class solution was determined, based on the eight indicators. Across parent involvement groups, the mean number of parent involvement types the parents participated in during the kindergarten year is different, also in an ordered fashion: the low involvement group has the lowest mean of involvement types, the medium involvement group has a intermediary mean of involvement types, while the high involvement group has the highest mean of number of parent involvement types.

Specific Aims #3 to #5

The comparison across parent involvement categories revealed that parent involvement group membership is strongly associated with a number of family characteristics. The comparison variables used were family's socio-cultural class, mother's race, parent education, language spoken at home, disability status, and the ethnic match between the parent and the school. A reason for which this analysis was performed before proceeding to the more complex model is that the big model did not introduce race,

education, language, and SES, because it would have been redundant in that they were already used as predictors for socio-cultural class. However, the investigator considered that it is important to understand how these predictors interact individually with the parent involvement group variable. Most of the findings were predictable and have been reported by other studies, albeit using a different conceptualization and operationalization of parent involvement. White parents, English-speaking parents, parents of a higher SES, and educated parents are more represented in the medium involvement group, and even more in the high involvement group.

The various predictors and their effect, direct or indirect, on parent involvement at school will be discussed in the following paragraphs. The results that are interpreted below are corroborated from the various analysis steps. The steps were not intended to be separate investigations, but rather a unique analysis, progressing from a simple to a more complex form, and having a common goal: determining, to the extend possible, the factors from the child's ecology that influence parental involvement at school.

Disability Status

The influence that the presence of a disability in a family has on parent involvement at school was one important question for this study, presented under Aim # 3. Since this type of analysis has not been performed before, we had no clear hypothesis about the influence of disability on parent involvement group membership. Preliminary analyses, namely the across-class comparison and the simpler SEM model containing only family variables, showed that disability does not have an influence on parent involvement, at least in the way parent involvement was conceptualized in this study. Therefore, the disability factor was not introduced into the final model for explaining parent involvement at school. In other words, disability status does not determine a parent's class membership related to involvement at school. Rather, the most important predictor for parent involvement at school was parent's socio-cultural status. In turn, the parent's socio-cultural class membership was also found not to be directly influenced by the presence of disability. It is the author's opinion that these two things are related to each other; socio-cultural class, on one hand, and parent involvement class, on the other, can be conceptualized as cultural and, respectively, social capital. This study has shown that a family's general cultural and social

capitals are not *directly* influenced by the presence of disability. The families of children with disabilities differ, of course, from the families of children without disabilities in many aspects, as this study and previous studies have shown. However, the most fundamental characteristics of a family remain basically the same after their child's disability is diagnosed. The families are influenced by the presence of disability within the family's large socio-cultural class, but the disability does not seem to influence the family socio-cultural class itself.

This study does not claim that it has found an incontestable answer. Other studies, especially longitudinal ones, are needed to capture the more complex reality of the intersection between a family's culture, en large, and the presence of disability.

The prevalence of disability in the lower socio-capital class tells, actually, a different story, old but always new: Low income, low education, and poverty are risk factors that manifest themselves in many ways, one of which being the heightened risk of interference with the normal development of children who are born and raised in this environment, and, therefore, experience a heightened risk for disability.

On the other hand, the intersection between the disability status variable and the socio-cultural class variable(s) tell another story: When scrutinized more closely, a family's cultural background does not, in itself, places families and their children at a higher risk for disabilities. The "atypical" class stands proof; minority status, either linguistic, or racial, or both does not associate directly with presence of disability. Low socio-economic status, due mainly to low economic resources, poverty, and lack of education, affords greater risks than racial and linguistic minority status.

Having a better understanding of the society and its cultural and social complexity is likely to improve our understanding of the disability. The deficit doesn't lie with parents who are different. The deficit lies with a social categorization that is not rich enough to capture all the subtleties of our society. Of course, this study does not claim that it answers all the questions and solves all the problems, but it does add slightly to the general effort.

Socio-Cultural Class, Family Structure, and Parent Involvement

The socio-cultural class emerged as the most important predictor for parent involvement class membership; for example, the odds of being in the high involvement

group versus the low involvement group are 36 times greater if the parent belongs to the high socio-cultural class. It is worth noting that the parents in the atypical class have greater odds of being in either the medium or the high parent involvement group than in the low involvement group; for both relationships, the odds ratios are greater than one. It can be concluded that being in the atypical class does not send the parents to the lowest parent involvement group, even if their involvement is lower than the involvement of the parents in the high and middle socio-cultural classes. Table 17 shows that the atypical socio-cultural class has a lower percentage of parents belonging to the low involvement group than the low socio-cultural class (17.09% versus 21.96%). Also, the atypical socio-cultural class has a higher percentage of parents in the high involvement group than the low socio-cultural class (19.87% versus 14.33%). This is yet another aspect on which the atypical and the low socio-cultural classes differ. A more traditional socio-economic status classification would have lumped, more likely, these two classes together and concluded that the atypical group's parental involvement at school was similarly low.

The socio-cultural class and its influence on parent involvement are important findings because they confirm that a closer examination, based on cultural capital theory, can unveil aspects of the society that have been hidden.

The family structure, operationalized in this study as whether or not the child lives in a single parent family, emerged as a significant predictor of parent involvement at school. As was predicted, the parents who do not have a partner have lower involvement at school. The reason is that single-parent families have fewer resources and are less likely to get involved. They usually have a lower socio-economic status than two-parent families and have less time available for involvement at school. According to Coleman (1988), the family structure represents one way of operationalizing the amount of social capital existent within the family. Literature on parent involvement at school identified family structure as a predictor of the amount of involvement, with single-parent families, or, in other words, families with less within-family social capital, being less involved at school. This study has confirmed, once again, that single parents are indeed less likely to be involved at school.

Family's Perception of School Activities

Another important finding of this study is that the parents who perceived the school as offering more information and opportunities for involvement were more active in their schools. For schools, this means that it is very important not only to offer opportunities for the parents to become involved but also to make sure that the message is broadly disseminated in a variety of ways and then correctly perceived by the parents, regardless of their cultural background. Combined with the fact that the practices for parent involvement that the schools are offering as reported by the school administrators did not directly predict the involvement that parents reported, we see a picture of schools and parents being less than fully engaged with each other. Probably many of the parents who do choose to get involved with the school are doing so because they believe that they have an important role to play in their children's education and that their actions fulfill a normal parental role. This is consistent with Hoover-Dempsey and Sandler's theory of parent involvement; namely, the invitations and opportunities from the school to become involved are important factors influencing parent involvement, but this factor is facilitative, and neither necessary (i.e. parents with a well developed and positive sense of parental role and a strong sense of self-efficacy will be involved regardless of whether they are invited or not) nor sufficient (i.e. schools do not have power by themselves to create either positive parental roles or self-efficacy). It will be important for the schools to make sure not only that they offer a broad range of involvement opportunities to the parents, but also that the message gets to the parents in a way that they understand it and can act on it.

These findings can be understood from a cultural capital point of view. The fact that the school practices do not have a direct effect on parent involvement but only an indirect effect, through parents' *perception* of school practices, speaks again to the idea that what is important in the interaction between the school and the parents is a level of alignment between their cultural capitals The schools may influence parental involvement only if the parents perceive that the schools are inviting and open. The parents were found to perceive that the schools are inviting and open if there is an adequate level of continuity, of alignment between the school's cultural capital and that of the family's.

Parent-School Ethnic Match

This was the fourth aim of the study. An important finding from this study was the way the degree of ethnic match between the parents and the school explains part of the pattern and intensity of interaction between the school and the family. Based on premises informed by the cultural capital theory, the ethnic match variable was a first and fragile attempt to operationalize and test the idea that not only a family's cultural capital is important in influencing the relationship between a family and the school, but also the alignment between the family's cultural capital and that of the school.

The results of this study regarding family-school ethnic match are encouraging. The one-way comparison, confirmed subsequently by the more complex models of parent involvement at school, have shown that there is a direct, positive relationship between the ethnic match and parent involvement at school. The high involvement group has a much higher percent of parents with a high match along racial-ethnic lines between them and the school, compared with other parent involvement groups, while the low involvement group has a greater percent of parents with little or no match compared with other parent involvement groups.

The partial and the full SES models of parent involvement at school yielded similar results. The family's odds of being in the medium involvement class versus the low involvement class increase about one third for each unit of the match variable. The odds for being in the high involvement class versus the low involvement class increase even more dramatically, with about half of each unit of the match variable. Also, the ethnic match between the family and the school seems to have some influence on the parents' perception of the school's practices for parent involvement. While this effect is not strong, the influence was significant and in a direction predicted by cultural capital theory; namely, the higher the match between family and school, the more positive perception the parents have. This relationship definitely deserves further investigation.

The ethnic match between the parent and the school is but a first step toward a true assessment of the cultural match between families and school, a cultural match that is very important from a cultural capital perspective and is confirmed by ethnographic studies to understand the patterns and outcomes of family-school interactions. However, even if only

a rough operationalization, the match variable has shown that when families and schools are more alike, the collaboration is smoother and improved over alternative situations.

The influence of ethnic match on parent involvement can be considered another major finding of this study, not only because of the relationship itself, which was predicted by the cultural capital theory, but also because it shows that such a cultural match between school and families can be successfully operationalized in a large, quantitative study. Future studies will improve the operationalization of the alignment between a family's cultural capital and that of the school's but, nevertheless, the first step has been made.

School Predictors

The constructs operationalizing the school and teacher factors in the study yielded some interesting and unexpected results in the final model of parent involvement at school. The first to be mentioned is the fact that school practices do not directly influence parent involvement. Nevertheless, while it was expected that school practices would have a direct effect on parent involvement at school, the fact that the relationship seems to be not significant is not inexplicable. One can look at this lack-of-relationship through a cultural capital theory, more precisely the cultural match component of the theory. Of course, this finding can also be an artifact of the data collection procedure or, in other words, an issue related to the validity of the variable chosen to measure the construct. This hypothesis can be supported by the other findings of this study that were puzzling; for instance, the relationship between school resources and school practices is significant but negative. It would seem, from this study, that the more resources the school has, the fewer practices the school offers. This is counterintuitive, and it deserves more investigation. It might have to do, as mentioned above, with validity and/or reliability issues, more particularly construct validity. It was a difficult task from the beginning to find a suitable set of variables in the dataset that could conceivably measure school resources. It is either the case that the problem lies with the measurement, or that the problem lies with the theory behind the hypothesis that school resources should have a positive impact on school practices. Maybe the schools that have plenty of resources do not need purposefully to implement practices for parent involvement. It is plausible to think that the schools with more resources are the schools placed in well-to-do neighborhood, where parents are more involved based on their

own characteristics. A similar, negative, relationship was found between the teacher's educational views construct and the teacher practices construct. The higher the standards for children's education that a teacher has, the fewer practices for family involvement the teacher seems to implement, according to this study. It could be that the teacher who has high standards for children's education and readiness feel that it is educators' job to educate the children, and thus this individual may be less inclined to involve parents.

However, the fact that the school and teacher factors have proven to be more problematic and to yield more unexpected results can be interpreted, also, through the proximity hypothesis; that is, the further one moves from the family, the weaker the influences and the more difficult it is to isolate these influences. The factors closer to the parent, including here the teacher practices, which indeed do have a solid positive influence on parent involvement, are stronger and, therefore, more easily isolated from the multitude of other unaccounted for factors that indubitably are present and influential.

Conclusion

This study attempted – and, in the author's opinion, succeeded – to bring some new light to the complex interaction between family, school, and disability, offering new perspectives, new concepts, and new interpretations. However, this study does not claim to ask all the questions and offer all the answers, the same way a brick does not claim to be the cathedral. This study and its findings, while important, are but a brick in a building and a step in a journey. The capital theories, and especially the cultural capital theory, is worth employing in understanding the complex ecology of families of children, with and without disabilities, and their interactions with the school system. The social and cultural stratification of families is more complex than the simple socio-economic status classification, and this complexity plays a role in the interaction between the family and the child, and between the family and the school institution. The presence of a disability, while not directly influencing a family's cultural capital, is an important factor in understanding these families and their interactions with the school.

The actual discourse on family-school relationship represents two movements (de Carvalho, 2001), which might converge or diverge are not necessarily mutually exclusive:

first movement considers the school as an organic extension of the family, which in turn is considered a resource for children's academic achievement. Parent involvement in education is considered natural, and taken for granted; the family-school relationship is smooth, unproblematic, and beneficial. The second movement "is related to compulsory schooling, education as acculturation or salvation for lower classes, and requires the cultural alignment of their families to the school" (p. 4). This movement considers family deficient, in need for education and intervention programs. The first movement is possible only when there is continuity between family's culture and institutional culture, leading to a homophilous type of social capital. In Bourdieu's perspective, the recommended practices for parent involvement in child's education represent a form of symbolic violence, particularly the type of involvement that happens at school.

The problem with the actual public discourse and policy in education is that general family-school relationship – a desired form of social capital, from which can benefit all the actors involved, children, parents, and teachers – is seen as being represented by school-related family involvement, moreover, it is interpreted as an obligation for parents and is presented as a strategy for enhancing and, at the same time, for equalizing educational outcomes for all children (de Carvalho, 2001). "Most of the discourse (of policy and research) exalts school-family partnership ideal, taking for granted its desirability and viability" (de Carvalho, 2001, p. 3).

From a cultural capital perspective, this model of parent involvement puts at advantage a certain culture, that is, the dominant white middle class. Other authors (Smerkar & Cohen-Vogel, 2001) pointed out that schools are institutions, and institutional theory hypothesizes that institutions have ritual experience and maintain appearances; school-based activities for parents are ritualized, prescribed, and organized by the school. This fact limits the interaction between parents and school to formal exchanges, formal in the sense that they are prescribed by the school. Parents are expected, consciously or not, to fit school's agenda, and not the other way around. When teachers or other school personnel contact families, it usually is to inform, or to signal a serious problem (Smerkar & Cohen-Vogel, 2001). Thus, the relationship between the family and the school usually follows a provider-receiver model.

> Patterns of family-school interactions seemed to be present in a particular language, in a particular set of formal and informal exchanges, in particular physical arrangements. They reflected certain assumptions about the status the status of families in social life and the role of educational systems in the public domain. These separate roles (or spheres) were legitimated through elaborate bureaucratic structures, policies, program, and procedures (p. 95).

The theorists and researchers who support parent involvement do it from the same position. Actually the term itself, "parent involvement", and the message these theories send ("inviting" parents, "educating" parents, etc), rest on the undeclared assumption that, while parent involvement is important and can lead to positive outcomes, the problem or the solution – hence the responsibility – lies with the parents. Educators can *help*, with well developed and well informed policies and programs, but the message that is sent out clearly places the burden on the parent. This can be seen from the well accepted and supported conceptualization and operationalization of the parent involvement activities; they basically are meant to fill schools' agenda: volunteering, fundraising, school events, etc. The discrepancy between school's agenda and parent's agenda is deepened for families who do not belong to the same culture as the school. This comes from the confusion I mentioned earlier: the family-school relationship is confounded – willingly or not – with "parent involvement in school."

It is not to say that I consider the family-school relationship and, particularly, the rhetoric of "parent involvement in education" as unimportant. I merely make the point that the actual approach in the educational policy and research is not necessarily the best one, it doesn't work for all parents and, moreover, it is not based on a "natural law." Regarding the issue of parent involvement in child's education, I concur with de Carvalho's words:

> by making this point, of course, I do not intend to deny that all families educate, but rather to affirm that formal education or instruction is not (and never was) the foremost or special function of families. If this is so, and if, moreover, the nuclear family is a construction of the modern state, having been historically dependent (including pioneer and suburban families) on public support, as Coontz (1992) averred, it is very curious that the family is being rhetorically redefined as an educational institution at the very moment in which it is suffering a quite marked and costly transformation (de Carvalho, 2001, p. 95)

Needless to say, the author refers to the academic, formal education that happens in school. It is important to distinguish between school-related parent involvement as a desirable practice and attitude for individual parents, based on choice and personal beliefs and interest in their role in child' school success, on one hand, and parent involvement as a public educational policy aimed at improving school success and, implicitly, at moving the responsibility for children's academic success from school to parents.

The involvement in school is important if not for other reasons, for the fact that it represents a national educational policy, even more so for parents of children with disabilities, it is on the curriculum of any school, and it can influence, negatively or positively, the child. However, I advocate for a real informed basis for decisions and assessment of parent involvement. Parent involvement philosophy and practice should be flexible, should be molded on the families' reality; different messages, different situations, different practices – what makes sense for whom? Ultimately, it is school's responsibility to change and be flexible, not parents', because the school is the public institution invested with the duty of providing formal, academic education, and producing academic outcomes for the children. Supporting families who cannot be as involved as middle class families because they do not have enough cultural and social capital or, better said, they do not have the cultural capital that is (mis)recognized as legitimate within the school institution and the larger society, should not be aimed at finding ways to make them more involved, but to compensate for their lack of resources. It is the school's primary responsibility to ensure proper condition for student learning and academic achievement, regardless of the family background. If the family's resources (cultural capital) allow them to be actively involved in schooling and influence the outcomes, it is for the better, but it is neither ideologically correct nor practical to consider it the primary factor for school success, and legitimate it as a countermeasure for school failure. School-family relationship should be based on exchange of information and ideas, and less on "fitting the schools' agenda" as it is conceptualized – openly or implicitly – in today's discourse. The question is not if families and school should communicate and work together (they should), but rather with what type of family this paradigm works, in what circumstances, and to what outcomes. The educational policies and the school, as an institution, should have a menu of paradigms to use, not only one. In embracing a cultural diversity paradigm the discourse should be not

about parent involvement in education, but about school involvement with the family. The difference might seem subtle, but is extremely important.

APPENDIX A

The questions and items from the dataset that were used to operationalize the constructs in the model

Construct	***Question from the dataset (items)***	***Scale***
Disability status		
Child has and IEP with the school	Student Record Abstract form	0 = no IEP on records 1 = IEP on records
Child diagnosed with a disability	Composite variable based on parent interview questions.	0 – no disability 1 – disability present
Parent involvement at school	*Since the beginning of this school year, have you or the other adults in your household:* a. taken it upon yourself to contact {CHILD}'s teacher or school for any reason having to do with {CHILD}? b. Attended an open house or a back-to-school night? c. Attended a meeting of a PTA, PTO, or Parent-Teacher Student Organization? d. Gone to a meeting of a parent advisory group or policy council? e. Gone to a regularly-scheduled parent-teacher conference with {CHILD}'s teacher or meeting with {CHILD}'s teacher? f. Attended a school or class event, such as a play, sports event, or science fair? g. Acted as a volunteer at the school or served on a committee? h. Participated in fundraising for (CHILD)'s school?	0 = no 1= yes
Parent socio-cultural class		
Heritage	*How often does someone in your family talk with {CHILD} about:* a. His/her ethnic or racial heritage b. your family's religious beliefs or traditions? *How often does someone in your family participate in special cultural events or traditions connected with your racial or ethnic background?*	1 = never 2 = almost never 3 = several times a year 4 = several times a month 5 = several times a week or more
Educational expectations	*How far in school do you expect {CHILD} to go?* 1 = To receive less than a high school diploma 2 = To graduate from high school 3 = To attend two or more years of college 4 = To finish a four- or five-year college degree 5 = To earn a master's degree or equivalent 6 = To finish a Ph.D., MD, or other advanced degree?	

Construct	*Question from the dataset (items)*	*Scale*
Involvement at home	*In a typical week, how often do you or any other family member do the following things with {CHILD}?* a. Read books to {CHILD}? b. Tell stories to {CHILD? c. Sing songs with {CHILD}? d. Help {CHILD} to do arts and crafts? e. Involve {CHILD} in household chores, like cooking, cleaning, setting the table, or caring for pets? f. Play games or do puzzles with {CHILD}? g. Talk about nature or do science projects with {CHILD}? h. Build something or play with construction toys with {CHILD}? i. Play a sport or exercise together?	1 = not at all 2 = once or twice 3 = 3 to 6 times 4 = every day
Outside home involvement	*In the past month, that is, since {MONTH} {DAY}, has anyone in your family done the following things with {CHILD}?* a. Visited a library? b. Gone to a play, concert, or other live show? c. Visited an art gallery, museum, or historical site? d. Visited a zoo, aquarium, or petting farm? e. Attended an athletic or sporting event in which {CHILD} is not a player?	0 = no 1 = yes
Extracurricular activities	*Outside of school hours, has {CHILD} ever participated in:* a. Dance lessons b. Organized athletic activities, like basketball, soccer, baseball, or gymnastics? c. Organized clubs or recreational programs, like scouts? d. Music lessons, for example, piano, instrumental music or singing lessons? e. Drama classes? f. Art classes or lessons, for example, painting, drawing, sculpturing? g. Organized performing arts programs, such as children's choirs, dance programs, or theater performances? f. Crafts classes or lessons? g. Non-English language instruction?	0 = no 1 = yes

Construct	*Question from the dataset (items)*	*Scale*
Normative parent-child interaction	*Most children get angry at their parents from time to time. If {CHILD} got so angry that (he/she) hit you, what would you do? Would you…* a. talk to (him/her) about what (he/she) did wrong b. make (him/her) do some work around the house c. make (him/her) apologize, d. take away a privilege, e. give a warning,	0 = no 1 = yes
Non-normative parent-child interaction	*Most children get angry at their parents from time to time. If {CHILD} got so angry that (he/she) hit you, what would you do? Would you…* a. Spank (him/her), b. Hit (him/her) back, c. Ignore it, d. Make fun of (him/her)	0 = no 1 = yes
Parent education	*Highest level of education of the child's parents or nonparent legal guardians who reside in the household* 1 = 8th grade or below 2 = 9th to 12th grade 3 = High school diploma/equivalent 4 = Voc/Tech program 5 = Some college 6 = Bachelor's degree 7 = Graduate/professional school/no degree 8 = Master's degree 9 = Doctorate or professional degree	
Parent SES	*Socio-economic status*	Continuous composite variable, based on income, education, and job prestige imputed
Language	*Language spoken most often at home by the parent(s)/guardian)s) in the household*	1 = both only speak English language 2 = 1 (of 2) parents only speaks a non-English language 3 = Both only speak a non-English language
Race	*Race and ethnicity of the mother*	0 = mother is not White 1 = mother is White

Construct	*Question from the dataset (items)*	*Scale*
School-parent ethnic match	(School administrator questionnaire): *About what percent of your children are members of the following groups?* *About what percent of your teachers are members of the following groups?* (Parent interview) *What is your race?* (Teacher interview) *What is your race?*	percent (for school administrator questionnaire) 1 = American Indian or Alaska Native 2 = Asian 3 = Black or African American 4 = Native Hawaiian or other Pacific Islander 5 = white 6 = Hispanic or Latino
Perception of school practices	*How well {CHILD}'s school has done with each activity during the school year* a. The school lets you know between report cards how {CHILD} is doing in school. b. The school makes you aware of chances to volunteer at the school. c. The school provides workshops, materials, or advice about how to help {CHILD} learn at home. d. The school provides information on community services to help {CHILD} or your family.	0 = doesn't do it at all 1 = just OK 2 = does this very well
Perception of school practices	*This year, have the following reasons made it harder for you to participate in activities at (CHILD)'s school?* a. Inconvenient meeting times? b. You don't hear about things going on at school that you might want to be involved in?	0 = no 1= yes
Family structure	*Child lives in single parent family or not*	0 = single parent family 1 = two-parents family

Construct	*Question from the dataset (items)*	*Scale*
School resources		
Extra-funding	*In addition to basic funding or resources provided by the district or from tuition, do you receive funding or resources from any of the following sources?* a. State compensatory funds? b. Community fund raising? c. Parent organization (PTA) fund raising? d. Local/National business(es)? e. Special Education programs or agencies? f. Income from auxiliary services or affiliated enterprises? g. Medicaid? h. Impact aid? i. Bilingual aid? j. Migrant aid? k. Title 1 finds? l. Other grants?	0 = no 1 = yes
Classroom adequacy	*In general, how adequate [are the classroom] for meeting the needs of the children in your school?*	0 = do not have 1 = never adequate 2 = often not adequate 3 = sometimes not adequate 4 = always adequate
Playground adequacy	*In general, how adequate [is the school's playground] for meeting the needs of the children in your school?*	0 = do not have 1 = never adequate 2 = often not adequate 3 = sometimes not adequate 4 = always adequate

Construct	*Question from the dataset (items)*	*Scale*
Extra facilities	*The school has:* a. cafeteria b. computer lab c. library/media center d. art room e. gymnasium f. music room g. auditorium h. multi-purpose room	0 = no 1 = yes
School Practices		
Programs for children	(School administrator questionnaire) *Are any of the following programs or services for children available at your school site?* a. Before-school child care? b. Half-day care for children in half-day kindergarten? c. After-school child care? d. Infants and toddlers program? e. Head Start? f. Pre-kindergarten? g. Summer school or summer child-care programs? h. Programs for migrants during the school year? i. Programs for migrants during the summer? j. Hearing or vision screening? k. Child care so that parents can attend school parent meetings or events?	0 = no 1 = yes

Construct	*Question from the dataset (items)*	*Scale*
Programs for kindergartners	(School administrator questionnaire) *Which of the following are used to provide kindergartners' parents with information about their children's performance* a. Standard Report Card (e.g., a letter grade assigned for each subject)? b. Progress Report Form (narrative report)? c. Competency Based Checklists? d. Portfolio of Child's Work? e. Standardized Test Scores?	0 = no 1 = yes
Programs for families	(School administrator questionnaire) *Are any of the following programs or services for parents and families available at your school site?* a. Parenting education programs (e.g., classes on child development, education in being a parent, understanding children with special needs)? b. Adult literacy program (including Adult Basic Education)? c. Family literacy program? d. Health or social services offered collaboratively by service agencies such as hospitals? e. Orientation to school setting for new families? f. Other?	0 = no 1 = yes
Involvement activities	(School administrator questionnaire) *Please indicate how often each of the following activities is provided by your school.* a. PTA, PTO, or Parent-Teacher-Student organization meetings b. Letters, calendars, newsletters, etc., sent home to provide parents with information about the school c. Written reports (report cards) of child's performance sent home? d. Teacher-parent conferences e. Home visits to do one-on-one parent education f. School performances to which parents are invited g. Classroom programs like class plays, book nights, or family math nights h. Fairs or social events planned to raise funds for the school i. Workshops for teachers that focus on parent involvement	0 = never 1 = once a year 2 = 2 to 3 times a year 3 = 4 to 6 times a year 4 = 7 or more times per year

Teacher views

Construct	*Question from the dataset (items)*	*Scale*
Child evaluation	*How important is each of the following in evaluating the children in your class(es)?* a. Individual child's achievement relative to the rest of the class b. Individual child's achievement relative to local, state, or professional standards c. Individual improvement or progress over past performance d. Effort e. Class participation f. Daily attendance g. Classroom behavior or conduct h. Cooperativeness with other children i. Ability to follow directions j. Other method used in evaluating children (PLEASE SPECIFY)	1 = not important 2 = somewhat important 3 = very important 4 = extremely important 5 = not applicable
School readiness (both academic and self regulation)	*How important do you believe the following characteristics are for a child to be ready for kindergarten?* a. Finishes tasks b. Can count to 20 or more c. Takes turns and shares d. Has good problem-solving skills e. Is able to use pencils and paint brushes f. Is not disruptive of the class g. Knows the English language h. Is sensitive to other children's feelings i. Sits still and pays attention j. Knows most of the letters of the alphabet k. Can follow directions l. Identifies primary colors and shapes m. Communicates needs, wants, and thoughts verbally in primary language	1 = not important 2 = not very important 3 = somewhat important 4 = very important 5 = essential

Construct	*Question from the dataset (items)*	*Scale*
School preparation	*Please indicate the extent to which you agree with each of the following statements on children's preparation for school.* a. Attending preschool (for example, nursery, prekindergarten, or Head Start) is very important for success in kindergarten b. Children who begin formal reading and math instruction in preschool will do better in elementary school c. Parents should make sure their children know the alphabet before they start kindergarten d. Most children should learn to read in kindergarten e. Parents need help in learning how to teach their children how to read f. Parents should set aside time every day for their kindergarten children to practice schoolwork g. Homework should be given to kindergarten children almost every day h. Parents should read to their children and play counting games at home regularly	1 = strongly disagree 2 = disagree 3 = neither agree nor disagree 4 = agree 5 = strongly agree
Teacher practices		
Transition activities	(Teacher questionnaire) *In some schools, special efforts are made to make the transition into kindergarten less difficult for children. Which of the following are done in your school?* a. I/someone at the school phone or send home information about the kindergarten program to parents b. Preschoolers spend some time in the kindergarten classroom c. The school days are shortened at the beginning of the school year d. Parents and children visit kindergarten prior to the start of the school year e. I /another teacher visit the homes of the children at the beginning of the school year f. Parents come to the school for orientation prior to the start of the school year g. Other transition activities	0 = no 1 = yes

Construct	***Question from the dataset (items)***	***Scale***
General involvement in classroom	(Teacher questionnaire) *What percent of children in your class(es) have parents who participate in the following activities?* a. Attend teacher-parent conferences b. Volunteer regularly to help in your classroom or another part of the school c. Attend open houses or parties d. Attend art/music events or demonstration	0 = none 1 = 1-25% 2 = 26-50% 3 = 51-75% 4 = 76% or more
Sending letters	(Teacher questionnaire) *During this school year, how many times have you done the following?* Sent home letters, newsletters, or other notices addressed to all parents	0 = never 1 = one or two times 2 = three to five times 3 = six to ten times 4 = ten to fourteen times 5 = fifteen times or more

BIBLIOGRAPHY

Al-Hassan, S., & Gardner III, R. (2002). Involving immigrant parents of students with disabilities in the educational process. *TEACHING Exceptional Children, 34*(5), 52-53.

Barbour, C., Barbour, N. H., & Scully, P. A. (2004) *Families, schools, and communities: Building partnerships for educating children*. Upper Saddle River, NJ: Pearson/Merrill.

Barnard, W. M. (2004). Parent involvement in elementary school and educational attainment. *Children and Youth Services Review, 26*(1), 39-62.

Becker, G. S. (1980). *Human capital*: University of Chicago Press Chicago.

Becker, G. S. (1993). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education: University Of Chicago Press.

Bailey Jr, D. B. (1992). The Effects and Perceptions of Family Involvement in Program Decisions about Family-Centered Practices. *Evaluation and Program Planning, 15*(1), 23-32.

Birenbaum, A. Poverty, Welfare Reform, and Disproportionate Rates of Disability Among Children. *Mental Retardation, 40*(3), 212-218.

Blacher, J. (1984). A dynamic perspective on the impact of a severely handicapped child on the family. In J. Blacher (Ed.), *Severely handicapped children and their families*. Orlando, FL: Academic Press.

Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin, 110*(2), 305-314.

Bourdieu, P. (1984). Distinction: a social critique of the judgment of taste: Harvard University Press.

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241–258). New York: Greenwood Press.

Bourdieu, P., & Passeron, J. C. (1970). La reproduction: éléments pour une théorie du système d'enseignement: Minuit.

Bourdieu, P., & Passeron, J. C. (1977). Reproduction in Education, Society and Culture, trans. Richard Nice. London and Beverly Hills (= La reproduction: elements pour une theorie du systeme d'enseignement, Paris 1970).

Bronfenbrenner, U. (2005). *Making Human Beings Human: Bioecological Perspectives on Human Development*. SAGE Publications.

Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children, 7*(2), 55-71.

Brosnan, F. L. (1983). Overrepresentation of Low-Socioeconomic Minority Students in Special Education Programs in California. *Learning Disability Quarterly, 6*(4),

517-25.

Bruder, M. B., & Chandler, L. (1996). Transition. In S. L. Odom & M. E. McLean (Eds.), *Early intervention/early childhood special education: Recommended practices* (pp. 287-307). Austin, TX: PRO-ED.

Carta, J. J., & Atwater, J. B. (1990). Applications of ecobehavioral analysis to the study of transitions across early education settings. *Education and Treatment of Children, 13*(4298-4315).

Chih-Chien Yang. (2005). MIMIC Latent Class Analysis Model for Alcoholic Diagnosis. *Structural Equation Modeling, 12*(1), 130-147.

Christenson, S. L. (2004). The Family-School Partnership: An Opportunity to Promote the Learning Competence of All Students. *School Psychology Review, 33*(1), 83-105.

Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 95-120.

de Carvalho, E. M. P. (2001). Rethinking family-school relations: A critique of parental involvement in schooling: Mahwah, NJ: Laurence Erlbaum Associates.

Clogg, C. C., & Goodman, L. A. (1984). Latent Structure Analysis of a Set of Multidimensional Contingency Tables. *Journal of the American Statistical Association, 79*(388), 762-771

Coutinho, M. J., Oswald, D. P., & Best, A. M. (2002). The Influence of Sociodemographics and Gender on the Disproportionate Identification of Minority Students as Having Learning Disabilities. *Remedial and Special Education, 23*(1), 49.

Coutinho, M. J., & Oswald, D. P. (2000). Disproportionate Representation in Special Education: A Synthesis and Recommendations. *Journal of Child and Family Studies, 9*(2), 135-156.

Cummins, J. (1995). Empowering minority students: A framework for intervention. *Policy and Practice in Bilingual Education: A Reader Extending the Foundations*.

Deslandes, R., & Bertrand, R. (2005). Motivation of Parent Involvement in Secondary-Level Schooling. *The Journal of Educational Research, 98*(3), 164-175.

Diamantopoulos, A. (2008). Formative indicators: Introduction to the special issue. *Journal of Business Research*.

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration. *British Journal of Management, 17*, 263-282.

Diamantopoulos, A., & Winklhofer, H. M. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development. *Journal of Marketing Research, 38*, 269-277.

Donovan, S., & Cross, C. T. (2002). *Minority Students in Special and Gifted Education*.

National Academy Press.

Dumais, S. D. (2005). Early childhood capital, parental habitus, and teachers' perceptions. *Poetics, 34*, 83-107.

Duncan, G. J., & Brooks-Gunn, J. (2000). Family Poverty, Welfare Reform, and Child Development. *Child Development, 71*(1), 188-196.

Dunst, C. J. (1997). Conceptual and empirical foundations of family-centered practice. *Integrated services for children and families: Opportunities for psychological practice*, 75–91

Eccles, J. S., & Harold, R. D. (1996). Family Involvement in Children's and Adolescents' Schooling. *Family-School Links: How Do They Affect Educational Outcomes?*

Elwan, A. (1999). *Poverty and Disability: A Survey of the Literature*. Social Protection Advisory Service.

Epstein, J. L. (1985). Home and School Connections in Schools of the Future: Implications of Research on Parent Involvement. *Peabody Journal of Education, 62*(2), 18-41.

Epstein, J. L. (1990a). School and Family Connections: Theory, Research, and Implications. *Families in Community Settings: Interdisciplinary Perspectives.*

Epstein, J. L. (1990b). Parent Education Revisited. *PsycCRITIQUES, 35*(11), 1076-1077.

Epstein, J. L. (1992). TIPS: Teachers Involve Parents in Schoolwork. Language Arts and Science/Health. Interactive Homework in the Middle Grades. Manual for Teachers.

Epstein, J. L. (2001a). School, Family, and Community Partnerships. In T. O. Erb (Ed.), *This I believe--And now I must act*: National Middle School Association.

Epstein, J. L. (2001b). School, family, and community partnerships: preparing educators, and improving schools: Westview Press.

Epstein, J. L. (2001c). School, Family, and Community Partnerships: This I Believe--and Now I Must Act.

Epstein, J. L. (2002). School, Family, and Community Partnerships: Your Handbook for Action: Corwin Pr.

Epstein, J. L., & Connors, L. J. (1992). School and Family Partnerships. *Practitioner, 18*, n410.

Epstein, J. L., & Dauber, S. L. (1991). School Programs and Teacher Practices of Parent Involvement in Inner-City Elementary and Middle Schools. *The Elementary School Journal, 91*(3), 289-305.

Epstein, J. L., & Lee, S. (1995). National Patterns of School and Family Connections in the Middle Grades. In B. Ryan (Ed.), *The Family-School Connection: Theory, Research, and Practice*: SAGE Publications Inc.

Epstein, J. L., & Van Voorhis, F. L. (2001). More Than Minutes: Teachers' Roles in

Designing Homework. *Educational Psychologist, 36*(3), 181-193.

Erb, T. O. (2001). *This I Believe...and Now I Must Act*. Westerville, OH: National Middle School Association.

Fan, X., & Chen, M. (2001). Parental Involvement and Students' Academic Achievement: A Meta-Analysis. *Educational Psychology Review, 13*(1), 1-22.

Fantuzzo, J., Tighe, E., & Childs, S. (2000). Family Involvement Questionnaire: A Multivariate Assessment of Family Participation in Early Childhood Education. *Journal of Educational Psychology, 92*(2), 367-376.

Fine, M. (1993). [Ap] parent Involvement: Reflections on Parents, Power, and Urban Public Schools. & Responses. *The Teachers College Record, 94*(4), 682-729.

Fowler, S. A., Schwartz, I., & Atwater, J. (1991). Perspectives on the transition from preschool to kindergarten for children with disabilities and their families. *Exceptional Children, 58*(2), 136-145.

Fujiura, G., & Yamaki, K. (2000). Trends in demography of childhood poverty and disability. *Exceptional children, 66*(2), 187-199.

Garcia, S. B., & Ortis, A. (1988). *Preventing Inappropriate Referrals of Language Minority Students to Special Education*. National Clearinghouse for Bilingual Education.

Geiser, C., Lehmann, W., & Eid, M. (2006). Separating "Rotators" From "Nonrotators" in the Mental Rotations Test: A Multigroup Latent Class Analysis. *Multivariate Behavioral Research, 41*(3), 261.

Gersten, R., & Woodward, J. (1994). The language-minority student and special education: issues, trends, and paradoxes. *Exceptional children, 60*(4), 310-322.

Harry, B., & Klingner, J. K. (2006). *Why are So Many Minority Students in Special Education?: Understanding Race & Disability in Schools*. Teachers College Press.

Henderson, A. T., & Mapp, K. L. (2002). A New Wave of Evidence. The impact of school, family, and community connections on student achievement. Annual synthesis. Austin, TX: National Center for Family & Community Connections with Schools. Southwest Educational Development Laboratory. Retrieved from http://www. sedl. org/connections.

Heward, W. L. (2008). *Exceptional children: an introduction to special education* (9th ed.). Upper Saddle River, NJ: Prentice Hall.

Ho, E. S.-C. (1997). Parental involvement and student performance: the contribution of economic, cultural, and social capital. The University of British Columbia, Vancouver, Canada.

Hoover-Dempsey, K., & Sander, H. (1995). Parental Involvement in Children's Education: Why Does It Make a Difference. *The Teachers College Record, 97*(2), 310-331.

Hoover-Dempsey, K. V., Battiato, A. C., Walker, J. M. T., Reed, R. P., DeJong, J. M., &

Jones, K. P. (2001). Parental Involvement in Homework. *Homework, 56*(3), 195-209.

Hoover-Dempsey, K. V., Walker, J. M. T., Sandler, H. M., Whetsel, D., Green, C. L., Wilkins, A. S., et al. (2005). Why Do Parents Become Involved? Research Findings and Implications. *The Elementary School Journal, 106*(2), 105-130.

Horvat, E. M. N., Weininger, E. B., & Lareau, A. (2003). From Social Ties to Social Capital: Class Differences in the Relations Between Schools and Parent Networks. *American Educational Research Journal, 40*(2), 319.

Hoover-Dempsey, K. V., & Sandler, H. M. (1997). Parental involvement in children's education: why does it make a difference? *Teachers College Record, 97*(2), 310-332.

Hoover-Dempsey, K. V., Walker, J. M. T., Sandler, H. M., Whetsel, D., Green, C. L., Wilkins, A. S., et al. (2005). Why Do Parents Become Involved? Research Findings and Implications. *The Elementary School Journal, 106*(2), 105-130.

Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research. *Journal of Consumer Research, 30*(2), 199-218.

Jeynes, W. H. (2003). A Meta-Analysis: The Effects of Parental Involvement on Minority Children's Academic Achievement. *Education and Urban Society, 35*(2), 202.

Jeynes, W. H. (2005). A Meta-Analysis of the Relation of Parental Involvement to Urban Elementary School Student Academic Achievement. *Urban Education, 40*(3), 237.

Jeynes, W. H. (2003). A Meta-Analysis: The Effects of Parental Involvement on Minority Children's Academic Achievement. *Education and Urban Society, 35*(2), 202.

Jordan, C., Orozco, E., & Averett, A. (2001). Emerging issues in school, family, and community connections [Electronic Version]. Retrieved April 12, 2008 from http://www.sedl.org/connections/.

Joyner, K., & Kao, G. (2000). School racial composition and Adolescent racial homophily. *Social science quarterly, 81*(3), 810-825.

Katims, D. S., & Pierce, P. L. (1995). Literary-rich environments and the transition of young children with special needs. *Topics in Early Childhood Special Education, 15*(2).

Kemp, C., & Carter, m. (2000). Demonstration of classroom survival skills in kindergarten: a five-year transition study of children with intellectual disabilities. *Educational Psychology, 20*(4), 393-411.

Kochhar-Bryant, C. A. (2008). Collaboration and system coordination for children with special needs: From early childhood to the postsecondary years. Upper Saddle River, NJ: Merrill/Prentice Hall.

Kohl, G. O., Lengua, L. J., & McMahon, R. J. (2000). Parent Involvement in School Conceptualizing Multiple Dimensions and Their Relations with Family and Demographic Risk Factors. *Journal of School Psychology, 38*(6), 501-523.

Lamont, M., & Lareau, A. (1988). Cultural capital: Allusions, gaps and glissandos in recent theoretical developments. *Sociological Theory, 6*, 153-168.

Lareau, A. (1987). Social class differences in family-school relations: The importance of cultural capital. *Sociology of Education, 60*(2), 73-85.

Lareau, A. (1987). Social Class Differences in Family-School Relationships: The Importance of Cultural Capital. *Sociology of Education, 60*(2), 73-85.

Lareau, A. (1996). Assessing Parent Involvement in Schooling: A Critical Analysis. *Family-School Links: How Do They Affect Educational Outcomes?*

Lareau, A. (2000). Home Advantage: Social Class and Parental Intervention in Elementary Education: Rowman & Littlefield Publishers.

Lareau, A. (1996). Assessing Parent Involvement in Schooling: A Critical Analysis. *Family-School Links: How Do They Affect Educational Outcomes?*

Lareau, A. (2000). Home Advantage: Social Class and Parental Intervention in Elementary Education: Rowman & Littlefield Publishers.

Lareau, A., & Horvat, M. E. (1999). Moments of social inclusion and exclusion. Race, class, and cultural capital in family-school relations. *Sociology of Education, 72*, 37-53.

Lareau, A., & Shumar, W. (1996). The problem of individualism in family-school policies. *Sociology of Education, 69*, 24-39.

Lareau, A., & Weininger, E. B. (2003). Cultural capital in educational research: A critical assessment. *Theory and Society, 32*(5), 567-606.

Lee, J.-S. (2006). Parent involvement, cultural capital, and the achievement gap among elementary school children. *American Educational Research Journal, 43*(2), 193-218.

Lee, J. S., & Bowen, N. K. (2006). Parent Involvement, Cultural Capital, and the Achievement Gap Among Elementary School Children. *American Educational Research Journal, 43*(2), 193.

Lilly, S. K. (2004). *Parent involvement in the education of students with special needs.* University of Wisconsin Stout, Menomonie, WI.

Lin, N. (1999). Building a network theory of social capital. *Connections, 22*(1), 28-51.

Losen, D. J., & Orfield, G. (2002). Racial Inequity in Special Education.

MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *J Appl Psychol, 90*(4), 710-730.

Mangione, P. L., & Speth, T. (1998). The transition to elementary school: a framework for creating early childhood continuity through home, school, and community partnership. *The Elementary School Journal, 98*(4), 381-397.

McBride, S. L. (1993). Implementation of Family-Centered Services: Perceptions of

Families and Professionals. *Journal of Early Intervention, 17*(4), 414-430.

McWilliam, R. A., Tocci, L., & Harbin, G. L. (1998). Family-Centered Services: Service Providers' Discourse and Behavior. *Topics in Early Childhood Special Education, 18*(4), 206-207.

McNeal, R. B. (1999). Parental involvement as social capital: Differential effectiveness on science achievement, truancy, and dropping out. *Social Forces, 78*(1), 117-144.

Muthén, L. K., & Muthén, B. O., *Mplus 5 User's Guide* (Fifth.). Los Angeles, CA: Muthén & Muthén.

National Network of Partnership Schools. (2008). Center on School, Family, and Community. Retrieved April 18, 2008, from http://www.csos.jhu.edu/P2000/center.htm

National Center for Education Statistics. (2001a). Early Childhood Longitudinal Study [United States]: Kindergarten Class of 1998-1999 [Computer File]: U.S. Dept. of Education, Office of Educational Research and Improvement.

National Center for Education Statistics (2001b). ECLS-K Base Year Public-Use User's Guide and Electronic Codebook. (NCES Report No. 2001029rev). U.S. Department of Education. Washington, DC: U.S. Government Printing Office. Retrieved June 6th 2008 from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2001029rev.

Oswald, D. P., Coutinho, M. J., Best, A. M., & Singh, N. N. (1999). Ethnic Representation in Special Education: The Influence of School-Related Economic and Demographic Variables. *The Journal of Special Education, 32*(4), 194.

Park, J., Turnbull, A. P., & Turnbull, H. R. (2002). Impacts of Poverty on Quality of Life in Families of Children With Disabilities. *Exceptional Children, 68*(2), 151-172.

Pianta, R. C., & Cox, M. J. (Eds.). (1999). *The Transition to Kindergarten*. Baltimore, London, Toronto, Sydney: Paul H. Brookes Publishing Co.

Perna, L. W., & Titus, M. A. (2005). The relationship between parent involvement as social capital and college enrollment: An examination of racial/ethnic group differences. *The journal of higher education, 76*(5), 485-518.

Perna, L. W., & Titus, M. A. (2005). The Relationship between Parental Involvement as Social Capital and College Enrollment. *Journal of Higher Education, 76*, 485-518.

Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The How, Whom, and Why of Parents' Involvement in Children's Academic Lives: More Is Not Always Better. *Review of Educational Research, 77*(3), 373.

Ramaswamy, V., DeSarbo, W. S., Reibstein, D., & Robinson, W. T. (1993). An empirical pooling approach for estimating marketing mix elasticities with PIMS data. *Marketing Science, 12*(1), 103-124.

Ramey, C. T., & Ramey, S. L. (1998). Commentary: The transition to school: opportunities for children, families, educators and communities. *The Elementary School Journal, 98*(4), 293-295.

Reay, D. (1999). Linguistic capital and home-school relationships: mothers' interactions wiith their children's primary school teachers. *Acta Sociologica*.

Reay, D. (2000). A useful extension of Bourdieu's conceptual framework: emotional capital as a way of understanding mothers' involvement in their children's education. *The Sociological Review.*

Reay, D. (2004). Education and cultural capital: The implications of changing trends in educaion policies. *Cultural trends, 13*(2), 73-86.

Rosenberg, M. S., Westling, D. L., & McLeskey, J. (2007). *Special Education for Today's Teachers: An Introduction*: Prentice Hall.

Rosenkoetter, S. E. (1995). It's a big step: Bridging Early Services Transition Taskforce.

Rosenkoetter, S. E., Hains, A. H., & Fowler, S. A. (1994). *Bridging Early Services for Children with Special Needs and Their Families: A practical Guide for Transition Planning*. Baltimore, London, Toronto, Sydney: Paul H. Brookes Publishing Co.

Rosenkoetter, S. E., & Rosenkoetter, L. I. (2001). Starting school: Parents' perceptions regarding their typically developing children and those with disabilities. *NHSA Dialog, 4*(2), 223-245.

Seefeldt, C., Denton, K., Galper, A., & Younoszai, T. (1998). Former Head Start Parents' Characteristics, Perceptions of School Climate, and Involvement in Their Children's Education. *The Elementary School Journal, 98*(4), 339.

Shevlin, M., Dorahy, M., Adamson, G., & Murphy, J. (2007). Subtypes of borderline personality disorder, associated clinical disorders and stressful life-events: A latent class analysis based on the British Psychiatric Morbidity Survey. *British Journal of Clinical Psychology, 46*(3), 273-281.

Shrum, W., Cheek Jr, N. H., & Hunter, S. M. D. (1988). Friendship in School: Gender and Racial Homophily. *Sociology of Education, 61*(4), 227-239.

Smith, E. P., Connell, C. M., Wright, G., Sizer, M., Norman, J. M., Hurley, A., et al. (1997). An Ecological Model of Home, School, and Community Partnerships: Implications for Research and Practice. *Journal of Educational and Psychological Consultation, 8*(4), 339-360.

Smrekar, C., & Cohen-Vogel, L. (2001). The Voices of Parents: Rethinking the Intersection of Family and School. *Peabody Journal of Education, 76*(2), 75-100.

U.S. Department of Education. (2007). Individuals with Disabilities Education Act (IDEA) data (tables 1-3). Washington, DC: http://www.ideadata.org/partbreport.asp

U.S. Department of Education. (2007). Twenty-Seventh Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2005.

Walker, J. M. T., Wilkins, A. S., Dallaire, J. R., Sandler, H. M., & Hoover-Dempsey, K. V. (2005). Parental Involvement: Model Revision through Scale Development. *The Elementary School Journal, 106*(2), 85-104.

Weininger, E., & Lareau, A. (2003). Translating Bourdieu into the American context: the question of social class and family-school relations. *Poetics, 31*, 375-40

Zhang, D., & Katsiyannis, A. (2002). Minority Representation in Special Education: A Persistent Challenge. *Remedial and Special Education, 23*(3), 180.