

Family Engagement in Education in Uttar Pradesh, India: Factors Associated with the
Involvement of Families in Their Children's Education

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Dedication

Soli Deo Gloria

Abstract

The purpose of this study was to examine the extent to which families within the Shravasti district of Uttar Pradesh, India are engaged in their children's education, as well as to examine the child, family, school, and community factors that are potentially associated with families' involvement in their children's education. Additionally, through mediation analysis (Preacher and Hayes, 2008), the educational aspirations that are held for the child were examined in relation to way these aspirations potentially mediate the relationship between factors within the child, family, school, and community contexts and family engagement in education. Seven forms of family engagement were examined in this study, including financial investment in children's schooling, educational aspirations for the child's level of educational attainment, whether or not family helps the child in his or her study, whether or not the family accompanies the child to school, and whether or not the child's caretaker visits the school for the purpose of attending a meeting as a member, when presence is needed for reasons such as paying fees or enrollment, and/or at the teacher's request for discussion about the child's study or behavior. Multiple linear and binary logistic regression analyses were used to determine the association between child, family, school, and community factors and different forms of family engagement. Out of the various contextual factors examined, the findings revealed that the dummy variables for the household's village of residence and the child's age were among the most consistent indicators family engagement in education. Furthermore, based on the findings from the mediation models in which educational attainment aspirations served as the mediator variable, one or more significant indirect

effects were found with each of the dependent variables of financial investment in education, family help with study, and family accompaniment to school. Overall, this study contributes to a deeper understanding of the nature of family engagement in education in the Shravasti district of Uttar Pradesh, India, providing knowledge of the factors that are related to various forms of family engagement in education in the Shravasti district. Moreover, through this study, practical strategies are offered for Indian educators in order to facilitate more collaborative relationships with the parents and families of Indian students.

Table of Contents

Acknowledgements	i
Dedication	iv
Abstract	v
Table of Contents	vii
List of Tables	xiv
List of Figures	xix
List of Equations	xxi
Chapter One: <i>Introduction</i>	1
Statement of the Problem.....	1
Theoretical Framework.....	4
Statement of Study Purpose and Research Questions.....	11
Significance of the Study.....	12
Definition of Key Terms.....	16
Interchangeability of parent engagement and family engagement.....	16
Definition of parent family engagement.....	17
Child, family, school, and community factors.....	17
Limitations.....	18
Conclusion.....	18
Chapter Two: <i>Literature Review</i>	21
Introduction.....	21
Section One: Overview of India and the Education System.....	22

The context of the study.....	22
India.....	22
Uttar Pradesh.....	23
The caste system in India.....	25
National, state, and local influences on education in India.....	27
Educational policy initiatives.....	29
Systemic issues in the education system of India.....	30
Conclusion.....	31
Section Two: The Role of the Family in Education in India.....	31
Types of family involvement in education in India.....	34
Alignment of dependent variables with existing literature.....	34
Visiting the child’s school.....	35
Financial investment in children’s education.....	36
Family study help.....	37
Going to school with the child.....	38
Educational attainment aspirations.....	39
Factors that potentially affect family engagement in education in India.....	41
Socioeconomic status (income) of the family.....	41
Education level of the household head.....	45
Age of the child.....	48
Gender of the child.....	50
Caste.....	52

Religion.....	54
Number of school-going children.....	55
School type.....	57
School distance.....	59
Village.....	61
Section Three: Parent and Family Involvement in Education.....	65
Overlapping spheres of influence.....	66
Impact of parent involvement.....	67
Passive vs. active parent involvement.....	75
Home vs. school involvement.....	80
Motivations behind parent involvement.....	81
Conclusion.....	83
Chapter Three: Methodology.....	85
Overview.....	85
Methodology and Rationale.....	85
Methods and Rationale.....	86
Sample.....	87
Instrumentation.....	88
Purpose of the survey instrument.....	88
Field testing and data collection.....	89
Data cleaning and preparation by CARE India.....	90
Preparation of data for current analyses.....	90

Data Analyses.....	91
Dependent variables.....	91
Independent variables.....	94
Dummy coding of independent variables.....	95
Order of entry of independent variables.....	97
Research Question #1: Extent of Family Engagement in the Shravasti District.....	99
Research Question #2: Association between Family Engagement and Contextual Factors.....	99
Educational attainment aspirations.....	99
Financial investment in education.....	100
Family study help.....	100
With whom the child goes to school.....	101
Visiting the school.....	102
Research Question #3: Association between Educational Aspirations and Other Practices of Family Engagement in Education.....	105
Definition of mediation.....	105
Mediation analyses.....	107
Bootstrapping.....	110
Limitations of Secondary Analysis.....	111
Conclusion.....	112
Chapter Four: Findings.....	114
Introduction.....	114
Research Question #1: The Extent of Family Engagement in Education	

In the Shravasti District of Uttar Pradesh, India.....	115
Aspirations for the child's level of educational attainment.....	115
Annual expenditure on children's education.....	117
Helping the child in his or her study.....	119
Family accompaniment to school.....	119
Visiting the school.....	120
Visiting the school because of membership in a meeting.....	122
Visiting the school when presence is needed for purposes Such as fee payment or enrollment.....	122
Visiting the school at the teacher's request for Discussion about the child's behavior or study.....	122
Research Question #2: Factors Associated with Family Engagement in Education.....	122
Annual expenditure on the child's education.....	123
Aspirations for the child's level of educational attainment	125
Helping the child in his or her study.....	127
Family accompaniment to school.....	128
Visiting the school because of membership in a meeting.....	130
Visiting the school when presence is needed for child Work purposes such as fee payment or enrollment.....	132
Visiting the school at the teacher's request for Discussion about the child's study or behavior.....	133
Research Question #3: Educational Attainment Aspirations as a Mediator of Engagement.....	135
Interpretation of output.....	136

Annual expenditure on education.....	139
Family help in the child's study.....	142
Family accompaniment to school.....	146
Visiting the school for various purposes.....	147
Conclusion.....	147
Chapter Five: <i>Implications & Conclusion</i>	150
Introduction.....	150
Research Question #1: To What Extent Are Families Engaged In Their Children's Education?.....	150
Annual educational expenditure.....	151
Education level aspirations.....	153
Family help in the child's study.....	156
Family accompaniment to school.....	157
Visiting the school.....	159
Research Question #2: What Factors Are Associated with Family Engagement in Education?.....	161
Annual educational expenditure on the child's education.....	161
Educational attainment aspirations.....	162
Family help in the child's study.....	164
Family accompaniment to school.....	164
Visiting the school.....	165
Significance of the child's age and village of residence.....	166
Significance of socioeconomic factors.....	168

Research Question #3: Do Educational Aspirations Act As a Mediator of Family Engagement?.....	170
Annual education expenditure.....	170
Family help in the child's study.....	171
Family accompaniment to school.....	172
Visiting the school.....	172
Importance of educational aspirations.....	172
Practical Next Steps for Educators in India.....	174
Broader Implications for the Education System in India.....	181
Framework for family engagement in education.....	182
Factors associated with family engagement in Education and their associated policy implications.....	185
Education level of the household head.....	185
Age of the school-going child.....	186
Village of residence.....	187
Family resources for education in Uttar Pradesh.....	188
Family ownership of education in India.....	188
Utility of the Conceptual Framework of the Study.....	189
Re-examination of the Study Hypotheses.....	192
Limitations of the Study.....	193
Conclusion.....	195
References.....	197
Appendix: Additional Statistical Tables.....	212

List of Tables

Table 1. Caste affiliation codes within the CARE India household survey (2008).....	25
Table 2. Adaptation of Epstein’s Framework (1995) – Anticipated Results from the Six Types of Involvement.	78
Table 3. Dependent variables examined in this study (CARE India household survey, 2008).....	92
Table 4. Household survey items and response codes (CARE India household survey data and codebook, 2008).....	93
Table 5. Dummy codes for the categorical independent variables included in this study.....	97
Table 6. Order of entry of the independent variables in the regression analyses.....	98
Table 7. Mediation analysis equations.....	109
Table 8. Reasons for visiting school (CARE India household survey data, 2008, and codebook).....	121
Table 9. Multiple linear regression model for annual educational expenditure.....	124
Table 10. Regression model for educational attainment aspirations.....	126
Table 11. Binary logistic regression model for whether or not the family helps in the child’s study.....	128
Table 12. Binary logistic regression model for the likelihood of whether or not the family accompanies the child to school.....	130
Table 13. Binary logistic regression model for the likelihood of visiting the school for the purpose of a meeting.....	132
Table 14. Binary logistic regression model for the likelihood of visiting the school for a purpose related to the child’s work, such as enrollment or fee payment.....	133

Table 15. Binary logistic regression model for the likelihood of visiting the school for discussion with the teacher.....	135
Table 16. Significant indirect effects of educational aspirations on the relationships between the Village 2 dummy variable, Village 3 dummy variable, number of school-going children and the dependent variable of educational expenditure.....	140
Table 17. Significant indirect effects of educational aspirations on the relationships between child age, general caste (dummy variable), number of school-going children, private school (dummy variable), school distance, Village 2 (dummy variable), Village 3 (dummy variable) and the dependent variable of family study help.....	143
Table 18. Significant indirect effects of education level aspirations on the relationship between child's age and family accompaniment to school.....	147
Table 19. Full multiple linear regression model for yearly expenditure on schooling.....	212
Table 20. Full multiple linear regression model for educational aspirations for the child's level of schooling.....	214
Table 21. Indirect effects of educational attainment aspirations on the relationship between the following independent variables and the dependent variable of annual education expenditure.....	216
Table 22. Mediation model for annual expenditure on schooling: Village Two dummy variable as independent variable, Village One and Three dummy variables as covariates.....	217
Table 23. Mediation model for annual expenditure on schooling: Village Three dummy variable as independent variable, Village One and Two dummy variables as covariates.....	218
Table 24. Mediation model for annual expenditure on schooling: Number of school-going children as independent variable.....	219
Table 25. Indirect effects of educational attainment aspirations on the relationship between the following independent	

variables and the dependent variable of family study help.....	220
Table 26. Mediation model for family help in study: Child age as independent variable.....	221
Table 27. Mediation model for family help in study: Dummy variable for general caste as independent variable, Dummy variables for Scheduled caste/Scheduled tribe and Other Backward Caste as covariates.....	222
Table 28. Mediation model for family help in study: Total school-going children as independent variable.....	223
Table 29. Mediation model for family help in study: Dummy variable for Village Two as independent variable, with dummy variable for Villages One and Three as covariates.....	224
Table 30. Mediation model for family help in study: Village Three dummy variable as independent variable, with dummy variables for Villages One and Two as covariates.....	225
Table 31. Mediation model for family helps in study: School distance as independent variable.....	226
Table 32. Mediation model for family helps in study: Private school dummy variable as independent variable, with dual enrollment/other school dummy variable as covariate.....	227
Table 33. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of family accompaniment to school.....	228
Table 34. Mediation model for family accompaniment to school: Child's age as independent variable.....	229
Table 35. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of visiting the school for a child work-related purpose (fee payment, enrollment, etc.).....	230
Table 36. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of visiting the school for a meeting.....	232

Table 37. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of visiting the school at the request of the teacher.....	234
Table 38. Coefficients of variation for non-categorical independent variables.....	235
Table 39. Correlation of dependent variables.....	236
Table 40. Correlation of independent variables: Age of child correlations.....	238
Table 41. Correlation of independent variables: Time to reach school correlations.....	241
Table 42. Correlation of independent variables: Gender of child correlations.....	244
Table 43. Correlation of independent variables: Education level of the household head correlations.....	247
Table 44. Correlation of independent variables: Dummy code for enrollment in dual enrollment/other school correlations.....	250
Table 45. Correlation of independent variables: Dummy code for private school enrollment correlations.....	253
Table 46. Correlation of independent variables: Total monthly family income correlations.....	256
Table 47. Correlation of independent variables: Total school-going children correlations.....	259
Table 48. Correlation of independent variables: Religion correlations.....	262
Table 49. Correlation of independent variables: Dummy code for residing in Village One correlations.....	265
Table 50. Correlation of independent variables: Dummy code for residing in Village Two correlations.....	268
Table 51. Correlation of independent variables: Dummy code	

for residing in Village Three correlations.....	271
Table 52. Correlation of independent variables: Dummy code for being affiliated with a Scheduled Caste/Scheduled Tribe correlations.....	274
Table 53. Correlation of independent variables: Dummy code for Other Backward Caste correlations.....	277
Table 54. Correlation of independent variables: Dummy code for general caste correlations.....	280

List of Figures

Figure 1. Adaptation of Epstein’s Overlapping Spheres of Influence Model (Naperville Community, 2005).....	6
Figure 2. Adaptation of Chudgar’s (2006) Conceptual Framework.....	8
Figure 3. Conceptual framework of this study – Integrated model of Epstein’s overlapping spheres of influence model and Chudgar’s perspectives related to education in India.....	10
Figure 4. Map of India (Source: Perry-Castañeda Library Map Collection).....	24
Figure 5. Adaptation of Epstein’s (1987a) four parent involvement types with added CARE India household survey variables.....	35
Figure 6. Total monthly income of all family members in Rupees (CARE India household survey data, 2008).....	44
Figure 7. Education-level of the household head (CARE India household survey data, 2008).....	47
Figure 8. Distribution of ages among the school-going children in the sample (CARE India household survey data, 2008).....	50
Figure 9. Household caste affiliations (CARE India household survey data, 2008).....	54
Figure 10. Distribution of the number of school-going children within each household (CARE India household survey data, 2008).....	57
Figure 11. Time in minutes that school-going children travel to reach school (CARE India household survey data, 2008).....	60
Figure 12. Distribution of respondents among the four sample villages (CARE India household survey data, 2008).....	65
Figure 13. Conceptual framework of this study – Integrated model of Epstein’s overlapping spheres of influence model and Chudgar’s perspectives related to education in India.....	95
Figure 14. Paths examined in the mediation models for the third research question (Adapted from Preacher and Hayes, 2004).....	108

Figure 15. Distribution of education level aspirations (CARE India household survey data, 2008).....	116
Figure 16. Distribution of annual expenditure on children's schooling, excluding the school fee (CARE India household survey data, 2008).....	118
Figure 17. Framework for family engagement in Uttar Pradesh.....	184

List of Equations

Equation 1.....	99
Equation 2.....	100
Equation 3.....	101
Equation 4.....	102
Equation 5.....	103
Equation 6.....	106
Equation 7.....	106

Chapter One

Introduction

“The realization of children’s potential depends, to a great degree, on the contexts within which they develop and learn, as well as on the interconnections between these contexts. From the onset of a child’s life, the family and relationships formed among family members are profound catalysts of social, emotional, and cognitive development.”

- Patrikakou, Weissberg, Redding, and Walberg, 2005, p. 1

Statement of the Problem

Parental and family involvement in education is a question that has received wide attention in the literature throughout the past four decades, with one theme surfacing from the research: a higher impact on children’s development and educational success is linked with parents’ nearness to their children’s education (Fullan, 2007). Research has pointed to the positive impact that certain parent and family engagement practices can have on students’ educational success, including influencing children’s self-concept (Hung, 2007), academic achievement (Astone & MacLanahan, 1991), and even retention and completion (Astone & MacLanahan, 1991; Barnard, 2004). Furthermore, the prioritization of parent involvement in education can be seen at the national level in various countries, both through international educational reform initiatives that attend to parent participation (Chapman, Weidman, Cohen, & Mercer, 2005; Hung, 2007) and United States-based educational policy and legislative work that has been focused on parental involvement (Domina, 2005; Epstein, 1996; Moles, 2005; Redding & Shelley, 2005).

Although much attention, both through research as well as through educational reform and policy initiatives, has been given to the role that parental and family

engagement plays in children's education, there is less knowledge of the particular factors that determine the extent of parents' involvement (Grolnick, Benjet, Kurowski, & Apostoleris, 1997). Although more recent research has identified various factors that were found to be related to family involvement (Fantuzzo, Tighe, & Childs, 2000; Kohl, Lengua, and McMahon, 2000; Waanders, Mendez, and Downer, 2007), there has been a much more limited focus given to practices of parent and family involvement in education in the context of South Asia (Chudgar & Shafiq, 2010). In particular, family engagement in education is a topic that has received little attention beyond an examination of which parent characteristics influence children's educational outcomes in India (examples of such research include Borooh & Iyer, 2005; Chudgar, 2009; Dréze & Kingdon, 2001) and more general notions of families' relationships to their children's education (examples of such literature include Joshi, 2005; Mukhopadhyay & Seymour, 1994). Although this research has made an important contribution to the understanding of how particular family attributes affect education, a more narrow focus has been given to the specific practices that parents and families in India engage in on behalf of their children's education, and more importantly, which particular factors influence the amount of engagement that families have with their children's education. Despite Drury's (1993) assertion that by no means has the family been overlooked in Indian research related to education, it still appears that a critical gap in the research exists today in the area of family engagement in education in India.

Although a small number of authors have addressed the topic of Indian parents and children's education (Joshi, 2005; Joshi, 2009; Joshi & Taylor, 2005; Kankanala,

1984), little attention has been devoted to investigating which factors are most strongly associated with Indian families' involvement in their children's education. An exception to this is Kankanala (1984), who examined how the social category of a parent, such as being an educated parent, a government-employed parent, or an illiterate parent, influences the parents' visit-making to the school to discuss their children's academic performance. Moreover, the PROBE Team (1999) provides another exception by examining social background factors and how these factors correlate with the significance that respondents attach to education for boys and girls in four different Indian states. A telling finding from the PROBE survey work is that almost all of the respondents, regardless of caste, literacy, gender, location (state), or line of work, thought it was valuable for a boy to be educated, with a somewhat less favorable, although still high, outlook for the importance of girls' education (The PROBE Team, 1999). While this work offers a glimpse into the types of factors that have been examined in relation to parents' engagement in and values for their children's education, overall, there has been little systematic inquiry pertaining to the factors that are most strongly associated with family involvement in education in India.

Although little is known about the relationship between Indian family engagement and other contextual factors, Chudgar and Shafiq (2010) substantiate both the importance of family involvement in education and the limited research pertaining to the topic in South Asia. In their examination of research related to educational outcomes in South Asia, Chudgar and Shafiq cite Coleman (1988) in asserting that one of the primary indicators of educational achievement is the family's involvement with the child's

educational pursuits. However, Chudgar and Shafiq also note that research and data pertaining to family involvement in education are scarce. Given the important role that families have been shown to play in their children's education (Astone & MacLanahan, 1991; Campbell & Verna, 2007) and the limited research that exists about family engagement in education in India, the aim of this study is to bridge this existing gap in the literature by determining which factors are most strongly related to Indian parents' engagement with their children's education.

Theoretical Framework

The theoretical framework proposed for this study is drawn from Epstein's model of overlapping spheres of influence (1987b, 1992, 1994, & 1995). Epstein's framework is comprised of both internal and external components (1987b, 1994, & 1995). In her external model, Epstein presents three different arenas in which children's growth and learning take place: the school, the community, and the family (Epstein, 1994, 1995). Epstein argues that spheres of influence can be pulled away from each other or brought closer together (1992, 1994, & 1995), and the amount of crossover is influenced by *time*, including changes in children's grade levels and ages and changes in the historical context, and *behavior*¹, including the worldviews, practices, and backgrounds of each context (Epstein, 1992, 1994)². This model of overlapping spheres is an incorporation and expansion of several different sources, including the ecological model of Bronfenbrenner (1979), the families-as-educators understandings of Leichter (1974), the

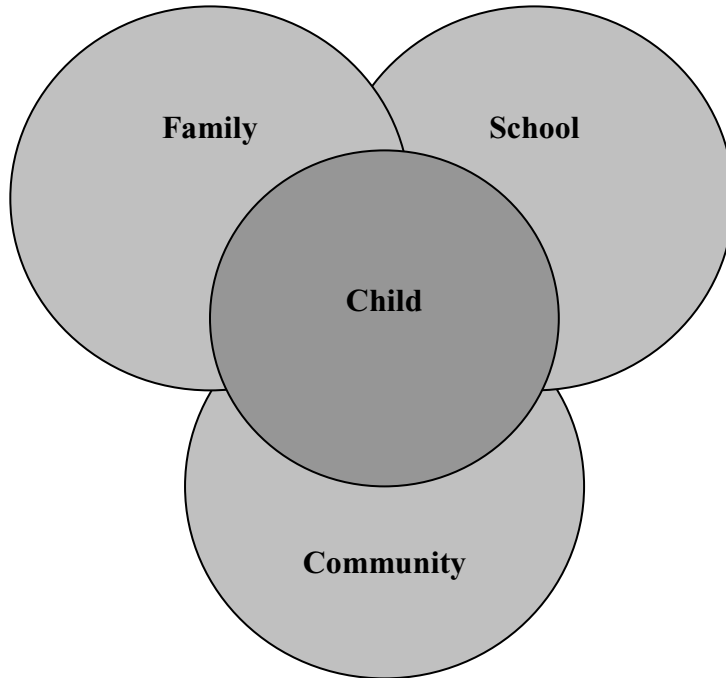
¹ Or what Epstein (1994) terms "efforts and behavior" (p. 40)

² Epstein (1987b) describes the forces that determine the extent of overlap among the family and school spheres, including time (which includes both the historical context and the child's age/grade) and the school's and family's philosophy and experience.

sociological viewpoints of Litwak and Meyer (1974) related to the linkage of non-professional and professional persons and organizations, the weight that Seeley (1981) placed on mutual responsibility, and an extensive tradition of psychological and sociological study related to family and school settings and their influences (in Epstein, 1992).

The significance of using Epstein's model is that it highlights the three important contexts of family, school, and community that influence children's education, and it also identifies the particular factors of *time* and *behavior* that influence the amount of overlap among contexts. According to Patrikakou et al. (2005), to a great extent, the developmental and learning settings of children, as well as the linkages between these settings, determine the achievement of a child's potential. Congruent with this perspective, Epstein's overlapping spheres of influence model shows the various settings in which children learn and grow, as well as the overlap that can exist among these settings. Figure 1 illustrates an adaptation of Epstein's overlapping spheres of influence model, which includes the three spheres that represent the contexts of children's learning, with the child situated at the center of the model.

Figure 1. Adaptation of Epstein’s Overlapping Spheres of Influence Model (Naperville Community, 2005).

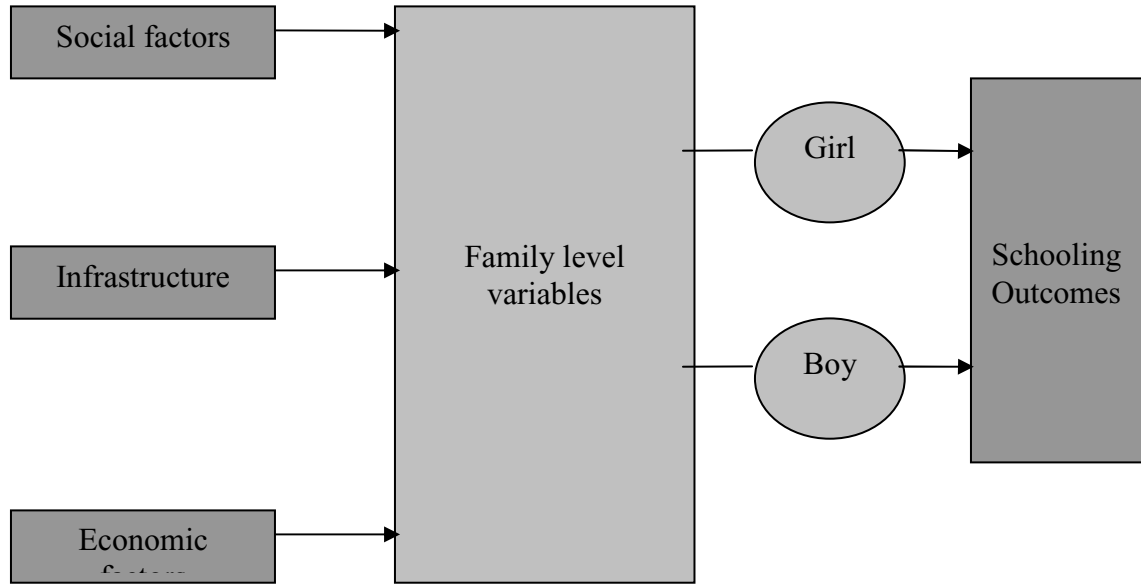


The work of Chudgar (2006, 2008) also contributes to the conceptual base of this study by offering a framework that explains the influence of the family in educational decisions, specifically in India. Based on her work on education in India, she has demonstrated that it is not just the family context, but also the community context, that influences education-related decisions in India. Chudgar (2008) explains that although families possess agency in choosing the investment they make in their children’s schooling, families are also swayed by the context in which they reside. Moreover, Chudgar’s (2006) work acknowledges “the importance of interactions between the

‘individual’ and the ‘context’ and situating the economic notion of a rational actor in the social notion of actors governed by social norms” (pp. 134-135). Indeed, Chudgar (2006) points out that in the literature related to developing nations, the significance of the notion that *context* influences human behavior is something that is broadly recognized. Although the focus of Chudgar’s research does not specifically pertain to the issue of family engagement in children’s schooling, her work does attend to the important elements that surround choices related to children’s education in India.

Moreover, Chudgar (2006) also attends to the issue of gender in her research, identifying that district characteristics might be differentially associated with male and female schooling outcomes. In this present study, child’s gender is also incorporated as a factor that is potentially associated with family involvement in children’s education. In her theoretical framework for her research, Chudgar (2006) illustrates how social, infrastructural, and economic factors relate to factors at the level of the family, which subsequently relate to the child’s gender and finally result in the schooling outcomes for the child. Figure 2 illustrates Chudgar’s conceptual framework as it relates to educational choices in India.

Figure 2. Adaptation of Chudgar’s (2006) Conceptual Framework.

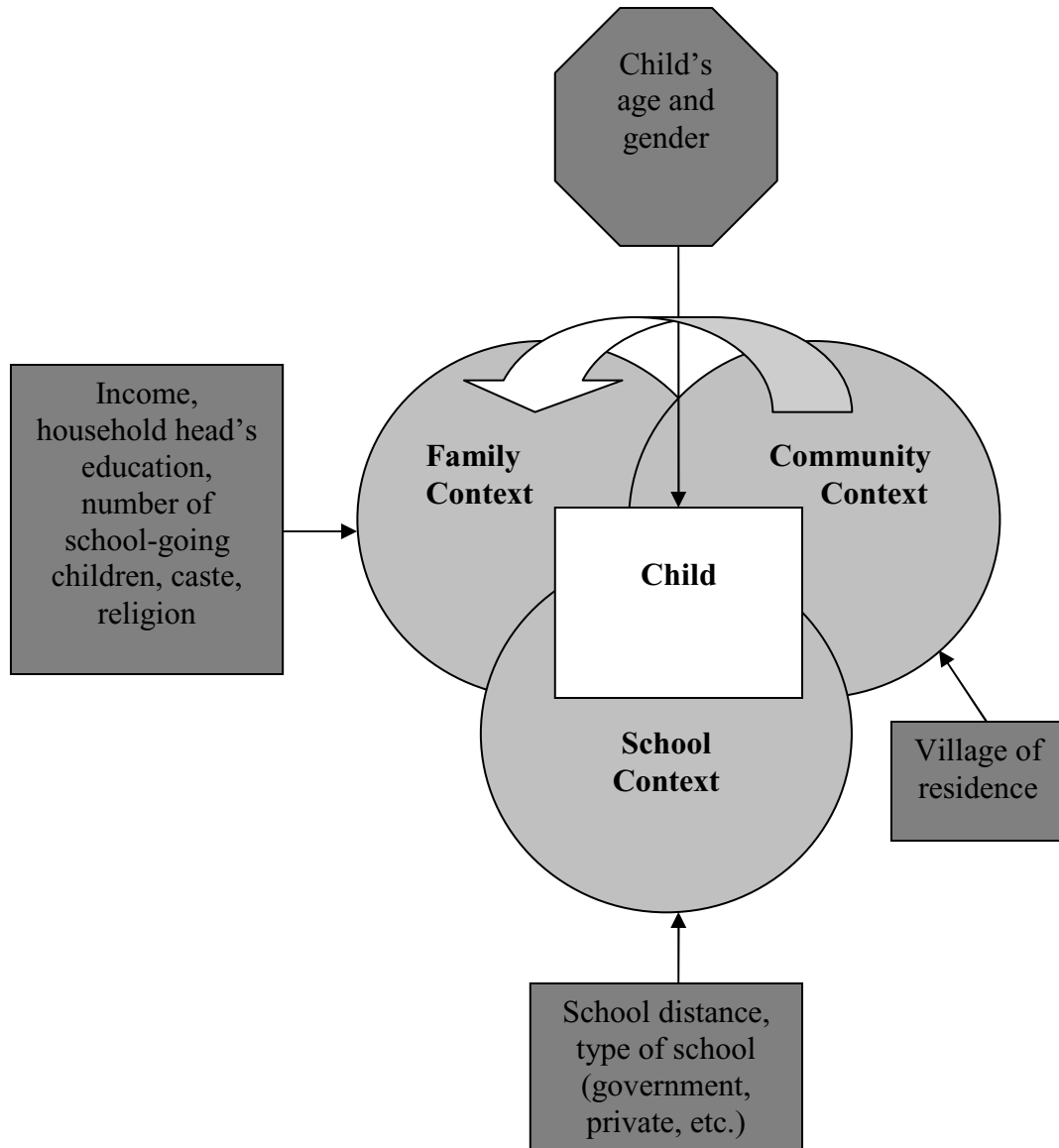


While both Chudgar’s and Epstein’s perspectives provide unique insights into different educational phenomena, i.e., Epstein through her focus on parent involvement and Chudgar through her focus on education decisions in India, taken, together, both of these perspectives may provide a better explanation of the particular influences on family engagement in children’s education in Uttar Pradesh. The theoretical framework for this study (Figure 3) takes both Epstein’s and Chudgar’s perspectives into account by utilizing a model that shows the overlapping spheres of the family, school, and community contexts (Epstein, 1994) while also demonstrating the possibility that the community context has influence on the family context (Chudgar, 2006, 2008). Epstein posits that the amount of overlap among the spheres is influenced by time factors and

background factors, and the adapted model in Figure 3 shows the selected time and background factors that are considered in this study.

Although Epstein's original model does not detail which background factors are most influential, based on the literature and available data from the CARE India household survey, ten variables have been selected for analysis in this study. These ten variables include *family* variables (family income, education level of the household head, number of school-going children, religion, caste), *school* variables (type of school that the child attends, distance of the school), a *community* variable (the village in which the family resides), and *child* variables (age of the child, gender of the child). Besides the variables in the family, school, and community contexts, the inclusion of *child* variables in this study's model is drawn both from Epstein's framework, which includes time (e.g., child's age) as being influential in the amount of overlap, and Chudgar's consideration of gender in educational decision-making. The conceptual framework in Figure 3 illustrates an integrated model of both Epstein's and Chudgar's theoretical perspectives, while also detailing the specific contextual factors that are considered within the analyses in this study.

Figure 3. Conceptual framework of this study – Integrated model of Epstein’s overlapping spheres of influence model and Chudgar’s perspectives related to education in India.



While the above model (Figure 3) primarily utilizes Epstein's (1994) overlapping spheres of influence model to conceptualize the three primary contexts of children's development, the relationship between the family and community is informed by Chudgar's (2006) perspective, which attends to the context of the family. Moreover, this integrated model focuses on the factors that influence the amount of crossover among the spheres, namely, time and background influences (Epstein, 1994), while also including a factor utilized by Chudgar (2006) in her conceptual model, namely, child's gender. The specific child, family, school, and community factors shown in the conceptual framework (Figure 3) illustrate the variables that were considered in the regression analyses of this study.

Statement of Study Purpose and Research Questions

The purpose of this study was to determine the extent to which Indian parents and families are engaged in their children's formal education within one predominantly rural district of Uttar Pradesh, India, as well as to determine the extent to which specific child, family, school, and community factors are associated with particular family engagement practices in children's education. Survey data that were collected by CARE India in 2008 were used to accomplish this research purpose. Three primary research questions were examined in this study, including the following:

1. To what extent are parents and families engaged in their children's education within one predominantly rural district of Uttar Pradesh, India?

2. To what extent is the amount of family engagement in education associated with factors related to the school, community, and family contexts, as well as to the child's age and gender?
3. Do familial aspirations for the child's level of schooling mediate the relationship between the specific child, family, school, and community variables considered in the second research question and different practices of family engagement in education?

Significance of the Study

Overall, little is empirically known about the factors that are most strongly associated with rural Indian parents' engagement with their children's education. Previous research has examined the frequency of parents' school visits based on the social categories of parents (e.g., illiterate, government-employed, educated, etc.) and the involvement of parents in school developmental happenings (Kankanala, 1984), and the PROBE Team (1999) has found that parents largely do attach significance to education and express general educational interest. However, what rural Indian parents and families actually do on behalf of their children's education, as well as what factors are associated with families' involvement in their children's education, are still areas that need more focused exploration.

Research pertaining to Indian parent and family involvement in education is important for a variety of reasons. First, knowledge of how Indian parents and families are already involved in their children's education can provide a foundation for encouraging even greater family participation in education in the future. Halgunseth,

Peterson, Stark, & Moodie (2009) affirm that the literature definitively shows that policy choices and education programs at the early childhood level need to respect the ethnic and cultural principles of the families they work with if the highest level of development for every child is to be encouraged. Similarly, in order for Indian educators to most effectively work with the children they teach, it is important for them to have an understanding of specific cultural factors that influence Indian families' involvement in their children's education. Such knowledge can provide a basis for more effectively working with Indian students and their families in the future. For instance, if educators are aware of how certain factors such as the household's religious affiliation or child's age might influence families' involvement in their children's education, educators can be more sensitive and pro-active in reaching out to parents who may be less likely to participate in their children's education.

Moreover, knowledge pertaining to which factors are most strongly associated with parents' and families' engagement with their children's education can provide policy makers with information that can be used to focus on specific factors identified in this study, "especially policy-amenable factors" (Cooper, 2010, p. 480). For instance, if child's gender is found to be significantly associated with parents' levels of involvement in education, policy makers can work toward policies that foster equitable amounts of family participation for boys' and girls' schooling.

The need for family-school relationships in India is vital for a number of reasons, but one of the primary reasons relates to issues of the community's role within India. Given the Indian context and trend toward community involvement and decentralization

in education (see Govinda & Bandyopadhyay, 2008; Govinda & Bandyopadhyay, 2010; Govinda & Bandyopadhyay, forthcoming, in Govinda & Bandyopadhyay, 2008; Govinda & Diwan, 2003), such partnership among families, communities, and schools is a natural link with current government emphases for community participation. Moreover, the importance of parents in education in India is also evidenced through the work that many NGOs do with the parents of out-of-school children, including activities such as parent meetings, mother committee, training of mother- and child-teachers, and home visits (Chakrabarty, 2002). However, despite these foci, little seems to be known about how rural parents can be better employed as participants in their children's education. As a starting point then, one of the first steps in this inquiry is to determine how parents and families are already acting on behalf of their children's education, and then to assess what factors are most influential in their participation.

Another important reason for encouraging relationships with family stakeholders in the Indian education system is that given the wide literature on parent involvement, there is developmental and educational impact that appears to derive from parents' nearness to their children's schooling (Fullan, 2007). Moreover, it is also firmly established that parent involvement has a beneficial influence on children's academic outcomes (Hill and Taylor, 2004). However, in order to encourage Indian family involvement in a sensitive and appropriate manner, a better understanding is needed of the specific practices in which parents are engaged on behalf of their child's schooling, as well as how these practices are related to specific contextual factors such as caste, religion, child's gender, or the type of school the child attends. By providing insight into

the extent to which certain types of family engagement strategies are practiced in the Shravasti district of Uttar Pradesh, as well as how these strategies are related to child, family, community, and school characteristics, this study will provide a foundation for policymakers and educators in India who wish to foster greater family engagement in education in districts within Uttar Pradesh and other Indian states.

Additionally, from an economic perspective, family involvement in education might be an asset in that can be utilized to solve some of the portentous problems faced by the Indian education system. According to Desai (2007), within a society that has as much intense stratification as India, educational inequalities can be seen through things such as gender, caste, and religion. It is likely that the educational issues facing the Indian education system are not altogether unlike what Cooper and Crosnoe label the “great paradox” of U.S. education: “the groups that can most benefit from education often have the most trouble attaining educational credentials” (2007, p. 389). Cooper and Crosnoe (2007) cite Moyer (1997) who acknowledges that this is not just a financial issue, and Cooper and Crosnoe’s work “demonstrates that nonfinancial capital, such as parental involvement in education and children’s academic orientation, may be an especially important resource to leverage in our attempt to solve the paradox” (2007, p. 389).

Moreover, Barnard (2004) says that a cost-efficient means of promoting children’s success in school might come from policies that seek to augment parent participation, namely because parent participation is malleable and might be strengthened by early education interventions. Westmoreland, Rosenberg, Lopez, & Weiss (2009) similarly note that

Policymakers, practitioners, and researchers also recognize family engagement as a critical intervention strategy that maximizes return on other investments in education. Early childhood education programs that have demonstrated significant short- and long-term benefits for children all have intensive family involvement components. (p. 1)

While a higher price tag might be associated with some of the interventions that aim to alleviate particular educational problems and inequities, parental involvement is one possible intervention that can be utilized with less of a direct financial impact on the education system in India. With such potential, family involvement in India is an important and potentially advantageous avenue to explore.

Definition of Key Terms and Concepts

There are several indispensable terms that are interwoven throughout this study, and the operational definitions for these key terms are provided in the paragraphs that follow.

Interchangeability of parent engagement and family engagement.

For the purposes of this study, the terms *parent engagement* and *family engagement* are used interchangeably. While parents may be the ones who are most commonly envisioned as being involved in their children's education, parents are by no means the only family members who assist with their children's education. Siblings or other relatives may also contribute to a child's education; thus, this study utilizes the more encompassing notion of *family engagement* in order to include the variety of individuals in the family who might contribute to the child's education. Moles (2005)

utilizes a similar notion by interchangeably using the terms *parent involvement* and *family involvement*. Furthermore, Epstein (1994, p. 39) employs the term 'school, family, and community partnerships,' which she says identifies the significant possible influence of every member of the family.

Definition of parent and family engagement.

While the terms *parent engagement* and *family engagement* may be used to describe a variety of interactions between families and their children's education, for the purposes of this study, parent and family involvement in children's education refers to seven different dimensions of parent involvement that were identified through this study, including the education level aspirations that are held for the child, financial investment in the child's schooling, helping the child in his or her study, accompanying the child to school, visiting the school for the purpose of attending a meeting as a member, visiting the school when presence is needed for tasks such as enrollment or payment of fees, and visiting the school at the teacher's request for discussion about the child's behavior or study. A rationale for the inclusion of these seven family engagement variables is provided in Chapter Two of this study.

Child, family, school, and community factors.

Integral to this study are the child, family, school, and community factors that are hypothesized to be associated with family engagement in education. *Child* factors refer to the characteristics of the school-going children considered in this study, including the child's age and the child's gender. *Family* factors refer to factors that are situated within the child's household, including the education level of the head of the household, the total

monthly income of the family, the household's religious affiliation, the household's caste affiliation, and the number of school-going children in the household. *School* factors refer to the characteristics that relate to the child's school, including the distance that the child travels to the school and the type of school that the child attends. Finally, one *community* factor is considered in this study: the village in which the household resides.

Limitations

The foremost limitation of this study is that the dataset used in this research was not originally focused on family engagement in education. Since the CARE India household survey was not utilized with the explicit intent of examining the nature of parent and family involvement in education, the survey data are limited in terms of their attention to items that address family engagement in education. However, although family engagement was not a primary focus of the original CARE India research, there are a sufficient number of survey items that are relevant to the topic of family engagement in education. These specific survey items are discussed in further detail in Chapter Two and Chapter Three of this study.

Conclusion

The purpose of this study was to determine the extent to which families in the Shravasti district of Uttar Pradesh, India are engaged with their children's education, as well as to determine which factors are related to families' engagement with their children's education in the Shravasti district. This research purpose was accomplished through the exploration of three primary research questions that undergirded this study, including:

1. To what extent are parents and families engaged in their children's education within one predominantly rural district of Uttar Pradesh?
2. To what extent is the amount of parent and family engagement in education associated with factors related to the school, community, and family contexts, as well as to the child's age and gender?
3. Do familial aspirations for the child's level of schooling mediate the relationship between the specific child, family, school, and community variables considered in the second research question and different practices of family engagement in education?

Guided by the theoretical framework of this study, some important hypotheses are made about the findings of this research. First, it is hypothesized that factors within the family, school, and community contexts—as well as characteristics of the child—do play a role in determining the level of engagement that families devote to in their children's education. Specifically, it is hypothesized that the community (village) context will exert an influence on the level of family engagement in education, as well as that a factor not included in Epstein's overlapping spheres model, namely, child's gender, will explain some of the variation in family engagement in education.

The expected outcome of this study was that it will contribute to a better understanding of how Indian parents and families are engaged in their children's education and what factors are associated with families' engagement in education in the Shravasti district of Uttar Pradesh. Such knowledge can give educators and policymakers greater insight into the mechanisms that foster or inhibit families' educational

engagement. Moreover, with a better understanding of how families are already engaged in their children's education and what factors are most strongly associated with their engagement, educators and policymakers can work toward interventions that aim to alleviate barriers to involvement and bridge the divide between families and schools. These are crucial goals for leaders within the education system of India, particularly so that Indian children's academic growth and success can be fostered in ways that are connected to the children's family and school environments.

Chapter Two

Literature Review

“If you want to create national wealth, we must get enough people into the education system’. . . ‘We must ensure that everyone goes to school. If you have enough numbers of children going into primary and secondary education, you’ll get the critical mass you need going into universities.’”

– Kapil Sibal, Minister of Human Resource Development in India (in Gorlick, 2010)

Introduction

The literature review of this chapter is divided into three sections that each pertain to critical foci of this study. The first section of this literature review includes an overview of the Indian education system, with a brief examination of the Indian context; national, state, and local influences on education in India; educational policy initiatives; and systemic problems in the Indian education system. In the second section of this literature review, the focus is shifted to the role of parents and families in their children’s education in India, as well as other salient factors that affect children’s education in India. In particular, the second section of the literature review has direct linkages to the theoretical framework of this study by providing an examination of specific child, family, community, and school factors that influence children’s education in India. Finally, the third section of this literature review is used to examine the relevant literature and research related to the impact of parental involvement in education, different types of parental involvement practices in education, and some of the motivations behind parental involvement in education.

Section One: Overview of India and the Education System

The context of the study.

India.

India is stated to be the largest democracy in the world and the site of one-fifth of the world's population (Mohan, 2002). The population of India is 1,189,172,906 (July 2011 estimate), of which 29.7% are aged 14 or younger (2011 estimate) (CIA World Factbook). Indian education expenditures account for 3.1% of the GDP (2006, CIA World Factbook). India's elementary education system is the world's second biggest, enrolling 149.4 million students between the ages of six and fourteen (Mohan, 2002). However, even with such a massive number of enrolled students, there are still many out-of-school children and large inequalities that exist.

Based on the *Deprivation and Marginalization in Education* dataset that was used by the EFA Global Monitoring Report 2010, the total number of years of schooling in India for the population of those aged 17 to 22 is listed as 7.2 years, with a gap of a little less than two years between males and females (8.1 years for males compared with 6.5 years for females). Moreover, over one-fifth (20.3%) of the 17 to 22 year-old population in India experiences extreme educational poverty, which is defined as having fewer than two years of education. Within this population, a notable discrepancy exists in that 12.1% of males face such extreme education poverty, while a much higher percentage (27.7%) of females experience such extreme education poverty. Furthermore, 13.7% of the 7-16 year-old population in India has no education, including 10.7% of boys and 15.9% of girls (UNESCO website, N.d.).

Uttar Pradesh.

The UP, which is the ubiquitous title for Uttar Pradesh, is an enormous state, holding a population of 166 million people. If Uttar Pradesh were its own country, it would be the sixth largest in the world; however, with an annual per person income of about \$220, it would also be the most impoverished of the world's six largest countries, falling on the same level as the nation of Chad. Partially because of the benefaction and corruption that lubricate politics within the UP, the state has a gigantic fiscal shortfall that has stifled expenditure on things such as health, education, and other essentials. Moreover, within the context of large states, the UP has the greatest rate of infant mortality, the second-lowest percentage of deliveries that are aided by a professional in the health field, and the third lowest rank for female literacy (Caste adrift in India, 2002). In the map cited in Figure 4, Uttar Pradesh can be found in the northern part of India along the border of Nepal and India.

Figure 4. Map of India (Source: Perry-Castañeda Library Map Collection).



The caste system in India.

According to Medora (2007), the caste system is an inflexible system that has continued for more than 2,000 years. It is a structure that stratifies people socially and places them into “endogamous groups” (Medora, 2007, p. 170). Over one-sixth of the world’s population is influenced by the social system of caste, and as it specifically relates to rural India, “Caste conflict and struggle is a common feature of contemporary rural life in India” (Jeffrey, 2001, p. 218). Moreover, Jeffrey asserts that caste is still important in terms of societal structure, identity, and as a premise for asserting rights over resources. Caste affiliation was considered in the CARE India household survey, and Table 1 depicts the caste response codes that were used for the household survey data.

Table 1. Caste affiliation codes within the CARE India household survey (2008).

Caste Affiliation
0 = Does not know or no response
1 = Scheduled Caste (SC)
2 = Scheduled Tribe (ST)
3 = Other Backward Caste (OBC)
4 = General
99 = Not applicable (e.g., Muslim)

In order to understand the significance of the various caste affiliations listed above, knowledge of the reservation system in India is vital. After receiving

Independence in 1947, the Indian Parliament passed Constitutional resolutions and amendments that secured education and employment reservations for “backward,” i.e., economically disadvantaged persons. As a result of the government’s reservation plan, people from Scheduled tribes, Scheduled castes, and Other Backward Castes experienced notable economic improvement. Within India, Brahmin, Kshathriya, Yaishya, and Shoora were the significant caste groups. In particular, the Brahmin caste was wealthy in knowledge and the Kshathriya caste contained Aryan kings and a number of the soldiers as well. Notably, the Scheduled castes are composed of most the individuals who do not belong to either the Brahmin and Kshathriya castes. Moreover, the Scheduled tribes include those who come from occupational backgrounds such as live-stock breeding, cleaning, pot-making, and transporting. Finally, the Other Backward Castes is the proposed listing for those non-Kshathriya and non-Brahmin castes that are not contained in the Scheduled caste or Scheduled tribe classifications. The General caste classification refers to those individuals who do not necessitate the reservation system advantages (AdyarGopal.com, 2010).

The caste system in India is etched in stone, particularly in the rural areas, and this fact remains even though there have been decades of civil service employment and educational quotas, along with other affirmative action measures for OBCs and dalits. Moreover, caste is tied to politics in Uttar Pradesh, which is one of India’s most impoverished states (Caste, your vote, 2007). Although Jeffrey (2001) articulates that “Caste as a religiously and culturally sanctioned system of resource transfer seems to be on the wane,” it is also important to note that “as an identity, form of social organization

and basis for staking claims to resources,” caste continues to be important (p. 231). In the context of this study, caste is considered as one of the factors that might be associated with family engagement in education, which is a topic that is further addressed later in this chapter.

National, state, and local influences on education in India.

The national government had a very important role in devising a relatively standardized system in India during the years following independence (Ramachandran and Sharma, 2009). The continued influence of the national government is seen through the role of the Indian Constitution, which is the definitive document that directs all State policy (Government of India webpage, Policy Framework section). Moreover, the Indian constitution (along with its Directive Principles of State Policy) serves as the basis for the national policy on education, although governments at the state level also have a vital position in educational planning and delivery, particularly in secondary and primary education (Mohan, 2002).

The original enactment of the Indian Constitution provided for education as a duty of state governments (Ramachandran and Sharma, 2009), and although the 1949 national Constitution of India charged the states with the responsibility for education, education became a joint duty through the 42nd Constitutional amendment (which went into effect in 1976) by giving legislative power to Parliament in the area of education, thereby supporting its ability to develop national educational policies (World Bank, 1997). Through this 1976 amendment, education became a joint duty of both the national and state governments (Tilak, 2009). “Education in India is the joint responsibility of the

central and state governments, and educational rights are provided for within the Constitution (GOI, 1949)” (in Govinda and Bandyopadhyay, 2008, p. 4). According to Mehotra (2005, 2006), practically, education continues to be a state matter, and although central and state governments share the task of elementary education, the “state governments are the main actors” (The PROBE Team, 1999, p. 12).

In addition to the national and state roles in education, legislation also assigns responsibility to local education bodies. Through the 73rd amendment to the constitution, states were given power to form a multi-level (district, block, village) governance configuration of *panchayati raj* groups, which are elected locally. The amendment sanctioned the transfer of authority from state government bureaus to *panchayati raj* group for the purpose of creating and enacting policies that support social well-being and economic growth. Among the most significant areas to fall under *panchayati raj* jurisdiction was elementary education (World Bank, 1997). While this might appear to override the policy authority vested at the national level, education continues to be the joint duty of institutions at the national and state levels (World Bank, 1997). Moreover, the role of local committees seems even less important given their actual activity. For example, through information gathered from focus groups, Mehrotra (2005, 2006) discovered that village education committees (VECs), which are included in panchayat raj/local council groups, are hardly in operation and do not necessarily carry out their duties if they hold meetings. However, within particular states, community participation in local school matters serves as an impetus for change (Mehotra, 2005, 2006).

Educational policy initiatives.

At the forefront of all education policy initiatives has been the concept of universal education at all levels. This has been the primary governmental objective since independence (Mohan, 2002). This emphasis was recently reinforced by the minister of Human Resource Development in India, Kapil Sibal who said, “If you want to create national wealth, we must get enough people into the education system” and “We must ensure that everyone goes to school. If you have enough numbers of children going into primary and secondary education, you’ll get the critical mass you need going into universities” (Gorlick, 2010). Moreover, UN documents evidence an immense regard for the education of the wide population (Kumar, 2006), and the Indian government has signed onto both the 1948 Universal Declaration of Human Rights and Convention of the Rights of the Child (Dhagamwar, 2006). However, although Kumar (2006) notes that India has agreed to the Convention on the Rights of the Child, he says that “even after more than a decade it [India] has not only failed to act upon it, but has enacted amendments in contravention of the CRC” (p. 26).

Other important thrusts of the Indian education system are evident from a number of state and national initiatives that have been operational since the 1980s. All of these initiatives are targeted at the aims and approaches of the 1986 National Policy on Education, and particular focus is given to issues such as enhancing materials for teaching and learning, offering in-service teacher development, raising the enrollment of females, strengthening education outcomes, and enhancing the participation of the community (Ministry of HRD, *Initiative* webpage).

Systemic issues in the education system of India.

As a democratic society, free and compulsory education for everyone, including particular accommodations for the disadvantaged and traditionally downtrodden, is a standard to which India is dedicated, even if in actuality this is far from realized. Class and wealth are direct indicators of the level of pre-primary schooling in urban locales, and it is the educated and wealthy who enroll their children in kindergarten and Montessori education (Mohan, 2002). A 1997 World Bank report depicts “India’s primary education glass [as] two-thirds full, one-third empty,” with “67 million children ages 6-16 who are attending primary school, but 27 million to 32 million primary-school-age children who are not” (p. 1). More recent figures paint an even bleaker situation, with approximately 40 million of children aged 6-11 being out of school (Mehotra, 2005; 2003 UNESCO report cited in Mehrotra, 2006).

Although Mehrotra and Srivastava (2005) assert that school access is not a large problem anymore and offer impressive statistics that support this assertion (94 percent of India’s population have primary-level school access within one kilometer, although the rate drops to 84 percent for the upper primary level; moreover, the primary level gross enrollment ratio surpasses 100 percent), they still note some massive difficulties faced by the Indian education system. There are huge issues in the areas of the lagging involvement of females, tribals, and other groups that are disadvantaged, as well general school drop-out issues and lacking achievement in cognitive learning. Moreover, no less than 100,000 living areas in the nation remain with no school within the nationally-set standard of one kilometer, not to mention other school issues such as insufficient

infrastructure of schools, a massive lack of teachers and elevated teacher absences, lagging textbook availability, and low quality methods used for teaching and learning (Mehrotra and Srivastava, 2005; they also note that these issues are discussed in detail by Srivastava, 2005). Mohan (2002) asserts, “In practice primary education is a dilemma-ridden field where teachers, schools, communities, and states muddle through a rugged terrain without consensus” (p. 598).

Conclusion.

While the above overview highlights some of the major contextual factors within the education system of India, clearly these are not the only factors that affect the system in India. One area that has yet to be addressed in this chapter is that of the family’s role in children’s education in India. The following section will specifically focus on how families’ relate to their children’s education, as well as other important contextual factors that may influence families’ involvement in their children’s education.

Section Two: The Role of the Family in Education in India.

Families in India have a vital role to play within the education of their children, and this starts at an early level. Although the information is limited when it comes to rural Indian formal education at the pre-primary level, the family and community operate as the wider context for learning in a holistic way (Mohan, 2002). Children generally possess little authority when it comes to their own education, and from a young age, especially among families in the middle-class and who are upwardly mobile, discussing, preparing, directing, and supervising education-related activities are tasks that are done by members of the family. A notable contrast between India and the United States is the

degree to which education and decision-making related to education is a family issue in India (Mukhopadhyay and Seymour, 1994).

While the authors cited above speak to drastically different realms within the wider social sphere, be it rural or middle-class, both speak to the undeniable importance of the family in a child's learning. Drury only adds to the important linkage between education and family in India by saying,

Yet for many purposes the family or household is a far more appropriate unit of analysis than the individual, especially in familiastic countries like India. School decisions are often made not by the individual student or even by his or her parents, but by senior members of the joint family (Gore, 1968; Ross, 1961). (in Drury, 1993, p. 8)

The overarching importance of family can be seen from Khandelwal's work, which speaks volumes about the values that Indians esteem, even after coming to another country: "In looking for common themes within the U.S. Asian Indian community, Khandelwal (2002) found that immigrant Asian Indians see traditional family values as the distinguishing foundation of their culture, symbolizing group identity and assuring survival" (in Joshi, 2005, pp. 76-77). Additionally, Joshi offers insight into the specific role that Indian parents see themselves playing in their children's education. She says that Indian parents act deferentially toward teachers and typically receive educational knowledge as having authority. Moreover, education is viewed as the sole duty of the teacher, while Indian families perceive their role as being in the oversight of homework

(Joshi, 2005). Still, it is important to note the pervasive influence of the family in Indian society, which Joshi points to through various sources:

On a societal level in India, focus on family solidarity and loyalty is the chief orientation (Anandalakshmy, 1998). . . .Families value harmony over conflict or differences in opinions, and they stress interdependence. In other words, familial or social relations are emphasized over autonomy and individualism (Bacon, 1996; Rangaswamy, 2000). (in Joshi, 2005, p. 76)

Thus, even if Indian parents do not see themselves as having a particularly strong role in their children's education, it seems that, nevertheless, their influence remains by virtue of what it means to be cohesive family unit in Indian society. On an even broader level, the importance of the family in the education of Indian children is evident in that prior to the burgeoning of bureaucratic, western forms of education in lesser developed countries, cultural and familial entities preserved non-formal education in India (Mohan, 2002).

In spite of the significant influence of the family in education in India, there is still a great need for more systematic family engagement in children's education in India. This need for greater family and parental involvement input in the Indian education system is clear from Mehrotra (2005, 2006) who articulates as part of one of his policy recommendations, "There is *dire need* for PTAs in each village for each school, partly to mobilize the community and partly to counter teacher power" (p. 405, p. 276; emphasis mine). Additionally, Nair (N.d.) speaks of the need for more programs of parent

participation and attentiveness in order to concurrently succeed in quality and access at the primary education level.

Types of family involvement in education in India.

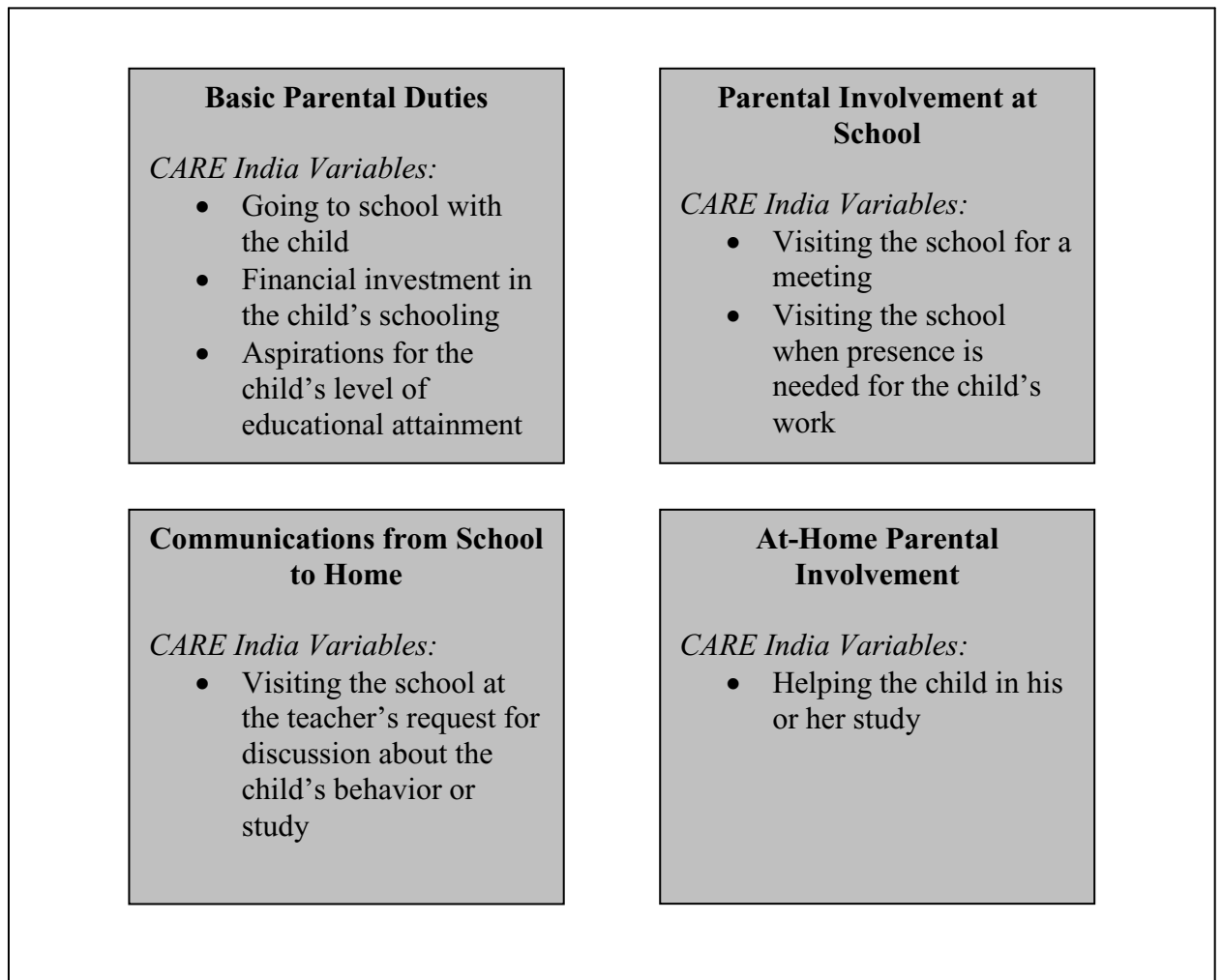
Although families in India have a vital role to play in the education of their children, the actual practices in which they engage on behalf of their children's education are less clear. However, the CARE India household survey offers a glimpse into some of the ways in which families in Uttar Pradesh engage with their children's education. Some of these different forms of engagement include visiting the child's school, holding educational aspirations for the child, going to school with the child, helping the child in his or her study, and providing financial support for the child's education. These seven dimensions of family involvement in education are discussed in the paragraphs that follow.

Alignment of dependent variables with existing literature.

As a multi-dimensional concept, parent involvement in education is not a concept for which it is simple to create a definition (Feuerstein, 2000). However, much potential lies in Epstein's (1987a) useful conceptualization of four different types of parent involvement in education, including basic parental obligations, communications from school to home, parental school involvement, and involvement in at-home learning activities. Although Epstein's more recent work (1995) offers a more elaborate framework that includes six different involvement typologies, including parenting, communicating, at-home learning, volunteering, decision-making, and community collaboration, her 1987a framework provides a clear linkage to the types of family

engagement practices that were captured on the CARE India household survey. Figure 5 shows the household survey variables that align to each of Epstein’s (1987a) four types of parent involvement.

Figure 5. Adaptation of Epstein’s (1987a) four parent involvement types with added CARE India household survey variables.



Visiting the child’s school.

According to the CARE India household survey codebook, respondents indicated a variety of reasons for which the child’s caretaker visited the school, including visiting

when their presence is needed for a purpose related to the child's work, such as for payment of fees or enrollment; visiting the school in order to attend a meeting as a member; visiting the school at the request of the teacher for discussion about the child's behavior or study; visiting the school to file a complaint, if any; visiting the school for a National Day, such as Republic Day or Independence day; visiting the school to pick-up incentives; and visiting the school for any other reason. Out of these seven reasons for visiting the child's school, three were examined in the regression analyses of this study, including visiting at the request of the teacher, visiting for a child work-related purpose, and visiting for the purpose of a meeting. In particular, these three reasons seem to represent the most meaningful forms of school involvement out of the seven different reasons provided from the household survey codes.

Financial investment in children's education.

Monetary investment in education is another way of assessing the level of families' engagement with their children's education. Although monetary investment is a factor that is often not linked to parent engagement in education, it is something that is intricately connected to the child's ability to continue in school. Moreover, parents and families are the ones who often have the greatest influence over whether or not the financial resources will be available for the child to continue in school. Muller and Kerbow (1994) assert that saving money for post-secondary schooling, as well as current expenditure on education, both signify activities that represent something that is educationally prioritized.

The CARE India household survey provided data about the cost of schooling for each school-going child in the household, and this information is particularly helpful because the amount reflected in these data does not refer to the school fee that is paid to the school by the families. Rather, it refers to amount that is paid for things that go into the child's education, such as transportation, books, materials for writing, uniform, fees, and other miscellaneous items (communication with Lisa Burton, September 15, 2010). Thus, these data reveal information about the level of financial investment that families are willing to make above and beyond a basic school fee.

Family study help.

Helping the child in his or her study was another form of home-based family involvement that was examined in the CARE India household survey. At-home learning is one of the forms of involvement included in Epstein's (1995) typology of six forms of involvement, and she says that rather than being excluded to work that is completed in isolation, 'homework' also includes interactive practices that are shared with people in the community or at home (p. 705, Table 2). Ingram, Wolfe, and Leiberman (2007) included the involvement practice of at-home learning in their own study of parents in at-risk and low-income, but high-performing, schools, and they examined at-home learning actions such as review of schoolwork; engagement in creative tasks; time spent on writing, reading, and numeric skills; discussions with teachers about expectations for finishing schoolwork at home; visits to different venues such as libraries, museums, and zoos; learning supplies that are brought home; and discussion with children about the fun of learning.

Although Campbell and Verna (2007) quell the supposition that homework help results in higher performance by citing a multiplicity of studies that evidence a negative link between helping and math/reading performance, helping the child in his or her study still provides insight into the extent to which families in the Shravasti district are willing to engage with their children's education. Since the focus of this study is *not* the link between parent involvement and academic performance, but rather, the extent to which parents and families are engaging with their children's education and the factors that are associated with their engagement, the level of families' involvement in helping with their children's study is yet another factor that is indicative of the investment that families are willing to make in their children's education.

Going to school with the child.

Going to school with the child was another form of involvement that was examined in the CARE India household survey. Given the context of the study, this form of involvement may have significant repercussions for the child's ability to continue in school. For example, depending on the distance of the school and the safety of the route to school, not having someone to accompany the child to school could become a barrier that prohibits the child from attending school. The CARE India Situational Analysis (2009) points to the significance of safety concerns for girls' parents, and female focus group members felt that parental anxiety about sending girls a long distance to school was a chief obstacle to education. Additionally, based on focused group discussion with community members, safety is a huge issue related to older girls since there are few schools close to the village (CARE India, 2009). Thus, this form of involvement seems to

have particularly profound implications for children's participation and continuation in education, especially for girls.

Educational attainment aspirations.

Based on evidence collected through previous meta-analyses, parent expectations for the child's academic achievement appear to be significant to the child's school success (Fan & Chen, 2001; Jeynes, 2005), as is communication of the parents' expectations (Hill & Tyson, 2009). The CARE India household survey addressed the issue of educational aspirations by asking about the level to which each school-going child would be educated. In addition to this survey item being used as a dependent variable in the regression analyses related to the second research question of this study, it was also used as mediating variable to examine the way that educational aspirations potentially mediate the relationship between the contextual variables considered in this study and the six other forms of family engagement considered in this research.

A major reason for examining the way that education level aspirations potentially mediate the relationship between the contextual factors considered in this study and various practices of family engagement is that the literature evidences the great importance of parents' aspirations for their children's education. For example, Fan and Chen (2001) note that "parents' aspiration/expectation for their children's educational achievement has the strongest relationship with students' academic achievement" (p. 17). Moreover, Jeynes (2005) concludes that parents' expectations (defined as the extent to which lofty expectations were held for the student's high performance potential) had the greatest effect sizes on urban elementary student achievement among the particular types

of parent involvement examined. Finally, Hill and Tyson (2009) assert that “academic socialization,” which includes engagement “that creates an understanding about the purposes, *goals*, and meaning of academic performance; communicates expectations about involvement; and provides strategies that students can effectively use...has the strongest positive relation to achievement” (p. 758, emphasis added). Although parental aspirations are conveyed in different ways and the expectations discussed above primarily refer to achievement expectations, it is worthwhile to consider how aspirations influence outcomes other than academic achievement, including outcomes such as family engagement in education. Such an examination departs from previous analyses of how expectations influence performance and instead observes how families’ aspirations for their children are potentially associated with other practices of family educational engagement.

An examination of educational aspirations in relation to other forms of family engagement seems particularly useful given Muller and Kerbow’s (1994) perspective about parent expectations. They say,

To understand parent involvement in education it is useful to assess what parents expect their child to take away from the educational process, that is, what their child will accomplish within the system. In large part this is likely to be reflected in the parent’s educational expectations for the child. (p. 15)

Educational attainment aspirations will be examined in three separate ways in this study, including a descriptive analysis of the distribution of educational aspirations that are held among this study sample, multiple linear regression analysis of the factors that are

potentially associated with the educational aspirations that are held for the child, and mediation analysis of how educational aspirations potentially mediate the relationship between the contextual factors examined in this study and the six other forms of family engagement in education considered in this research.

Factors that potentially affect family engagement in education in India.

As detailed in the theoretical framework of this study in Chapter One, a number of different variables within the family, school, community, and child context have been selected for examination in this study. Based on the literature, a number of different variables appear to play an important role in determining schooling outcomes, and to the extent possible, these variables will be considered in the analyses of this study as they relate to family engagement in children's education. These variables include factors that are situated within the contexts of the child and family, as well as factors within the school and village contexts. In particular, these factors are examined in order to determine the effect they have on family engagement in children's education in India.

Socioeconomic status (income) of the family.

Drawing upon the literature on the association between socioeconomic status (SES) and parent involvement in education (Arnold, Zeljo, & Doctoroff, 2008; Grolnick et al., 1997) and the effect of SES on education outcomes both in general and in South Asia specifically (review of literature in Chudgar and Shafiq, 2010), family income is used as the leading predictor of family engagement in education in this study. Dréze and Kingdon (2001), using PROBE survey data from north India, found household wealth (measured by certain owned assets) to be important, as it augments male and female

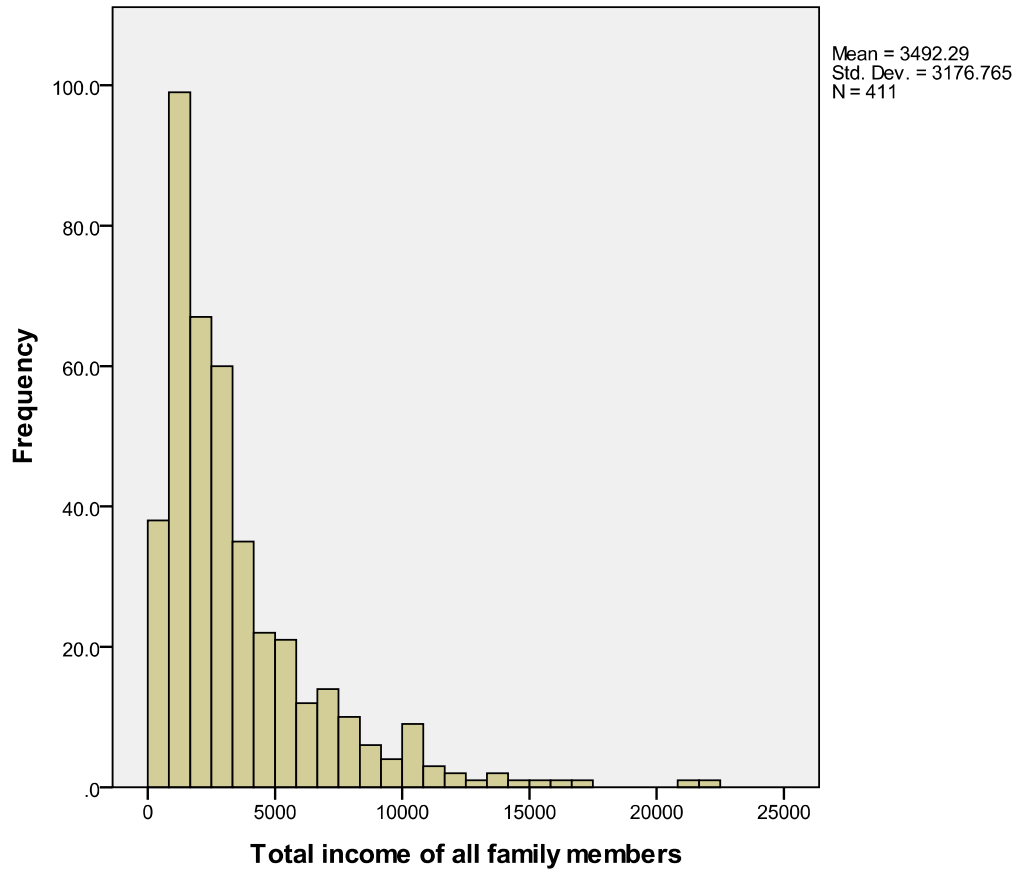
school participation, with a highly significant effect for females. Filmer and Pritchett (2001) also used an asset index in their work, which they found had huge effects: “On average a rich Indian child is 31 percentage points more likely to be enrolled than a poor child, but the wealth gap varies from only 4.6 percentage points in Kerala to 38.2 in Uttar Pradesh and 42.6 in Bihar” (p. 128). Wealth as measured by per capita income was also found by Sipahimalani (1999) to be important in schooling enrollment and attainment, and Kingdon (2002) noted parental wealth as being very important in determining attainment in schooling for boys and girls. In terms of enrollment, Kingdon also found that for both genders, the economic standing of the respondent’s family (i.e., their standing when the respondent was a child) was a vital enrollment determinant for boys and girls. Chudgar (2009) also cites the 2005 UNESCO Institute of Statistics report about out-of school children, which points to a positive relationship between educational attainment and parental wealth.

According to Chudgar and Shafiq (2010), either income or asset possession, or a combination of both, is typically utilized in studies as a gauge of family SES. In this study, the total monthly family income of the household is used as a gauge for the families’ SES in the Shravasti district. In the household survey dataset, the range of total monthly family incomes spanned from Rs. 0 to Rs. 21,7000 (USD 485.30³), with just over half of the respondents indicating that their total monthly income was Rs. 2,500 (USD 55.91) or less. The mean income among the 411 households included in the sample is Rs. 3,492.29 (USD 78.10), with a standard deviation of Rs. 3,176.77 (USD 71.04).

³ Conversions from the Indian rupee to the US dollar reflect conversion rates as of March 30, 2011. These rates were calculated through the Yahoo!® Finance Currency Converter: <http://finance.yahoo.com/currency-converter/#from=USD;to=INR;amt=1>.

Considered over the course of a year, this mean monthly income results in an annual mean income of Rs. 41,907.48 (USD 937.21) Figure 6 shows the distribution of income among the 411 households included in the sample. In comparison to the country of India as a whole, the mean annual income in the Shravasti district is considerably lower than the per capita GDP of India, which is USD 3,500 (2010 est., CIA World Factbook).

Figure 6. Total monthly income of all family members in Rupees (CARE India household survey data, 2008).⁴



⁴ Bars graphs in this format were created through the use of PASW Statistics 18.

Education level of the household head.

In addition to the dominance of SES as a predictor of parental engagement in education, the education level of the parents has also been found to be an important predictor of parent involvement in education (Fantuzzo et al., 2000; Kohl et al., 2000). Moreover, Chudgar and Shafiq (2010) assert that parent education is the most influential and consistent family indicator of education outcomes in both developing and industrialized nations. Dréze and Kingdon (2001) used the PROBE survey (survey findings presented in the PROBE Team, 1999) in their examination of participation in school in several northern Indian states, and they came across a number of notable findings. They cite one of their findings by saying, “The ‘household’ variables tend to perform better than the ‘school’ or ‘village’ variables, not surprisingly since the household variables are more versatile indicators of the circumstances of a child” (Dréze and Kingdon, 2001, p. 14). One of the important household variables identified by Dréze and Kingdon (2001) includes parent education since the probability of participating in school increases with the education of the father and mother (although the effect of maternal education is not significant for the school participation of males).

The importance of parental education is also seen through Sipahimalani (1999) who found a positive and statistically significant effect on both enrollment and attainment from father’s and mother’s attainment in education. Kingdon (2002) also found a strong significance in the female regression for variables related to parent education. Pertaining more specifically to parent literacy, Chudgar (2009) also points to the importance of parents by asserting,

The findings show that, at the household level, controlling for covariates, an improvement in parental literacy increases the probability of school enrollment by 9-21 percent and increases the probability of school of elementary school completion by 10-18 percent, depending on the region studied and data used. (p. 427)

The UNESCO UIS report (2005) also identified a positive connection between parent educational attainment and school enrollment (cited in Chudgar, 2009).

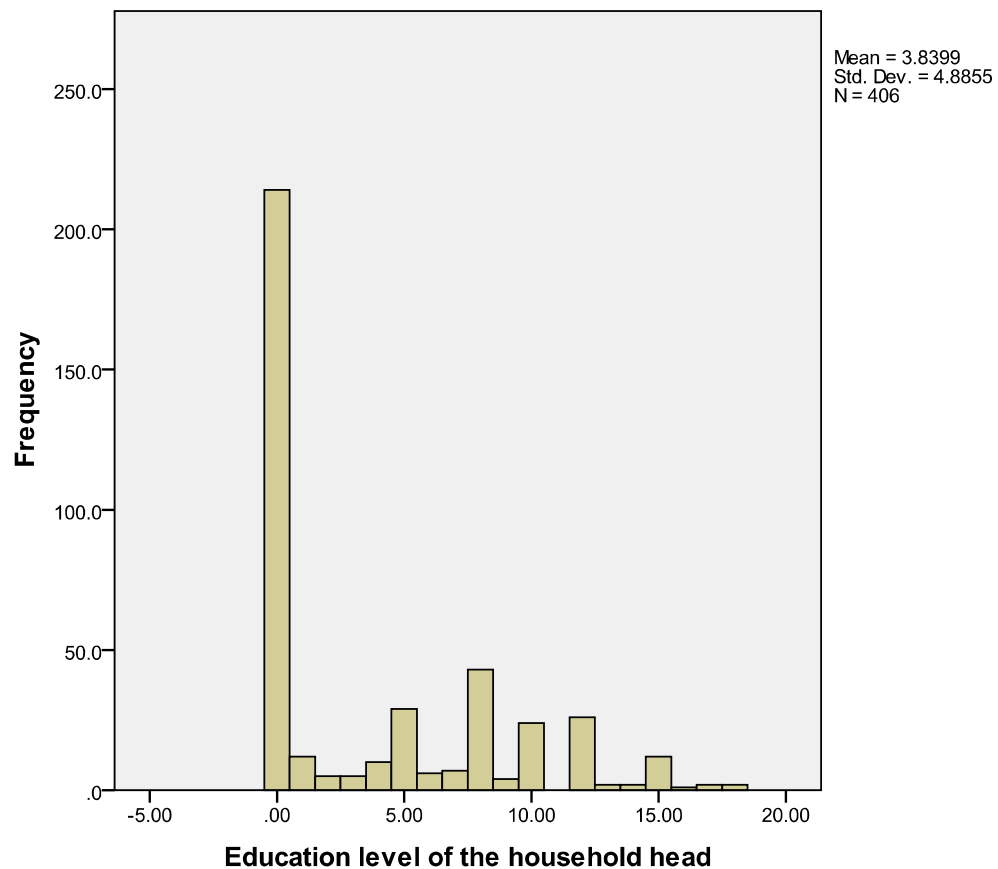
In the present study, the education-level of the household head is used as a proxy for the education level of the adults in the household. Chudgar (2006) asserts that since individuals have a tendency to marry someone with a level of education that is similar, there is typically a strong degree of multi-collinearity in the education level of spouses. Therefore, there is a tendency to utilize the education level of just one spouse—or an amalgamation of both spouses' level of education—in many development economics studies (Chudgar, 2006). Moreover, in their research, Stevenson and Baker (1987) note a high correlation between maternal education and the education level of the mother's spouse. Although it would be particularly advantageous to examine the education level of the school-going child's mother, the household survey data does not specifically link the school-going children in the household with the adult household members who are their parents. However, based on Chudgar's assertions and the inclination in development economics studies to use either one spouse's education level or a composite of both spouses' education level, there seems to be a solid basis for looking at the household

head's education level as one measure of the adult level of education within the household.

The household survey data indicated that a majority of the household heads had not been enrolled in school (52.7%), with only 3% having completed their bachelor's degree or some amount of graduate-level work. Out of the sample of 406 respondents, the mean education level is just below class four (3.84), with a standard deviation of 4.89.

Figure 7 shows the education-level distribution among the household survey sample.

Figure 7. Education-level of the household head (CARE India household survey data, 2008).



Age of the child.

There is good reason to believe that parent involvement may be significantly influenced by the age of the child. Epstein and Dauber (1991) discovered that parent involvement school programs at the elementary level are more robust, optimistic, and encompassing than at the middle grades level. And although the elementary and middle school teacher reports indicated that the communication programs or policies were of equal robustness, more frequent communication and more types of communication practices were used by elementary teachers (Epstein & Dauber, 1991). Moreover, Mapp, Johnson, Strickland, & Meza (2008) substantiate this school-level difference by citing Epstein and Connors (1994) and Dauber and Epstein (1993) in saying that the tendency seems to be a decrease in family involvement as students progress from elementary into middle and high school. Stevenson and Baker (1987) also found a propensity for parents of older children to be less involved in activities of the school than parents of younger children. Similarly, Epstein (1987a) asserts that the most significant influence on teachers' uses of home and school parent involvement was the child's grade, with first grade teachers more frequently utilizing at-home learning tasks with parent involvement than third or fifth grade teachers. Given these findings, it seems that child's age is a particularly important variable to consider in relation to this study.

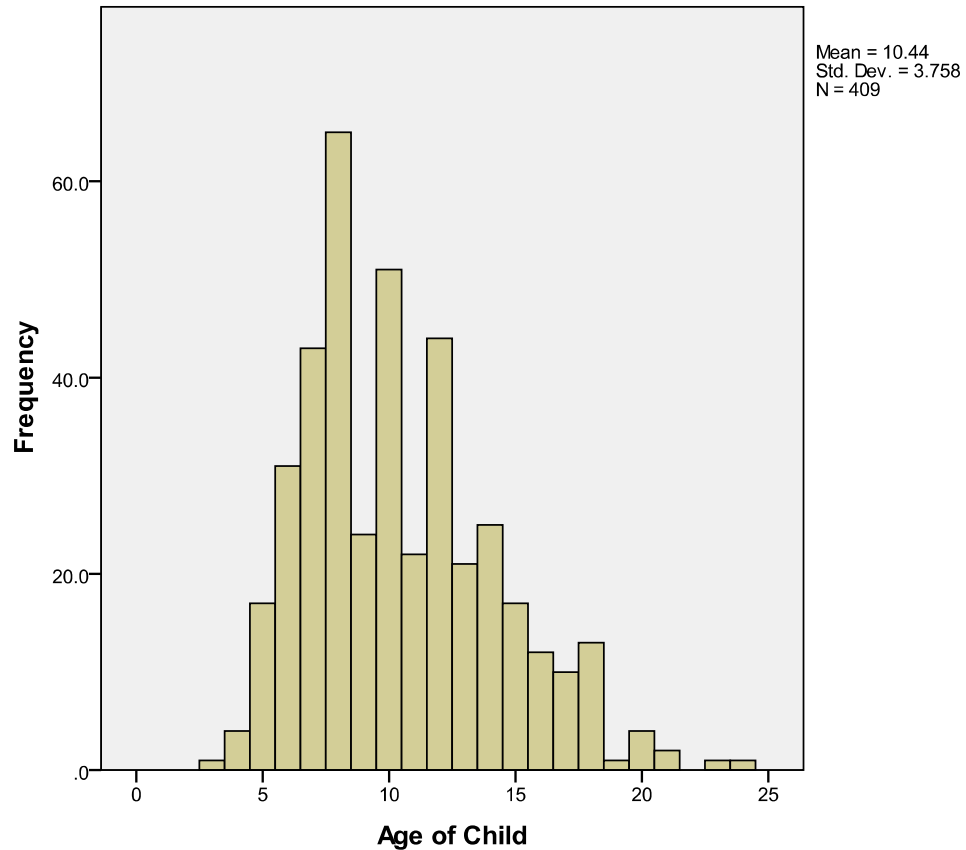
Moreover, a consideration of the child's age is imperative because it relates to the theoretical framework of this study. Based on Epstein's overlapping spheres of influence framework, which includes child age as a factor influencing the amount of overlap among

spheres, it is hypothesized that the child's age may make a difference in the amount of family engagement in education.

The household survey sample represents a wide span of ages for the school-going children, and the sample that is used for this study includes ages that range from those in the very early stages of childhood all the way up to those in adulthood (ages 3 to 24 years)⁵. The mean age in the sample of 409 school-going children is slightly over 10 years of age (10.44), with a standard deviation of 3.76 years. Figure 8 shows the distribution of ages among the school-going children in the sample.

⁵ Two extreme cases were excluded from the sample, including one case with a value of 201—obviously an implausible number—and one case with a value of 1—an age that is just too young to meaningfully be considered as part of the sample of school-going children.

Figure 8. Distribution of ages among the school-going children in the sample (CARE India household survey data, 2008).



Gender of the child.

Although the findings about parental involvement based on the child’s gender are not conclusive, there is reason to believe that this variable has less significance than the others previously mentioned. Stevenson and Baker (1987) found no significant difference between girls and boys for parental involvement, although they did note a slight elevation of parental involvement for girls. Similarly, Grolnick et al. (1997) found that child’s gender did not affect involvement in school, although they mentioned the effect of child’s gender as a moderator of the effects of teacher attitudes and context. Contrastingly, based

on Muller's (1998) findings related to adolescents and mathematics, parents were noted to be differentially involved in their sons' and daughters' education.

While the findings related to gender and parent involvement are useful to consider, perhaps even more relevant to this study is the consideration of gender issues in the Indian education system. As has been discussed previously in this chapter, the *Deprivation and Marginalization in Education* dataset from the EFA Global Monitoring Report 2010 reveals just how severe the gender gaps are in India. For example, while 15.6% of the male population aged 17 to 22 have fewer than four years of education, this number is much higher for females—30.7% (UNESCO website). Gender may also influence primary school graduation since, according to Chaudhuri and Roy (2009), male children in Uttar Pradesh (as well as Bihar) have a one-third greater likelihood of graduating from primary school.

Given the statistics related to gender and education in India, as well as Chudgar's consideration of gender in her conceptual framework, there seems to be a basis for believing that gender may play a more prominent role in the involvement of families in India than the parent involvement literature has shown. Although child gender is not a variable that is included in Epstein's overlapping spheres of influence model, taking into consideration the context of this study, it seems to be an important variable to include the analyses of this research.

The household survey data depict a fairly balanced representation between males and females in the sample of 411 school-going children, as 54.3% of the children in the sample are male and 45.7% are female.

Caste.

Drèze and Kingdon (2001) assert that lagging school participation among socially underprivileged populations within India—markedly those that are called ‘scheduled castes,’—is commonly known. However, they say that it is not evident if (and how much) this bias continues after things such as parent education and the income of the household are controlled for (Drèze & Kingdon, 2001). Chudgar (2006) also notes the relationship that exists between caste and family income, level of education, etc. Given that family SES is hypothesized to be such a large predictor of parent involvement, it seems that caste may also have an important link with the involvement level of families. Based on the household survey data, it appears that there might be a correlation between caste and income, although the link is not particularly strong: the highest and only significant correlation between total family income and caste is found in the correlation between belonging to a general caste and total family income (Pearson Correlation: .147).

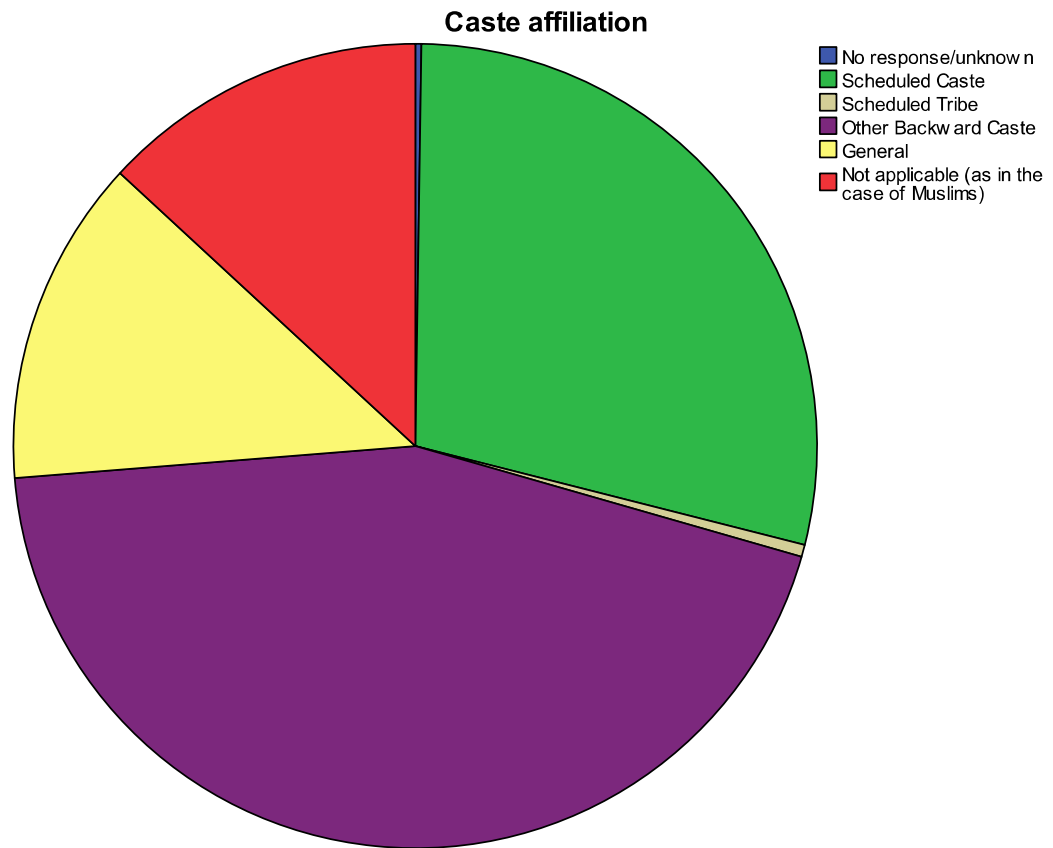
In Chudgar and Shafiq’s (2010) review of related literature, they say that the family’s caste usually predicts education outcomes in the context of Nepal and India. However, they cite several different sources (Chudgar, 2009; Goyal, 2009; Kindgon, 2005; UIS [UNESCO Institute for Statistics], 2005) in saying that with the inclusion of other familial background variables like parent education, some of the disadvantage related to scheduled caste in India was no longer obvious (in Chudgar & Shafiq, 2010). However, Drèze and Kingdon (2001) note that children from ‘scheduled castes and scheduled tribes,’ as well as ‘other backward castes’ had less of likelihood of attending school than children from general castes, which was a finding that was especially potent

for females (p. 14). Moreover, the UNESCO UIS report (2005) found that the composition and caste group of families also are important (cited in Chudgar, 2009), and Kingdon (2002) identified low and backward caste membership as having a strong negative effect on the probability of enrollment in the models for males and females.

While the evidence on the effect of caste affiliation is not conclusive, within the context of this study, it is hypothesized that caste may have some bearing on the amount of involvement in education. Although Chudgar (2006) points out that caste-based distinctions are illegal in India, she also asserts that as demographic variable, caste is both noteworthy and significant. Moreover, she says that in light of the way it is related to the income level of the family, education level of the family, etc., caste likely offers one of the best variables by which families might be separated into two different groups.

In terms of the caste composition represented by the CARE India household survey data, the following affiliations were identified within the sample of 411 respondents that was considered in this research: Scheduled Caste (n = 118, 28.7%), Scheduled Tribe (n = 2, .5%), Other Backward Caste (n = 182, 28%), General (n = 54, 13.1%), Not Applicable (as in the case of Muslims) (n = 54, 13.1%), and no response/unknown (n = 1, .2%). For the purposes of this study, the data has been dummy coded to categorize three primary caste groups: general caste, other backward caste, and scheduled caste/scheduled tribe. Figure 9 shows the household caste affiliations represented within the survey data used in this study.

Figure 9. Household caste affiliations (CARE India household survey data, 2008).



Religion.

Religion might be a variable that demands attention for its effect in education-related outcomes, as Dréze and Kingdon (2001) found a negative coefficient for the dummy variable MUSLIM (although it was not statistically significant), and Kingdon (2002) found that in both models for males and females, being Muslim has a strong negative effect on enrollment probability. Moreover, although Chaudhuri and Roy (2009) found in Uttar Pradesh that religion does not significantly determine whether or not a child finishes primary school, in terms of school enrollment, Borooah and Iyer (2005) found that in all the regions they studied (with the exception of the south), Hindu girls

and boys had higher enrollment rates than their counterparts from Dalit and Muslim backgrounds. Moreover, religion—as well as caste—also seem to play a role in the way parents think about the importance of education for their children and whether or not they send their children to school, as Borooah and Iyer (2005) point out that there was a significantly higher number of Muslims (23%) compared to Hindus (16%) and Dalits (17%) whose children were not enrolled in school because their parents did not consider education to be important.

Given the way that religion may interact with school enrolment and parental judgments about the importance of education, religion is hypothesized to be another factor that is associated with the involvement of families in their children's education. Based on the CARE India household survey data, out of a sample of 410 cases, most of the respondents identified as belonging to the Hindu religion (86.8%), with the remaining 13.2% identifying as Muslim.

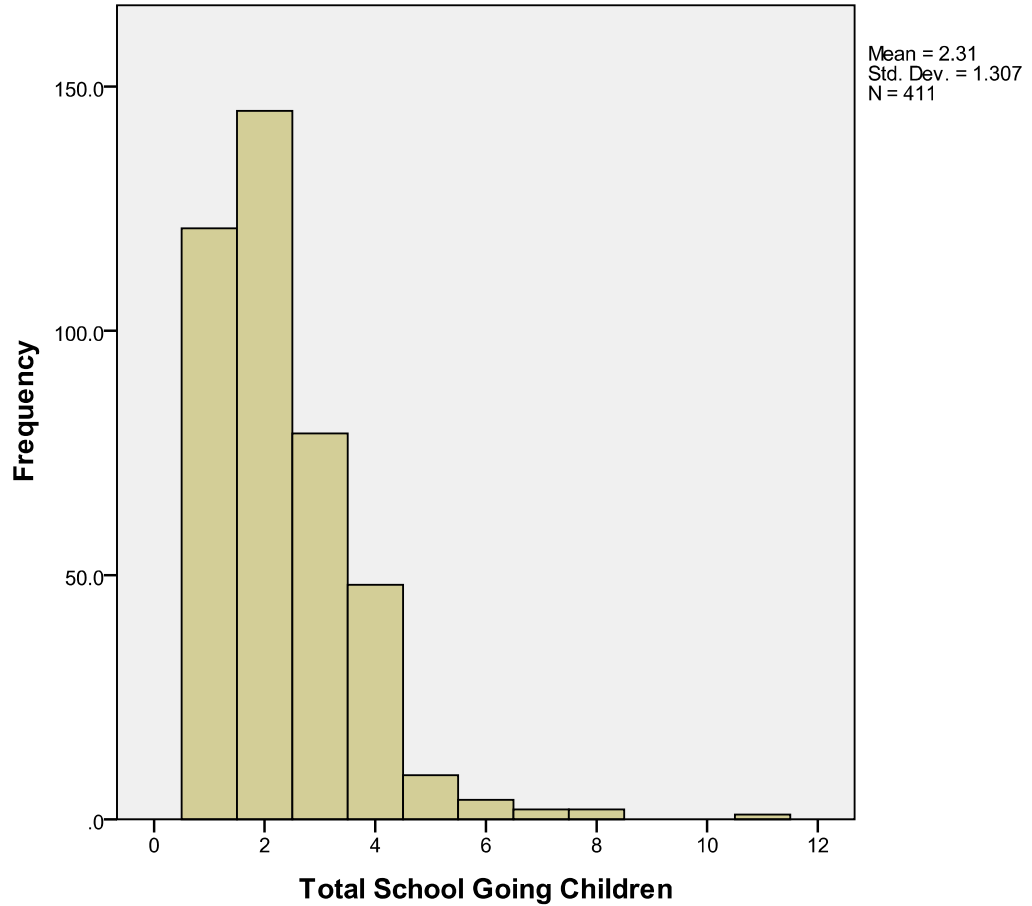
Number of school-going children.

Since this study not only utilizes the concept of *parent* involvement in education but also the broader concept of *family* involvement in education, it is worth examining the contributions that might be made by other educated members of the household, including any other school-going children in the household. Chudgar and Shafiq (2010) cite Aslam's (2009b) research, which demonstrates the academic advantage that students in Pakistan receive when their siblings help them with academic work. However, it is possible that the number of school-going children in the household could have an adverse effect if it causes a strain on the parents' time and resources. For example, Aslam (2009)

notes “more conducive home learning environments” as having “a significantly larger number of books at home and *lower number of siblings*” (p. 343, italics added). Thus, it seems that this variable has the potential to make a difference, either positively or negatively, in the amount of family assistance children receive in their education.

In terms of the CARE India household survey data, all of the households in the sample of 411 had at least one school-going child, with the greatest number of school-going children in a household being indicated as 11. The mean number of school-going children was 2.31, with a standard deviation of 1.31. Figure 10 shows the distribution of school-going children among the selected households from the CARE India household survey.

Figure 10. Distribution of the number of school-going children within each household (CARE India household survey data, 2008).



School type.

The variable for school type is considered in the regression analyses of this study, with a focus on whether a child is enrolled in a government school, private school, or another type of school context (i.e., any other type of school or dual enrollment). In Uttar Pradesh, having private and public schools in the village reduces the probability of primary school completion for females, but it increases the probability for males (Chaudhuri & Roy, 2009).

Although attending a private school seems to intuitively suggest that parents might place more value on their children's education, and thus, be more inclined to participate in their children's education, the evidence seems to tell a different story. As Viadero (2003) describes of the book, *All else equal: Are public and private schools different?*, lead author Luis A. Benveniste and co-authors Martin Carnoy and Richard Rothstein ground their observations on 16 thorough studies of various types of school in California, including public, private, and charter schools. According to Viadero (2003), Benveniste said that they were taken aback at the lack of differences that were observed, and he said that without the religious depictions on the walls, it is difficult to distinguish whether one is in a public or private school. Interestingly, parent involvement was one of the factors that was largely indistinguishable on the basis of school type, since both public and private schools that served students from impoverished families had teachers that griped about the lack of parent involvement in education. The researchers did find differences, however, based on socioeconomic status: private schools that served low-income populations were more like public schools serving comparable populations than private or public schools that served wealthier populations. In summary, the family income of the students was the greatest determinant of difference (in Viadero, 2003).

Although a compelling case is made for the lack of association between private schooling and parent involvement in the United States, since this present study is situated within the context of South Asia where private schooling might have a different linkage with parental involvement, it is worth considering if the type of school the child attends is associated with increased levels of family engagement. For instance, in relation to

schooling in India, “There is now a popular perception that increased parental demand for education on the one hand and the declining quality of government schools on the other will inevitably lead to greater reliance on the private sector” (De, Majumdar, Samson, & Noronha, 2002). Furthermore, Aslam (2009) found that private school students in Pakistan achieved higher on standardized literacy and mathematics tests, but this finding was qualified by the fact that private school students were from comparatively more advantaged backgrounds in nearly all regards. Since this study is focused on South Asia, it is worth considering whether or not the school type is associated with the involvement levels of Indian families in their children’s education. The household survey data shows that out of the sample of 409, the largest number of students are affiliated with government schools (68.9%), followed by private schools (25.7%), and “any other” (3.4%) and “dual enrollment” (2%).

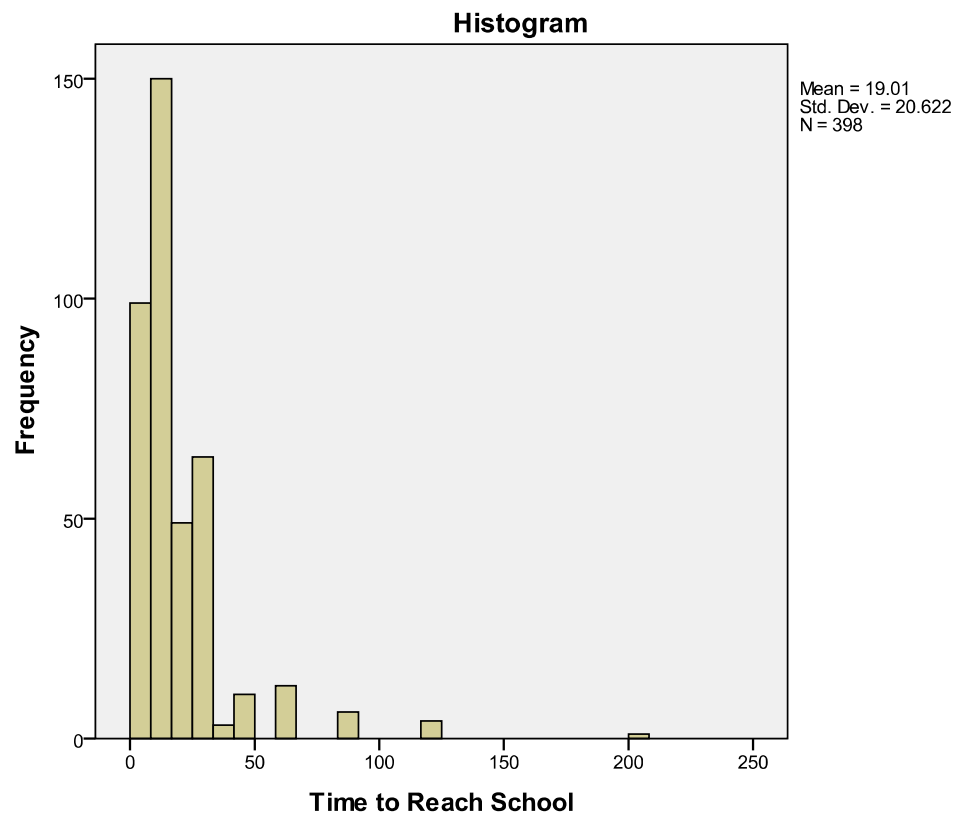
School distance.

Another important school level variable to examine is the distance from the school, since Sipahimalani (1999) identifies middle school distance as being significant to male and female school enrollment and attainment, as well as a negative influence on primary school enrollment based on the school distance (statistically significant for females at the six percent level). Moreover, intuitively it makes sense to examine school distance as a factor related to parent involvement since geographically farther schools may prohibit family engagement in some aspects of the child’s education. Among her speculations about why parents may become less involved as children grow older, Muller

(1998) cites parental feelings of distance from the higher-level school, which might also be further away geographically.

Based on the CARE India household survey data, out of a sample data from 398 students, the average distance traveled to school in the Shravasti district was approximately 19 minutes ($M = 19.01$ minutes, $SD = 20.62$ minutes). Figure 11 depicts the distribution of times traveled by students to school.

Figure 11. Time in minutes that school-going children travel to reach school (CARE India household survey data, 2008).



Village.

Chudgar's work points to the influence that the community context may have on the family context, and in this study, it is hypothesized that the community context may exert influence in addition to that of the family or school contexts. In Chudgar's (2006) research about decision factors related to the education of boys and girls in India, she concluded that the family is significant in the area of schooling choices, but "family schooling decisions are not independent of their context" (p. 134). Chudgar notes,

In repeated models of urban and rural areas, southeast region and northwest region, minority and non-minority children I continued to find that district level social context of the family was important in explaining the variance in the odds that a girl would participate in schooling compared to a boy. (2006, p. 135; also see Chudgar, 2008)

Additionally, Borooah and Iyer (2005) found that the magnitude of the effect of caste or religion is intertwined with the non-community conditions that the children are in. For example, the effect of the community is minor under certain positive conditions, such as when a child has literate parents; however, under less positive conditions, the effect of the community is more notable. Dréze and Kingdon (2001) also acknowledge the important role played by certain village-level variables on female school participation, including the index of village development (both regressions have a statistically significant and positive coefficient) and a women's association in the village (positive coefficient, and significant in the regression related to current enrollment). Taking a slightly different perspective on village level characteristics, Anitha (2000)

classified various villages according to certain characteristics found in the village, including caste, distribution of land, occupation, household heads' level of education, and income. Based on this work, Anitha notes "that the educational processes vary among different village categories. It is also found that among all the characteristics it is the caste composition of the village that explains the variation in educational processes more completely than the others" (2000, p. 179).

In terms of the four villages considered in this study, each one is characterized by a different set of factors. In the village of Bardehra, there are around 700 to 800 houses, with a majority of the households being affiliated with the Other Backward Caste group, along with a smaller number of household that are affiliated with the Scheduled Caste group, other minority groups, and the Brahmins. There are two private schools in the village, as well as two government primary schools. A female is in the role of village head, but her husband oversees all official issues and their family has been in the position of village headship for a long period. Almost all villagers report that only those with whom the village head has "social terms" have an ear with the village head, and no one speaks before the head (CARE India, 2009, p. 37). In Bardhera, farming is done by almost all of the village men, while around 10% have government or private employment. It is common for men to engage in gambling, drug abuse, and other similar practices (CARE India, 2009).

In Jamunaha, there are around 700 households. It is typical for men to leave the village for work and for the women to remain at home. People in the village broadly are affiliated with one of four groups, including general, Other Backward Caste, Scheduled

Caste, and other minority groups, with around 90 to 100 Muslim families in the village. There are two private schools in the village, including one up to 8 and the other up to high school; there are also two government primary schools in the village (CARE India, 2009).

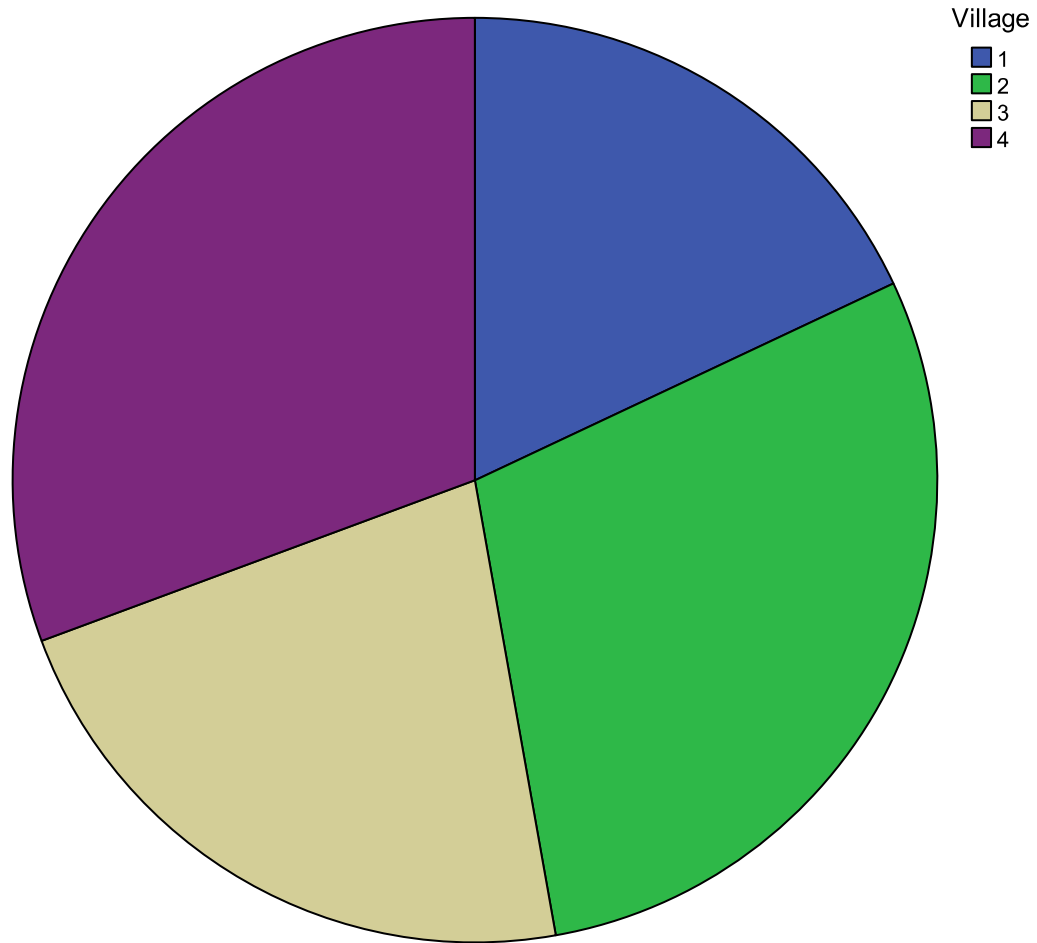
Mainihawaa is a smaller village, with around 400 to 450 houses that are divided among general, Scheduled Caste, minority, and Other Backward Caste families, with a large majority belonging to OBC families. Although some men search for a living by migrating to cities such as Mumbai and Kanpur, each of the families has their own farming land. The village has three private schools, as well as two primary and two middle schools, although most children go to private schools. All village children are enrolled in the school and have regular attendance (CARE India, 2009).

Finally, Rampur Paida has 600 to 650 houses, with a large number of families that are affiliated with the general caste (250 to 300), while others are Other Backward Caste families (150), Scheduled Caste families (150), and minority castes (50 to 60). The dominant village caste is the Brahmins, and while around 85% of families in the higher castes have jobs with the government, it is more common for people in the Muslim community to migrate to larger cities for the purpose of finding employment. For the most part, women remain at home in order to take care of household tasks, although women who do go out solely do work in fields that are their own. There are no private schools in the village and only government primary school (CARE India, 2009).

Although it is likely that there are a variety of community factors that relate to whether or not the family is involved in the child's education, it is not possible to analyze

all of these potential factors given the data that are available through the household survey. Alternatively, as a starting point, it *is* possible to examine whether a community effect on family engagement in education is even present in the Shravasti district. In order to accomplish this type of examination, four villages are represented within the sample of 411 households from the household survey respondents. The largest percentage of respondents are from Village Four (30.7%), followed by Village Two (29.2%), Village Three (22.1%), and finally, Village One (18%). Figure 12 shows the distribution of households among these four villages.

Figure 12. Distribution of respondents among the four sample villages (CARE India household survey data, 2008).



Section Three: Parent and Family Involvement in Education.

Turning now from a more narrow focus on the Indian context to a more general focus on the relevant literature related to parent and family involvement in education, this section reviews the research base pertinent to the critical role that parents and families play in their children's education.

Overlapping spheres of influence.

Integral to the theoretical framework of this study is the conceptual work of Joyce Epstein. Her overlapping spheres of influence model is a framework that is useful in conceptualizing the three spheres that influence children's lives and learning. These three spheres of influence include the family, school, and community (Epstein, 1994⁶, 1995), which she describes as "the three major contexts in which students learn and grow" (1995, p. 702). Moreover, Epstein further asserts, "In this model, there are some practices that schools, families, and communities conduct separately and some that they conduct jointly in order to influence children's learning and development" (1995, p. 702). Epstein's overlapping spheres of influence model consists of an external and internal component, with the external model representing the overlap and non-overlap of spheres, and the internal model depicting patterns of influence and interpersonal connections (1987b, 1994, & 1995).

While Epstein's model of overlapping spheres of influence has great utility for better understanding the nature of parent and family engagement in education, in the context of India, the research points to the possibility that an addendum to Epstein's model might be important. The work of Chudgar (2006) contributes to the theoretical underpinnings of this present research by offering an educational framework and insights that specifically relate to education in India. Although Chudgar's conceptual framework is not premised upon Epstein's overlapping spheres of influence model, her findings

⁶ Epstein's (1994) work terms the spheres of influence as being the school and family, and in the full structure, the school, family, peer group, and community. However, her external model depicts the three spheres of influence as being the family, school, and community (based on her 1987a [chapter in Hurrelman, Kaufman, and Losel] and 1992 works, cited in 1994).

suggest that a more appropriate model to utilize in the Indian context might be one in which the family is accounted for within the broader context in which they are situated (Chudgar, 2006). Moreover, Chudgar's (2006) conceptual model also incorporates the element of gender. The particular insights from Chudgar that are considered in this study include not only attention to gender in education, but also attention to the context in which the family resides.. Hence, a model such as the one utilized as the theoretical framework for this study seems better fitted to an examination of family engagement specifically in India.

Impact of parent involvement.

While Epstein's framework evidences the important linkages among schools and families, evidence regarding the importance of parental involvement to academic success is still not definitive. Domina (2005) says, "Given the popularity of parental-involvement initiatives as a tool for school reform, it is surprising to note that research on the link between involvement and school success has been inconclusive" (p. 234). She goes on to point out these contradictory findings by citing various authors who correlate enhanced educational results with a high degree of parent participation, and others who say that there is a negative association between parent participation and academic results.

Additionally, in Sui-Chu and Willms's (1996) discussion of some of the literature related to parental involvement, they also point out studies where negative results were found when parents were involved in their children's schooling. They are helpful in noting, however, that the negative findings from these studies (the studies they cite include Milne et al., 1986; Muller, 1993; Madigan, 1994) specifically relate to parental

oversight or assistance with homework, greater after-school oversight, and parents contacting the school often or being involved in parent-teacher conferences. Moreover, from these very same studies, Sui-Chu and Willms point out that positive results were found for parents having elevated expectations for their children (Milne et al, 1986; Madigan, 1994) and talking about school-related happenings with their children (Muller, 1993) (in Sui-Chu and Willms, 1996). Although these findings may seem contradictory, Sui-Chu and Willms provide a helpful summary by considering additional studies and drawing conclusions stemming from the literature:

Astone and McLanahan (1991) found large and significant positive effects for parents' aspirations and general supervision on a range of educational outcomes and small positive effects for monitoring progress, but small negative effects for parents talking with their children. The parental involvement construct used by Fehrmann et al. (1987), which consists of monitoring and supervision, was also positively related to children's academic achievement. In summary, these large-scale studies found that parents' high expectations for and general monitoring of their children's performance are positively related to children's academic achievement, whereas helping with homework and attending parent-teacher conferences do not have strong effects and may be negatively related to achievement. (Sui-Chu and Willms, 1996, p. 129)

Thus, in spite of the contradictions regarding parents' involvement in their children's schooling, the greatest effect seems to stem from parents' support of their children's schooling through their aspirations for their children and oversight of academic progress.

Turning to a study by Ingram and colleagues (2007), similar aspects of parental involvement are confirmed as important factors in promoting academic success. In Ingram et al.'s (2007) study of students in three Chicago Public Schools, they examined which parental involvement practices seem to have more merit in terms of promoting academic achievement for students. They drew from three different high-performing schools that were labeled at-risk, sending over 1,000 surveys to around 800 families within these three different schools. While the response rate should be taken into consideration (among the three schools, the lowest school response rate was 19% and the highest school response rate was 39%), the authors still found some notable results. Drawing from Epstein's (1987) categorization of six types of parental involvement practices, which include volunteering, parenting, at-home learning, communicating, making decisions, and community collaboration, the survey respondents in Ingram et al.'s study ranked parenting and at-home learning as the two most typical parent participation activities in school (in Ingram et al., 2007). The high emphasis on these two activities as opposed to others can be seen in the survey responses, with the overall modal rate of 4, or "always," for both parenting and at-home learning, while the other four types of parental involvement activities received an overall modal rate of 1, or "rarely" (the scale that was used moved from 1 to 4, with 1 indicating "rarely" and 4 indicating "always"). Based on this study, the authors conclude that the greatest outcomes will come from depositing resources into the support of parenting and at-home learning practices that are effective (Ingram et al., 2007).

While individual studies are beneficial in terms of contributing to the research base related to parent involvement in education, meta-analyses provide cumulative insight into the effect of parent involvement on children's education. Fan and Chen (2001) authored one such meta-analysis that examined the relationship between student academic achievement and parent involvement. From a preliminary base of "some 2,000 articles, papers, or reports," the selection was narrowed to those which shared empirical results, and even more narrowly, those which could provide "Pearson correlations between any of the parental involvement indicators and any of the achievement outcome variables" (Fan and Chen, 2001, p. 5). From this process, 25 studies were used in their meta-analysis. Taken as a whole, Fan and Chen identified the average correlation coefficient as being approximately .25 between student achievement and parent involvement. Based on Cohen's (1988, Chapter 3, in Fan & Chen, 2001) suggestion, Fan and Chen labeled this .25 correlation coefficient as nearing a medium effect size, and according to Fan and Chen, this implies that student achievement is positively impacted by parent involvement. Their statement about this finding reveals how it sheds light on previous research:

This finding confirms the intuition harbored by many educators and researchers, that parental involvement and students' academic achievement are positively related, although in individual studies, there has been considerable inconsistency about the magnitude of such relationship. (Fan and Chen, 2001, p. 12)

In addition to providing evidence of the effect of parent involvement, Fan and Chen's meta-analysis also reveals the parent involvement practices that might wield the

greatest power in influencing students' academic outcomes. In terms of potentially weaker forms of parent involvement, the findings imply that the relationship between parents' home supervision of children and academic achievement is the weakest. On the other hand, the strongest form of parent involvement appears to be parents' expectations and aspirations for their children's achievement since this had the highest correlation with academic achievement (Fan & Chen, 2001). Taken together, these findings begin to unravel some of the intricacies that are tied up in the concept of parent involvement in education, and they reveal what practices might hold the most promise for influencing students' achievement.

Another meta-analysis on the topic of parent involvement was undertaken by Jeynes (2005) and it specifically relates to urban student populations. Although his meta-analysis is context specific, his results still offer insight into the nature of parent involvement and which practices may have the most profound effect on achievement. Additionally, his work can be seen as an extension of Fan and Chen's (2001) meta-analysis since Jeynes examines the effect of programs for parent involvement on achievement. According to Jeynes, "Fan and Chen (2001) did not distinguish those studies examining parental involvement programs from other studies that examined parental involvement without the use of programs" and he sees this as problematical because "even if parental involvement effectively raises achievement, this does not necessarily mean parental involvement programs work as well" (2005, p. 240).

From an original search yield of 5,000 parent involvement papers and articles, 41 studies were identified as containing adequate quantitative data to be included in the

meta-analysis. In terms of the most potent forms of parent involvement in education, similar to Fan and Chen (2001), Jeynes (2005) also identifies parent expectations as having the greatest effect sizes out of all the particular practices of parent involvement. On a much smaller level, parent participation and attendance were “substantively smaller than other parental involvement variables” (pp. 262-263), typically being a little more than two-tenths of a standard deviation. Contrasting these positive findings, however, Jeynes’ study also found that the practice of homework checking resulted in negative (although not statistically significant) effect sizes for standardized tests and overall academic results. These findings demonstrate the differences that particular forms of parent involvement may have on achievement, but overall, Jeynes’ study points to the notable relationship between parent involvement and achievement for urban students. He found the relationship to be approximately seven-tenths to three-fourths of a standard deviation, which approximates Rosnow and Rosenthal’s (1996) description of a large effect size (around 0.8) (in Jeynes, 2005).

Finally, Hill and Tyson (2009) carried out a meta-analysis study that specifically focused on the middle-school level, and their results also offer important insights into the varying levels of influence that different forms of parent involvement have on academic performance. In their meta-analysis, Hill and Tyson used 50 empirical articles or reports, and “Overall, the meta-analysis of the correlational studies demonstrated a positive relation between general parent involvement and achievement in middle school” (2009, p. 753). Different types of parent involvement were compared in their study, which “included a comparison between academic socialization and home-based involvement,

between academic socialization and school-based involvement, and between home- and school-based involvement” (p 756).

While Hill and Tyson did find that there is a relationship between academic performance and parent involvement, perhaps a more important contribution of their study is the varying degree of influence that they identify for different forms of parent involvement. Hill and Tyson assert the following regarding this point:

Overall, parental involvement during middle school is positively related to achievement. However, the types of involvement in which parents engage matter. Among the types of involvement, parental involvement that creates an understanding about the purposes, goals, and meaning of academic performance; communicates expectations about involvement; and provides strategies that students can effectively use (i.e., academic socialization) has the strongest positive relation with achievement. Involvement pertaining to homework assistance and supervising or checking homework was the only type of involvement that was not consistently related with achievement. (2009, p. 758)

Hill and Tyson’s work is beneficial in that they give attention to parent involvement from the perspective of three specific domains of involvement, including home, school, and academic socialization. On the spectrum of the seemingly most and least effective parent involvement practices, “parental involvement characterized as academic socialization has the strongest and most positive relation and helping with homework has the strongest negative association with achievement” (2009, p. 757). Hill and Tyson also assert that positive and significant relationships with achievement were evidenced by other forms of

involvement that are grounded in the home and school, but these had a more modest strength in relationship.

In addition to these various meta-analyses related to parental involvement in education, the important role of parent involvement can also be seen through the work of Rolnick and Grunewald (2007a, 2007b), who allude to the important role of parents in their children's early education. Grounded on a careful appraisal of programs from the past and present, Rolnick and Grunewald (2007b) believe that wide-scale, market-based efforts can be successful if they utilize four critical components: attention to children who are at-risk, the production of measurable results, enduring commitment, and *support for parental involvement*. With this combination of factors, Rolnick and Grunewald are confident of a large public return (2007b).⁷

On a broader level, the importance of parent involvement is also evident through other priorities that have been set for students. Born out of apprehension related to the public education crisis, the National Education Goals have been instituted (U.S. Department of Education, 1992, in Fantuzzo et al., 2000). These goals focus on experts' suppositions about what might be the most essential aspects of successful intervention, and *parent involvement* is one the chief priorities within this national plan (Fantuzzo et al., 2000).

Overall, the significance and scope of the topic of parent and community involvement in education is perhaps no where as clearly seen as it is in the following statement by Fullan (2007):

⁷ Rolnick and Grunewald (2007a) also make the same assertion, although they do not mention the necessity of such efforts being market-based.

The question of parent and community involvement in schools has been the subject of hundreds of books and articles over the past 40 years. At first glance this literature appears to be a mass of contradictions, confusion, and hopelessness for understanding—let alone coping with—the relationship between communities and schools. Yet emerging from this research is a message that is remarkable in its consistency: *The closer the parent is to the education of the child, the greater the impact on child development and educational achievement.* (pp. 188-189, emphasis in original)

The topic of parent and family involvement in education is one that has reached significant stature in the literature, and it is an issue that has great potential to transform the educational trajectory of students for better or worse. And yet, family involvement is not a silver bullet. As is evident from the literature cited above, not all forms of involvement are equally effective. In the section that follows, the issue of different types of family involvement is discussed in greater detail.

Passive vs. active parent involvement.

While a myriad of definitions might be proposed for the concepts of “active” and “passive” parent involvement in a child’s education, it seems that a starting point for these definitions is ensuring that parents and families from different backgrounds have an opportunity to participate in their children’s education. That way, passivity does not solely result from obstacles that prohibit certain parents or families from participating in their children’s education. Epstein (1992) points to the importance of including all families and explains from where this perspective is derived:

A second theme of the theories and research reviewed is that effective practices of partnership are *responsive to the common and different needs* of families, so that all families feel equally welcome at school and included in their children's education and so that schools find ways to inform and involve families with unique histories, strengths, and needs. (p. 1145, emphasis in original)

In order to ensure that parents have an opportunity to actively engage in their children's education, it is important to recognize that families come from unique circumstances and possess different capabilities, and may even be "hard-to-reach," but partnerships can seek to be attentive to these issues (Epstein, 1992, p. 1145). Only then can the possibility of active involvement be realized for all families.

When it comes to a more specific description of what is contained within the idea of active parental involvement in education, perhaps the best representation is found in Epstein's categorization of different kinds of parental involvement practices. The foundation for these various practices can be seen in her assertion regarding where these practices are derived from and what they mean for education:

The results of many studies and various efforts to define involvement suggest that, within the area of overlap of the spheres of influence, five important types of involvement help families and schools fulfill their shared responsibilities for children's learning and development (Epstein, 1987b). (in Epstein, 1992, p. 1145)

The types of parent involvement practices that she describes include essential parenting responsibilities, school communication with families, involvement at school, at-home academic help, and participation in various organizations and groups (1987c, 1992). She

also offered a sixth type of involvement, collaborative school engagement with the community, which was not included in the research that assisted in pointing out the previous five types of parental involvement activities, and additional research is necessary for certifying if this is indeed a different type of involvement, and if it is, how it is unique from others (Epstein, 1992).

However, in Epstein's later works, the full model containing all six types of parent participation practices emerge from research (1994, 1995, & 2002). These six kinds of parent involvement practices are summarized in the table below (Table 2), and they might be seen as providing a basis of some of the most essential activities for parents to actively engage in on behalf of their children's education.

Table 2. Adaptation of Epstein’s Framework (1995) – Anticipated Results from the Six Types of Involvement.⁸

First Type Parenting	Second Type Communicating	Third Type Volunteering	Fourth Type At-Home Learning	Fifth Type Making Decisions	Sixth Type Community Collaboration
Confidence and knowledge regarding parenting, development of children and adolescents, and modifications in the home learning environment as students progress academically.	Understanding of policies and programs related to school. Supervision and knowledge of children’s progression. Efficacious responses to students’ difficulties. Interface with teachers and smooth school and teacher contact.	Knowledgeable about the job of the teacher, augmented ease in the school, and school activities brought from the school into the home. Self-assuredness regarding competence to work in the school and with kids or to make strides toward the enhancement of their own education. Knowledge of the receptivity and value for families at the school. Growth in particular volunteer work abilities.	Year-by-year understanding of how to assist the student at home. Conversation regarding homework, school, and work for class. Year-by-year knowledge of program of instruction; knowledge of the learning content for each subject. Respect for teaching abilities. Recognition of the child as someone who is learning.	Contribution to policies that bear on children’s education. Sense of school ownership. Recognition of the voices of parents in matters of school decisions. Contact and mutual experiences with other families. Knowledge of policies at the state, district, and school level.	Child and family awareness and utilization of resources that are nearby in order to augment abilities/giftings or to secure necessary services. Encounters with other families through happenings in the community. Recognition of the school’s community role and the way the community gives to the school.

⁸ This table is based on (but not an exact replication of) Epstein (1995) in which multiple tables about these six kinds of involvement are presented. However, Epstein points out that the tables in her article are revised versions of previous tables that were premised on the five kinds of parent participation. Also see Epstein (2002) for another example of these types of tables.

While Epstein's six types of parent involvement offer a general overview of the various ways that parents and families might actively become engaged in their children's education, Marcon (1999) offers a helpful definition of what might specifically constitute "active" vs. "passive" engagement in education. In her study, Marcon honed in on two of Epstein's categorizations of parent involvement, namely, communication and volunteer work. According to Marcon, "Communicating was viewed as passive involvement initiated primarily by the school, while volunteering represented a more active form of involvement that required greater parent initiative" (1999, p. 397). Marcon found that "For the preschoolers in this study, increased parent school involvement and more active types of parent involvement were both associated with more positive development in all domains and greater mastery of early basic school skills in all subject areas" (1999, p. 407), and more specifically, "In the high parent involvement group, both academic performance and children's development were positively associated with active types of school involvement," but for the parent involvement groups that fell in the median and low ranges, "active involvement was only positively associated with academic performance" (1999, p. 409).

Based on these two perspectives from Epstein and Marcon, a more precise definition of "active" parent involvement can be established. The benefit of considering active parent involvement through Epstein's typology is that she sets forth a specific set of practices that describe what parent involvement might look like, including practices that parents can engage in at school, home, and in the community. Marcon's perspective is less focused on the practices that parents actually engage in, and rather, she attends to

the source of initiation for parent involvement practices. Together, these perspectives offer insight into how parent involvement can be defined both on a practical level, i.e., the specific types of practices that parents may engage in, and an initiative level, i.e., the source of initiation for parent involvement.

Home vs. school involvement.

While Marcon's (1999) dichotomy of active and passive involvement is a helpful one, another dichotomy that can be drawn—and perhaps one that is more appropriate to this study—is that of home vs. school involvement. Hill and Tyson (2009) speak to the prevalence of viewing parent involvement from this dichotomous perspective:

Consistently included in the extant theories, frameworks, and assessments are home-based and school-based involvement strategies (e.g., Kohl, Lengua, McMahon, & the Conduct Problems Prevention Research Group, 2000; Seginer, 2006). . . .The most widely cited among existing frameworks is Epstein's (1987; Connors & Epstein, 1995; Epstein & Sanders, 2002), which includes *school-based involvement* strategies (e.g., volunteering at school, communication between parents and teachers, and involvement in school governance); *home-based involvement* strategies, including engaging in educational activities at home; school support for parenting (e.g., parent training programs); and involvement between the school and community agencies. Second, the framework undergirding Comer's (1995) School Development Program has also informed research in this field. Comer's framework also includes *school-based involvement*—such as parent-teacher conferences, volunteering and being present in the school, and participation

in school governance—and *home-based involvement*, such as parental reinforcement of learning at home (p. 741, emphasis in original)

Although the dichotomy of home- and school-based involvement is missing the descriptiveness of Epstein’s six types of involvement and the criticality of Marcon’s notion of active vs. passive involvement, the categorization of home- and school-based involvement can be a practical schema to use when conceptualizing the ways that parents engage with their children’s education. Hill and Tyson (2009) also make an important assertion about home- and school-based involvement, saying, “Further, such a distinction is useful as it distinguishes policy-relevant realms—home and school” (p. 741).

Motivations behind parent involvement.

In terms of why parents and families choose to become involved in their children’s education, Hoover-Dempsey and Sandler (1997) offer helpful insight through their work entitled, “Why do parents choose to become involved in their children’s education?” In their 1997 work, they present their 1995 model that includes five different tiers involved in the concept of parent participation. The first tier of this model seeks to explain the preliminary participation decisions that parents make regarding their children’s education, which involves the way the parent has constructed his or her role, the notion of efficacy held by the parent for assisting his or her child in achieving academic success, and general child and school requests and invites for parental participation. Hoover-Dempsey and Sandler (1997) divide these components even further, however, by describing various facets that are included in each motivating factor. In terms of the way parents construct their role, they assert (p. 9),

Examination of psychological and educational research suggested that parents' construction of the parental role is likely to be influenced by general principles guiding their definition of the parental role, their beliefs about child development and child-rearing, and their beliefs about appropriate parental home-support roles in children's education.

As it relates to the degree of efficacy held by parents, Hoover-Dempsey and Sandler (1997) offer a number of facets that may be contained within the notion of parental efficacy, including the notion of self-efficacy individually held by the parent; the parents' efficacy in assisting their child with academic success; parental notions regarding the child's effort, capability, and luck; parent ideas held about set vs. changeable intelligence; and methods of helping to resolve conflicts tied to school. Although these notions seem to align with the general concept of parental efficacy in assisting with the child's academic achievement, Hoover-Dempsey and Sandler do concede that the utilization of "efficacy theory and related constructs" in the area of parent participation in the child's education is "primarily suggestive and correlational at this point" (1997, p. 26). Finally, Hoover-Dempsey and Sandler (1997) address the third component relating to the participation choices of parents, which deals with external factors. They explain these things as "invitations, opportunities, and demands [that] may consist of a child's overt affirmation of the importance of parental approval and participation, a school climate that is inviting, and teacher behaviors that are welcoming and facilitating" (1997, p. 28). Parallel to this conceptualization by Hoover-Dempsey and Sandler, Downer and Myers (2010) discuss a very similar set of factors—efficacy of

parents, parental role assumptions, and modifications of the assumptions and expectations of school staff—as possible shifts that can occur in the school and family ecological environment. Thus, these three motivating factors also seem to be relevant in terms of thinking about “shifts at other levels of the student’s ecology” (Downer & Myers, 2010, p. 11).

Another description of the defining factors in parental involvement in education comes from Muller and Kerbow (1994) who point to three specific elements that are influential in the way that parent involvement is carried out. These factors include the parents’ interest in the child’s education, the prospects and resources that are accessible for the parent (including those that the school makes available), and the parent-child relationship (Muller & Kerbow, 1994). However, Muller and Kerbow (1994) also assert that parent motivation for becoming engaged in the education of their child might differ from one parent to another, and it is probable that elements that are both external and internal to the family are influential in engagement.

Conclusion

The literature reveals that parents have a critical role to play in their children’s education. The purpose of this study is to better understand what that role might look like for parents and families in the context of India, as well as to determine what particular factors are associated with families’ involvement in their children’s education. In the following chapter, i.e., the methodology section of this study, attention is given to how this purpose was specifically achieved by using the CARE India household survey data

and regression analyses. Three primary research questions were addressed through these analyses, including:

1. To what extent are parents and families engaged in their children's education within one predominantly rural district of Uttar Pradesh?
2. To what extent is the amount of parent and family engagement in education associated with factors related to the school, community, and family contexts, as well as the child's age and gender?
3. Do familial aspirations for the child's level of schooling mediate the relationship between the specific child, family, school, and community variables considered in the second research question and different practices of family engagement in education?

Chapter Three

Methodology

“The behavioral science literature is replete with studies demonstrating that a particular independent variable explains variability in a dependent variable. Establishing relationships between variables is important, because correlation is a necessary (but not sufficient) condition for claiming that two variables are causally related. Of ever greater scientific interest is explaining how or by what means a causal effect occurs. Questions about cause-effect relations invoke the idea of *mediation*, the process by which some variables exert influences on others through intervening or *mediator* variables.”

- Preacher and Hayes, 2008, p. 879 (emphasis in original)

Overview

In order to answer the three research questions of this study, secondary analysis of an existing data set from one district of Uttar Pradesh, India was used. This dataset came from a household survey that was administered by CARE India in 2008. Using the CARE India household survey, data was collected from 611 households in the Shravasti district of Uttar Pradesh, India. Although the household survey was not specifically focused on family engagement in education in India, the survey data provided information about the ways that families engage with their children’s education in the Shravasti district, such as through visiting the school or helping children in their study. Additionally, the data provided information about a variety of child, family, school, and community factors that might be associated with the extent to which Indian families engage in their children’s education.

Methodology and Rationale

The methodology used for this study is quantitative in nature. The term *methodology* refers to inquiry that is made into the foundational orientation of the way

someone approaches the study of social experiences (Maxim, 1999). Within this current study, the foundational orientation was found in the quantitative research paradigm. Quantitative inquiry is defined by Creswell (1994) as “an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true” (p. 2). Based on Creswell’s definition, quantitative research can be seen as a series of steps that occur along the research process, including a prediction or hypothesis about a particular issue, the testing of particular variables (which are quantified) through statistical techniques, and finishing with a conclusion about whether the hypothesis proves a certain theory. All of these elements of the quantitative method will be evidenced in this study, including the statement of hypotheses, use of statistical analyses, and assertions about the validity of the initial hypotheses based on the statistical findings of the research.

Methods and Rationale

While Maxim (1999) has labeled the term *methodology* to refer to the orientation of the researcher as he or she studies a specific topic, he uses a different idea to address the particular methods that are used for studying a given issue. This latter notion refers to the particular methods and means that are used to accomplish the study (Maxim, 1999). In this study, statistical analysis of CARE India household survey data was the particular method that was utilized for this research.

In order to accomplish the statistical analyses considered in this study, previously collected survey data from CARE India was used. Through the use of survey design, a

sample of the population is researched in order to deliver a quantitative representation of a population's tendencies, beliefs, or outlooks (Creswell, 2003). The purpose for which sample surveys are usually conducted is to approximate the distribution of certain attributes within a population (Dillman, 2007). In particular, the approximation of the CARE India sample distribution was particularly relevant to the first research question of this study, while hierarchical regression and mediation analyses were utilized in answering the second and third research questions.

Sample

The household survey that was used for this study was administered by CARE India in 2008 in the Shravasti district of Uttar Pradesh, India. The Shravasti district is located in the state of Uttar Pradesh, which spans 7.3% of India's geographical area and ranks as the fifth most sizable state in India. Additionally, based on the 2001 Census of India, the highest populated state in the country is Uttar Pradesh (CARE India, 2009). The Shravasti district has a population of 855,989 people (National Informatics Center, N.D.), and approximately 88% of the population is involved in agriculture (CARE India, 2009). Only a small percent of the population (2.84%) is urban, and just over 18% of the population are from Scheduled Castes. The Shravasti district is significantly under-developed, evidenced by its distinction of having the state's lowest literacy rate (34.25%) and female literacy rate (18.75%), as well as being among the lowest districts for complete child immunizations (15.5%) and safe delivery for women (CARE India, 2009). Additionally, poverty is a wide-scale issue, evidenced by what Ojha (2007) points out

from the BPL census 1998-99 that the percentage of below poverty line families is 53.33% in Shravasti (in CARE India, 2009).

The sample for the household survey was selected by using multilevel sampling. At the first stage of the sampling procedure, rather than drawing the sample from every village in Shravasti district, the population for the study was reduced to the 54 villages in this district. For practical reasons, this reduced sampling frame was utilized because of time and finance considerations that were part of CARE India's study. However, these 54 villages encompass a wide span since they represent nearly 24,000 households and a population of almost 143,000 (CARE India, 2009).

The second level of sampling consisted of choosing the villages for the study. Of the 54 villages, four villages were randomly selected. Finally, at the third level of sampling, the households for the study were chosen within the four villages. The data from each village was proportionate to the village population, and the selection of the final sample was based on stratification of social groups for each village (CARE India, 2009; Lisa Burton, Personal communication, September 17, 2010). The final sample of the CARE India study included a total of 660 households, of which 611 households participated in the survey. The reduced sample size was due to such issues as migration of families, non-response, and respondent unavailability (CARE India, 2009).

Instrumentation

Purpose of the survey instrument.

The household survey that was used for this study was originally developed and utilized by CARE India in 2008 for a Situation Analysis conducted by CARE India in

Uttar Pradesh. CARE India sought to achieve several primary goals through their study, including 1). An understanding of persistence, attainment, and achievement levels of six to eleven year-old boys and girls, 2). An analysis of activities at the school level, 3). An understanding of community member and child perceptions about equality and equity in education—and the behavior of teachers, and 4). An understanding of the social contexts that impact girls and empowerment concerns in connection to girls. The household survey was one among multiple tools that CARE India employed in their study, and it was created to collect data at the level of the household. The household survey includes questions related to children's and parents' education, health, and the families' security in the areas of economics and food (CARE India, 2009).

Field testing and data collection.

The household survey was first tested in a geographical context that was similar to the one from which the data would be collected (CARE India, 2009). In particular, field testing of the household survey was conducted in districts that were demographically similar to the Shravasti district; however, these districts were closer to Lucknow because travel to Shravasti was too great a distance (Lisa Burton, Personal communication, September 17, 2010).

Orientation was carried out with the data collection team, as well as the village youth, in order to make sure that they had knowledge of the methodology and approach. In all of the sampled villages, it was ensured that village youth were engaged so that there would be rapport-building and an understanding of villagers' lives. In total, the household survey was used to collect data from 611 households (CARE India, 2009).

Data cleaning and preparation by CARE India.

To make certain that each field of the household survey had been correctly completed, each survey was reviewed by hand. Certain household surveys did not contain information for all of the fields, and these surveys were not accepted. SPSS software was used for data cleaning, and when five-percent of the data had been collected, a coding plan was arranged, which was helpful in quantifying the data (CARE India, 2009).

Preparation of data for current study.

Because the focus of this study was family engagement in children's education, the analyses were focused only on those households that had at least one school-going child. Thus, out of the original sample of 611 households, this study was limited to the 411 households in the household survey sample that had at least one school-going child. For the households that had two or more school-going children, only one school-going child within the household was selected at random to be included in the analyses. This random selection was achieved in SPSS by generating a random number for each child, and then giving the command to select the highest random number within each household.

Dillman (2007) provides insight into the sample size that is needed in order to attain a 95% confidence level, and he shows that for a population of 100,000, a sampling error level of plus or minus five-percent requires a sample size of $N = 383$ (when there is maximum variation in the response – a 50/50 split) or $N = 245$ (when there is more homogeneity in the response – a 80/20 split). As noted above, the population for the CARE India study was 143,000, and the total number of survey respondents was $N =$

611, which is well above the necessary sample sizes for five-percent sampling error. Furthermore, even for the reduced sample of 411 that was used for the analyses of this study, the sample size of 411 was still well within the appropriate boundaries for a sampling error level of plus or minus five-percent.

Data Analyses.

Dependent variables.

Central to this study is the notion of *family engagement* in children's education. In this study, family engagement was measured through seven dimensions of family educational involvement that were captured through the CARE India household survey. These seven dimensions were used as dependent variables in this study and were analyzed through regression analysis. Table 3 displays the seven outcome variables that were examined in this study. Table 4 shows the response codes for each of the survey items related to these seven dependent variables.

Table 3. Dependent variables examined in this study (CARE India household survey, 2008).

Dependent Variable	Question of Interest
<i>Visiting school</i>	Whether or not a visit is made to the school to attend a meeting in which the child's caretaker is a member
	Whether or not the a visit is made to the school because of a teacher's request for discussion about the child's behavior or study
	Whether or not a visit is made to the school because of presence being needed for a purpose related to the child's work, such as enrollment or fee payment
<i>Educational attainment aspirations</i>	Up to what level the child will be educated
<i>Going to school with the child</i>	With whom the child goes to school
<i>Study help</i>	Who helps the child in his or her study
<i>Financial investment</i>	Approximate cost of schooling per year

Table 4. Household survey items and response codes (CARE India household survey data and codebook, 2008).

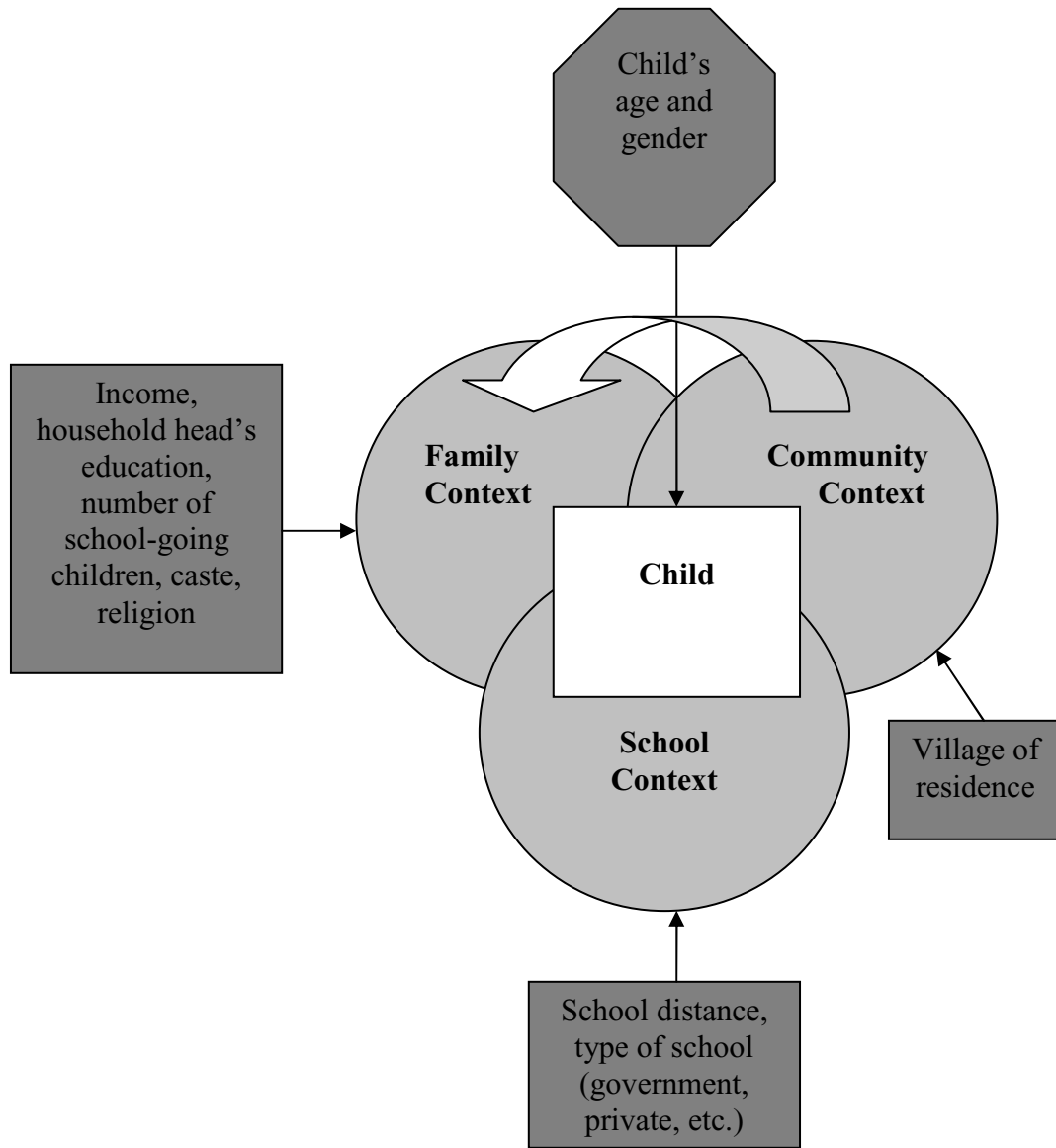
Survey Item	Response Codes
<i>With whom the child goes to school</i>	0 – Alone 1 – Own brother or sister 3 – Parents 4 – Peers or other village children 99 – Not applicable
<i>Approximate cost of schooling per year</i>	Actual amount. If no cost, then use 0. If there was no response or this question is not applicable, then use 99.
<i>Up to what level they will educate their child</i>	0 – Not specified (e.g., up to the level the child can) 1 – Literate/Class 1 2 – Class 2 3 – Class 3 4 – Class 4 5 – Class 5 6 – Class 6 7 – Class 7 8 – Class 8 9 – Class 9 10 – Class 10 11 – Class 11 12 – Class 12 13 – Class 12 pass or Intermediate 14 – Graduation (not completed) 15 – Graduation (completed), or post graduation (not completed) 16 – Post-graduation 17 – Technical/professional qual. 18 – Any other technical/vocation course after a degree 19 – Pre-primary/nursery *The education level code for not enrolled (0) is not used for this variable since all children in the sample are school-going children; instead, 0 is used as “no expectation specified.”

<i>Who helps in study</i>	0 – No one 1 – Father 2 – Mother 3 – Brother 4 – Sister 5 – Relative 6 – Tuition master 7 – Any other *Combination codes used if more than one person helps in study
<i>For what purposes the respondent visits the children's school(s)</i>	0 – Does not go to school 1 – To attend any meeting in which he or she is a member 2 – When his or her presence is needed for the child's work 3 – At the request of the teacher for discussion about the child's behavior or study 4 – To file a complaint 5 – For National days 6 – To collect incentives 7 – Any other reason *Combination of the above codes were also used for this variable

Independent variables.

The theoretical framework (Figure 13 below) for this study depicts the independent variables that were examined in the analyses of this research. These ten independent variables relate to the family, school, and community contexts, as well as to the child characteristics of age and gender. Although this model represents a hybridization of perspectives from Epstein's and Chudgar's works, a justification for the specific contextual variables included in this model can be seen from the literature review in Chapter Two.

Figure 13. Conceptual framework of this study – Integrated model of Epstein’s overlapping spheres of influence model and Chudgar’s perspectives related to education in India.



Dummy coding of independent variables.

Because several of the independent variables included in this study are categorical, they have been coded into dichotomous dummy variables for use in the

regression and mediation models. The dummy-coded variables that have more than two categories include the caste classification of the household, the child's school type, and the village in which the family resides. Moreover, there are several categorical variables included in this study that only include two response categories, including the child's gender and the religious affiliation of the household. Table 5 describes the categorical independent variables that are used in this study.

Table 5. Dummy codes for the categorical independent variables included in this study.

Gender of the child	Boy = 0, Girl = 1
Caste affiliation of the household	
<i>Scheduled Caste/Scheduled Tribe</i>	No = 0, Yes = 1
<i>Other Backward Caste</i>	No = 0, Yes = 1
<i>General Caste</i>	No = 1, Yes = 1
<i>No affiliation</i>	Reference Category
Religious affiliation of the household	Muslim = 0, Hindu = 1
School type	
<i>Enrolled in dual enrollment/other</i>	No = 0, Yes = 1
<i>Enrolled in private school</i>	No = 0, Yes = 1
<i>Enrolled in government school</i>	Reference Category
Village of residence	
<i>Resides in Village One</i>	No = 0, Yes = 1
<i>Resides in Village Two</i>	No = 0, Yes = 1
<i>Resides in Village Three</i>	No = 0, Yes = 1
<i>Resides in Village Four</i>	Reference Category

Order of entry of independent variables.

Although the conceptual framework of this study does not specify a hierarchy among the variables within each of the contexts, a review of the related literature does offer insight into which variables might be more strongly associated with the level of

family engagement in education. It is hypothesized that the family and child characteristics will have the greatest association with family engagement in education, and thus, these variables were entered into the regression models earliest, followed by the school and village variables. The independent variables were entered into the regression model in five blocks, as shown below in Table 6.

Table 6. Order of entry of the independent variables in the regression analyses.

<i>Block 1</i>
SES (total monthly income) of the household
Education-level of the household head
<i>Block 2</i>
Child's age
Child's gender
<i>Block 3</i>
Caste
Religion
Number of school-going children
<i>Block 4</i>
School type
School distance
<i>Block 5</i>
Village

Research Question #1: Extent of Family Engagement in the Shravasti District

The first research question of this study was answered by analyzing the household survey data related to the seven dependent variables listed in Table 5. These analyses were completed by examining frequencies, percentages, means, and distributions within the data. The findings from these descriptive analyses are discussed in Chapter Four and provide the backdrop for the final two research questions of this study.

Research Question #2: Association between Family Engagement and Contextual Factors

Educational attainment aspirations.

To determine the factors that are most strongly associated with the educational attainment aspirations that are held for a child, hierarchical regression analysis was used. Since the variable for educational aspirations was coded as a continuous variable (ranging from 0 to 19), the data were analyzed through multiple linear regression. Equation 1 shows the regression equation for this dependent variable.

Equation 1. Multiple linear regression equation for education level aspirations.

Education-level aspirations_{*i*} = $b_0 + b_1$ total income_{*i*} + b_2 household head education-level_{*i*} + b_3 age of child_{*i*} + b_4 gender of child_{*i*} + b_5 dummy code for scheduled tribe/scheduled caste_{*i*} + b_6 dummy code for other backward caste_{*i*} + b_7 dummy code for general caste_{*i*} + b_8 dummy code for Hindu_{*i*} + b_9 number of school-going children_{*i*} + b_{10} dummy code for government school_{*i*} + b_{11} + dummy code for private school_{*i*} + b_{12} school distance_{*i*} + b_{13} dummy code for village one_{*i*} + b_{14} dummy code for village two_{*i*} + b_{15} + dummy code for village three_{*i*} + ε_i

Financial investment in education.

Since cost spent per year on schooling was also measured as a continuous variable (ranging from Rs. 0 to Rs. 8,100), multiple linear regression was used to analyze this outcome variable. The same ten predictor variables from the theoretical framework were entered as the independent variables in this regression analysis. The regression equation for this variable can be seen in Equation 2.

Equation 2. Multiple linear regression equation for annual education expenditure in education.

Monetary investment in education_{*i*} = $b_0 + b_1$ total income_{*i*} + b_2 household head education-level_{*i*} + b_3 age of child_{*i*} + b_4 gender of child_{*i*} + b_5 dummy code for scheduled tribe/scheduled caste_{*i*} + b_6 dummy code for other backward caste_{*i*} + b_7 dummy code for general caste_{*i*} + b_8 dummy code for Hindu_{*i*} + b_9 number of school-going children_{*i*} + b_{10} dummy code for government school_{*i*} + b_{11} + dummy code for private school_{*i*} + b_{12} school distance_{*i*} + b_{13} dummy code for village one_{*i*} + b_{14} dummy code for village two_{*i*} + b_{15} + dummy code for village three_{*i*} + ϵ_i

Family study help.

The household survey captured data about whom, if anyone at all, helps students in their study. These data were originally coded to include various responses for who helps the child, including no one, a family member or relative, tuition master, and any other individual. However, for the purposes of this study, the data were dummy coded based on whether or not the child received study help from his or her family (0 = no family help; 1 = receives help from family). This change allowed for the data to be entered into a binary logistic regression model since the outcome variable was changed

into dichotomous form. The ten predictor variables from the theoretical framework were entered into the hierarchical binary logistic regression for this analysis. The full regression equation is shown below in Equation 3.

Equation 3. Binary logistic regression equation for the likelihood of receiving family study help.

1

$$P(\text{Family help in child's study}_i) = \frac{1}{1 + e^{- (b_0 + b_1 + \text{Total family income}_i + b_2 \text{household head education-level}_i + b_3 \text{age of child}_i + b_4 \text{gender of child}_i + b_5 \text{dummy code for scheduled caste/scheduled tribe}_i + b_6 \text{dummy code for other backward caste}_i + b_7 \text{dummy code for general caste}_i + b_8 \text{dummy code Hindu}_i + b_9 \text{number of school-going children}_i + b_{10} \text{dummy code for government school}_i + b_{11} \text{dummy code for private school}_i + b_{12} \text{school distance}_i + b_{13} \text{dummy code for village one}_i + b_{14} \text{dummy code for village two}_i + b_{15} \text{dummy code for village three}_i)}$$

With whom the child goes to school.

The household survey also contained data about whom, if anyone at all, goes to school with the child. This data was originally coded to include various responses for who goes to school with the child (if anyone), but for the purposes of this study, this data was dummy coded as a dichotomous variable indicating whether or not the child goes to school with a family member (0 = child does not go to school with family; 1 = child goes to school with family). This dichotomous outcome variable was examined through binary logistic regression by using the ten predictor variables from the theoretical

framework as the independent variables in this model. Equation 4 shows the regression equation for this outcome variable.

Equation 4. Binary logistic regression equation for the likelihood of receiving family accompaniment to school.

1

$$P(\text{Going to school with the child}) = \frac{1}{1 + e^{- (b_0 + b_1 + \text{Total family income}_i + b_2 \text{household head education-level}_i + b_3 \text{age of child}_i + b_4 \text{gender of child}_i + b_5 \text{dummy code for scheduled caste/scheduled tribe}_i + b_6 \text{dummy code for other backward caste}_i + b_7 \text{dummy code for general caste}_i + b_8 \text{dummy code Hindu}_i + b_9 \text{number of school-going children}_i + b_{10} \text{dummy code for government school}_i + b_{11} \text{dummy code for private school}_i + b_{12} \text{school distance}_i + b_{13} \text{dummy code for village one}_i + b_{14} \text{dummy code for village two}_i + b_{15} \text{dummy code for village three}_i)}$$

Visiting the school.

The household survey originally asked a single question about the occasions for which a school visit was made. The data were then coded according to a variety of response options. However, in order for this variable to be used in the binary logistic regression analyses, as well as to examine the most relevant and useful sub-set of reasons for visiting the school, three of the reasons for visiting the school were selected to be dummy coded into dichotomous variables for the purposes of this research. These three dummy coded variables included 1). Visiting the school to attend a meeting as a member, 2). Visiting the school because of a teacher’s request for discussion about the child’s

behavior or study, and 3). Visiting the school when presence is required for the child work purposes such as enrollment or fee payment.

These three dichotomous variables for visiting the school were each examined separately in their own binary logistic regressions, with the ten predictor variables from the theoretical framework being entered as the independent variables in this model.

Equations 5, 6, and 7 show the regression equations for these three outcome variables.

Equation 5. Binary logistic regression equation for the likelihood of visiting the school for a meeting.

1

$P(\text{School visit for a meeting}_i) = \frac{e^{(b_0 + b_1 + \text{Total family income}_i + b_2 \text{household head education-level}_i + b_3 \text{age of child}_i + b_4 \text{gender of child}_i + b_5 \text{dummy code for scheduled caste/scheduled tribe}_i + b_6 \text{dummy code for other backward caste}_i + b_7 \text{dummy code for general caste}_i + b_8 \text{dummy code Hindu}_i + b_9 \text{number of school-going children}_i + b_{10} \text{dummy code for government school}_i + b_{11} \text{dummy code for private school}_i + b_{12} \text{school distance}_i + b_{13} \text{dummy code for village one}_i + b_{14} \text{dummy code for village two}_i + b_{15} \text{dummy code for village three}_i)}}{1 + e^{(b_0 + b_1 + \text{Total family income}_i + b_2 \text{household head education-level}_i + b_3 \text{age of child}_i + b_4 \text{gender of child}_i + b_5 \text{dummy code for scheduled caste/scheduled tribe}_i + b_6 \text{dummy code for other backward caste}_i + b_7 \text{dummy code for general caste}_i + b_8 \text{dummy code Hindu}_i + b_9 \text{number of school-going children}_i + b_{10} \text{dummy code for government school}_i + b_{11} \text{dummy code for private school}_i + b_{12} \text{school distance}_i + b_{13} \text{dummy code for village one}_i + b_{14} \text{dummy code for village two}_i + b_{15} \text{dummy code for village three}_i)}}$

$1 + e^{(b_0 + b_1 + \text{Total family income}_i + b_2 \text{household head education-level}_i + b_3 \text{age of child}_i + b_4 \text{gender of child}_i + b_5 \text{dummy code for scheduled caste/scheduled tribe}_i + b_6 \text{dummy code for other backward caste}_i + b_7 \text{dummy code for general caste}_i + b_8 \text{dummy code Hindu}_i + b_9 \text{number of school-going children}_i + b_{10} \text{dummy code for government school}_i + b_{11} \text{dummy code for private school}_i + b_{12} \text{school distance}_i + b_{13} \text{dummy code for village one}_i + b_{14} \text{dummy code for village two}_i + b_{15} \text{dummy code for village three}_i)}$

Equation 6. Binary logistic regression equation for the likelihood of visiting the school when presence is needed for the child's work.

1

$$P(\text{Visit when presence needed}_i) = \frac{1}{1 + e^{- (b_0 + b_1 + \text{Total family income}_i + b_2 \text{household head education-level}_i + b_3 \text{age of child}_i + b_4 \text{gender of child}_i + b_5 \text{dummy code for scheduled caste/scheduled tribe}_i + b_6 \text{dummy code for other backward caste}_i + b_7 \text{dummy code for general caste}_i + b_8 \text{dummy code Hindu}_i + b_9 \text{number of school-going children}_i + b_{10} \text{dummy code for government school}_i + b_{11} \text{dummy code for private school}_i + b_{12} \text{school distance}_i + b_{13} \text{dummy code for village one}_i + b_{14} \text{dummy code for village two}_i + b_{15} \text{dummy code for village three}_i)}$$

Equation 7. Binary logistic regression equation for the likelihood of visiting the school because of a teacher's request.

1

$$P(\text{Visit at teacher's request}_i) = \frac{1}{1 + e^{- (b_0 + b_1 + \text{Total family income}_i + b_2 \text{household head education-level}_i + b_3 \text{age of child}_i + b_4 \text{gender of child}_i + b_5 \text{dummy code for scheduled caste/scheduled tribe}_i + b_6 \text{dummy code for other backward caste}_i + b_7 \text{dummy code for general caste}_i + b_8 \text{dummy code Hindu}_i + b_9 \text{number of school-going children}_i + b_{10} \text{dummy code for government school}_i + b_{11} \text{dummy code for private school}_i + b_{12} \text{school distance}_i + b_{13} \text{dummy code for village one}_i + b_{14} \text{dummy code for village two}_i + b_{15} \text{dummy code for village three}_i)}$$

Research Question #3: Association between Educational Aspirations and Other Practices of Family Engagement in Education

Through the final research question of this study, educational attainment aspirations were examined in relation to the way they potentially mediate the relationship between the contextual variables examined in the second research question of this study and practices of family engagement in education. Specifically, this analysis was undertaken by using mediation analysis to determine if education level aspirations act as a mediator in the relationship between variables within the school, family, community, and child contexts and practices of family engagement.

Definition of mediation.

The literature offers differing perspectives regarding what specifically constitutes a mediated relationship between variables. According to Collins, Graham, and Flaherty (1998), a definition that has had great influence and been put to wide use has been offered by Baron and Kenny (1986) and Judd and Kenny (1981). Moreover, based on the work of Baron and Kenny (1986) and Judd and Kenny (1971), Kenny, Kashy, and Bolger (1997) have proposed a three-pronged approach to determining mediation, including 1). Establishing that the independent variable significantly affects the dependent variable, 2). Establishing that the independent variable is related to the mediator variable, and 3). Establishing that the mediator variable affects the dependent variable (cited in Collins et al., 1998). However, in their own definition of mediation, Collins et al. (1998) state that it is not essential to identify an overall effect that is to be mediated. Moreover, Zhao, Lynch, and Chen (2010) point out that while it seems intuitive to first identify an effect

on the dependent variable by the independent variable, this is not a correct assumption, as the only prerequisite for mediation is a significant indirect effect. Furthermore, Preacher and Hayes (2004) assert that it is feasible to find a significant indirect effect, which is the product of the independent to mediator variable path (a) and the mediator to dependent variable path (b), even when there is not support for a significant effect of the independent variable on the dependent variable.

While these various perspectives reflect distinct differences about the prerequisites that are required for a proper mediation analysis to be conducted, Preacher and Hayes (2004) speak to these differences by clarifying how different labels reflect certain types of foundational assumptions about the relationship between the independent and dependent variables. They say that a mediated effect suggests that there was already an existing relationship between the independent and dependent variables, while a significant indirect effect can be found even if there nothing to suggest that there is a relationship between the independent and dependent variables (Preacher and Hayes, 2004). Furthermore, Matthieu and Taylor (2006) judge that there are various types of relationships that all fall under the category of “intervening effects,” with an indirect effect being a circumstance when X and Y are not directly correlated but are indirectly connected through significant correlations with a connecting variable, and a mediated effect being a circumstance when a total relationship between an antecedent and criterion is found and a mediating variable partially or completely accounts for this relationship.

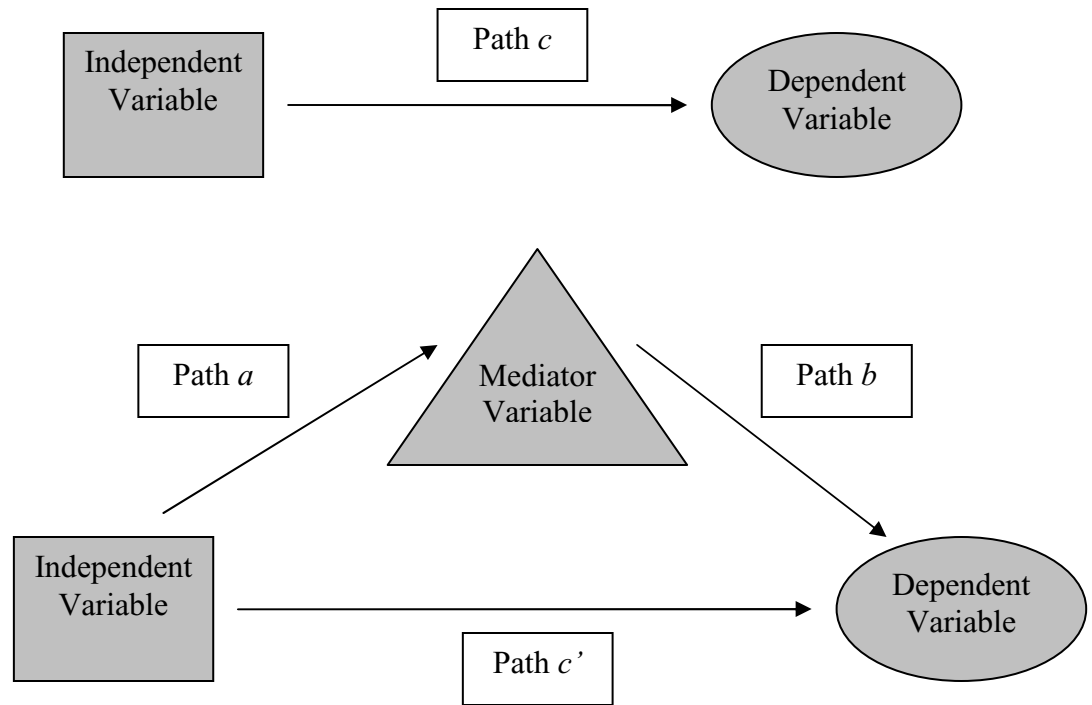
Based on these distinctions, indirect effects were examined for the independent-dependent variable relationships regardless of whether there was a pre-existing

significant relationship between the independent and dependent variables. However, in this study, a distinction is drawn as to whether a significant indirect effect points to a mediated relationship, i.e., one in which there is a relationship that already exists between the independent and dependent variables, or to an indirect relationship, i.e., one in which there is no prior significant relationship between the independent and dependent variables.

Mediation analyses.

An SPSS macro that was developed by Preacher and Hayes (2008) was used for the mediation analyses related to this third research question, and this SPSS macro provided output related to the effect of the independent variable on the mediator (path *a*), the direct effect of the mediator on the dependent variable (path *b*), the total effect of the independent variable on the dependent variable (path *c*), and the direct effect of the independent variable on the dependent variable after controlling for the mediator (path *c'*) (Preacher and Hayes, 2004). This macro utilized OLS regression to calculate the estimates for each of the paths (SPSS Indirect, 2011). Figure 12 shows a graphical representation (adapted from Preacher and Hayes, 2004) of these various paths.

Figure 14. Paths examined in the mediation models for the third research question (Adapted from Preacher and Hayes, 2004).



The mathematical formulas for each of these paths are shown in the equations listed in Table 7.

Table 7. Mediation analysis equations.

<p>Path <i>a</i>:</p> <p>Effect of the independent variable on the mediator</p>	$M = i_1 + aX + e_1.$
<p>Path <i>b</i>:</p> <p>Direct effect of the mediator on the dependent variable</p>	$Y = i_2 + c'X + e_2.$
<p>Path <i>c</i>:</p> <p>Total effect of the independent variable on the dependent variable</p>	$Y = c X + e_1$
<p>Path <i>c'</i>:</p> <p>Direct effect of the independent variable on the dependent variable after controlling for the mediator variable</p>	$Y = i_3 + cX + bM + e_3.$ $c' = (a \times b) + c.$

Sources for equations: MacKinnon (1994) cited on Mediation FAQ at <http://www.public.asu.edu/~davidpm/ripl/q&a.htm>; Zhao et al. (2010).

For each of the six dependent variables related to family engagement in education (i.e., annual educational expenditure, family help in study, family accompaniment to school, visiting the school for a meeting, visiting for purposes such as fee payment or enrollment, and visiting at a teacher's request), mediation analysis was performed with each of the ten independent variables included in the theoretical framework of this study.

For instance, for the outcome variable of family help in study, multiple mediation models were analyzed, with each model having the same dependent and mediator variables but with a different independent variable for each model. Moreover, for independent variables that were dummy codes with more than two categories, the other dummy variables were entered into the model as covariates, which is also advocated by Hayes (n.d.).

Bootstrapping

To test if a mediated relationship, or indirect effect, exists between the independent and dependent variables, there must be some type of formal test used to determine if a mediated relationship is indeed present (see Preacher & Hayes, 2004). As a means of determining if the mediated or indirect effect is significant, a procedure called *bootstrapping* is used in this study. Zhao et al. (2010) provide a helpful summary of what is entailed in the bootstrapping procedure that was utilized by Preacher and Hayes (2004, 2008), saying that this procedure creates “an empirical sampling distribution” for the product of a and b , and “takes the researcher’s sample size of N and from it draws with replacement N values of (X, M, Y) to create a new sample” (Zhao et al., 2010, p. 202). After a large number of bootstrap samples have been drawn and the product of a and b has been estimated for each sample, Preacher and Hayes’s macros are used estimate, as the mean of the estimates, the indirect effect (in Zhao et al., 2010).

Although there are other methods by which to assess mediation, as substantiated by Preacher and Hayes (2008), bootstrapping seems to provide one of the most promising

means of assessing the significance of mediated effects: “For now, the evidence supports our claim that the bootstrapping methods we describe here are preferred over methods that assume symmetry or normality of the sampling distribution of the indirect effect” (p. 884). Given the advantage of this method, bootstrapping is a technique that is employed in this study through the use of the SPSS macro developed by Preacher and Hayes (2008). The bootstrap results that are reported in Chapter Four of this study refer to the Bias Corrected (BC) results for 5,000 bootstrap samples.

Limitations of Secondary Analysis

While analyzing secondary data has many advantages, it also has limitations. One limitation is working within the boundaries of the previously collected data. Analysis of secondary data is constrained by the content of the survey instrument that was used, the wording of survey questions, missing data, and the sampling frame that was chosen. Additionally, secondary analysis can be complicated when the survey instrument was originally intended for a purpose that differs from the intent of the secondary analysis. Such is the case with this current study. Family engagement in education was not a primary consideration in the research design and data collection of the original CARE India data collection. However, data were collected on a number of items that relate to family engagement in education, such as going helping in the child’s study or visiting the school for discussion with the teacher. Although there are aspects of family engagement in education that are not captured within the household survey data, such as the frequency

of parent-teacher communication, this dataset still provides a basis for investigating the nature of family engagement in rural Uttar Pradesh.

Finally, another limitation specifically tied to the mediation analyses of this study relates to the reality that not every mediation analysis evidenced a pre-existing relationship of the independent variable affecting the mediator variable, and the mediator variable then affecting the dependent variable. Preacher and Hayes (2008) assert that different procedures should be utilized if a rational ordering of the independent variable to the mediator variable, and then the mediator variable to the dependent variable, cannot be ascertained. Moreover, Matthieu and Taylor (2006) also address the causal relationship sequence that flows from the independent to the mediator to the dependent variable. Finally, Kenny (2009) asserts that a majority of analysts judge that in order to ascertain that mediation is actually occurring, it is vital to demonstrate that the initial and outcome variables are correlated, as well as the initial and mediator variables. As these perspectives relate to the significant mediated and indirect relationships that were identified through this study, all of the significant relationships evidenced a pre-existing significant relationship in the paths between the independent and mediator variables, as well as between the mediator and dependent variables, which satisfies the conditions discussed above.

Conclusion

The purpose of this study was to determine the extent of family engagement in education, as well as the factors that influence family engagement in education, in the Shravasti district of Uttar Pradesh. This purpose was achieved through multiple linear

and binary logistic regression analyses, and specifically through analyses that examine the potential for a mediated relationship between contextual factors and practices of family engagement in education. The theoretical framework of this study highlights the independent variables that were examined in the regression and mediation models. The following chapter describes the analyses and findings related to family engagement in education in the Shravasti district.

Chapter Four

Findings

“Parents may perceive their presence during children’s study at home as a source of support. But for children it may not be. However, there are similar views of parents and children on the nature of support.”

- CARE India Situational Analysis, 2009, p. 50

Introduction

Three dimensions of family engagement in education in the Shravasti district of Uttar Pradesh, India were examined through the research questions of this study. These three facets of family engagement were explored through the following research questions:

1. To what extent are parents and families engaged in their children’s education within one predominantly rural district of Uttar Pradesh, India?
2. To what extent is the amount of family engagement in education associated with factors related to the school, community, and family contexts, as well as the child’s age and gender?
3. Do familial aspirations for the child’s level of schooling mediate the relationship between the specific child, family, school, and community variables considered in the second research question and different practices of family engagement in education?

In this chapter, the findings related to each of these three research questions are discussed and further insight is offered into the nature of family engagement in education in the Shravasti district of Uttar Pradesh.

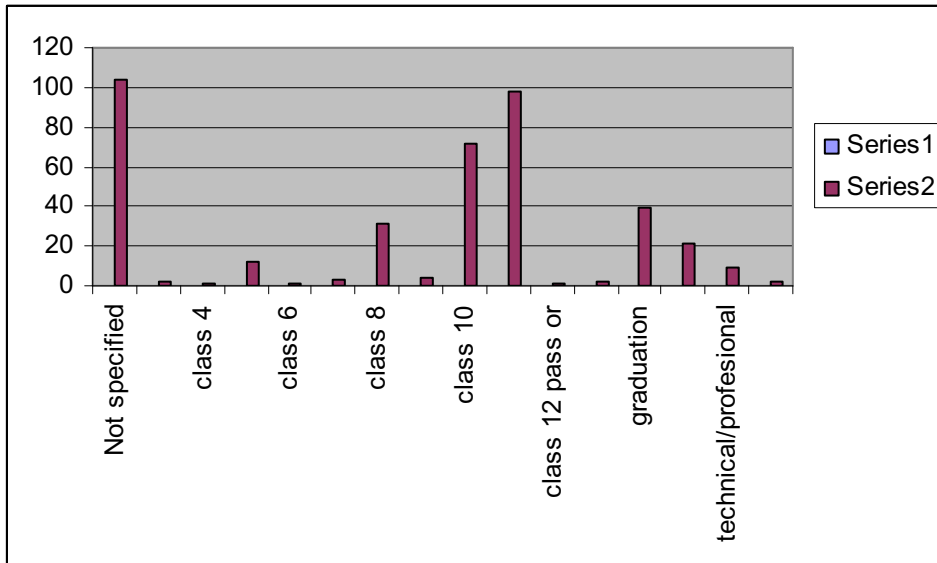
Research Question #1: The Extent of Family Engagement in Education in the Shravasti District of Uttar Pradesh, India

The first research question of this study was answered through descriptive analyses related to the seven dimensions of family engagement in education that were considered in this study, including education level aspirations, family accompaniment of the child to school, family help in the child's study, financial investment in education, visiting the school to attend a meeting as a member, visiting the school at the teacher's request for discussion about the child's behavior or study, and visiting the school when presence is needed for purposes, such as paying fees and enrollment. The findings discussed in this section provide an overview of the extent to which families in the Shravasti district are engaged in their children's education through these seven involvement practices.

Aspirations for the child's level of educational attainment.

In response to the household survey question about to which level the school-going child would be educated, a variety of education levels were evidenced. These responses ranged from Class Two all the way up to any other technical/vocational course following a degree. Among some of the other responses were aspirations for the child to attain to an "intermediate" level, which is equivalent to grade 12; "graduation," which is equivalent to a bachelor's degree; and "post-graduation," which is equivalent to a master's degree (M. Kumar, personal communication, December 14, 2010), although respondents' answers were not limited to these levels. Figure 15 shows the full range of responses indicated by the survey respondents.

Figure 15. Distribution of education level aspirations (CARE India household survey data, 2008).⁹



Although a majority of the respondents indicated a specific level to which they would educate the school-going child in their household, around one-fourth of the respondents in the sample did not indicate a specific level of educational attainment for the child. Although this was an open-ended question that respondents were asked to unreservedly answer, if the respondent provided no answer, then the data collector would offer some suggestions, such as up to Class Five, high school, and so forth. Still, a large number of respondents did not provide an answer for the level to which they would educate the child, and in some instances, they asserted that it was hard to predict (M. Kumar, Personal communication, May 30, 2011). The lack of specificity about the level to which the child would be educated is a matter that is more fully addressed in Chapter Five, but at this point, it is important to point out the lack of specificity on the part of

⁹ Created in Microsoft Excel.

some of the respondents and to provide the reasoning behind some of the lacking responses.

With the exclusion of missing and ambiguous data, 402 cases were included in the descriptive analysis for the educational attainment aspirations that were held for the child. Unfortunately, the most common category was the unspecified level of education response discussed above (25.9%), followed by reaching Class 12 (24.4%), Class 10 (17.9%), and finishing a bachelor's degree or starting (but not finishing) graduate work (9.7%). The mean aspiration level was just above Class Eight (mean = 8.52), with a standard deviation of 5.67. As is evident from Figure 15 above, the distribution is largely skewed by the large number of "unspecified" responses, as well as the notable gap between aspirations for the secondary and tertiary levels of education.

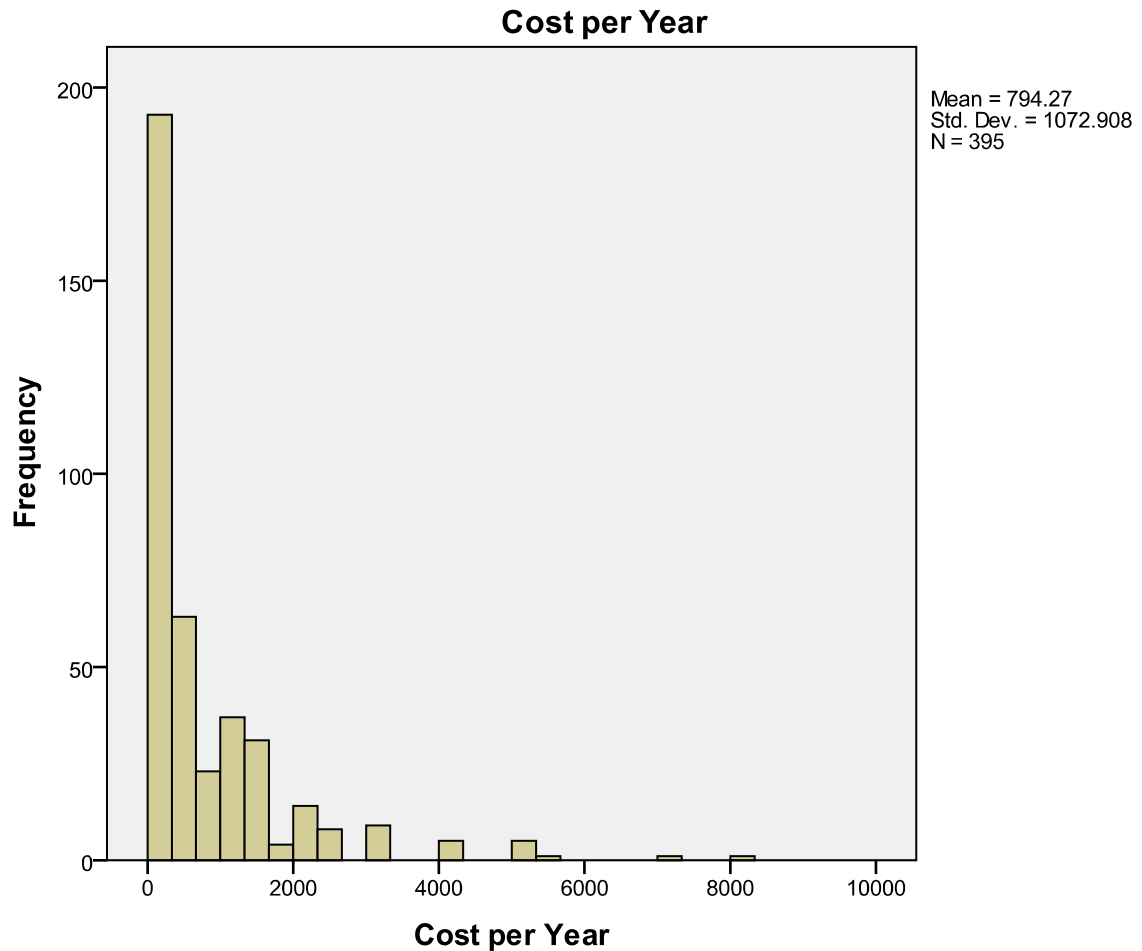
Annual expenditure on children's education.

The data revealed that households spend vastly different amounts of money on the schooling expenses that are associated with one school-going child, ranging from Rs. 0 to Rs. 8,100 (USD 181.15)¹⁰. This educational expenditure does not take into account the fee paid to the school by the families, but rather, refers only to non-school fees for things such as uniforms, materials, books, transportations, fees, and other miscellaneous expenses (Lisa Burton, Personal communication, September 15, 2010). The data from this sample are more heavily weighted toward the lower end of spending on children's education, with around half of the respondents spending Rs. 350 (USD 7.83) or less per

¹⁰ Currency conversions from the Indian rupee to the US dollar reflect conversion rates as of March 30, 2011. Calculations were done through the Yahoo!® Finance Currency Converter: <http://finance.yahoo.com/currency-converter/#from=USD;to=INR;amt=1>.

year on the educational expenses of one school-going child. The mean annual expenditure on education was found to be Rs. 794.27 (USD 17.76), with a standard deviation of Rs. 1,072.91 (USD 23.99). Figure 16 shows the distribution of amounts that are spent by households on the education of one school-going child.

Figure 16. Distribution of annual expenditure on children’s schooling in Rupees, excluding the school fee (CARE India household survey data, 2008).



Considering that the mean annual family income among the sample is Rs. 41,907.48 (USD 937.21), the mean annual education expenditure for one school-going child of Rs. 794.27 (USD 17.76) represents less than 2% of the mean family annual

income that is spent on children's educational expenses. However, this mean expenditure on education is associated with only one school-going child, connoting that the educational expenditure may be even higher for a household if they have additional educational expenses for their other school-going children.

Helping the child in his or her study.

The analysis for this variable included a slightly reduced sample of 401 cases. A large majority of the children in the sample (67.3%, n = 270) did not receive study help from a family member. However, there was a sizable percentage of children (32.7%, n = 131) who did receive some form of family study help.¹¹ A small proportion of students (5.7%, n = 23) received study help from a tuition master or other person, while less than 1% receive study help from either a combination of both a tuition master/other person and family (.7%, n = 3) and no one and family (.2%, n = 1). These findings reveal that even though providing study help is not ubiquitous among all families, nearly one-third of the children in the study sample did receive family study help. In relation to the data for this variable, it is also worth noting that the mean education level of the household head was found to be less than a Class Four level, indicating a fairly low level of education among the household heads with which students are affiliated.

Family accompaniment to school.

The data for whether or not a child is accompanied by family to school reveal a similar level of family engagement as the previously-examined variable for family study help. Overall, a majority of the students (67.2%) are not accompanied to school by

¹¹ The CARE India codebook contains response codes for the following family members: father, mother, brother, sister, and relative. Non-family member response codes include no one, tuition master, and any other.

family, although nearly one-third of students (32.8%) do go to school with family. Out of those students who are accompanied by family to school, the largest percentage go to school with their own brother/sister (28.1%), followed by parents (2.2%), village children and brother/sister (2.2%) and parents and brother/sister (.2%). Out of those who do not go to school with family, the largest proportion of students go to school with peers or other village children (45%), followed by going alone (21.1%) and a combination of going alone and with other village children and peers (1%). In large measure, it appears that the students who are accompanied to school by their family are accompanied mainly by their brother/sister. While in some instances this type of accompaniment may constitute a significant form of family engagement (e.g., when a young child has an older brother or sister who is responsible for escorting him or her to school), in other cases, going to school with a sibling may represent a less intentional form of engagement, such as when a two siblings travel to the same school out of convenience.

Visiting the school.

The respondents to the household survey indicated a number of different reasons for visiting the school. Although these respondents may not necessarily be the child's parents, they answered this question in relation to the child's parent because information was requested about the school visiting behavior of the child's caretaker (M. Kumar, Personal communication, May 30, 2011). Table 8 lists the various reasons for which respondents indicated that school visits were made.

Table 8. Reasons for visiting school (CARE India household survey data, 2008, and codebook).

Reason for Visiting School	Frequency	Percent
Visits school when presence is needed for a purpose related to the child (e.g., enrollment, payment of fees)	171	47.6%
Visits school for any other reason (unspecified)	106	29.5%
Visits school when teacher asks for discussion about the child's behavior or study	86	24%
Visits school for the purpose of collecting incentives (e.g., dress, book, scholarship)	69	19.2%
Visits school to file a complaint	35	9.7%
Visits school for attending a meeting as a member of the meeting	27	7.5%
Visits school for National days	14	3.9%

Note: Reasons for school visit are not mutually exclusive; some respondents may visit school for multiple reasons.

For the purposes of this research, only three of the above reasons for visiting the school were considered in the analyses of this study. These three reasons included visiting the school in order to attend a meeting as a member of the meeting, visiting when presence is needed for child work purposes such as paying fees or enrollment, and visiting when the teacher requests discussion about the child's study or behavior. The descriptive analyses for these reasons are discussed in the sections that follow.

Visiting the school because of membership in a meeting.

Overall, a large proportion of the children's caretakers do not visit the school for a meeting-related purpose. A total of 359 cases were included in this analysis, and only 27 respondents (7.5%) indicated that the child's caretaker visited the school in order to attend a meeting in which he or she was a member. Otherwise, most of the respondents (92.5%) in the sample did not indicate this as a purpose for visiting the school.

Visiting the school when presence is needed for purposes such as fee payment or enrollment.

Out of 359 cases included in the analysis, nearly half of the respondents (47.6%) indicated that the child's caretaker visited the school for a child work purpose, such as paying fees or enrollment, while 52.4% did not visit the school for a child work purpose. Out of all of the purposes that were indicated for making a school visit, visiting for a purpose related to the child's work was the most common reason cited.

Visiting the school at the teacher's request for discussion about the child's behavior or study.

Out of a sample of 359 cases, almost one quarter of the respondents (24%) indicated that the child's caretaker visited the school because of a teacher request for discussion about the child's behavior or study, leaving (76%) who did not indicate that the child's caretaker visited the school for this reason.

Research Question #2: Factors Associated with Family Engagement in Education

Through the second research question of this study, attention was given to the specific factors within the family, school, and community contexts that might be associated with the level of engagement that families have with their children's

education. This question was explored through the use of hierarchical regression analyses, with multiple linear regression models being used for the continuous outcome variables and binary logistic regression models being used for the dichotomous outcome variables. In the sections that follow, the regression findings are presented for each of the seven dimensions of family engagement in education that were considered in this study.

Annual expenditure on the child's education.

Overall, the regression model accounts for a fairly large amount of variance in the amount spent per year on schooling ($R^2 = .451$). In the full regression model that included all of the predictor variables, five variables were significantly and positively related to the amount that households spend per year on one school-going child's schooling expenses. These variables included the age of the child (Standardized $\beta = .42, p < .001$), the dummy variable for being enrolled in a private school (Standardized $\beta = .25, p < .001$), the dummy variable for residing in Village Two (compared to residing in Village Four) (Standardized $\beta = .14, p < .01$), monthly family income (Standardized $\beta = .14, p < .01$), and the amount of time it takes to travel to school (Standardized $\beta = .14, p < .01$). Table 9 shows the regression model for the amount of money that is spent annually on schooling.¹²

¹² Table 19 in the Appendix shows the full regression model at each step for the amount of money that is spent annually on schooling.

Table 9. Multiple linear regression model for annual educational expenditure.

	β	F	R^2
Step 5			
Constant		19.69*	.451
Total income	.14**		
Education level of the household head	.06		
Child age	.42*		
Child gender	-.07		
Caste ¹³			
SC/ST	-.19		
OBC	-.06		
General	-.03		
Religion	.07		
# of school-going children	-.08		
School type			
Dual enrollment/other	.03		
Private	.25*		
School distance	.14**		
Village			
One	.02		
Two	.14**		
Three	-.00		

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

Overall, these five significant independent variables have an intuitive relationship with the amount of money that a household allocates to a child's education. For example, income level has a clear relationship with how much a family is able and willing to spend on their child's schooling, as a higher family income implies a greater amount of money that is available for educational expenses. Moreover, the household survey data show that the cost of schooling for private schools is normally higher than for government schools (Lisa Burton, Personal communication, September 15, 2010), and thus it makes sense that

¹³ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores, indicating that there is a robust linear relationship that these variables have with other predictor variables (Field, 2009).

families would spend more on education if their child is in a private school. The data also reveal that families appear to spend a greater amount for their children's education if the child is older, implying that there might be a greater willingness to expend more on the child's education as the child grows older. Distance from the school also had a significant and positive association with educational expenditure, and although this association might be because private school students make a longer commute to school ($M = 23.01$ minutes) than government school students ($M = 17.99$ minutes), there was not a significant difference between the means: $t(130.164) = -1.693, p > .05$. Finally, students who reside in Village Two, as compared to students who reside in the reference group—Village Four, have a significantly greater amount of money that is spent per year on their schooling, which may be indicative of certain community factors within Village Two (compared to Village Four) that account for the association between residing in this particular village and the increased expenditure on schooling.

Aspirations for the child's level of educational attainment.

The predictor variables in this regression model account for 18.4% of the variance in the education level aspirations that are held for the child ($R^2 = .184$). Notably, in the full regression model with all of the independent variables included, only two factors had a significant positive relationship with the education level aspirations that are held for the child, including the education level of the household head (Standardized $\beta = .17, p < .01$) and the child's age (Standardized $\beta = .17, p < .01$). Other factors that would seem to be significantly related to the attainment aspirations that are held for a child's education, such as the child's gender or the caste affiliation of the household, were not found to have

a significant relationship with the educational attainment aspirations that are held for the child. Table 10 shows the regression model for the educational attainment aspirations that are held for the child.¹⁴

Table 10. Regression model for educational attainment aspirations.

	β	F	R^2
Step 5		5.59*	.184
Constant			
Total income	-.00		
Education level of the household head	.17**		
Child age	.17**		
Child gender	-.03		
Caste ¹⁵			
SC/ST	.08		
OBC	.11		
General	.26		
Religion	-.08		
# of school-going children	.03		
School type			
Dual enrollment/other	-.03		
Private	.12***		
School distance	-.08		
Village			
One	-.00		
Two	.09		
Three	.10		

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

Helping the child in his or her study.

Out of the sample of 383 cases that were included in this binary logistic regression analysis, 256 respondents indicated that the child receives no study help from his or her family, while 127 respondents indicated that the child does receive study help from the family. The full binary logistic regression model shows that the predictor

¹⁴ See Table 20 in the Appendix for the table that includes the Beta, F, and R^2 each step.

¹⁵ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores.

variables account for 19.7% (Nagelkerke's $R^2 = .197$) of the variance in whether or not a child receives family study help. Only one predictor variable had a positive and significant relationship with the likelihood of whether or not the child receives family study help: the education level of the household head (Odds ratio = 1.12, $p < .001$). Three other variables had a significant relationship with the likelihood of the child receiving family study help, but all three of these relationships were in a negative direction: the child's age (Odds ratio = .92, $p < .05$), the child's gender (Odds ratio = .61, $p < .05$) and the dummy variable for living in Village Two (Odds ratio = .44, $p < .05$). Based on this regression model, it appears that a higher education level of the household head results in a greater likelihood of the child receiving family study help, while younger children, male children, and students residing in Village Two (as compared to students in Village Four) seem to be less likely to receive study help from their family. Table 11 shows the binary logistic regression model for whether or not the family helps in the child's study.

Table 11. Binary logistic regression model for whether or not the family helps in the child's study.

	B (SE)	Exp(B) 16	95% CI for Odds Ratio	
			Lower	Upper
Block 5, Step 1				
Total income	.00 (.00)	1.00	1.00	1.00
Education level of the household head	.11* (.03)	1.12	1.06	1.18
Child age	-.08*** (.04)	.92	.86	.99
Child gender	-.49*** (.25)	.61	.38	1.00
Caste ¹⁷				
SC/ST	-21.21 (27775.50)	.00	.00	
OBC	-21.54 (27775.50)	.00	.00	
General	-22.19 (27775.50)	.00	.00	
Religion	21.42 (27775.50)	2.00	.00	
# of school-going children	.18 (.09)	1.20	1.00	1.43
School type				
Dual enrollment/other	.36 (.60)	1.44	.44	4.69
Private	.19 (.30)	1.21	.68	2.16
School distance	-.00 (.01)	1.00	.99	1.01
Village				
One	-.61 (.38)	.54	.26	1.14
Two	-.82*** (.33)	.44	.23	.84
Three	-.10 (.40)	.90	.42	1.96
Constant	43.52 (55550.99)	7.93		

* $p < .001$ ** $p < .01$ *** $p < .05$; Model chi-square: 58.59*; Nagelkerke R^2 : .197; Cox & Snell R^2 : .142.

Family accompaniment to school.

Included in this analysis were 387 cases, with 261 cases of children who do not go to school with family and 126 cases of children who do go to school with family. In the

¹⁶ Exp(B) refers to the odds ratio, which is a measure of the effect size. The standard way to report the core results of logistic regression is through the odds ratio. An odds ratio below 1 indicates a decrease in the odds, while an odds ratio over 1 indicates an increase. No effect is correspondent with an odds ratio of 1 (Logistic Regression webpage, <http://faculty.chass.ncsu.edu/garson/PA765/logistic.htm>).

¹⁷ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores.

full binary logistic regression model for this variable, 20% (Nagelkerke $R^2 = .200$) of the variance in whether or not a child is accompanied by family to school is accounted for by the specific predictor variables in this regression model. Only one predictor variable had a positive and significant relationship with family accompaniment to school: the number of school-going children in the household (Odds ratio = 1.77, $p < .001$). Perhaps this is because an escort might be needed if there are more children who are going to school, or more likely, because school-going siblings might travel to school together. The two variables that had a significant negative relationship with family accompaniment to school were the age of the child (Odds ratio = .91, $p < .05$) and the dummy variable for residing in Village One (Odds ratio = .46, $p < .05$). In particular, a negative association between child's age and family accompaniment is very intuitive since younger children may have a greater need for family accompaniment to school. However, it is interesting to note that this same effect was not found based on the child's gender, indicating that there is not a significant relationship between being a female and going to school with family. Table 12 shows the regression model for the likelihood of whether or not the child's family accompanies him or her to school.

Table 12. Binary logistic regression model for the likelihood of whether or not the family accompanies the child to school.

	B (SE)	Exp(B)	95% CI for Odds Ratio	
			Lower	Upper
Block 5, Step 1				
Total income	.00 (.00)	1.00	1.00	1.00
Education level of the household head	-.01 (.03)	.99	.94	1.05
Child age	-.10*** (.04)	.91	.84	.98
Child gender	-.11 (.25)	.90	.55	1.46
Caste ¹⁸				
SC/ST	.86 (1.47)	2.37	.13	42.04
OBC	.99 (1.47)	2.68	.15	47.99
General	.91 (1.52)	2.48	.13	48.50
Religion	-.47 (1.46)	.62	.04	10.86
# of school-going children	.57* (.11)	1.77	1.43	2.18
School type				
Dual enrollment/other	.03 (.55)	1.03	.35	3.04
Private	-.43 (.30)	.65	.36	1.18
School distance	-.01 (.01)	.99	.98	1.01
Village				
One	-.78*** (.36)	.46	.23	.93
Two	.20 (.34)	1.22	.63	2.35
Three	-.64 (.37)	.53	.25	1.09
Constant	-1.42 (3.08)	.24		

* $p < .001$ ** $p < .01$ *** $p < .05$; Model Chi-square: 60.05*; Nagelkerke R^2 : .200; Cox & Snell R^2 : .144.

Visiting the school because of membership in a meeting.

This binary logistic regression analysis included 339 cases, with a large majority of the school visits not being made for the purpose of attending a meeting as a member: only 25 respondents indicated that the caretaker visited the school for this reason, while 314 did not visit the school for the purpose of a meeting. Overall, 12.8% (Nagelkerke $R^2 = .128$) is accounted for by the regression model; however, the final model chi-square statistic is not significant, implying the overall model may not be a particularly good fit

¹⁸ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores.

for predicting the outcome (Field, 2009). The dummy variable for residing in Village One was the only factor that was found to be significantly related to whether or not a school visit is made for a meeting (Odds ratio = .19, $p < .05$), indicating that caretakers in Village One were significantly less likely to visit the school for a meeting-related purpose than caretakers in Village Four. The decreased likelihood of visiting the school that was found for Village One may be partly attributable to the fact that Village One had the lowest mean income out of the four villages included in this sample. However, Village One also had the second highest mean education level for the household head. Table 13 shows the regression model for the outcome variable of visiting the school for the purpose of a meeting.

Table 13. Binary logistic regression model for the likelihood of visiting the school for the purpose of a meeting.

	B (SE)	Exp(B)	95% CI for Odds Ratio	
			Lower	Upper
Block 5, Step 1				
Total income	.00 (.00)	1.00	1.00	1.00
Education level of the household head	.04 (.05)	1.04	.95	1.14
Child age	.01 (.07)	1.01	.88	1.15
Child gender	-.01 (.46)	.99	.40	2.44
Caste ¹⁹				
SC/ST	-21.31 (23684.64)	.00	.000	
OBC	-21.68 (23684.64)	.00	.000	
General	-20.89 (23684.64)	.00	.000	
Religion	21.87 (23684.64)	3.16	.000	
# of school-going children	-.05 (.17)	.95	.68	1.34
School type				
Dual enrollment/other	.26 (1.16)	1.30	.13	12.58
Private	-.39 (.52)	.68	.25	1.87
School distance	-.00 (.01)	1.00	.97	1.02
Village				
One	-1.64*** (.67)	.19	.05	.72
Two	-.26 (.70)	.77	.20	3.05
Three	-.38 (.80)	.68	.14	3.29
Constant	41.14 (47369.28)	7.33		

* $p < .001$ ** $p < .01$ *** $p < .05$; Chi-square: 18.23; Nagelkerke R^2 : .128; Cox & Snell R^2 : .052

Visiting the school when presence is needed for child work purposes such as fee payment and enrollment.

The number of cases included in this analysis was 339, and a large proportion of the respondents indicated that the child's caretaker visits the school when their presence is needed for a child work purpose such as enrollment or paying fees: 159 respondents indicated this purpose as a reason for the caretaker visiting the school, while 180 did not indicate this as a purpose for the child's caretaker visiting the school. The full binary logistic regression model indicated that the predictor variables account for a very small

¹⁹ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores.

percentage of the variance in the outcome variable—only 3.3% (Nagelkerke’s $R^2 = .033$). Moreover, the chi-square model statistic was not significant and none of the predictor variables included in the model were found to be significant. Table 14 shows the regression model for this outcome variable.

Table 14. Binary logistic regression model for the likelihood of visiting the school for a purpose related to the child’s work, such as enrollment or fee payment.

	B (SE)	Exp(B)	95% CI for Odds Ratio	
			Lower	Upper
Block 5, Step 1				
Total income	.00 (.00)	1.00	1.00	1.00
Education level of the household head	.01 (.03)	1.01	.96	1.07
Child age	-.00 (.04)	1.00	.93	1.07
Child gender	-.10 (.23)	.91	.58	1.44
Caste ²⁰				
SC/ST	-.38 (1.46)	.68	.04	11.80
OBC	-.48 (1.46)	.62	.04	10.77
General	-.48 (1.51)	.62	.03	11.76
Religion	-.03 (1.45)	.98	.06	16.67
# of school-going children	.14 (.09)	1.15	.97	1.38
School type				
Dual enrollment/other	.03 (.59)	1.03	.32	3.29
Private	-.20 (.28)	.82	.48	1.43
School distance	-.00 (.01)	1.00	.99	1.01
Village				
One	.50 (.35)	1.64	.82	3.28
Two	.31 (.30)	1.36	.75	2.46
Three	.49 (.36)	1.64	.81	3.33
Constant	-.31 (3.05)	.73		

Chi-square: 8.61; Nagelkerke R^2 : .033; Cox & Snell R^2 : .025.

Visiting the school at the teacher’s request for discussion about the child’s study or behavior.

The total number of cases included in this analysis was 339, with 85 respondents who indicated that the child’s caretaker visited the school because of a teacher’s request

²⁰ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores.

for discussion about the child's study or behavior and 254 respondents who did not indicate this as a reason for the caretaker visiting the school. This model accounted for 9.8% of the variance in the outcome variable (Nagelkerke $R^2 = .098$), although the chi-square model statistic was not significant at the .05 level. The two dummy variables for residing in Village One (Odds ratio = .42, $p < .05$) and residing in Village Two (Odds ratio = .37, $p < .01$) were found to be significantly and negatively correlated with the outcome variable, indicating that caretakers in Villages One and Two were significantly less likely to visit the school because of a teacher's request for discussion about the child than caretakers from Village Four. In particular, there might be particular factors within these two village contexts that potentially discourage communication with the teacher or coming to the school for discussion with the teacher, such as teacher absenteeism or difficulty in traveling to the school site. Table 15 shows the binary logistic regression model for whether or not the child's caretaker visited the school because of a teacher's request for discussion about the child's study or behavior.

Table 15. Binary logistic regression model for the likelihood of visiting the school for discussion with the teacher.

		Exp(B)	95% CI for Odds Ratio	
			Lower	Upper
Block 5, Step 1				
Total income	.00 (.00)	1.00	1.00	1.00
Education level of the household head	.05 (.03)	1.06	1.00	1.12
Child age	-.06 (.04)	.95	.87	1.03
Child gender	-.39 (.28)	.68	.40	1.16
Caste ²¹				
SC/ST	.33 (1.68)	1.39	.05	37.78
OBC	.09 (1.69)	1.10	.04	30.02
General	.60 (1.75)	1.83	.06	55.86
Religion	-.12 (1.68)	.89	.03	23.57
# of school-going children	.13 (.11)	1.14	.93	1.40
School type				
Dual enrollment/other	.89 (.83)	2.44	.48	12.53
Private	-.12 (.32)	.89	.47	1.66
School distance	-.00 (.01)	1.00	.99	1.01
Village				
One	-.87*** (.42)	.42***	.18	.96
Two	-1.00** (.37)	.37**	.18	.76
Three	-.40 (.45)	.67	.28	1.63
Constant	-.66 (3.56)	.52		

* $p < .001$ ** $p < .01$ *** $p < .05$; Chi-square: 23.12; Nagelkerke R^2 : .098; Cox & Snell R^2 : .066

Research Question #3: Educational Attainment Aspirations as a Mediator of Engagement

The third research question of this study was used to identify whether or not education level aspirations mediate the relationship between the set of independent variables that were previously considered in the second research question of this study and six of the outcome variables related to family engagement in education. These six outcome variables included all of the outcome variables examined in the second research question, with the exception of educational attainment aspirations since this variable was

²¹ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores.

used as the mediator variable in this third research question. In addition to identifying the potential mediating effects of educational aspirations, significant indirect effects were also identified through the examination of this research question. In the following subsections, the findings related to this third research question are presented. However, before to turning to these findings, a brief description of the interpretation of the mediation output is provided, as well as a distinction between *indirect* and *mediated* effects.

Interpretation of output.

The SPSS macro that was used for these analyses came from Preacher and Hayes (2008) Multiple Mediation Procedure. The analyses were used to examine several different paths, each of which are briefly discussed in this section in order to provide a clearer and more efficient interpretation of the findings from these mediation models. The mediation output provided information about four different paths, or relationships, between the predictor, mediator, and outcome variables, and these paths are shown in the mediation model tables in Appendix One for the models that had significant indirect effects. The first path is path *a*, or the path from the independent variable to the mediator variable. The second path is path *b*, or the direct effect of the mediator variable on the dependent variable. The third path is path *c*, which is the total effect of the independent on the dependent variable without taking into account the mediator. Finally, the fourth path is path *c'*, which demonstrates the direct effect of the independent variable on the dependent variable while controlling for the variable acting as the mediator (Preacher and Hayes, 2004). A key observation among these different paths is whether or not there is

any evidence of a mediated relationship between the independent and dependent variables. According to Preacher and Hayes (2004), assessing that there is an existent mediated effect insinuates that there was already an existent total effect (the effect of X on Y).

Furthermore, Zhao and colleagues (2010) provide a framework for interpretation that includes the following scenarios: 1). Significant $a \times b$, but not c , means mediation that is indirect only and 2). Significant $a \times b$ and c means complementary or competitive mediation, with a negative value for $a \times b \times c$ indicating competitive mediation and a positive value for $a \times b \times c$ indicating complementary mediation (Zhao et al., 2010). Moreover, Zhao and colleagues (2010) note that non-mediation with no effect occurs when there is no significant effect for $a \times b$ and c , and non-mediation with a direct effect only occurs when c is significant but not $a \times b$. Given that a mediated effect requires that the indirect effect, or $a \times b$, must be significant, the findings that are presented in this section focus only on the mediation models for which a significant indirect effect was found, regardless of whether the effect points to an example of mediation or solely an indirect effect.

For the practical purposes of this study, the only difference that is considered between a mediated effect and an indirect effect is if there is a pre-existent significant relationship between the independent and dependent variables without taking the mediator into account. For example, in this study, educational aspirations are considered as playing a *mediating* effect if the independent and dependent variables already have a significant relationship with one another without the mediator. On the other hand,

educational aspirations are considered as having solely an *indirect* effect if the independent and dependent variables were not significantly linked before including educational aspirations as a mediator variable.

A mediated effect is typically considered as a unique instance of indirect effects with one mediating variable, and a judgment of a mediated effect indicates that there was an existent effect of X on Y (total effect), while an indirect effect can still be significant even without a significant total effect (Preacher and Hayes, 2004). This is similar to Matthieu and Taylor's (2006) definitions of indirect and mediated effects, as they say that indirect effects are unique types of intervening effects in which X and Y are associated indirectly through significant associations with a linking device, although X and Y themselves are not directly correlated, while mediation occurs when there is a significant total X and Y. Furthermore, as Matthieu and Taylor (2006) assert,

In other words, mediator variables are explanatory mechanisms that shed light on the nature of the relationship that exists between two variables. If no such relationship exists, then there is nothing to be mediated. . . .the extent to which variance in Y can be attributed to the indirect effect of X. . .represents a qualitatively different phenomenon than mediation. We prefer to label such relationships as indirect effects. (p. 1038)

Within the context of this study, significant *mediating* and *indirect* effects are both considered to reveal something about the role that educational aspirations play in family engagement in education, with *mediating* effects signaling a pre-existing relationship

between the independent and dependent variables, and *indirect* effects signaling a non-significant relationship between the independent and dependent variables.

For all of the mediation/indirect effects discussed in the following sections, only the independent variables that have an association with significant mediating/indirect effects are included in the tables. Separate mediation models were examined with each independent variable, and for categorical data with more than one variable (i.e., dummy variables), the corresponding dummy variables were included as covariates in the analyses.²²

Annual expenditure on education.

The mediation models for this dependent variable were used to examine whether or not educational aspirations act as a mediator between each of the independent variables previously examined in the second research question and the amount of money that is spent per year on the education of one school-going child. Educational aspirations were found to have a significant indirect effect in the relationships between three of the independent variables and the dependent variable of educational expenditure. These independent variables included the dummy variables for residing in Villages Two and Three, as well as the number of school-going children in the household. Specifically, for the models that included the dummy variables for Village Two and Village Three, educational aspirations appeared to *mediate* the effect of residing in these villages (as

²² Analyses were also run with models in which all of the independent variables were included, which entailed using one of the independent variables as the IV and the rest as covariates in the model, rotating the variables until each IV had served as both an IV and a covariate (see Hayes, n.d.; Preacher & Hayes, 2008; and SPSS Indirect, 2011). However, these models were only successfully examined with the continuous dependent variable, i.e., annual educational expenditure, and the findings did not evidence any significant indirect relationships.

compared to Village Four) since path *c*, i.e., the relationship between residing in Village Two/Three and annual educational expenditure, was significant without the inclusion of the mediator variable. Contrastingly, although education level aspirations had a significant indirect effect in the relationship between the total number of school-going children and annual education expenditure, the total effect of the number of school-going children on education expenditure (path *c*) was not significant when the mediator variable was excluded from the model. Table 16 shows the significant indirect effects that were found for the dependent variable of annual education expenditure.

Table 16. Significant indirect effects of educational aspirations on the relationships between the Village 2 dummy variable, Village 3 dummy variable, number of school-going children and the dependent variable of educational expenditure.

Independent Variable	Coefficient (SE)	Lower 95% CI	Upper 95% CI
<i>Village 2 Dummy Variable</i>			
<i>Total Effect of Village Two on annual education expenditure (Path c)</i>	563.7556* (138.0400)		
<i>Direct Effect of Village Two on annual education expenditure, with education aspirations included as a mediator (Path c')</i>	515.7892* (138.0507)		
<i>Indirect effect</i>		3.2953	132.6520

<i>Village 3 Dummy Variable</i>			
<i>Total Effect of Village Three on annual education expenditure (Path c)</i>	396.9886** (150.0133)		
<i>Direct Effect of Village Three on annual education expenditure, with education aspirations included as a mediator (Path c')</i>	320.6678*** (151.4240)		
<i>Indirect Effect</i>		8.8566	176.9002
<i>Number of School-Going Children</i>			
<i>Total Effect of number of school-going children on annual education expenditure (Path c)</i>	37.8651 (41.3620)		
<i>Direct Effect of number of school-going children on annual education expenditure, with education aspirations included as a mediator (Path c')</i>	23.2583 (41.1275)		
<i>Indirect Effect</i>		1.7492	35.1219

* $p < .001$ ** $p < .01$ *** $p < .05$; Based on 5,000 bootstrap re-samples.

Family help in the child's study.

The mediation models for this dependent variable were used to examine if educational aspirations act as a mediator between each of the independent variables examined in the second research question and whether or not the child receives family study help. Significant indirect effects were found for the independent variables of the child's age, the dummy variable for belonging to a general caste (compared to having no caste affiliation), the total number of school-going children, the dummy variable for going to a private school (compared to going to a government school), school travel time, and the dummy variables for residing in Village Two and Village Three (compared to the reference group, Village Four). Based on the definitions provided by Preacher and Hayes (2004) and Matthieu and Taylor (2006)²³, educational aspirations appear to have only an indirect effect in the relationships between the independent variables of child's age, school travel time, and the dummy variable for attending a private school and the dependent variable of receiving family study help. Contrastingly, educational aspirations appear to play a mediating role in the relationships between the independent variables of total school-going children, general caste (dummy variable), Village Two (dummy variable), and Village Three (dummy variable) and the dependent variable of family study help. Table 17 shows the significant indirect effects that were found for these mediation models.

²³ Zhao et al. (2010) would term this "*Indirect-only mediation*" (p. 200, emphasis in original).

Table 17. Significant indirect effects of educational aspirations on the relationships between child age, general caste (dummy variable), number of school-going children, private school (dummy variable), school distance, Village 2 (dummy variable), Village 3 (dummy variable) and the dependent variable of family study help.

Independent Variable	Coefficient (SE)	Lower 95% CI	Upper 95% CI
<i>Child's Age</i>			
<i>Total Effect of child's age on family study help (Path c)</i>	-0.0315 (.0297)		
<i>Direct Effect of child's age on family study help, with education aspirations as a mediator (Path c')</i>	-0.0563 (.0310)		
<i>Indirect effect</i>		.0089	.0477
<i>General Caste Dummy Variable</i>			
<i>Total Effect of general caste on family study help (Path c)</i>	1.2920** (.4298)		
<i>Direct Effect of general caste on family study help, with education aspirations included as a mediator (Path c')</i>	1.0608*** (.4420)		
<i>Indirect Effect</i>		.0455	.5136

<p><i>Number of School-Going Children</i></p> <p><i>Total Effect</i> of total school-going children on family help in study (Path <i>c</i>)</p> <p><i>Direct Effect</i> of total school-going children on family help in study, with education aspirations as a mediator (Path <i>c'</i>)</p> <p><i>Indirect Effect</i></p>	<p>2019*** (.0812)</p> <p>.1747*** (.0829)</p>	<p>.0038</p>	<p>.0733</p>
<p><i>Private School Dummy Variable</i></p> <p><i>Total Effect</i> of private school on family help in study (Path <i>c</i>)</p> <p><i>Direct Effect</i> of private school on family help in study, with education aspirations as a mediator (Path <i>c'</i>)</p> <p><i>Indirect Effect</i></p>	<p>-.0244 (.2479)</p> <p>-.1937 (.2570)</p>	<p>.0626</p>	<p>.3279</p>

<i>Time to reach school</i>			
<i>Total Effect of time to reach school on family help in study (Path c)</i>	.0018 (.0053)		
<i>Direct Effect of time to reach school on family help in study, with education aspirations as a mediator (Path c')</i>	.0001 (.0053)		
<i>Indirect Effect</i>		.0001	.0046
<i>Village 2 Dummy Variable</i>			
<i>Total Effect of Village Two on family study help (Path c)</i>	.8152** (.2919)		
<i>Direct Effect of Village Two on family study help, with education aspirations as a mediator (Path c')</i>	.7184*** (.2963)		
<i>Indirect Effect</i>		.0221	.2497

<i>Village 3 Dummy Variable</i>			
<i>Total Effect of Village Three on family study help (Path c)</i>	.6587*** (.3140)		
<i>Direct Effect of Village Three on family study help, with education aspirations as a mediator (Path c')</i>	.4989 (.3210)		
<i>Indirect Effect</i>		.0526	.3581

* $p < .001$ ** $p < .01$ *** $p < .05$; Based on 5,000 bootstrap re-samples.

Family accompaniment to school.

The mediation models for the dependent variable of family accompaniment to school were used to examine if educational aspirations function as a mediator between the independent variables that were examined in the second research question and whether or not a child is accompanied to school by family. Educational aspirations were found to have an indirect effect in only one independent-dependent variable relationship: the relationship between the child's age and family accompaniment to school. However, although the path from the independent variable, i.e., child's age, to the mediator variable, i.e., educational aspirations, was significant, the effect of the mediator variable on the dependent variable was not significant. From a mediation perspective, this is problematical since a majority of analysts deem it necessary that the mediator variable and outcome variable be correlated with each other in order to ascertain that mediation is indeed occurring (Kenny, 2009). Table 18 shows the significant indirect effect that was identified for the dependent variable of family accompaniment to school.

Table 18. Significant indirect effects of education level aspirations on the relationship between child's age and family accompaniment to school.

Independent Variable	Coefficient (SE)	Lower 95% CI	Upper 95% CI
<i>Child's Age</i>			
<i>Total Effect of child's age on Family accompaniment (Path c)</i>	-.0631*** (.0304)		
<i>Direct Effect of Child's age on family accompaniment, with education aspirations as a mediator (Path c')</i>	-.0747*** (.0313)		
<i>Indirect effect</i>		.0007	.0284

* $p < .001$ ** $p < .01$ *** $p < .05$; Based on 5,000 bootstrap re-samples.

Visiting the school for various purposes.

Mediation models were individually examined with each of the independent variables that were previously considered and each of the three school visit outcome variables. However, no significant indirect or mediated effects were found for any of these mediation models, suggesting that educational aspirations do not act as a mediator in the relationship between the independent variables examined in this study and visiting the school because of membership in a meeting, child work purposes such as enrollment or paying fees, and teacher requests for discussion about the child's study or behavior.

Conclusion

Overall, the findings in this chapter point to several salient aspects about the nature of families' engagement in their children's education in the Shravasti district of Uttar Pradesh, India. First, although some families do appear to be engaged in their

children's education, family engagement in education does not appear to be a particularly widespread in this district of Uttar Pradesh, India. The findings of this study revealed that educational involvement is especially lacking in the areas of visiting the school because of membership in meetings and because of teacher requests for discussion about the child, helping the child in his or her study, and accompanying the child to school. It is also somewhat disconcerting that such a large proportion of respondents were unable to specify a level of education to which the school-going child would be educated.

Another finding of this study was that the variables that were found to be significantly associated with family engagement in education were different depending on the family involvement practice under consideration, indicating that family engagement in education is not uniformly associated with particular contextual factors. For example, the findings revealed that family income or the household head's education level were significantly associated with family engagement only in *some* instances. Thus, based on the findings of this study, even if a particular variable is significant to one form of family engagement, it is not necessarily a factor that is significant across all other forms of family engagement.

Another element to note is that the findings of this study illuminate the specific factors that may not be particularly relevant to family engagement in education in the Shravasti district. For instance, the child's gender was found to be significant in only one out of the seven family engagement variables. This finding suggests that families' involvement in their children's schooling in the Shravasti district is not strongly predicated on the gender of the child. Given the context of the study, this finding is

notable in that it runs in contrast to data such as the *Deprivation and Marginalization in Education* dataset (cited in Chapter Two of this study), which reveals a notable gender disparity in education in India.

Finally, another feature of the findings presented in this chapter is that they revealed the potential role that educational aspirations play in mediating the relationship between the independent and dependent variables considered in this study. In particular, educational aspirations were found to play a mediating role only for the dependent variables of educational expenditure and family help in study. These findings revealed that educational attainment aspirations may be less important in determining families' involvement at the school site, and moreover, that educational attainment aspirations may play only a limited role in acting as a mediator for other types of family involvement practices.

In conclusion, the findings of this study provide a number of different insights into the nature of family engagement in the Shravasti district of Uttar Pradesh, India. In Chapter Five, the findings of the three research questions of this study are considered further as the leadership, policy, and research implications of these findings are addressed.

Chapter Five

Recommendations & Conclusion

“Along with families and religious institutions, the school is an institution charged with the socialization of the young into the life of the larger community and society. It sits at the nexus between the private world of the family and the public world of the state and holds within its walls that which is most precious to us—our children. Thus, education is inevitably a contested terrain. Because of this, it offers a unique window to the fears and aspirations of a society. It offers insight into what a community wants to change in itself, what it aspires to be, and the nature of the disagreements over just what these points are”

- Milligan, 2005, pp. 2-3

Introduction

The purpose of this chapter is to discuss the policy, leadership, and research implications of the findings that were presented in Chapter Four. Specifically, attention is given to the relevance of these findings for educators in India and a set of summary recommendations for educators is provided. These educator recommendations are followed by broader implications that address the theoretical and policy connotations of this study. Finally, the utility of the conceptual framework, a re-examination of the initial hypotheses, and the limitations of this study are addressed, along with concluding thoughts related to the topic of families and education in India.

Research Question #1: To What Extent Are Families Engaged in Their Children’s Education?

Through the first research question of this study, seven dimensions of family engagement in the Shravasti district were examined, which included families’ annual educational expenditure per school-going child, education attainment aspirations held for the child, family help in the child’s study, family accompaniment to school, visiting the school because of membership in a meeting, visiting the school when presence is needed

for child work purposes such as enrollment or fee payment, and visiting the school because of a request from the teacher for discussion about the child's behavior or study. Based on the data related to these seven dependent variables, it appears that although a number of families do invest time and resources in support of their children's education, there are still many families that are not engaging in school visits, helping in their children's studies, or providing accompaniment to school. In the following sub-sections, the implications of the findings of the first research question are discussed as they relate to each of the seven dependent variables that were examined in this study.

Annual educational expenditure.

The household survey data reveal that many families are making a financial contribution to their children's schooling for expenses beyond school fees. The mean annual education expenditure was Rs. 794.27, which accounts for less than 2% of the mean annual family income among the study sample. However, it is very likely that families may spend even more than this amount on education, particularly if they pay any school fees or have school expenses for other school-going children in the household.

In contrast to the mean household educational expenditure that was found through this present study, the PROBE Team's (1999) findings related to educational expenditure in the Indian states of Bihar, Rajasthan, Madhya Pradesh, and Uttar Pradesh provide a helpful reference point. Based on a field survey conducted in 1996, the PROBE Team found that parents estimated that the average amount spent for a child in government primary school was Rs. 318, which is considerably lower than the mean amount that was found for Shravasti households (Rs. 794.27). The amount found by the PROBE Team

included fees (Rs. 16), travel and additional expenses (Rs. 19), private tuition (Rs. 25), stationary and textbooks (Rs. 99), and school clothing/uniforms (Rs. 159). However, the teachers' estimate of yearly expenditure was slightly lower (Rs. 272) (The PROBE Team, 1999). Contrastingly, the PROBE Team found that parent estimates of the cost for private schooling were higher than for government schools, with parents estimating that Rs. 296 was spent on fees and Rs. 644 was spent on other expenses, with a grand total of Rs. 940 spent per year on sending a child to a private primary school (The PROBE Team, 1999).

Although the educational expenditure findings of the PROBE Team and this study are separated by more than a decade, in both cases, it is evident that rural households in India are willing to make significant financial contributions to the education of their children. On the one hand, these findings are heartening in that they demonstrate the willingness of families to support their children's education, even if the amount is not particularly high. From a practical perspective, however, these findings are unsettling in that they point to the very concerns raised by De & colleagues (2002), who assert

It is possible that any scenario based on the fee-paying capacities of very poor parents would raise many questions. One such question would be the sustainability and practicability of such an endeavor, even if parents did manage to put together the fees. (p. 142)

Undoubtedly, such considerable financial investments of families point to larger systemic issues that must be addressed within the education system itself. From the perspective of individual families, however, perhaps the most advantageous possibility is that of school vouchers, as discussed by Tooley (2007). Although writing particularly

about private schools, Tooley's premise of generating "*targeted* vouchers" (p. 336, emphasis in original) for the most impoverished (or for females) has great potential for Indian families with very limited financial means. Moreover, such initiatives would not necessarily be limited to the private sector of schooling, as there is "the possibility of policy initiatives such as vouchers (private and/or public) that would enable the poorest to access private education" (Tooley, 2007, p. 324), as well as fees related to public education.

In spite of the financial commitment that rural Indian families demonstrate to their children's education, such expenses may still come at a significant cost for some Indian families. Based on the CARE India household survey, financial encumbrance was noted as one of the most significant obstacles that was faced in children being sent to school (CARE India, 2009). In light of this strain on Indian families, policymakers should also consider ways to reduce the financial burden that falls on families that have very limited resources for financing their children's schooling. Vouchers present one possibility of accomplishing this goal.

Education level aspirations.

The most common response category for the level to which the child would be educated was unspecified, e.g., up the level that the child is able (CARE India codebook), indicating that the respondent did not provide a specific answer to this question. In some cases, respondents said that the level to which they would educate their child was difficult to predict (M. Kumar, Personal communication, May 30, 2011). The next most common responses that were provided for the child's level of educational attainment

were up to class 12 and class 10. The high number of unspecified responses about the child's level of educational attainment is somewhat concerning since it alludes to the absence of a clear goal for the child's level of educational attainment. On the other hand, the large number of unspecified responses may also indicate that some respondents might be open to their child pursuing his or her education to the highest level possible (or "the level the child can," CARE India codebook, p. 7). It is striking that the PROBE Team also found a high number of ambiguous responses about the level to which parents desired their children to be educated. Based on the PROBE Team's (1999, p. 21) examination of how far parents want their children to study, the most common responses for sons and daughters was "as far as possible," with 57% indicating this response for their sons, and 28% indicating this response for their daughters.

Also notable from the CARE India household survey findings is that less than 10% of respondents indicated that they aspired for their school-going child to finish their bachelor's degree or begin (but not finish) graduate work. In the PROBE Team's (1999) findings, 28% of respondents with sons and 15% of respondents with daughters indicated that they wanted their child to study beyond grade 12. Although situated in a different cultural context and geographic location, Spera, Wentzel, and Matto's (2009) findings from a public school system in a mid-Atlantic state indicated that more than 85% parents across the four different ethnic categories in their study had aspirations that their children would achieve a degree at the college level or above. By contrasting these two different contexts, it is evident that in the Shravasti district, aspirations for college-level attainment are something that have yet to receive widespread emphasis from many households.

Given that over one-fourth of the respondents did not specify a response regarding their children's level of educational attainment, the area of education aspirations might be a particularly important area in which educators can encourage parents and families. While the aspirations that families hold for their children's education is a deeply personal and nuanced issue, Indian teachers might play a helpful role by using opportunities such as school meetings with families or visits to the children's homes to discuss academic goals for the child and to communicate the child's potential for continued academic success. Furthermore, perhaps even more important than the specific level of schooling that the family hopes their child will attain, the goal that families express a general level of support for their children's schooling may be even more important. For example, although the family may not have a specific goal for how far their child will progress in his or her schooling, if the family is supportive and encouraging of the child's academic progress to the highest level possible, then such a perspective might be even more valuable than a desire for the child to attain to a specific level of secondary school or college. Additionally, the importance of educators who cultivate high aspirations for students, both through personally conveying high goals for students in the classroom as well as through communicating the child's academic potential to parents and families outside the classroom, is especially heightened given that many families represented in this study did not express specific education level aspirations for their children. Finally, since the mean attainment aspiration level (mean = 8.52) was found to be relatively low in this sample, it might be advantageous for educators to guide families toward specific, achievable academic goals for their children, especially beyond Class 8 achievement.

Family help in the child's study.

Nearly one-third of the children in the sample received some form of family study help. Although this statistic represents a relatively low percentage of students who receive family study help, it is also important to link this finding back to the study sample, which included a sample in which more than half of the household heads had not been enrolled in school and the mean household head education level was below Class Four. Still, regardless of the contextual factors, there still remains a large proportion of students in the sample who did not receive study help from family.

In light of this finding, it seems particularly advantageous for teachers in the Shravasti district to emphasize strategies that encourage the contributions of families to their child's studies. As Baum and Swick (2008) assert, "Teachers need to see families as meaningful contributors to their child's education, whose knowledge, opinions, and concerns are a valuable and critical component of the educational process" (p. 580). Even if some parents feel that the child's academic assignments are beyond the parents' academic skills, teachers can continue to be creative in the ways that they engage families with their children's studies, "commit[ing] themselves to the discovery and implementation of strategies allowing for empowerment to occur within their relationships with families" (Baum & Swick, 2008, p. 580).

Identifying and utilizing family involvement strategies might include ideas such as sending children home with academic activities that have both pictorial and written instructions so that parents who cannot read are able to interact with the assignment and their child. Likewise, teachers should provide a basic orientation to families in how they

can best offer study support that aligns with their children's academic needs and the families' abilities. Such an orientation might occur within the context of home visits or through school meetings between the parent and teacher. Additionally, teachers might utilize the strengths of older school-going children in the family, even offering partial academic credit for older students who assist at home with their siblings' studies.

Regardless of the specific strategies used, "In order for a true partnership to form and be successful, teachers must commit to help parents develop the necessary knowledge and skills to fulfill these roles, acknowledging the importance of parents as fully involved partners" (Baum & Swick, 2008, p. 581). In order to facilitate this type of partnership among Shravasti district teachers and families, it is worthwhile for Shravasti teachers to seek a better understanding of the families they work with and then utilize appropriate strategies that can best engage these families in supporting their children at home.

Family accompaniment to school.

The findings that pertained to the extent to which family accompanies the child to school were very similar to those for the family study help variable, with nearly one-third of the students being accompanied to school by family. Out of these students who go to school with family, most of them travel with their brother/sister (28.1%), while parents (2.2%), village children and the child's brother/sister (2.2%), and parents and the child's brother/sister (.2%) were the other forms of family accompaniment to school. Although a majority of the students (67.2%) are not accompanied to school by their family, many of these students (45%) do go to school with peers or other village children.

Based on the household survey data, it appears that if children are accompanied to school by their family, the most common form of school accompaniment is the child's brother/sister. This finding is very logical in that it makes sense for siblings to go to school together, especially if they attend the same school. However, this finding also insinuates that it is not primarily an adult family member who accompanies the child to school. Although this may not be problematic in all instances, it is possible that under some circumstances, not having an adult to go to school with the child could be a major obstacle for the child's education. Through CARE India's focus group discussion with community members, they found that safety of girls is one of the chief concerns related to educating older girls, particularly due to the lack of schools in close proximity to the village (CARE India, 2009). Given this concern, having a trusted adult to escort school-going children might be one important strategy for increasing school participation among girls, and it is valuable for both educators and families to recognize the importance of their role in providing for the safe escort of school-going children, especially female students, to the school site.

In particular, it may be beneficial to utilize school-family partnerships in the form of cooperatives of adults who rotate the responsibility of accompanying children to school. It might also be important for families, schools, and village leaders to work cooperatively toward establishing safety structures and assistance with transporting children to school, especially for children whose families are unable to accompany them to school because of work- or household-related responsibilities. CARE India (2009) notes that the police and pradhan are viewed as being important to guaranteeing a safe

context. Thus, village and school leaders might also consider enlisting the police to help with the safe transport of children to and from school. Moreover, since this current analysis focused only on school-going children, having a safe and trusted adult to accompany children to and from school may have broader implications for children who may not be attending school because of safety or security issues.

Visiting the school.

Visiting the school for the purpose of attending a meeting as a member and visiting for National Days were among the least common reasons for making a school visit. Contrastingly, the greatest number of school visits occurred for the purpose of being present for child work tasks such as paying school fees or enrollment. Implicit in this finding is that families are perhaps more apt to visit the school when they recognize a legitimate need for their presence at the school, such as paying a school fee or enrolling the child, than to visit the school for what may seem to be more superfluous or time-consuming activities, such as a holiday or participating as a member in a meeting.

Moreover, based on theoretical work by Hoover-Dempsey and Sandler (1995, cited in Hoover-Dempsey and Sandler, 1997), school and child invitations may be one of the influential factors in parents' decisions to become involved. Although not explored through this study, it is possible that one reason for the lack of participation in activities such as meetings and National Day festivities was few invitations from the school or child. Given the theoretical work by Hoover-Dempsey and Sandler, it may be particularly useful for Shrivasti educators to provide explicit invitations for parent participation and specific expectations regarding family involvement at the school, while also recognizing

the time and resource limitations of families. The impact that educator-initiated invitations have on parent participation in the Shravasti district is not only an area for future educational research, but it is also an area that educators can directly influence as they seek out additional ways to invite all families to participate in their children's education at home and at the school.

As another strategy for supporting greater family engagement at the school, educators might also consider making greater use of meeting facilities and locations that are conducive to families' residences, such as a community center in the village or a common meeting point between the school and household. This seems especially important given the mean travel times that were identified for private ($M = 23.01$ minutes) and government ($M = 17.99$ minutes) school students. Moreover, educators may also wish to offer alternative options for meeting with parents, particularly for parents whose household or work obligations are prohibitive to school visits. For instance, if mothers of young children represent a large proportion of the parents in the school, educators might plan school activities that accommodate not only the mothers, but their young children as well, such as through providing an area for young children to play during school meetings or planning school events that are inclusive of young children. Regardless of the specific contextual factors that may impede family involvement at the school site, it is portentous that efforts are made to accommodate families' involvement in the school through opportunities that are relevant to the families' lives.

Research Question #2: What Factors Are Associated with Family Engagement in Education?

The purpose of the second research question of this study was to identify the specific factors that are potentially associated with family engagement in education in the Shravasti district of Uttar Pradesh. In the following sub-sections, the findings related to this second research question are discussed, along with their associated implications for educators and families in Uttar Pradesh, India.

Annual expenditure on the child's education.

Five independent variables were found to have a significant and positive association with the amount of money that a family annually spends on the education of one school-going: the child's age, attending a private school (as compared to attending a government school), total family income, residing in Village Two (as compared to the reference category of Village Four), and distance from the school. While it seems likely that families that have a higher income and send their children to a private school would spend more money on their children's education, as it does that families would expend more on an older child's education, what is less clear is the connection between the spending more on education and residing in Village Two as compared to Village Four. This relationship may be affected partially by the fact that Village Two had the highest mean for private school students out of the four villages considered in this study. However, even though Village Two has the highest mean for private school students, other villages had a higher mean for family income, child age, and distance to school, indicating that there may be other factors that contributed to Village Two (in contrast to Village Four) being associated with increased educational expenditure. Finally, students

who had a longer commute to school had a higher amount of money spent on their education, but this factor could be coupled with the private school factor, as there was a significant correlation (Pearson correlation = .113, p [2-tailed] < .05) between attending a private school and the time it takes to reach school.

In particular, one practical implication of these findings derives from the fact that Shravasti families seem more inclined to spend a greater amount of money on the child's education if the child is older. While a variety of reasons could contribute to this correlation, one possibility is that schooling is more expensive as children reach higher levels of education. NSSO (1998) data for 1995-1996 indicate that for the rural category, households spent 219 on boys' schooling at the primary level, while they spent 548 at the upper-primary level. This increase was similar for private schools, as well as for female students (in De et al., 2002). Such increases impose a significant financial burden on families, especially for families with very limited financial resources. Educational policies focused on alleviating the intensified schooling costs as students progress to higher levels of education could be one important means of keeping more Indian children in school. It seems problematic to expect Indian families, particularly those who are most impoverished, to bear the burden of increased schooling costs as their children advance to higher educational levels, especially in contexts like the Shravasti district where aspirations for children's educational attainment are not particularly high.

Educational attainment aspirations.

Two independent variables were found to have a significant and positive association with the aspirations that are held for the child's level of schooling, including

the education level of the household head and the child's age, which suggests the effect of a more educated household head in influencing higher educational aspirations for the school-going child, as well as the way that educational aspirations are positively related to the child being older. However, there is a need for further research in this area, particularly in determining whether maternal or paternal education, or a combination of both, plays a significant role in higher educational aspirations being held for the child.

Also elucidated through the findings is the link between an increase in the child's age and an increase in the aspirations that are held for the level to which the child will be educated. In one respect, this connection is logical since older children are likely to be in a higher grade level and thus have a higher educational baseline in comparison to children from lower grade levels. However, a potential implication of this finding is the need to address families' educational aspirations for their children from an early age. This is particularly important since children whose families do not hold high educational attainment aspirations for them when they are younger may not be encouraged or supported to progress to higher levels of education. This is an area to which Shrivasti educators should be particularly sensitive, as educators may have opportunities to help parents and family members cultivate ambitious attainment aspirations for their children's schooling. Such opportunities may be as informal as casual conversations with the parents about the child's progress and potential, or as formal as written comments that accompany children's report cards.

Family help in the child's study.

Three independent variables were found to be significantly associated with whether or not a family provides study help to the child. These variables included the education level of the household head (positive), the child's age (negative), the child's gender (negative), and residing in Village Two (negative) compared to residing in Village Four. The household head's education level and child's age have an intuitive connection with family study help, as more educated families (implicit in the household head being more educated) seem likely to feel more comfortable and confident in providing study help to their children. Moreover, based on the literature discussed in Chapter Two about the decrease in family involvement as children progress to higher levels, it is also logical that families of younger children would feel more comfortable than families of older children in providing study help to their children. However, it is unclear how residing in Village Two rather than Village Four relates to a decreased likelihood of family study help. Finally, it is significant that children's gender plays a role in whether or not they are helped by family, indicating that there may be a bias toward males in terms of family study help.

Family accompaniment to school.

Three independent variables were found to be significantly associated with the likelihood of whether or not family accompanies the child to school. These variables included the number of school-going children in the household (positive), as well as the child's age (negative) and the dummy variable for residing in Village One (negative). The negative association between family accompaniment to school and residing in Village

One (in comparison to Village Four) might be influenced by the fact that Village One had the highest mean age of school-going children compared to the other three villages, as well as that Village One was tied with Village Three for having the highest mean number of school-going children in the household.

Visiting the school.

Three separate reasons for visiting the school were examined through regression analysis, including visiting the school for attendance as a member of a meeting, visiting for a purpose such as enrollment or fee payment, or visiting because of a request from the teacher for discussion about the child's study or behavior. Only two of the three reasons for visiting the school were significantly associated with any of the independent variables, and both of these independent variables related to the village context in which the families resided. These variables included the dummy variable for residing in Village One, which was negatively associated with whether or not a school visit is made for the purpose of a meeting, and the dummy variables for Villages One and Two, which were negatively associated with whether or not a school visit is made because of a teacher's request for discussion. None of the independent variables were significantly associated with whether a school visit is made for a child work purpose such as enrollment or paying fees. The fact that none of the family, school, or child variables were associated with visiting the school is somewhat surprising, and this finding points to the need for further research about which specific community factors are associated with families' participation at the school site.

Significance of the child's age and village of residence.

Across the different regression models for each type of family engagement practice, there were two independent variables that were significant in the greatest number of regression models: child's age and the dummy variables for village of residence. The implication of this finding is that the child's age and household's village of residence (as compared to the village that represented the reference group) may be more influential factors across different types of family engagement practices in the Shravasti district, even more so than attending a private school or the number of school-going children in the household.

Based on these findings, there are several conclusions that follow. First, although some of the dummy variables for village of residence were found to be significantly associated with several different forms of family engagement in this study, the specific village-level factors that contribute to this association were not conclusively identified through this study. Thus, future research is needed in order to explore what specific factors at the village level may contribute to greater levels of family involvement in education, such as the possibility that a particular village has stronger teacher-parent relationships or that certain villages have more active cultures of parent involvement in education.

Second, child's age was also found to be a common factor that was associated with different forms of family engagement in the Shravasti district. This finding should not be surprising, particularly given Epstein's (1987b) assertion that,

There will be a ‘typical’ or expected pattern of separation or overlap at different times based on the age of the child, the level of school, and the historic period when the child is in school. Up to now, there has always been the most overlap of family and school spheres for most children during the preschool and early elementary grades. But there has also been great overlap for some children at all grade levels because of the varying philosophies, policies, practices, and pressures of parents, teachers, or both... (p. 128)

Moreover, other authors have pointed to the significance of child’s age in family involvement. Elish-Piper (2000, p. 44) terms the middle school and high school grades as “an often-neglected aspect of parent involvement,” which is a notion that is consistent with the literature on parent engagement in education (Epstein & Dauber, 1991; Stevenson & Baker, 1987). Similarly, the significant role of child’s age in family engagement was also identified through this study, but interestingly, child’s age had both a positive and negative association depending on the form of parent involvement. For instance, in terms of annual educational expenditure or the education level aspirations that are held for the child, older children appear to have a greater amount spent for their education and higher educational aspirations that are held for them. Contrastingly, younger children appear to have a greater likelihood of receiving family study help and family accompaniment to school.

Based on the findings related to the child’s age, it appears that families of older students are willing to contribute more to their children’s education through less direct forms of family engagement, such as spending on their children’s education and holding

higher aspirations for their children's level of educational attainment, while families of younger children appear to be more willing to contribute through more hands-on aspects of family engagement, such as helping the child in studying and accompanying the child to school.

In particular, it seems strategic for educators to give attention to helping families of older students to engage with their children's education, especially as it relates to helping families engage in more direct ways with their children's education. Although Mapp and colleagues (2008) assert that indications of effectively-implemented strategies for high school parental involvement are hard to identify, one possibility that they suggest is the use of family centers, which are specified locations that act as invitations for family involvement. The family center can be located in a place that is as basic as a room or area in the school, and it is overseen by someone who is acquainted with the students', parents', and school staff's needs (Mapp et al., 2008). In the family centers in Mapp et al.'s study, services, instruction, and information were offered for parents. Extending Mapp and her colleagues' suggestion of family centers, both primary and secondary schools may benefit from the use of family centers, particularly in a context such as the Shravasti district where families might be assisted by concrete forms of direct guidance and encouragement in becoming more engaged with their children's education.

Significance of socioeconomic factors.

The total family income and education level of the household head were hypothesized to be the two leading explanatory variables in predicting how engaged families are in their child's education. Surprisingly, the explanatory variable that was

hypothesized to be the most important predictor, i.e., total family income, was significantly and positively associated with only one form of family engagement, i.e., annual expenditure on schooling. This finding has a rational basis, as a higher earning household is likely to be able to spend more money on education. Moreover, the education level of the household head was significantly and positively associated with only two forms of family engagement, including the educational aspirations held for the child and whether or not the family helps in the child's study. Again, these findings have a rational foundation, as a higher educated household head is likely to be representative of a family that is more educated and potentially possesses higher aspirations for the child's educational attainment and greater confidence in providing study help to the child. Aside from these associations with the household head's education level and the household income, SES factors appeared to be insignificant to other forms of family engagement in education in the Shravasti district.

Although some of the literature cited in Chapter Two of this study addressed the importance of SES and parent education, the findings of this study around income and education indicate that these factors may not be the chief determinants of the level of family involvement in the Shravasti district. Although income and household head education had a significant association with a few types of family engagement practices, being from a lower SES family does not appear to be negatively associated with all forms of family engagement. In particular, it is interesting to note that SES was not a significant factor for the school-based forms of involvement, i.e., visiting the school, implying that

less affluent and less educated families are no less likely to visit the school site than more affluent and educated families.

Research Question #3: Do Educational Aspirations Act as a Mediator of Family Engagement?

The purpose of the final research question of this study was to examine whether or not the educational aspirations that are held for the school-going child act as a mediator between the independent and dependent variables that were considered in this study. The following sub-sections address the findings from this third research question and the associated implications for family engagement in children's education in Uttar Pradesh.

Annual education expenditure.

Educational aspirations were found to have a mediating effect in the relationship between two of the independent variables and annual education expenditure. Specifically, the relationship between residing in Village Two (as compared to residing in Village Four) and educational spending was partially mediated by the educational aspirations that families hold for their children. Similarly, the relationship between residing in Village Three (as compared to Village Four) and educational spending was also partially mediated by educational attainment aspirations. Educational aspirations were also found to have an indirect effect on the relationship between the number of school-going children in the household and the annual educational expenditure per school-going child. These relationships indicate that the education level aspirations that are held by the family for the child potentially play a role in determining the amount of money that families spend on their children's education.

In particular, because educational aspirations were found to mediate the relationship between residing in Villages Two and Three (as compared to Village Four), on the one hand, and educational expenditure, on the other hand, it appears that part of the effect of these villages may actually be accounted for in the aspirations that are held for the child. Likewise, because an indirect effect was found to exist between the number of school-going children in the household and the annual education expenditure, educational aspirations may partially account for the relationship between the number of school-going children and the annual education expenditure for one school-going child.

Family help in the child's study.

Educational aspirations were also found to mediate the relationship between the independent variables of total number of school-going children and the dummy variables for belonging to a general caste (as compared to no caste affiliation) and residing in Villages Two and Three (compared to Village Four), on the one hand, and the dependent variable of receiving family study help, on the other hand. Moreover, educational aspirations were found to have an indirect effect on the relationship between the independent variables of the child's age, time traveled to school, and the dummy variable for going to a private (compared to a government) school, on the one hand, and the dependent variable of family study help, on the other hand. Based on these findings, it appears that educational aspirations have an effect on the relationships between these independent variables and whether or not a child receives study help from his or her family. In particular, out of the six dependent variables examined, educational aspirations were found to have the greatest number of significant mediating and indirect effects for

the dependent variable of receiving family study help, implying that out of the six forms of family engagement considered in these mediation analyses, educational aspirations may play the greatest role in mediating the outcome of whether or not a child receives family study help.

Family accompaniment to school.

As discussed in Chapter Four, educational aspirations were found to have a significant indirect effect in only one independent-dependent variable relationship: the relationship between the child's age and whether or not the child receives accompaniment to school. This finding indicates that educational aspirations may influence the family's likelihood of accompanying the child to school, which could be a particularly important outcome for school-going children who are put at risk because of school travel. This finding also alludes to the possibility of parents' educational aspirations being one avenue through which educators can seek to encourage greater parental support in education.

Visiting the school.

Educational aspirations were not found to mediate significantly the relationship between the independent variables considered in this study and the three different reasons that were considered for visiting the school. This finding implies that educational aspirations do not play a significant role in influencing whether or not a child's family visits the school.

Importance of educational aspirations.

The findings from the mediation analyses of this study demonstrate that educational aspirations might play a role in determining the extent of financial investment

in education, whether or not a child receives family study help, and whether or not a child is accompanied to school by family. As discussed in Chapter Two, parental aspirations may be important to children's educational success. The findings from the mediation analyses of this study indicate that familial aspirations might also be important in determining the extent or likelihood of certain family engagement practices. However, in terms of making visits to the school and going to school with the child, educational aspirations do not appear to play a significant role in mediating the relationship between the independent variables considered in this study and any of the three reasons for making a visit to the school (i.e., for a meeting, for the child's work, at the request of the teacher).

Given these findings from the mediation analyses, it worth considering how families' aspirations for their children's education can be bolstered. While it is likely that many factors contribute to the educational aspirations that families develop for their children, one potential source of influence may stem from the child's academic performance. Spera et al. (2009) note that a robust indicator of the aspirations that parents hold for their children was the children's academic achievement. Although Spera and colleagues did not determine directionality in the relationship between aspirations and achievement, their findings do indicate a link between parental aspirations and academic achievement that is critical for educators in Uttar Pradesh to recognize. Moreover, as the mediation analyses revealed, educational aspirations may also affect other forms of family engagement in education. Thus, it seems that families' aspirations for their

children may have implications not only for students' academic achievement, but also for an increased level of family involvement in education.

According to the PROBE survey work cited earlier, a large majority of respondents thought it valuable for a male, and to a lesser extent, a female, to be educated (The PROBE Team, 1999). However, based on the findings of this present study, it seems that many families are not actively engaging with their children's education in a way that conveys that they highly value and support their children's education. Perhaps part of this discrepancy stems from what Westmoreland et al. (2009) note, that "even though parents want the best for their children, many do not receive the information and support from school and district staff that they need to understand the importance of the parental role and how best to fulfill that role" (p. 1). Thus, it is valuable for Indian educators to remain cognizant of their role in educating and encouraging families in being meaningfully engaged with their children's education. The recommendations that follow in the next section are aimed at serving this purpose, providing practical direction for educators in Uttar Pradesh who desire to better connect families to their children's schooling.

Practical Next Steps for Educators in India

Although some of the practical implications of this study's findings have been interwoven into the previous discussion of the three research questions of this study, the purpose of this section is to provide a set of summary recommendations for educators in Uttar Pradesh, India. In particular, these implications draw upon relevant literature related to parent involvement (Dyer et al., 2004; Joshi, 2005; Rah, Choi, and Nguyen, 2009; Westmoreland et al., 2009) and provide guidance for educators who wish to promote an

even greater level of involvement of Indian parents and families in their children's education.

One practical strategy that may be used by Indian educators is to identify and utilize the most effective ways to communicate with Shravasti district parents and families. Rah and colleagues (2009) found that parental illiteracy presented a particularly complex issue for educational practitioners. One interviewed principal described a strategy for working with illiterate refugee parents, saying that although sending home notes to all families is common practice, extra steps are taken on behalf of illiterate parents, including giving reminder phone calls in addition to sending a note (in Rah et al., 2009). Based on the data and findings of this present study, communication strategies may be especially important in order to encourage greater family-school involvement. If phones are not available at all households, other strategies such as enlisting upper-level students to go door-to-door in their village or having literate students read school memos to their parents, might also be alternative strategies to use. Foremost, however, is that educators understand the communication needs of the families they serve and then strive to meet those communication needs in a relevant manner.

Another barrier identified through Rah and colleagues' (2009) work about barriers to reaching out to refugee Hmong parents was that of parents' deferential attitude toward school authority. The interviewed educational practitioners noted that the parents usually acted in ways that portrayed an appropriate parental role as being that of a listener and one who acquiesces to the professional evaluation of the educators (Rah et al., 2009). Similarly, Indian parents may see themselves playing a comparable role in their

children's education, as Joshi (2005) asserts that Indian parents see teachers in a deferential way and thus place great weight on teachers' input. Indian families consider involvement that is too extensive to be intrusion, and education is viewed as a duty solely belonging to the teachers, while Indian families perceive their task as being in the oversight of homework (Joshi, 2005). Although it was beyond the scope of this study to examine parental attitudes toward school involvement, it is likely that this deferential cultural context has some role to play in the limited level of family engagement that was found among this study sample. Moreover, as Hoover-Dempsey and Sandler note (from their 1995 framework, cited in 1997), one of the influencers in the basic participation decision of parents is the way that parents construct the parental role. Thus, it seems important that in future research related to family engagement in education in Uttar Pradesh, researchers explore how parents' cultural attitudes and parental role constructions affect involvement in children's education. In the meantime, however, Indian educators must recognize the importance of taking the initiative in reaching out and welcoming families to participate in their children's education both at school and at home. However, such action on the part of the teachers will likely require a shift in pre-service and in-service teacher development.

Therefore, a third recommendation is for education leaders and policymakers to re-consider the content of current teacher training schemes and to incorporate a focus on families and the local community. In writing about teacher education in India, Dyer and colleagues (2004) maintain that an association exists "between the relative lack of impact of in-service training and the failure of teacher education to engage with certain aspects

of teachers' 'local knowledge'" (p. 40). Dyer et al. (2004) explain that for some teachers, their perspective about what is possible is limited by their perception of being in a deficient context. Such attitudes are incongruent with genuine family-school partnerships, and if teachers are to authentically engage the families of the children they teach, a significant paradigm-shift may be needed for some teachers. Educational practitioners and leaders can help to facilitate new ways of thinking about the school and community context by incorporating teacher development components that focus on the benefits that are provided to teachers and students through increased levels of family engagement in education.

Moreover, greater focus on teacher responsibility to students and families may also be beneficial within teacher development initiatives, as Dyer et al. (2004) identified that one of the common characteristics of distinguished teachers was that they viewed "their prime responsibility as being towards children and their parents, and derive their pleasure and satisfaction from positive interactions with them" (p. 50). Although Dyer and colleagues (2004) acknowledge that it is beyond the purview of teacher training to implant the philosophical outlook possessed by distinguished teachers, they do note that learning, not teaching, takes center stage for the teachers who are striving for change. As a step toward supporting more positive, collaborative relationships between teachers and families, it is important that educational leaders assist teachers with adopting a greater outward focus on their students and their students' families, as well as on student learning.

As a fourth recommendation, it may be helpful for educators to establish clear guidelines with families regarding expectations for their level of involvement at the school and with the child's education at home. In Rah et al.'s (2009) work, they found that one of the principals they interviewed had created a parent liaison position in the school, and one of the tasks that this liaison undertook was to hold workshops for the parents. A variety of topics were covered in these workshops, and this model is one consideration for use in Shravasti district schools. In particular, workshops related to the expectations that educators have for parental involvement and what parents need to know about successfully supporting their children in and out of school are two significant topics of focus. Additionally, it is important that specific family involvement expectations are accompanied by adequate training and preparation for families, as many families may not possess the foundational knowledge and skills for supporting their children academically or fulfilling the family involvement expectations that are set forth by the school. Moreover, given the gender difference that was found for family study help, it may be important to emphasize the utility of involvement practices for both girls and boys.

In terms of providing orientation and training for Shravasti families in how best to support their children's learning in and out of school, there are several strategies that educators may choose to adopt. One potential approach comes from an elementary school principal in the St. Paul Public School district who worked with the Family and Community Involvement Coordinator to obtain a grant for starting a parent group model that engages parents by grade-level rather than school-level. Such a model enables

parents to connect with the school through their common experiences, engaging with each other and exchanging resources. Moreover, grade-level specific activities were created by the school principal in order to help familiarize families with the curriculum of the school and the expectations it holds for students (Westmoreland et al., 2009). A similar approach could be particularly relevant for Shravasti district schools, as it would provide a meaningful context in which Shravasti families could build relationships with one another while also learning about the specific grade-level needs of their children.

Another strategy that might be beneficial for Shravasti schools is an approach that is being crafted by the Boston Public School district, “a comprehensive Parent University program,” which “will house all of the district’s parent education efforts, such as its 10-week literacy program, ELL curriculum, and math handbook for parents” (Westmoreland et al., 2009, p. 10). In a context such as the Shravasti district where over half of the household heads have not been enrolled in school, a resource such as the Parent University might be of immense advantage not only in the lives of adult family members, but also in encouraging and equipping families to be more supportive and active in their children’s education. However, given the time and resource limitations that Shravasti family members may face, educators should seek input from Shravasti families and community members in developing parent courses, which is similar to what the Boston Public School district has done by utilizing parent focus groups to obtain information about what parents desire to learn through the Parent University classes (Westmoreland et al., 2009).

In addition to utilizing practical strategies for increasing family engagement in education, it is also critical that those in school leadership positions, including head teachers, administrators, and principals, be involved in family involvement initiatives. According to Epstein (1987a), depending on the school context, the principal or administrator may or may not be take the helm of leadership in endorsing parental involvement. However, Epstein (1987a) contends that it is the role of the administrator to choose/create, assess, and modify parental involvement programs, as well as to arrange activities that will aid the staff in their study and understanding of parental involvement. The role of the principal grows somewhat more complicated, however, given the context of this study, as very small-sized schools are typical in a great deal of rural India and up to 70 percent of primary schools have no official principal (World Bank, 1997). Still, it is unlikely that lasting change will occur without the leadership support of school administrators, and thus it is important that administrators are active participants in the strategies of family engagement mentioned above.

Finally, although it is possible for educators to implement a variety of strategies that aim to engage parents in their children's education in a more effective way, the reality is that for long-term success, additional measures are needed at higher levels in the education system. As Westmoreland et al. (2009) note in their Issue Brief,

Many of the districts described in this brief have integrated family engagement into performance evaluations of principal or teacher effectiveness but note that it is challenging to give these measures "teeth" without clear expectations across other levels of the education system. To help hold schools accountable, districts need

clear buy-in and guidance from states on required measures for family involvement and more monitoring of those that do exist. In turn, states need a clear definition and strategy for family involvement, including key standards for quality, from federal policy for family engagement. (p. 4)

Thus, even as educators apply themselves to the hands-on work of seeking out ways to best engage the families of their students, it is also necessary that educators, policymakers, and other leaders are involved in the process of setting and maintaining clear family engagement standards and policies across other levels of the education system, including the district, state, and national levels. This is an issue that is specifically attended to in the following section of this chapter.

Broader Implications for the Education System in India

Tilak (2002) provides penetrating insight into the role that the community might play within the larger educational structure in India, and his insights undoubtedly have implications for families in India as well:

It is being increasingly realized that the government has to accord high priority to UEE [Universalization of Elementary Education]. At the same time, it is now being realized that the government's capability to fund education has reached a saturation point, suggesting the need for a search for community resources for education. (p. 284)

While Tilak's assertions are specifically related to financing education in India, the significance of his statements reach far beyond the financial realm. Resources that the community possesses for education can take a number of different forms. This study has

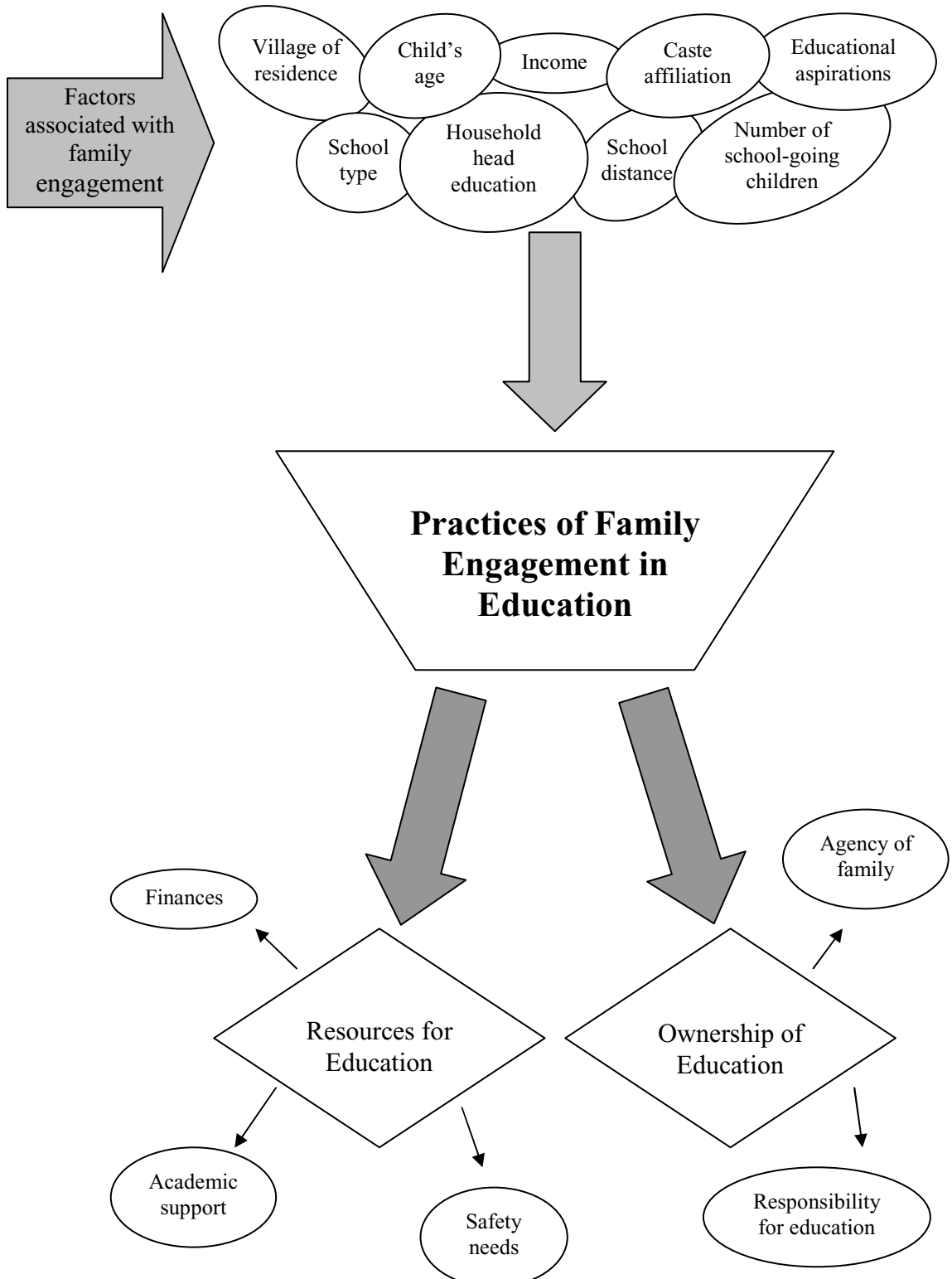
been a starting point in identifying some of the financial and non-financial resources for education that reside within the family. Cooper and Crosnoe (2007, p. 389) identified “parental involvement in education” as one source of “nonfinancial capital,” and the family involvement practices examined in this study can also be classified as sources of capital—financial and non-financial—to be leveraged in the Indian education system. These family resources include things such as financial investment in education, educational attainment aspirations, study help provided by the family, family accompaniment to school, and family activity at the school. Moreover, this study has provided a better understanding of which community, family, and school factors are associated with the utilization these particular family resources in children’s education.

Framework for family engagement in education.

While family engagement in education cannot alleviate all of the complex issues faced by the Indian education system, its contribution to the system should not be overlooked. The significance of this study is that it provides a framework for better understanding the nature of family engagement in education in Uttar Pradesh, India. While there are undoubtedly other factors that are associated with family engagement in education in India, this framework provides a meaningful starting point in that it offers educational policymakers, researchers, and leaders a foundation for identifying the influences on family educational engagement in Uttar Pradesh and its importance to the Indian education system. Moreover, future research should contribute to this framework by identifying additional factors that are significantly associated with family engagement in education in India. This framework is depicted in Figure 17, which illustrates 1). The

specific factors that are significantly associated with family engagement in education (as identified through this study), 2). The ways that family engagement is a resource in education, including a financial, an academic, and a safety resource, and 3). The benefits that family engagement in education can have for both the family and the education system in India. These three aspects of the family engagement framework are discussed in greater detail in the following sections.

Figure 17. Framework for family engagement in Uttar Pradesh.



Factors associated with family engagement in education and their associated policy implications.

The first level of this model contains the nine factors that were identified through this study as being significantly associated with different practices of family educational engagement. Although the association with each of these factors is unique for each family engagement practice, these factors represent an amalgamation of characteristics that relate either individually or in combination to family engagement. Cooper (2010) speaks to the significance of finding “policy-amenable factors” (p. 480), and similarly, it is important to recognize potential policy linkages with the factors identified through this study. The variables that are discussed below provide a starting point for identifying some of the potential policy implications that these associations may have.

Education level of the household head.

One of the significant variables that was identified through this study was the education level of the household head, and as Chudgar (2009) argued, based on her research:

the findings presented here argue for a greater and simultaneous focus on adult literacy, not just in its own right but also as a part of India’s current pursuit of UEE [universal elementary education]. They certainly do not argue for disinvesting in other areas of education; perhaps resources should be reallocated or reprioritized to address the currently neglected area of adult literacy. (p. 428)

Similar to Chudgar’s identification of the importance of adult literacy in relation to universal elementary education, this study identified the importance of a more educated household head in some practices of family engagement. The findings of this study

substantiate the importance of adult education for the purpose of increased family engagement in some aspects of children's education. The importance of adult education in children's education is something that requires greater attention at the national-level, as Chudgar (2009) asserts that adult illiteracy has been given limited focus and the government has taken initiative to attend to illiteracy, but with less than 1% of the education budget allocated to illiteracy, there perhaps has not been enough poured into tackling this issue.

Age of the school-going child.

Another factor identified through this study that might be relevant to consider is the child's age. Although the child's age itself is not a malleable factor, the way that parents and families interact with their children at different ages might be more open to policy intervention. Referring back to Mapp et al.'s (2008) discussion of family centers, it seems advantageous for funding, either from the national or state government, to be allocated to districts within Uttar Pradesh for the creation of family centers. Although there are many important goals that these centers could carry out, perhaps one of the most expedient aims is to help families understand and utilize age-appropriate strategies for helping their children academically. Along with these family centers, it is also beneficial for districts to have the funding and capacity to provide someone who can act as a middle-person between the families and the school (such as was identified through Rah et al.'s [2009] work). Moreover, it is especially worthwhile for districts to have access to resources and expertise for training this middle-person, either through appropriate

training materials related to family engagement in education, relevant instruction at a local teacher training institution, or coaching from more experienced individuals.

Village of residence.

Finally, another realm for consideration is that of village-level factors that potentially encourage or impede family engagement in education. Through this study, the dummy variables for village of residence—in contrast to their reference category—were identified as having a significant association with a number of different practices of family engagement in education. While further research is necessary to identify the specific village-level factors that are related to family engagement in Uttar Pradesh, consistent educational policies across villages and districts might be helpful in facilitating a culture of family engagement in education among various communities in India. Such policies should be crafted at the state level and mandated for districts across the state. These policies should also specify clear expectations for families about their roles in their children's schools, expectations of schools for engaging the families of their students, training for teachers about family engagement strategies, and evaluation measures for ensuring that districts and schools are adequately engaging families.

While community-level committees are not a novel idea in India (Tilak, 2002), it seems that a greater emphasis on engaging families is necessary if families' involvement in education is to be encouraged and sustained. Tilak (2002) says that after the favorable Constitutional amendment toward *panchayati raj* bodies, as well as the commencement of externally-supported primary education projects, various committees have been established with the local community's participation, including school development

committees, village education committees, and other comparable types of committees at different levels. However, in addition to general associations at the community level, village-level education organizations that are specifically comprised of families and address the needs of families could be of great value.

Family resources for education in Uttar Pradesh.

In addition to identifying factors associated with family engagement in education in the Shravasti district of Uttar Pradesh, the family engagement framework (Figure 15) also illustrates some of the educational resources that family engagement provides, including financial, academic, and safety resources. While family engagement practices contribute to education in ways far beyond these three areas, this study has identified practices that fall into these three particular categories. As educational policymakers, researchers, and leaders consider the multi-faceted and complex needs that face the Indian education system, it is advantageous for them to recognize the various ways that family educational engagement is a resource to be drawn upon. A baseline level of involvement among Shravasti families has been identified across the seven areas of educational involvement considered in this study, and these areas provide opportunities for leveraging the potential of families in the education of their children.

Family ownership of education in India.

Finally, the family engagement framework (Figure 17) identifies family educational engagement as bequeathing a sense of ownership to families, and perhaps one of the most enduring prospects of family educational engagement in India is an enhanced sense of family ownership and responsibility for children's education. This

sense of ownership is especially crucial to preserving the dignity of families as key players in their children's lives and education. Moreover, this sense of ownership is also important if families are to demonstrate a sense of obligation and responsibility toward their children's academic success. This idea is similar to what Goldring and Hausman (1997) affirm about the notion of parental empowerment, which extends beyond involvement, as empowerment represents a mentality and conviction of parents regarding their capacities for educational involvement, including weight in decisions.

In describing the DPEP (District Primary Education Programme) in India, Tilak (2002) says that a result of this program (as well as the policies of economic reform that were brought in since the start of the 1990s) has been a culture of dependence that has affected many areas, including the general population of India, which is an outcome that Tilak laments "as a sad and sudden turn in the history of primary education in independent India" (2002, p. 290). While family engagement in education may not be able to completely reverse this culture of dependence, it can provide one vital means of restoring a sense of agency and responsibility to families and communities in India, at least as it relates to individual families and the education of their own children.

Utility of the Conceptual Framework of the Study

Before turning to the limitations of this study, it is valuable to re-visit the conceptual framework that was set forth in Chapter One of this study. The conceptual framework was premised on an integration of Epstein's overlapping spheres of influence model (1994) and Chudgar's (2006) research related to educational decision-making in India, as well as a set of background factors that were hypothesized to be associated with

family engagement in education. Although Epstein's model (1994) served as the primary schemata for this study's conceptual framework, Chudgar's (2006) research was incorporated into Epstein's model by attending to the influence of the family context, i.e., village of residence, as well as by giving attention to the child-specific factor of gender. Furthermore, the literature review in Chapter Two included an overview of each of the variables included in this study's conceptual framework, providing a basis for examining the specific variables that were included in this study.

While the conceptual framework of this research was helpful in identifying the broad factors that potentially influence family engagement in education, it also had limitations. In terms of the advantages of the conceptual framework of this study, the general components of Epstein's framework appear to be highly transferable across different cultural contexts and settings. Regardless of the cultural setting or geographic location, factors at the family, school, and community levels are vital to consider within research focused on children's education in any part of the world. Moreover, the value of using Epstein's framework within different cultural contexts is evident in the way her model can be adapted to the specific background and time factors that might be important within a particular context. For example, although Epstein's spheres of influence model was useful as an organizing scheme for this study, her model was also adaptable to the inclusion of the specific variables that were available from the dataset that was used for this study. Moreover, based on the independent variables that were found to be significantly associated with family engagement in the Shravasti district, Epstein's model could also be adapted for future research that is used to examine other family, school, and

community variables that potentially relate to family engagement in education in India and beyond.

Second, in terms of the limitations of the conceptual framework of this study, the variables in the framework were constrained by the data that were available through the CARE household survey dataset. For example, additional data about school-level factors related to family engagement may have provided more information about the influential factors in family engagement in Uttar Pradesh. Although this was a constraint of the present study, it does not de-value the utility of Epstein's model for future research pertaining to family engagement in education.

In terms of the additional elements of *context* and *gender* from Chudgar's (2006) work that were incorporated into the conceptual model of this study, future research is necessary in order to explore the potential relationship between gender and family engagement in India, as well as the influence of the community context on Indian families' involvement in their children's education. While a significant effect for child's gender was evident in one of the practices of family engagement, i.e., family help in study, future research in India might be used to explore this issue further, as gender may be a factor that is associated with family engagement in more nuanced ways that were not evident through the data and analyses used for this study. Additionally, future research is also needed to explore specific community-level factors that might influence family engagement in education in India, particularly since specific community-level factors were not a focus of this study. Just as the significance of the broader context in which the family resides is evident through Chudgar's (2006) work, future research related to

family engagement in education should also be used to attend to the impact of the community context on the family.

Re-examination of the Study Hypotheses

Three hypotheses were presented in Chapter One of this study, and it is valuable to return to these hypotheses at the close of this study. The first hypothesis was that family, school, and community factors, as well as the child's age and gender, play a role in determining the level of family educational engagement. The second hypothesis was that the village of residence would exert an influence on the level of family educational engagement. Finally, it was hypothesized that the child's gender would explain some of the variation in family educational engagement.

In terms of the first hypothesis, the findings from this study were used to confirm that factors within all four contexts—child, family, school, and community contexts—are significantly associated with family engagement in children's education in the Shravasti district. In particular, this study substantiates the notion that each of these contexts are important to consider when examining the influences upon family engagement in education. Second, it was hypothesized that the village of residence would be influential, and this study's findings indicated that the dummy variables for village of residence were among the most prevalent factors that had a significant association with different practices of family engagement. In particular, this finding provides a compelling reason for future research that is more strongly focused on how factors within the community context interact with family engagement in education. Finally, the hypothesis that the child's gender would be important to explaining variation in family educational

engagement was supported through this study. However, the child's gender was only significantly and negatively associated with one of the practices of family educational engagement, while the other practices of family involvement examined in this study were not significantly associated with the child's gender.

Limitations of the Study

This study is constrained by a number of different limitations, some of which restrict the findings of this research and some of which provide an opportunity for further inquiry. One limitation of this study is that the data were confined to a limited sample within Uttar Pradesh. With only four villages in the Shravasti district being considered in this study, there remains a significant need to explore family engagement in other districts and regions of India. Moreover, the lack of variability within the data also constrained the findings of this study, as some of the response variables evidenced little variation and the data were particularly skewed for certain response options, such as the school visit variables. Another issue with the survey response options is found in the educational aspiration question (i.e., "Up to what level you will educate"²⁴), as a large number of respondents did not provide an answer to this question, even after being prompted (M. Kumar, Personal communication, May 30, 2011). Other than the fact that some respondents said it was hard to predict the level to which they would educate their child (M. Kumar, Personal communication, May 30, 2011), it is unclear why so many respondents could not provide an answer about the specific level to which they would educate their child.

²⁴ As worded on the CARE India House Hold Profile

Additionally, since the CARE India household survey was not specifically tailored to an examination of family engagement in education, this study was also limited by the amount and types of data that were collected on family engagement topics. For example, information about the frequency of parent-teacher communication and discussion with the child about academic matters was not included in the CARE India household survey data. Future research in India should be used to consider other forms of family engagement in engagement, as well as other independent variables that might be associated with family engagement, such as maternal education or learning/behavioral issues faced by the child. Moreover, future research should also incorporate additional methodologies for exploring the issue of family engagement in the Indian context, including research that utilizes ethnographic and interview methods.

Furthermore, another area to be explored through future research is what institutional factors might be associated with greater levels of family engagement in education in Uttar Pradesh. While this present study examined two factors related to the school context, including the school type (e.g., private, government, other/dual enrollment) and school distance (i.e., as measured in the number of minutes it takes to reach the school), it may be useful for future research to be used in examining the institutional factors are potentially related to family involvement in Uttar Pradesh. This type of examination is particularly important since educators and school leaders are vital in providing leadership for engaging families in their children's education. Research focused at the institutional level can provide greater direction and insight for educators wishing to engage families more effectively. Although it is informative to have an

understanding of what family, child, and community factors potentially influence families' engagement with their children's education, it is also important to have an understanding of the school factors and practices that are associated with increased levels of family engagement, particularly since educators might have more direct control and influence over school-level factors, including things such as the amount of school support that is offered to parents, communication strategies used by teachers and administrators, and relationship-building opportunities with the community.

Conclusion

The enduring importance of the family in India is clearly asserted by Medora (2007), who says,

The family has always been the most salient institution and an integral part of Indian culture. It is the cornerstone and foundation of the Indian community and society. . . .India has been, is, and will probably always be a collectivist society in which the family's needs, interests, and goals supersede those of the individual.
(pp. 173, 189)

By attending to the role that the family plays in education, this study has hopefully contributed to a better understanding of the nature of family engagement in education within one region of Uttar Pradesh, India, as well as to how family engagement is potentially associated with other factors in the family's background and environment. While family engagement in education is by no means an all-encompassing solution the systemic problems that face the education system in India, family engagement represents an important foundation for students' academic success, which is a perspective that is

poignantly elucidated by Dr. Manmohan Singh, the Prime Minister of India. In an address given at the Conference on Empowerment of Dalits and Minorities in 2007, Prime Minister Singh shared,

Let me begin on a personal note. I would not have been what I am today and could not have done what I have been able to do in my life but for the light of education that my family lit for me. As a young adult, I had no other asset or advantage other than the benefit of a good education. That benefit I got both because of my family's commitment to my education and because of the various public scholarships that our State provided for students. . . .My own experience is a testimony to the role that education can play in our people's empowerment.

(Singh, 2007)

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Appendix

Additional Statistical Tables

Research Question #2

Annual expenditure on schooling.

Table 19. Full multiple linear regression model for yearly expenditure on schooling.

	Standardized Beta (β)	<i>F</i>	R^2
Step 1		18.46*	.090
Constant			
Total income	.21*		
Education level of the household head	.18*		
Step 2		41.45*	.309
Constant			
Total income	.17*		
Education level of the household head	.10***		
Child age	.45*		
Child gender	-.12**		
Step 3		22.07*	.352
Constant			
Total income	.18*		
Education level of the household head	.09		
Child age	.47*		
Child gender	-.13**		
Caste			
SC/ST	-.20		
OBC	-.02		
General	-.00		
Religion	.09		
# of school-going children	-.11***		
Step 4		23.27*	.435
Constant			
Total income	.14**		
Education level of the household head	.07		
Child age	.42*		
Child gender	-.08		
Caste			
SC/ST	-.17		
OBC	-.04		
General	-.05		
Religion	.07		
# of school-going children	-.09***		
School type			

Dual enrollment/other	.02		
Private	.27*		
School distance	.13**		.451
Step 5		19.69*	
Constant			
Total income	.14**		
Education level of the household head	.06		
Child age	.42*		
Child gender	-.07		
Caste ²⁵			
SC/ST	-.19		
OBC	-.06		
General	-.03		
Religion	.07		
# of school-going children	-.08		
School type			
Dual enrollment/other	.03		
Private	.25*		
School distance	.14**		
Village			
One	.02		
Two	.14**		
Three	-.00		

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

²⁵ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores, indicating that there is a robust linear relationship that these variables have with other predictor variables (Field, 2009). However, the relationship can likely be attributed to the fact that since these variables are dummy codes, membership in one group will predict exclusion from another group.

Education-level aspirations for the school-going child.

Table 20. Full multiple linear regression model for educational aspirations for the child's level of schooling.

	Standardized Beta (β)	F	R ²
Step 1		16.28*	.079
Constant			
Total income	.06		
Education level of the household head	.26*		
Step 2		11.79*	.111
Constant			
Total income	.05		
Education level of the household head	.24*		
Child age	.17**		
Child gender	-.06		
Step 3		7.49*	.153
Constant			
Total income	.03		
Education level of the household head	.18**		
Child age	.15**		
Child gender	-.05		
Caste			
SC/ST	.09		
OBC	.13		
General	.29		
Religion	-.08		
# of school-going children	.02		
Step 4		6.48*	.174
Constant			
Total income	.01		
Education level of the household head	.18**		
Child age	.17**		
Child gender	-.03		
Caste			
SC/ST	.09		
OBC	.11		
General	.29		
Religion	-.08		
# of school-going children	.03		
School type			
Dual enrollment/other	-.01		
Private	.13**		
School distance	-.08		
Step 5		5.59*	.184
Constant			
Total income	-.00		

Education level of the household head	.17**		
Child age	.17**		
Child gender	-.03		
Caste ²⁶			
SC/ST	.08		
OBC	.11		
General	.26		
Religion	-.08		
# of school-going children	.03		
School type			
Dual enrollment/other	-.03		
Private	.12***		
School distance	-.08		
Village			
One	-.00		
Two	.09		
Three	.10		

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

²⁶ The caste and religion dummy variables evidenced high variance inflation factor (VIF) scores, indicating that there is a robust linear relationship that these variables have with other predictor variables (Field, 2009). However, the relationship can likely be attributed to the fact that since these variables are dummy codes, membership in one group will predict exclusion from another group.

Research Question #3.

Cost spent per year on schooling.

*All independent variables.*²⁷

Table 21. Indirect effects of educational attainment aspirations on the relationship between the following independent variables and the dependent variable of annual education expenditure.

Independent Variable	Data ²⁸	Lower 95% CI ²⁹	Upper 95% CI
Total family income	.0057	.0000	.0157
Household head education level	6.7988	-1.6081	16.0200
Child's age	3.9828	-2.7519	13.6793
Child's gender (n = 390) 7.6183	-20.4446	-76.5829	40.2511
Dummy variable for Scheduled Caste/Scheduled Tribe (n = 389)	-2.6299	-64.6959	71.1772
Dummy variable for Other Backward Caste (n = 389)	8.1229	-25.9632	257.9901
Dummy variable for general Caste (n = 389)	112.5067	-15.9460	106.1800
Religion (n = 389)	24.3816	-18.3692	35.1219
Total school-going Children (n = 390)	14.6068	1.7492	40.2506
Dummy variable for Dual/other school Enrollment (n = 389)	-3.2654	-77.8233	

²⁷ Table represents analyses for each independent variable as it was individually analyzed in a model with the dependent and mediating variables. Dummy variables were analyzed with the other dummy variables serving as covariates in the model.

²⁸ This statistic represents the calculation of the indirect effect, as based on the original sample (SPSS Indirect, 2011).

²⁹ BC (Bias Corrected) confidence interval based on 5,000 bootstrap re-samples

Dummy variable for Private school Enrollment (n = 389)	43.7616	-7.9377	118.7576
Time traveled to school (n = 383)	.7114	-.0352	2.1504
Dummy variable for Village One (n = 390)	16.8112	-19.9052	91.1520
Dummy variable for Village Two (n = 390)	47.9664	3.2953	132.6520
Dummy variable for Village Three (n = 390)	76.3207	8.8566	176.9002

Full models for significant indirect effects.

Dummy variable for Village Two.

Table 22. Mediation model for annual expenditure on schooling: Village Two dummy variable as independent variable, Village One and Three dummy variables as covariates.

Model Summary for Village Two dummy variable as IV		Bootstrap Results for Indirect Effects			
R-square	F statistic (DF)	Indirect Effects TOTAL			
.0622	6.3838* (4, 385)	-----			
		Data	Boot (SE)	Lower 95% CI ³⁰	Upper 95% CI
		47.9664	48.6606 (32.3811)	3.2953	132.6520
	Path a IV to Mediator	Path b Mediator on DV	Path c IV on DV	Path c' IV on DV (with mediator)	
<i>Coefficient (SE)</i>	1.8485*** (.7290)	25.9482** (9.5591)	563.7556* (138.0400)	515.7892* (138.0507)	
Partial Effect of Covariates	<i>Village One dummy variable</i>		<i>Village Three dummy variable</i>		
<i>Coefficient (SE)</i>	202.7675 (159.1607)		320.6678*** (151.4240)		

³⁰ Confidence intervals refer to BC confidence intervals.

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

Sample size for this model: 390

Dummy variable for Village Three.

Table 23. Mediation model for annual expenditure on schooling: Village Three dummy variable as independent variable, Village One and Two dummy variables as covariates.

Model Summary for Village Three dummy variable as IV		Bootstrap Results for Indirect Effects			
R-square	F statistic (DF)	Indirect Effects TOTAL			
.0622	6.3838* (4, 385)	-----			
		Data	Boot (SE)	Lower 95% CI ³¹	Upper 95% CI
		76.3207	76.3588 (42.3723)	8.8566	176.9002
	Path a IV to Mediator	Path b Mediator on DV	Path c IV on DV	Path c' IV on DV (with mediator)	
	Coefficient (SE)	2.9413* (.7923)	25.9482** (9.5591)	396.9886** (150.0133)	320.6678*** (151.4240)
Partial Effect of Covariates	Village One dummy variable		Village Two dummy variable		
	Coefficient (SE)	202.7675 (159.1607)		515.7892* (138.0507)	

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

Sample size for this model: 390

³¹ Confidence intervals refer to BC confidence intervals.

Total school-going children.

Table 24. Mediation model for annual expenditure on schooling: Number of school-going children as independent variable.

Model Summary for number of school-going children as IV		Bootstrap Results for Indirect Effects			
R-square	F statistic (DF)	Indirect Effects TOTAL			
.0280	5.5805** (2, 387)	-----			
		Data	Boot (SE)	Lower 95% CI ³²	Upper 95% CI
		14.6068	14.0476 (8.2393)	1.7492	35.1219
	Path a IV to Mediator	Path b Mediator on DV	Path c IV on DV	Path c' IV on DV (with mediator)	
Coefficient (SE)	.4754*** (.2168)	30.7231** (9.5717)	37.8651 (41.3620)	23.2583 (41.1275)	

* $p < .001$ ** $p < .01$ *** $p < .05$
 Sample size for this model: 390

³² Confidence intervals refer to BC confidence intervals with 5,000 bootstrap re-samples.

Family helps in study.

All independent variables.

Table 25. Indirect effects of educational attainment aspirations on the relationship between the following independent variables and the dependent variable of family study help.

Independent Variable	Data ³³	Lower 95% CI ³⁴	Upper 95% CI
Total Income (n = 398)	.0000	.0000	.0000
Household head education Level (n = 393)	.0122	-.0006	.0285
Child's age (n = 396)	.0233	.0089	.0477
Child's gender (n = 398)	-.0573	-.1709	.0152
Dummy variable for Scheduled Caste/Scheduled Tribe (n = 397)	-.0010	-.1093	.1058
Dummy variable for Other Backward Caste (n = 397)	.0257	-.0539	.1562
Dummy variable for general Caste (n = 397)	.2490	.0455	.5136
Religion (n = 397)	.0598	-.0353	.2014
Total school-going Children (n = 398)	.0293	.0038	.0733
Dummy variable for Dual/other school Enrollment (n = 397)	-.0077	-.1788	.1662
Dummy variable for Private school Enrollment (n = 397)	.1659	.0626	.3279
Time to reach school (n = 391)	.0017	.0001	.0046

³³ This statistic represents the calculation of the indirect effect, as based on the original sample (SPSS Indirect, 2011).

³⁴ BC (Bias Corrected) confidence interval based on 5,000 bootstrap re-samples

Dummy variable for Village One (n = 398)	.0462	-.0478	.1886
Dummy variable for Village Two (n = 398)	.1120	.0221	.2497
Dummy variable for Village Three (n = 398)	.1733	.0526	.3581

Full models for significant indirect effects.

Child age.

Table 26. Mediation model for family help in study: Child age as independent variable.

Model Summary for child age as IV Nagelkerke R-square .0518	Bootstrap Results for Indirect Effects			
	Indirect Effects TOTAL			
	Data	Boot (SE)	Lower 95% CI ³⁵	Upper 95% CI
	.0233	.0237 (.0095)	.0089	.0477
	Path a IV to Mediator	Path b Mediator on DV	Path c IV on DV	Path c' IV on DV (with mediator)
Coefficient (SE)	.3048* (.0754)	.0764* (.0213)	-.0315 (.0297)	-.0563 (.0310)

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

Cox & Snell R-square: .0371

Sample size for this model: 396

³⁵ Confidence intervals refer to BC confidence intervals.

Dummy variable for general caste.

Table 27. Mediation model for family help in study: Dummy variable for general caste as independent variable, Dummy variables for Scheduled caste/Scheduled tribe and Other Backward Caste as covariates.

Model Summary for general caste dummy variable as IV Nagelkerke R-square .0643		Bootstrap Results for Indirect Effects			
		Indirect Effects of IV on DV via Mediator TOTAL			
		Data	Boot (SE)	Lower 95% CI ³⁶	Upper 95% CI
		.2490	.2571 (.1195)	.0455	.5136
	Path <i>a</i> IV to Mediator	Path <i>b</i> Mediator on DV	Path <i>c</i> IV on DV	Path <i>c'</i> IV on DV (with mediator)	
<i>Coefficient (SE)</i>	5.1250* (1.0618)	.0486*** (.0211)	1.2920** (.4298)	1.0608*** (.4420)	
Partial Effect of Covariates	<i>Scheduled Caste/Scheduled Tribe dummy variable</i>		<i>Other Backward Caste dummy variable</i>		
<i>Coefficient (SE)</i>	.1603 (.3933)		.4471 (.3693)		

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

Cox & Snell R-square: .0461.

Sample size for this model: 397

³⁶ Confidence intervals refer to percentile confidence intervals.

Total school-going children.

Table 28. Mediation model for family help in study: Total school-going children as independent variable.

Model Summary for total school-going children as IV		Bootstrap Results for Indirect Effects			
		Indirect Effects TOTAL			
Nagelkerke R-square		Data CI	Boot (SE)	Lower 95% CI ³⁷	Upper 95%
.0537		.0293	.0292 (.0171)	.0038	.0733
	Path <i>a</i> IV to Mediator	Path <i>b</i> Mediator on DV	Path <i>c</i> IV on DV	Path <i>c'</i> IV on DV (with mediator)	
<i>Coefficient (SE)</i>	.4837*** (.2153)	.0606** (.0203)	.2019*** (.0812)	.1747*** (.0829)	

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

Cox & Snell R-square: .0384.

Sample size for this model: 398

³⁷ Confidence intervals refer to BC confidence intervals.

Dummy variable for Village Two

Table 29. Mediation model for family help in study: Dummy variable for Village Two as independent variable, with dummy variable for Villages One and Three as covariates.

Model Summary for Village Two dummy variable as IV Nagelkerke R-square .0637		Bootstrap Results for Indirect Effects			
		Indirect Effects of IV on DV via Mediator TOTAL			
		Data CI	Boot	Lower 95% CI ³⁸	Upper 95%
		.1120	.1136 (.0570)	.0221	.2497
	Path <i>a</i> IV to Mediator	Path <i>b</i> Mediator on DV	Path <i>c</i> IV on DV	Path <i>c'</i> IV on DV (with mediator)	
<i>Coefficient (SE)</i>	1.8694*** (.7234)	.0599** (.0206)	.8152** (.2919)	.7184*** (.2963)	
Partial Effect of Covariates	<i>Village One dummy variable</i>		<i>Village Three dummy variable</i>		
<i>Coefficient (SE)</i>	.7426*** (.3329)		.4989 (.3210)		

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

Cox & Snell R-square: .0456

Sample size for this model: 398

³⁸ Confidence intervals refer to percentile confidence intervals.

Dummy variable for Village Three.

Table 30. Mediation model for family help in study: Village Three dummy variable as independent variable, with dummy variables for Villages One and Two as covariates.

Model Summary for Village Two dummy variable as IV		Bootstrap Results for Indirect Effects			
Nagelkerke R-square		Indirect Effects of IV on DV via Mediator TOTAL			
.0637		-----			
		Data CI	Boot	Lower 95% CI ³⁹	Upper 95%
		.1733	.1758 (.0758)	.0526	.3581
	Path <i>a</i> IV to Mediator	Path <i>b</i> Mediator on DV	Path <i>c</i> IV on DV	Path <i>c'</i> IV on DV (with mediator)	
<i>Coefficient (SE)</i>	2.8932* (.7788)	.0599** (.0206)	.6587*** (.3140)	.4989 (.3210)	
Partial Effect of Covariates	<i>Village One dummy variable</i>		<i>Village Two dummy variable</i>		
<i>Coefficient (SE)</i>	.7426*** (.3329)		.7184*** (.2963)		

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

Cox & Snell R-square: .0456

Sample size for this model: 398

³⁹ Confidence intervals refer to percentile confidence intervals.

School distance.

Table 31. Mediation model for family helps in study: School distance as independent variable.

Model Summary for school distance as IV Nagelkerke R-square .0350		Bootstrap Results for Indirect Effects			
		Indirect Effects TOTAL			
		Data CI	Boot (SE)	Lower 95% CI ⁴⁰	Upper 95%
		.0017	.0018 (.0011)	.0001	.0046
	Path a IV to Mediator	Path b Mediator on DV		Path c IV on DV	Path c' IV on DV (with mediator)
Coefficient (SE)	.0273 (.0142)	.0624** (.0205)		.0018 (.0053)	.0001 (.0053)

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

Cox & Snell R-square: .0251

Sample size for this model: 391

⁴⁰ Confidence intervals refer to BC confidence intervals.

Dummy variable for private school.

Table 32. Mediation model for family helps in study: Private school dummy variable as independent variable, with dual enrollment/other school dummy variable as covariate.

Model Summary for private school dummy variable as IV Nagelkerke R-square .0422	Bootstrap Results for Indirect Effects			
	Indirect Effects TOTAL			
	Data CI	Boot (SE)	Lower 95% CI ⁴¹	Upper 95%
	.1659	.1701 (.0678)	.0626	.3279
	Path a IV to Mediator	Path b Mediator on DV	Path c IV on DV	Path c' IV on DV (with mediator)
<i>Coefficient (SE)</i>	2.4674* (.6468)	.0673** (.0208)	-.0244 (.2479)	-.1937 (.2570)
Partial Effect of Covariate	<i>Other/Dual enrollment school dummy variable</i>			
<i>Coefficient (SE)</i>	-.5270*** (.5298)			

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

Cox & Snell R-square: .0302

Sample size for this model: 397

⁴¹ Confidence intervals refer to BC confidence intervals.

Family accompaniment to school.

All independent variables.

Table 33. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of family accompaniment to school.

Independent Variable	Data⁴²	Lower 95% CI⁴³	Upper 95% CI
Total family income (n = 397)	.0000	.0000	.0000
Household head education Level (n = 392)	.0086	.0033	.0246
Child's age (n = 396)	.0110	.0007	.0284
Child's gender (n = 397)	-.0178	-.0894	.0065
Dummy variable for Scheduled Caste/Scheduled Tribe (n = 396)	-.0037	-.0928	.0382
Dummy variable for Other Backward Caste (n = 396)	.0049	-.0303	.0937
Dummy variable for general Caste (n = 396)	.1074	-.0706	.3327
Religion (n = 396)	.0188	-.0164	.1158
Total school-going children (n = 397)	.0071	-.0088	.0352
Dummy variable for Dual/other school Enrollment (n = 396)	-.0027	-.1067	.0620
Dummy variable for private School enrollment (n = 396)	.0555	-.0219	.1798
Time to reach school (n = 391)	.0006	-.0002	.0025
Dummy variable for Village One (n = 397)	.0203	-.0149	.1288

⁴² This statistic represents the calculation of the indirect effect, as based on the original sample (SPSS Indirect, 2011).

⁴³ BC (Bias Corrected) confidence interval based on 5,000 bootstrap re-samples

Dummy variable for Village Two (n = 397)	.0435	-.0134	.1610
Dummy variable for Village Three (n = 397)	.0747	-.0359	.2233

Full model for significant indirect effects.

Child's age.

Table 34. Mediation model for family accompaniment to school: Child's age as independent variable.

Model Summary for child age as IV		Bootstrap Results for Indirect Effects			
Nagelkerke R-square .0267		Indirect Effects of IV on DV via Mediator TOTAL			

		Data	Boot (SE)	Lower 95% CI ⁴⁴	Upper 95% CI
		.0110	.0111 (.0068)	.0007	.0284
	Path a IV to Mediator	Path b Mediator on DV	Path c IV on DV	Path c' IV on DV (with mediator)	
<i>Coefficient (SE)</i>	.3105* (.0761)	.0356 (.0200)	-.0631*** (.0304)	-.0747*** (.0313)	

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

Cox & Snell R-square: .0192

Sample size for this model: 396

⁴⁴ Confidence intervals refer to percentile confidence intervals.

Table 35. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of visiting the school for a child work-related purpose (fee payment, enrollment, etc.).

Independent Variable	Data⁴⁵	Lower 95% CI⁴⁶	Upper 95% CI
Total income (n = 353)	.0000	.0000	.0000
Household head education Level (n = 348)	-.0066	-.0198	.0050
Child's age (n = 351)	-.0063	-.0234	.0052
Child's gender (n = 353)	.0106	-.0106	.0782
Dummy variable for Scheduled Caste/Scheduled Tribe (n = 352)	.0082	-.0269	.1184
Dummy variable for Other Backward Caste (n = 352)	-.0086	-.1072	.0249
Dummy variable for general Caste (n = 352)	-.1061	-.3208	.0873
Religion (n = 352)	-.0116	-.1135	.0136
Total school-going children (n = 353)	-.0125	-.0486	.0068
Dummy variable for dual/ Other school enrollment (n = 352)	.0062	-.0424	.1369
Dummy variable for private School (n = 352)	-.0522	-.1828	.0496
Travel time to school (n = 345)	-.0004	-.0023	.0005
Dummy variable for Village One (n = 353)	-.0072	-.0956	.0185
Dummy variable for Village Two (n = 353)	-.0295	-.1447	.0493
Dummy variable for Village			

⁴⁵ This statistic represents the calculation of the indirect effect, as based on the original sample (SPSS Indirect, 2011).

⁴⁶ BC (Bias Corrected) confidence interval based on 5,000 bootstrap re-samples

Three (n = 353)	-.0431	-.1768	.0776
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Table 36. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of visiting the school for a meeting.

Independent Variable	Data⁴⁷	Lower 95% CI⁴⁸	Upper 95% CI
Total income (n = 353)	.0000	.0000	.0000
Household head education Level (n = 348)	-.0084	-.0339	.0133
Child's age (n = 351)	-.0071	-.0354	.0165
Child's gender (n = 353)	.0109	-.0305	.1154
Dummy variable for Scheduled Caste/Scheduled Tribe (n = 352)	.0066	-.0420	.1583
Dummy variable for Other Backward Caste (n = 352)	-.0069	-.1453	.0465
Dummy variable for general Caste (n = 352)	-.0849	-.4755	.2853
Religion (n = 352)	-.0111	-.1553	.0358
Total school-going children (n = 353)	-.0127	-.0670	.0261
Dummy variable for dual/ Other school enrollment (n = 352)	.0083	-.0792	.2195
Dummy variable for private School (n = 352)	-.0702	-.3132	.1582
Travel time to school (n = 345)	-.0004	-.0036	.0016
Dummy variable for Village One (n = 353)	-.0061	-.1489	.0444
Dummy variable for Village Two (n = 353)	-.0251	-.2136	.1416
Dummy variable for Village			

⁴⁷ This statistic represents the calculation of the indirect effect, as based on the original sample (SPSS Indirect, 2011).

⁴⁸ BC (Bias Corrected) confidence interval based on 5,000 bootstrap re-samples

Three (n = 353)	-.0366	-.2942	.2033
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Table 37. Indirect effects of educational attainment aspirations on the relationships between the following independent variables and the dependent variable of visiting the school at the request of the teacher.

Independent Variable	Data ⁴⁹	Lower 95% CI ⁵⁰	Upper 95% CI
Total income (n = 353)	.0000	.0000	.0000
Household head education Level (n = 348)	.0009	-.0128	.0159
Child's age (n = 351)	.0057	-.0094	.0246
Child's gender (n = 353)	-.0104	-.0965	.0151
Dummy variable for Scheduled Caste/Scheduled Tribe (n = 352)	-.0069	-.1080	.0282
Dummy variable for Other Backward Caste (n = 352)	.0073	-.0257	.1204
Dummy variable for general Caste (n = 352)	.0895	-.1298	.3539
Religion (n = 352)	.0093	-.0194	.1226
Total school-going children (n = 353)	.0067	-.0181	.0431
Dummy variable for dual/ Other school enrollment (n = 352)	-.0031	-.1221	.0498
Dummy variable for private School (n = 352)	.0259	-.1044	.1809
Travel time to school (n = 345)	-.0004	-.0036	.0016
Dummy variable for Village One (n = 353)	.0055	-.0249	.1005
Dummy variable for Village Two (n = 353)	.0227	-.0732	.1490
Dummy variable for Village			

⁴⁹ This statistic represents the calculation of the indirect effect, as based on the original sample (SPSS Indirect, 2011).

⁵⁰ BC (Bias Corrected) confidence interval based on 5,000 bootstrap re-samples

Three (n = 353)	.0332	-.1049	.198
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Table 38. Coefficients of variation for non-categorical independent variables.

Age of child	0.36
Education level of the household head	1.27
Total monthly income of the family	0.91
Total number of school-going children	0.57
Time to reach school	1.08

Table 39. Correlation of dependent variables.

		Correlations						
		Cost per Year	Up to what level will you educate	Visits school to attend any meeting in which a member	Visits school when presence is needed for child work	Visits school at the request of the teacher for discussion about the child's behavior or study	Family accompaniment to school	Family help in study
Cost per Year	Pearson Correlation	1	.165**	.113*	.043	.042	-.070	-.038
	Sig. (2-tailed)		.001	.036	.430	.441	.168	.453
	N	395	390	345	345	345	390	391
Up to what level will you educate	Pearson Correlation	.165**	1	-.025	-.046	.032	.069	.164**
	Sig. (2-tailed)	.001		.643	.388	.545	.172	.001
	N	390	402	353	353	353	397	398
Visits school to attend any meeting in which a member	Pearson Correlation	.113*	-.025	1	-.018	.063	.079	.012
	Sig. (2-tailed)	.036	.643		.731	.236	.138	.818
	N	345	353	359	359	359	352	351
Visits school when presence is needed for child work	Pearson Correlation	.043	-.046	-.018	1	.066	-.041	-.008
	Sig. (2-tailed)	.430	.388	.731		.214	.445	.886
	N	345	353	359	359	359	352	351
Visits school at	Pearson Correlation	.042	.032	.063	.066	1	-.005	.074

the request of the teacher for discussion about the child's behavior or study	Sig. (2- tailed) N	.441 345	.545 353	.236 359	.214 359		.929 352	.164 351
Family accompani ment to school	Pearson Correlation Sig. (2- tailed) N	-.070 .168 390	.069 .172 397	.079 .138 352	-.041 .445 352	-.005 .929 352	1 402	.039 .435 397
Family help in child's study	Pearson Correlation Sig. (2- tailed) N	-.038 .453 391	.164** .001 398	.012 .818 351	-.008 .886 351	.074 .164 351	.039 .435 397	1 401

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 40. Correlation of independent variables: Age of child correlations.⁵¹

Correlation between <i>age of child</i> and <i>age of child</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	409
Correlation between <i>age of child</i> and <i>time to reach school</i>	
Pearson Correlation	.366**
Significance (2 tailed)	.000
Number	396
Correlation between <i>age of child</i> and <i>gender of child</i>	
Pearson Correlation	-.077
Significance (2 tailed)	.120
Number	409
Correlation between <i>age of child</i> and <i>education level of the household head</i>	
Pearson Correlation	.179**
Significance (2 tailed)	.000
Number	404
Correlation between <i>age of child</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.013
Significance (2 tailed)	.798

⁵¹ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Number	407
Correlation between <i>age of child</i> and <i>dummy code for enrollment in a private school</i>	
Pearson Correlation	.063
Significance (2 tailed)	.208
Number	407
Correlation between <i>age of child</i> and <i>total monthly income of family</i>	
Pearson Correlation	.091
Significance (2 tailed)	.066
Number	409
Correlation between <i>age of child</i> and <i>total school-going children in the household</i>	
Pearson Correlation	.142**
Significance (2 tailed)	.004
Number	409
Correlation between <i>age of child</i> and <i>religion of the household</i>	
Pearson Correlation	.038
Significance (2 tailed)	.445
Number	408
Correlation between <i>age of child</i> and <i>dummy code for residing in Village One</i>	
Pearson Correlation	.114*
Significance (2 tailed)	.021
Number	409

Correlation between <i>age of child and dummy code for residing in Village Two</i>	
Pearson Correlation	-.009
Significance (2 tailed)	.860
Number	409
Correlation between <i>age of child and dummy code for residing in Village Three</i>	
Pearson Correlation	.064
Significance (2 tailed)	.197
Number	409
Correlation between <i>age of child and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	.033
Significance (2 tailed)	.502
Number	408
Correlation between <i>age of child and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.092
Significance (2 tailed)	.065
Number	408
Correlation between <i>age of child and dummy code for belonging to a general caste</i>	
Pearson Correlation	.137**
Significance (2 tailed)	.006
Number	408

Table 41. Correlation of independent variable: Time to reach school correlations.⁵²

Correlation between <i>time to reach school</i> and <i>age of child</i>	
Pearson Correlation	.366**
Significance (2 tailed)	.000
Number	396
Correlation between <i>time to reach school</i> and <i>time to reach school</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	398
Correlation between <i>time to reach school</i> and <i>gender of child</i>	
Pearson Correlation	-.013
Significance (2 tailed)	.799
Number	409
Correlation between <i>time to reach school</i> and <i>education level of the household head</i>	
Pearson Correlation	.218*
Significance (2 tailed)	.000
Number	393
Correlation between <i>time to reach school</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.064

⁵² **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Significance (2 tailed)	.203
Number	397
Correlation between <i>time to reach school and dummy code for enrollment in a private school</i>	
Pearson Correlation	.113*
Significance (2 tailed)	.025
Number	397
Correlation between <i>time to reach school and total monthly income of family</i>	
Pearson Correlation	.074
Significance (2 tailed)	.140
Number	398
Correlation between <i>time to reach school and total school-going children in the household</i>	
Pearson Correlation	.063
Significance (2 tailed)	.207
Number	398
Correlation between <i>time to reach school and religion of the household</i>	
Pearson Correlation	.111*
Significance (2 tailed)	.027
Number	397
Correlation between <i>time to reach school and dummy code for residing in Village One</i>	
Pearson Correlation	.004
Significance (2 tailed)	.939
Number	398

Correlation between <i>time to reach school</i> and <i>dummy code for residing in Village Two</i>	
Pearson Correlation	-.023
Significance (2 tailed)	.650
Number	398
Correlation between <i>time to reach school</i> and <i>dummy code for residing in Village Three</i>	
Pearson Correlation	.135**
Significance (2 tailed)	.007
Number	398
Correlation between <i>time to reach school</i> and <i>dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.038
Significance (2 tailed)	.448
Number	397
Correlation between <i>time to reach school</i> and <i>dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.059
Significance (2 tailed)	.238
Number	397
Correlation between <i>time to reach school</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	.248**
Significance (2 tailed)	.000
Number	397

Table 42. Correlation of independent variables: Gender of child correlations.⁵³

Correlation between <i>gender of child</i> and <i>age of child</i>	
Pearson Correlation	-.077
Significance (2 tailed)	
Number	.120
	409
Correlation between <i>gender of child</i> and <i>time to reach school</i>	
Pearson Correlation	-.013
Significance (2 tailed)	.799
Number	398
Correlation between <i>gender of child</i> and <i>gender of child</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	411
Correlation between <i>gender of child</i> and <i>education level of the household head</i>	
Pearson Correlation	.066
Significance (2 tailed)	.187
Number	406
Correlation between <i>gender of child</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.024
Significance (2 tailed)	

⁵³ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Number	.626
	409
Correlation between <i>gender of child and dummy code for enrollment in a private school</i>	
Pearson Correlation	-.183**
Significance (2 tailed)	.000
Number	409
Correlation between <i>gender of child and total monthly income of family</i>	
Pearson Correlation	-.099*
Significance (2 tailed)	.044
Number	411
Correlation between <i>gender of child and total school-going children in the household</i>	
Pearson Correlation	-.092
Significance (2 tailed)	.063
Number	411
Correlation between <i>gender of child and religion of the household</i>	
Pearson Correlation	.082
Significance (2 tailed)	.099
Number	410
Correlation between <i>gender of child and dummy code for residing in Village One</i>	
Pearson Correlation	.091
Significance (2 tailed)	.066
Number	411

Correlation between <i>gender of child and dummy code for residing in Village Two</i>	
Pearson Correlation	-0.074
Significance (2 tailed)	.134
Number	411
Correlation between <i>gender of child and dummy code for residing in Village Three</i>	
Pearson Correlation	.087
Significance (2 tailed)	.079
Number	411
Correlation between <i>gender of child and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	.021
Significance (2 tailed)	.668
Number	410
Correlation between <i>gender of child and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	.045
Significance (2 tailed)	.366
Number	410
Correlation between <i>gender of child and dummy code for belonging to a general caste</i>	
Pearson Correlation	-0.025
Significance (2 tailed)	.607
Number	410

Table 43. Correlation of independent variables: Education level of the household head correlations.⁵⁴

Correlation between <i>education of the household head and age of child</i>	
Pearson Correlation	.179**
Significance (2 tailed)	.000
Number	404
Correlation between <i>education of the household head and time to reach school</i>	
Pearson Correlation	.218**
Significance (2 tailed)	.000
Number	393
Correlation between <i>education level of the household head and gender of child</i>	
Pearson Correlation	.066
Significance (2 tailed)	.187
Number	406
Correlation between <i>education of the household head and education level of the household head</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	406
Correlation between <i>education of the household head and dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.012
Significance (2 tailed)	

⁵⁴ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Number	.805
	404
Correlation between <i>education level of the household head and dummy code for enrollment in a private school</i>	
Pearson Correlation	.079
Significance (2 tailed)	.111
Number	404
Correlation between <i>education of the household head and total monthly income of family</i>	
Pearson Correlation	.190**
Significance (2 tailed)	.000
Number	406
Correlation between <i>education of the household head and total school-going children in the household</i>	
Pearson Correlation	.140**
Significance (2 tailed)	.005
Number	406
Correlation between <i>education of the household head and religion of the household</i>	
Pearson Correlation	.114*
Significance (2 tailed)	.022
Number	405
Correlation between <i>education of the household head and dummy code for residing in Village One</i>	
Pearson Correlation	.019
Significance (2 tailed)	.697
Number	

	406
Correlation between <i>education of the household head and dummy code for residing in Village Two</i>	
Pearson Correlation	.022
Significance (2 tailed)	.655
Number	406
Correlation between <i>education of the household head and dummy code for residing in Village Three</i>	
Pearson Correlation	.161**
Significance (2 tailed)	.001
Number	406
Correlation between <i>education of the household head and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.100*
Significance (2 tailed)	.045
Number	405
Correlation between <i>education of the household head and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.037
Significance (2 tailed)	.453
Number	405

Correlation between <i>education of the household head and dummy code for belonging to a general caste</i>	
Pearson Correlation	.307**
Significance (2 tailed)	.000
Number	405

Table 44. Correlation of independent variables: Dummy code for enrollment in dual enrollment/other school correlations.⁵⁵

Correlation between <i>dummy code for dual enrollment/other school and age of child</i>	
Pearson Correlation	-.013
Significance (2 tailed)	.798
Number	407
Correlation between <i>dummy code for dual enrollment/other school and time to reach school</i>	
Pearson Correlation	-.064
Significance (2 tailed)	.203
Number	397
Correlation between <i>dummy code for dual enrollment/other school and gender of child</i>	
Pearson Correlation	-.024
Significance (2 tailed)	.626
Number	409
Correlation between <i>dummy code for dual enrollment/other school and education level of the household head</i>	
Pearson Correlation	-.012
Significance (2 tailed)	

⁵⁵ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Number	.805
	404
Correlation between <i>dummy code for dual enrollment/other school</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	409
Correlation between <i>dummy code for dual enrollment/other school</i> and <i>dummy code for enrollment in a private school</i>	
Pearson Correlation	-.140**
Significance (2 tailed)	.005
Number	409
Correlation between <i>dummy code for dual enrollment/other school</i> and <i>total monthly income of family</i>	
Pearson Correlation	-.006
Significance (2 tailed)	.902
Number	409
Correlation between <i>dummy code for dual enrollment/other school</i> and <i>total school-going children in the household</i>	
Pearson Correlation	.043
Significance (2 tailed)	.386
Number	409
Correlation between <i>dummy code for dual enrollment/other school</i> and <i>religion of the household</i>	
Pearson Correlation	-.323**
Significance (2 tailed)	.000
Number	408

Correlation between <i>dummy code for dual enrollment/other school and dummy code for residing in Village One</i>	
Pearson Correlation	.002
Significance (2 tailed)	.967
Number	409
Correlation between <i>dummy code for dual enrollment/other school and dummy code for residing in Village Two</i>	
Pearson Correlation	-.082
Significance (2 tailed)	.097
Number	409
Correlation between <i>dummy code for dual enrollment/other school and dummy code for residing in Village Three</i>	
Pearson Correlation	.159**
Significance (2 tailed)	.001
Number	409
Correlation between <i>dummy code for dual enrollment/other school and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.058
Significance (2 tailed)	.245
Number	408
Correlation between <i>dummy code for dual enrollment/other school and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.126*
Significance (2 tailed)	.011
Number	408

Correlation between <i>dummy code for dual enrollment/other school</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	-.061
Significance (2 tailed)	.217
Number	408

Table 45. Correlation of independent variables: Dummy code for private school enrollment correlations.⁵⁶

Correlation between <i>dummy code for private school</i> and <i>age of child</i>	
Pearson Correlation	.063
Significance (2 tailed)	.208
Number	407
Correlation between <i>dummy code for private school</i> and <i>time to reach school</i>	
Pearson Correlation	.113*
Significance (2 tailed)	.025
Number	397
Correlation between <i>dummy code for private school</i> and <i>gender of child</i>	
Pearson Correlation	-.183**
Significance (2 tailed)	.000
Number	409
Correlation between <i>dummy code for private school</i> and <i>education level of the household head</i>	
Pearson Correlation	.079
Significance (2 tailed)	.111

⁵⁶ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Number	404
Correlation between <i>dummy code for private school</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.140**
Significance (2 tailed)	.005
Number	409
Correlation between <i>dummy code for private school</i> and <i>dummy code for enrollment in a private school</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	409
Correlation between <i>dummy code for private school</i> and <i>total monthly income of family</i>	
Pearson Correlation	.172**
Significance (2 tailed)	.000
Number	409
Correlation between <i>dummy code for private school</i> and <i>total school-going children in the household</i>	
Pearson Correlation	.006
Significance (2 tailed)	.904
Number	409
Correlation between <i>dummy code for private school</i> and <i>religion of the household</i>	
Pearson Correlation	.079
Significance (2 tailed)	.111
Number	408

Correlation between <i>dummy code for private school</i> and <i>dummy code for residing in Village One</i>	
Pearson Correlation	-.069
Significance (2 tailed)	.162
Number	409
Correlation between <i>dummy code for private school</i> and <i>dummy code for residing in Village Two</i>	
Pearson Correlation	.162**
Significance (2 tailed)	.001
Number	409
Correlation between <i>dummy code for private school</i> and <i>dummy code for residing in Village Three</i>	
Pearson Correlation	.049
Significance (2 tailed)	.323
Number	409
Correlation between <i>dummy code for private school</i> and <i>dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.143**
Significance (2 tailed)	.004
Number	408
Correlation between <i>dummy code for private school</i> and <i>dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	.106*
Significance (2 tailed)	.032
Number	408

Correlation between <i>dummy code for private school</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	.118*
Significance (2 tailed)	.018
Number	408

Table 46. Correlation of independent variables: Total monthly family income correlations.⁵⁷

Correlation between <i>total family income</i> and <i>age of child</i>	
Pearson Correlation	.091
Significance (2 tailed)	.066
Number	409
Correlation between <i>total family income</i> and <i>time to reach school</i>	
Pearson Correlation	.074
Significance (2 tailed)	.140
Number	398
Correlation between <i>total family income</i> and <i>gender of child</i>	
Pearson Correlation	-.099*
Significance (2 tailed)	.044
Number	411
Correlation between <i>total family income</i> and <i>education level of the household head</i>	
Pearson Correlation	.190**
Significance (2 tailed)	.000
Number	406

⁵⁷ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlation between <i>total family income and dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.006
Significance (2 tailed)	.902
Number	409
Correlation between <i>total family income and dummy code for enrollment in a private school</i>	
Pearson Correlation	.172**
Significance (2 tailed)	.000
Number	409
Correlation between <i>total family income and total monthly income of family</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	411
Correlation between <i>total family income and total school-going children in the household</i>	
Pearson Correlation	.257**
Significance (2 tailed)	.000
Number	411
Correlation between <i>total family income and religion of the household</i>	
Pearson Correlation	.033
Significance (2 tailed)	.504
Number	410

Correlation between <i>total family income</i> and <i>dummy code for residing in Village One</i>	
Pearson Correlation	-.084
Significance (2 tailed)	.090
Number	411
Correlation between <i>total family income</i> and <i>dummy code for residing in Village Two</i>	
Pearson Correlation	.033
Significance (2 tailed)	.499
Number	411
Correlation between <i>total family income</i> and <i>dummy code for residing in Village Three</i>	
Pearson Correlation	.104*
Significance (2 tailed)	.036
Number	411
Correlation between <i>total family income</i> and <i>dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.084
Significance (2 tailed)	.091
Number	410
Correlation between <i>total family income</i> and <i>dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	.000
Significance (2 tailed)	.998
Number	410

Correlation between <i>total family income and dummy code for belonging to a general caste</i>	
Pearson Correlation	.140 **
Significance (2 tailed)	.005
Number	410

Table 47. Correlation of independent variables: Total school-going children correlations.⁵⁸

Correlation between <i>total school-going children and age of child</i>	
Pearson Correlation	.142 **
Significance (2 tailed)	.004
Number	409
Correlation between <i>total school-going children and time to reach school</i>	
Pearson Correlation	.063
Significance (2 tailed)	.207
Number	398
Correlation between <i>total school-going children and gender of child</i>	
Pearson Correlation	-.092
Significance (2 tailed)	.063
Number	411
Correlation between <i>total school-going children and education level of the household head</i>	
Pearson Correlation	.140 **
Significance (2 tailed)	.005
Number	406

⁵⁸ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlation between <i>total school-going children and dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	.043
Significance (2 tailed)	.386
Number	409
Correlation between <i>total school-going children and dummy code for enrollment in a private school</i>	
Pearson Correlation	.006
Significance (2 tailed)	.904
Number	409
Correlation between <i>total school-going children and total monthly income of family</i>	
Pearson Correlation	.257**
Significance (2 tailed)	.000
Number	411
Correlation between <i>total school-going children and total school-going children in the household</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	411
Correlation between <i>total family income and religion of the household</i>	
Pearson Correlation	-.056
Significance (2 tailed)	.258
Number	410

Correlation between <i>total school-going children and dummy code for residing in Village One</i>	
Pearson Correlation	.087
Significance (2 tailed)	.078
Number	411
Correlation between <i>total school-going children and dummy code for residing in Village Two</i>	
Pearson Correlation	-.084
Significance (2 tailed)	.091
Number	411
Correlation between <i>total school-going children and dummy code for residing in Village Three</i>	
Pearson Correlation	.097*
Significance (2 tailed)	.049
Number	411
Correlation between <i>total school-going children and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.073
Significance (2 tailed)	.140
Number	410
Correlation between <i>total school-going children and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.069
Significance (2 tailed)	.165
Number	410

Correlation between <i>total school-going children and dummy code for belonging to a general caste</i>	
Pearson Correlation	.155**
Significance (2 tailed)	.002
Number	410

Table 48. Correlation of independent variables: Religion correlations.⁵⁹

Correlation between <i>religion and age of child</i>	
Pearson Correlation	.038
Significance (2 tailed)	.445
Number	408
Correlation between <i>religion and time to reach school</i>	
Pearson Correlation	.111*
Significance (2 tailed)	.027
Number	397
Correlation between <i>religion and gender of child</i>	
Pearson Correlation	.082
Significance (2 tailed)	.099
Number	410
Correlation between <i>religion and education level of the household head</i>	
Pearson Correlation	.114
Significance (2 tailed)	.022
Number	405
Correlation between <i>religion and dummy code for enrollment in dual enrollment/other school</i>	

⁵⁹ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Pearson Correlation	-.323**
Significance (2 tailed)	.000
Number	408
Correlation between <i>religion</i> and <i>dummy code for enrollment in a private school</i>	
Pearson Correlation	.079
Significance (2 tailed)	.111
Number	408
Correlation between <i>religion</i> and <i>total monthly income of family</i>	
Pearson Correlation	.033
Significance (2 tailed)	.504
Number	410
Correlation between <i>religion</i> and <i>total school-going children in the household</i>	
Pearson Correlation	-.056
Significance (2 tailed)	.258
Number	410
Correlation between <i>religion</i> and <i>religion of the household</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	410
Correlation between <i>religion</i> and <i>dummy code for residing in Village One</i>	
Pearson Correlation	.108*
Significance (2 tailed)	.029
Number	410

Correlation between <i>religion</i> and <i>dummy code for residing in Village Two</i>	
Pearson Correlation	.076
Significance (2 tailed)	.124
Number	410
Correlation between <i>religion</i> and <i>dummy code for residing in Village Three</i>	
Pearson Correlation	.017
Significance (2 tailed)	.730
Number	410
Correlation between <i>religion</i> and <i>dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	.234**
Significance (2 tailed)	.000
Number	409
Correlation between <i>religion</i> and <i>dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	.349**
Significance (2 tailed)	.000
Number	409
Correlation between <i>religion</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	.152**
Significance (2 tailed)	.002
Number	409

Table 49. Correlation of independent variables: Dummy code for residing in Village One correlations.⁶⁰

Correlation between <i>dummy code for residing in Village One</i> and <i>age of child</i>	
Pearson Correlation	.114*
Significance (2 tailed)	.021
Number	409
Correlation between <i>dummy code for residing in Village One</i> and <i>time to reach school</i>	
Pearson Correlation	.004
Significance (2 tailed)	.939
Number	398
Correlation between <i>dummy code for residing in Village One</i> and <i>gender of child</i>	
Pearson Correlation	.091
Significance (2 tailed)	.066
Number	411
Correlation between <i>dummy code for residing in Village One</i> and <i>education level of the household head</i>	
Pearson Correlation	.019
Significance (2 tailed)	.697
Number	406
Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	.002
Significance (2 tailed)	.967
Number	

⁶⁰ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

	409
Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for enrollment in a private school</i>	
Pearson Correlation	-.069
Significance (2 tailed)	.162
Number	409
Correlation between <i>dummy code for residing in Village One</i> and <i>total monthly income of family</i>	
Pearson Correlation	-.084
Significance (2 tailed)	.090
Number	411
Correlation between <i>dummy code for residing in Village One</i> and <i>total school-going children in the household</i>	
Pearson Correlation	.087
Significance (2 tailed)	.078
Number	411
Correlation between <i>dummy code for residing in Village One</i> and <i>religion of the household</i>	
Pearson Correlation	.108*
Significance (2 tailed)	.029
Number	410
Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for residing in Village One</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	411

Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for residing in Village Two</i>	
Pearson Correlation	-.301**
Significance (2 tailed)	.000
Number	411
Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for residing in Village Three</i>	
Pearson Correlation	-.250**
Significance (2 tailed)	.000
Number	411
Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	.158**
Significance (2 tailed)	.001
Number	410
Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	.015
Significance (2 tailed)	.767
Number	410
Correlation between <i>dummy code for residing in Village One</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	-.108*
Significance (2 tailed)	.029
Number	410

Table 50. Correlation of independent variables: Dummy code for residing in Village Two correlations.⁶¹

Correlation between <i>dummy code for residing in Village Two</i> and <i>age of child</i>	
Pearson Correlation	-0.009
Significance (2 tailed)	.860
Number	409
Correlation between <i>dummy code for residing in Village Two</i> and <i>time to reach school</i>	
Pearson Correlation	-0.023
Significance (2 tailed)	.650
Number	398
Correlation between <i>dummy code for residing in Village Two</i> and <i>gender of child</i>	
Pearson Correlation	-0.074
Significance (2 tailed)	.134
Number	411
Correlation between <i>dummy code for residing in Village Two</i> and <i>education level of the household head</i>	
Pearson Correlation	.022
Significance (2 tailed)	.655
Number	406
Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-0.082
Significance (2 tailed)	

⁶¹ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Number	.097
	409
Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for enrollment in a private school</i>	
Pearson Correlation	.162 **
Significance (2 tailed)	.001
Number	409
Correlation between <i>dummy code for residing in Village Two</i> and <i>total monthly income of family</i>	
Pearson Correlation	.033
Significance (2 tailed)	.499
Number	411
Correlation between <i>dummy code for residing in Village Two</i> and <i>total school-going children in the household</i>	
Pearson Correlation	-.084
Significance (2 tailed)	.091
Number	411
Correlation between <i>dummy code for residing in Village Two</i> and <i>religion of the household</i>	
Pearson Correlation	.076
Significance (2 tailed)	.124
Number	410

Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for residing in Village One</i>	
Pearson Correlation	-.301**
Significance (2 tailed)	.000
Number	411
Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for residing in Village Two</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	411
Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for residing in Village Three</i>	
Pearson Correlation	-.342**
Significance (2 tailed)	.000
Number	411
Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	.034
Significance (2 tailed)	.494
Number	410
Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	.116*
Significance (2 tailed)	.019
Number	410

Correlation between <i>dummy code for residing in Village Two</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	-.140**
Significance (2 tailed)	.005
Number	410

Table 51. Correlation of independent variables: Dummy code for residing in Village Three correlations.⁶²

Correlation between <i>dummy code for residing in Village Three</i> and <i>age of child</i>	
Pearson Correlation	.064
Significance (2 tailed)	.197
Number	409
Correlation between <i>dummy code for residing in Village Three</i> and <i>time to reach school</i>	
Pearson Correlation	.135**
Significance (2 tailed)	.007
Number	398
Correlation between <i>dummy code for residing in Village Three</i> and <i>gender of child</i>	
Pearson Correlation	.087
Significance (2 tailed)	.079
Number	411
Correlation between <i>dummy code for residing in Village Three</i> and <i>education level of the household head</i>	
Pearson Correlation	.161**

⁶² **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Significance (2 tailed)	.001
Number	406
Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	.159**
Significance (2 tailed)	.001
Number	409
Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for enrollment in a private school</i>	
Pearson Correlation	.049
Significance (2 tailed)	.323
Number	409
Correlation between <i>dummy code for residing in Village Three</i> and <i>total monthly income of family</i>	
Pearson Correlation	.104*
Significance (2 tailed)	.036
Number	411
Correlation between <i>dummy code for residing in Village Three</i> and <i>total school-going children in the household</i>	
Pearson Correlation	.097*
Significance (2 tailed)	.049
Number	411
Correlation between <i>dummy code for residing in Village Three</i> and <i>religion of the household</i>	
Pearson Correlation	.017
Significance (2 tailed)	.730
Number	410

Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for residing in Village One</i>	
Pearson Correlation	-.250**
Significance (2 tailed)	.000
Number	411
Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for residing in Village Two</i>	
Pearson Correlation	-.342**
Significance (2 tailed)	.000
Number	411
Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for residing in Village Three</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	411
Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.073
Significance (2 tailed)	.142
Number	410
Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.229**
Significance (2 tailed)	.000
Number	410

Correlation between <i>dummy code for residing in Village Three</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	.452 **
Significance (2 tailed)	.000
Number	410

Table 52. Correlation of independent variables: Dummy code for being affiliated with a Scheduled Caste/Scheduled Tribe correlations.⁶³

Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe</i> and <i>age of child</i>	
Pearson Correlation	.033
Significance (2 tailed)	.502
Number	408
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe</i> and <i>time to reach school</i>	
Pearson Correlation	-.038
Significance (2 tailed)	.448
Number	397
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe</i> and <i>gender of child</i>	
Pearson Correlation	.021
Significance (2 tailed)	.668
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe</i> and <i>education level of the household head</i>	
Pearson Correlation	-.100 *

⁶³ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Significance (2 tailed)	.045
Number	405
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.058
Significance (2 tailed)	.245
Number	408
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for enrollment in a private school</i>	
Pearson Correlation	-.143**
Significance (2 tailed)	.004
Number	408
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and total monthly income of family</i>	
Pearson Correlation	-.084
Significance (2 tailed)	.091
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and total school-going children in the household</i>	
Pearson Correlation	-.073
Significance (2 tailed)	.140
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and religion of the household</i>	
Pearson Correlation	.234**
Significance (2 tailed)	.000
Number	409

Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for residing in Village One</i>	
Pearson Correlation	.158**
Significance (2 tailed)	.001
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for residing in Village Two</i>	
Pearson Correlation	.034
Significance (2 tailed)	.494
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for residing in Village Three</i>	
Pearson Correlation	-.073
Significance (2 tailed)	.142
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.575**
Significance (2 tailed)	.000
Number	410

Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for belonging to a general caste</i>	
Pearson Correlation	-.251**
Significance (2 tailed)	.000
Number	410

Table 53. Correlation of independent variables: Dummy code for Other Backward Caste correlations.⁶⁴

Correlation between <i>dummy code for Other Backward Caste and age of child</i>	
Pearson Correlation	-.092
Significance (2 tailed)	.065
Number	408
Correlation between <i>dummy code for Other Backward Caste and time to reach school</i>	
Pearson Correlation	-.059
Significance (2 tailed)	.238
Number	397
Correlation between <i>dummy code for Other Backward Caste and gender of child</i>	
Pearson Correlation	.045
Significance (2 tailed)	.366
Number	410
Correlation between <i>dummy code for Other Backward Caste and education level of the household head</i>	
Pearson Correlation	-.037

⁶⁴ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Significance (2 tailed)	.453
Number	405
Correlation between <i>dummy code for Other Backward Caste and dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.126*
Significance (2 tailed)	.011
Number	408
Correlation between <i>dummy code for Other Backward Caste and dummy code for enrollment in a private school</i>	
Pearson Correlation	.106*
Significance (2 tailed)	.032
Number	408
Correlation between <i>dummy code for Other Backward Caste and total monthly income of family</i>	
Pearson Correlation	.000
Significance (2 tailed)	.998
Number	410
Correlation between <i>dummy code for Other Backward Caste and total school-going children in the household</i>	
Pearson Correlation	-.069
Significance (2 tailed)	.165
Number	410
Correlation between <i>dummy code for Other Backward Caste and religion of the household</i>	
Pearson Correlation	.349**
Significance (2 tailed)	.000
Number	409

Correlation between <i>dummy code for Other Backward Caste and dummy code for residing in Village One</i>	
Pearson Correlation	.015
Significance (2 tailed)	.767
Number	410
Correlation between <i>dummy code for Other Backward Caste and dummy code for residing in Village Two</i>	
Pearson Correlation	.116*
Significance (2 tailed)	.019
Number	410
Correlation between <i>dummy code for Other Backward Caste and dummy code for residing in Village Three</i>	
Pearson Correlation	-.229**
Significance (2 tailed)	.000
Number	410
Correlation between <i>dummy code for Other Backward Caste and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.575**
Significance (2 tailed)	.000
Number	410
Correlation between <i>dummy code for Scheduled Caste/Scheduled Tribe and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	1
Significance (2 tailed)	.
Number	410

Correlation between <i>dummy code for Other Backward Caste</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	-.348**
Significance (2 tailed)	.000
Number	410

Table 54. Correlation of independent variables: Dummy code for general caste correlations.⁶⁵

Correlation between <i>dummy code for general caste</i> and <i>age of child</i>	
Pearson Correlation	.137**
Significance (2 tailed)	.006
Number	408
Correlation between <i>dummy code for general caste</i> and <i>time to reach school</i>	
Pearson Correlation	.248**
Significance (2 tailed)	.000
Number	397
Correlation between <i>dummy code for general caste</i> and <i>gender of child</i>	
Pearson Correlation	-.025
Significance (2 tailed)	.607
Number	410
Correlation between <i>dummy code for general caste</i> and <i>education level of the household head</i>	
Pearson Correlation	.307**
Significance (2 tailed)	.000

⁶⁵ **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Number	405
Correlation between <i>dummy code for general caste and dummy code for enrollment in dual enrollment/other school</i>	
Pearson Correlation	-.061
Significance (2 tailed)	.217
Number	408
Correlation between <i>dummy code for general caste and dummy code for enrollment in a private school</i>	
Pearson Correlation	.118*
Significance (2 tailed)	.018
Number	408
Correlation between <i>dummy code for general caste and total monthly income of family</i>	
Pearson Correlation	.140**
Significance (2 tailed)	.005
Number	410
Correlation between <i>dummy code for general caste and total school-going children in the household</i>	
Pearson Correlation	.155**
Significance (2 tailed)	.002
Number	410
Correlation between <i>dummy code for general caste and religion of the household</i>	
Pearson Correlation	.152**
Significance (2 tailed)	.002
Number	409

Correlation between <i>dummy code for general caste and dummy code for residing in Village One</i>	
Pearson Correlation	-.108*
Significance (2 tailed)	.029
Number	410
Correlation between <i>dummy code for general caste and dummy code for residing in Village Two</i>	
Pearson Correlation	-.140**
Significance (2 tailed)	.005
Number	410
Correlation between <i>dummy code for general caste and dummy code for residing in Village Three</i>	
Pearson Correlation	.452**
Significance (2 tailed)	.000
Number	410
Correlation between <i>dummy code for general caste and dummy code for belonging to a Scheduled Caste/Scheduled Tribe</i>	
Pearson Correlation	-.251**
Significance (2 tailed)	.000
Number	410
Correlation between <i>dummy code for general caste and dummy code for belonging to an Other Backward Caste</i>	
Pearson Correlation	-.348**
Significance (2 tailed)	.000
Number	410

Correlation between <i>dummy code for general caste</i> and <i>dummy code for belonging to a general caste</i>	
Pearson Correlation	1
Significance (2 tailed)	
Number	410