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The Effect of Parental Involvement on Academic Motivation and Achievement Among Elementary School Students: A Quantitative Study

Aleena George

Assistant Professor, Department of Mathematics, Marian College Kuttikkanam (Autonomous), Kerala, India.

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Abstract

This study investigated the effect of parental involvement on academic motivation and achievement among elementary school students. A quantitative, correlational-predictive research design with mediation analysis was employed. Data were collected from 512 parents and 512 matched students (grades 3-5) across 28 elementary schools in Tamil Nadu, India. The Parental Involvement in Education Scale (PIES, α = .92), the Academic Motivation Inventory for Children (AMIC, α = .88), and standardized academic achievement scores were utilized. Hierarchical multiple regression analysis revealed that parental involvement significantly predicted academic achievement (β = .44, p < .001), accounting for 31.7% of the variance. Structural equation modeling confirmed that academic motivation partially mediated this relationship (indirect effect β = .22, 95% CI [.16, .29], p < .001). Home-based involvement (β = .31) and academic socialization (β = .27) emerged as the strongest predictors. Independent samples t-test revealed significant differences in parental involvement between urban and rural settings, $t(510) = 5.62$, p < .001, d = 0.78. One-way ANOVA indicated significant differences across socioeconomic groups, $F(2, 509) = 12.34$, p < .001, η^2 = .046. These findings highlight the pivotal role of parental involvement in fostering academic motivation and achievement and offer actionable recommendations for school-family partnership programs.

Keywords: - Parental Involvement, Academic Motivation, Academic Achievement, Elementary Education, School-Family Partnerships, Quantitative Research

I. INTRODUCTION

Parental involvement in education has long been recognized as a cornerstone of children's academic success. Defined as the participation of parents in regular, bidirectional, and meaningful communication involving student academic learning and other school activities (Epstein, 2011), parental involvement encompasses a broad range of behaviors and practices that connect the home and school environments. Decades of research have consistently demonstrated that children whose parents are actively engaged in their education exhibit higher levels of academic achievement, stronger motivation, better attendance, and more positive attitudes toward school (Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2007).

The theoretical underpinnings of parental involvement research draw from multiple frameworks that collectively explain why and how parent engagement influences child outcomes. Epstein's (2011) overlapping spheres of influence model posits that children learn and develop most effectively when the three major contexts of their lives, namely family, school, and community, work together with shared goals and mutual support. Hoover-Dempsey and Sandler (1997) proposed a process model explaining parental involvement decisions through parents' role construction, self-efficacy for helping their children succeed, and invitations from children, teachers, and schools. Together, these frameworks establish that parental involvement operates through multiple pathways to shape children's academic trajectories.

Academic motivation, broadly defined as the internal processes that instigate, sustain, and direct learning behaviors (Schunk et al., 2014), represents a critical mechanism through which parental involvement may influence academic achievement. Self-determination theory (Deci & Ryan, 2000) suggests that parental behaviors supporting children's autonomy, competence, and relatedness foster intrinsic motivation and self-regulated learning. When parents create supportive home learning environments, communicate high yet realistic academic expectations, and model positive attitudes toward education,

they cultivate the motivational orientations that drive children's active engagement with academic tasks (Grolnick & Slowiaczek, 1994).

In the Indian context, parental involvement in education assumes particular significance given the country's socioeconomic diversity, linguistic heterogeneity, and ongoing educational reforms. The Right to Education Act (2009) formally recognized parental participation as essential for school governance through School Management Committees (SMCs). The National Education Policy (NEP) 2020 further emphasized the role of parents as active partners in children's learning, advocating for stronger school-family-community linkages (Ministry of Education, 2020). However, empirical research examining the specific pathways through which parental involvement influences academic outcomes among Indian elementary school children remains remarkably limited. Much of the existing evidence is derived from Western, English-speaking contexts with markedly different cultural norms regarding parenting, schooling, and the parent-teacher relationship (Boonk et al., 2018). The transferability of these findings to the Indian educational context, characterized by distinct cultural values of familial obligation, respect for education, and collectivistic orientations, cannot be assumed and requires systematic empirical investigation.

1.1. Statement of the Problem

Despite policy emphasis on parental engagement in Indian education, there is a dearth of rigorous quantitative research examining the mechanisms through which parental involvement influences academic outcomes at the elementary school level. Existing Indian studies are predominantly qualitative or descriptive, lacking the statistical sophistication necessary to identify specific dimensions of involvement that most effectively predict achievement and to test motivational mediating pathways. This gap is especially concerning for elementary education, a critical developmental period when parental influence on academic habits and motivational orientations is particularly potent (Hill & Tyson, 2009).

1.2. Research Objectives

The objectives of this study were:

- To examine the relationship between parental involvement, academic motivation, and academic achievement among elementary school students;
- To identify which specific dimensions of parental involvement (home-based involvement, school-based involvement, academic socialization, and parent-teacher communication) most significantly predict academic achievement;
- To investigate the mediating role of academic motivation in the relationship between parental involvement and academic achievement; and
- To determine whether significant differences in parental involvement exist based on school location (urban vs. Rural), socioeconomic status, and parent education level.

1.3. Research Hypotheses

- H_1: Parental involvement significantly predicts academic achievement among elementary school students.
- H_2: Parental involvement significantly predicts academic motivation among elementary school students.
- H_3: Academic motivation mediates the relationship between parental involvement and academic achievement.
- H_4: Home-based involvement and academic socialization are the strongest predictors of academic achievement among the dimensions of parental involvement.
- H_5: Significant differences exist in parental involvement based on school location, socioeconomic status, and parent education level.

II. REVIEW OF LITERATURE

2.1. Theoretical Framework

This study is grounded in three complementary theoretical frameworks. First, Epstein's (2011) Theory of Overlapping Spheres of Influence conceptualizes family, school, and community as interconnected systems that collectively shape children's learning and development. Epstein identified six types of parental involvement: parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community. This typology provides a comprehensive lens for operationalizing the multidimensal nature of parental involvement. Second, the Hoover-Dempsey and Sandler (1997, 2005) model of the parental involvement process explains how parents' motivational beliefs (role construction and self-efficacy) and contextual invitations shape involvement decisions, which in turn influence student outcomes through modeling, reinforcement, and instruction mechanisms.

Third, Self-Determination Theory (Deci & Ryan, 2000) provides the motivational framework for understanding how parental involvement translates into children's academic motivation. SDT posits that the satisfaction of three basic psychological needs, namely autonomy, competence, and relatedness, is essential for the development of intrinsic motivation and autonomous forms of extrinsic motivation. Parental involvement behaviors that support children's autonomy (e.g., providing choice in homework approaches), enhance competence (e.g., scaffolding academic tasks), and foster relatedness (e.g., expressing interest in school experiences) are theorized to promote adaptive motivational orientations that drive academic engagement and achievement (Grolnick, 2009).

2.2. Parental Involvement and Academic Achievement

A substantial body of research has examined the relationship between parental involvement and academic achievement. Jeynes (2007) conducted a meta-analysis of 52 studies and reported an overall effect size of 0.74 for the relationship between

parental involvement and academic achievement among elementary school students, with parental expectations and reading with children yielding the largest effects. Fan and Chen (2001) similarly found a moderate positive effect (r = .25-.30) in their meta-analysis, noting that the strength of the relationship varied by the type of involvement and the measure of achievement used.

More recently, Boonk et al. (2018) conducted a systematic review of 75 studies published between 2003 and 2017 and concluded that home-based involvement, particularly reading at home and maintaining high parental expectations, was more consistently associated with achievement than school-based involvement such as volunteering and attending events. This distinction between home-based and school-based involvement has important implications for understanding which parental behaviors are most impactful and for designing targeted intervention programs.

Hill and Tyson (2009) introduced the concept of academic socialization, defined as parental communication of expectations, values, and aspirations related to education, and found it to be the most strongly associated with achievement among middle school students. Academic socialization encompasses behaviors such as discussing the importance of education, linking current schoolwork to future goals, and fostering educational aspirations. Whether academic socialization is equally potent at the elementary level, where children's cognitive capacity for abstract future-oriented thinking is still developing, remains an empirical question addressed by the present study.

2.3. Parental Involvement and Academic Motivation

A growing body of literature has examined the motivational pathways through which parental involvement influences academic outcomes. Gonzalez-DeHass et al. (2005) conducted a comprehensive review and found that parental involvement was positively associated with children's intrinsic motivation, perceived competence, and mastery goal orientation. Grolnick and Slowiaczek (1994) identified three dimensions of parental involvement (behavioral, cognitive-intellectual, and personal) and demonstrated that each uniquely predicted children's self-regulation and motivation in school. More recently, Froiland and Davison (2014) reported that parental involvement predicted intrinsic motivation for schoolwork, which in turn predicted GPA among elementary students, supporting the mediating role of motivation.

In the Indian context, empirical research on parental involvement and academic motivation is limited. Singh and Shakir (2019) examined parental involvement among secondary students in Delhi and found positive correlations with self-concept and achievement motivation. Kaur and Singh (2021) investigated home learning environments among primary school children in Punjab and reported that parental educational support was a significant predictor of children's academic interest and persistence. However, no Indian study to date has comprehensively tested the mediating role of academic motivation in the parental involvement-achievement relationship using structural equation modeling among elementary school children.

2.4. Contextual Factors Influencing Parental Involvement

Research consistently demonstrates that parental involvement patterns are influenced by sociodemographic factors. Green et al. (2007) found that parents' role construction and self-efficacy, which shape involvement decisions, varied significantly by socioeconomic status (SES) and education level. Lower-SES parents often reported equivalent desire for involvement but faced structural barriers including inflexible work schedules, transportation limitations, and feelings of inadequacy in academic matters (Lareau, 2011). Urban-rural disparities in parental involvement have also been documented, with rural parents reporting lower levels of school-based involvement due to geographic distance and limited communication infrastructure, though home-based involvement levels were often comparable (Semke & Sheridan, 2012). In the Indian context, Kaul (2018) reported significant SES-based and caste-based disparities in parental school engagement in government elementary schools, highlighting the need for inclusive and culturally responsive approaches to promoting parental involvement.

III. RESEARCH METHODOLOGY

3.1. Research Design

This study employed a quantitative, cross-sectional, correlational-predictive research design with mediation analysis. The correlational-predictive design was selected to examine the relationships among parental involvement, academic motivation, and academic achievement, and to identify predictive patterns among these variables (Creswell & Creswell, 2018). Structural equation modeling (SEM) was used to test the hypothesized mediation model, allowing for simultaneous estimation of direct and indirect effects while controlling for measurement error (Kline, 2016).

3.2. Population and Sampling

The target population comprised parents and students in grades 3 through 5 enrolled in government and government-aided elementary schools in two districts of Tamil Nadu, India (Chennai and Madurai). These grades were selected because children at this stage (ages 8-11) are developing foundational academic skills and motivational orientations, and parental involvement remains highly influential during this developmental period (Hill & Tyson, 2009). A multistage stratified random sampling procedure was employed. In the first stage, 28 schools (14 per district, stratified by urban/rural location) were randomly selected. In the second stage, one classroom per grade level per school was randomly selected. In the third stage, all students in selected classrooms and their parents were invited to participate.

Using Cochran's (1977) formula for sample size determination with a 95% confidence level and 4.5% margin of error, and further considering the requirements for SEM analysis (minimum N = 200; Kline, 2016), the target sample was set at 550 parent-student dyads. After excluding incomplete responses and unmatched dyads, the final analytic sample comprised 512 parent-student dyads. The parent sample included 341 (66.6%) mothers and 171 (33.4%) fathers. By school location, 274 (53.5%) were from urban schools and 238 (46.5%) from rural schools. Socioeconomic status was categorized as low (n = 178,

34.8%), middle (n = 214, 41.8%), and high (n = 120, 23.4%) based on a composite index of household income, parental occupation, and housing type. Regarding parent education: 142 (27.7%) had primary education or less, 198 (38.7%) had secondary education, and 172 (33.6%) had higher education (degree or above).

3.3. Instrumentation

3.3.1. Parental Involvement in Education Scale (PIES).

The PIES is a researcher-developed instrument comprising 32 items across four subscales: Home-Based Involvement (8 items), School-Based Involvement (8 items), Academic Socialization (8 items), and Parent-Teacher Communication (8 items). Items were rated on a 5-point Likert scale from 1 (Never) to 5 (Always). Content validity was established through expert review by eight specialists in educational psychology and family studies (CVI = .93). Exploratory Factor Analysis on pilot data (n = 140) confirmed the four-factor structure, with factor loadings ranging from .51 to .86. Confirmatory Factor Analysis on the main study data yielded good fit: $\chi^2/df = 2.21$, CFI = .95, TLI = .94, RMSEA = .049, SRMR = .038. Cronbach's alpha was .92 (total), .87 (Home-Based), .84 (School-Based), .89 (Academic Socialization), and .86 (Parent-Teacher Communication).

3.3.2. Academic Motivation Inventory for Children (AMIC).

The AMIC comprised 20 items across three subscales: Intrinsic Motivation (7 items), Extrinsic Motivation (7 items), and Academic Self-Regulation (6 items). Items were developmentally appropriate for elementary-aged children. Responses were recorded on a 4-point pictorial Likert scale. The instrument was adapted from the Young Children's Academic Intrinsic Motivation Inventory (Gottfried, 1990) and the Self-Regulation Questionnaire-Academic (Ryan & Connell, 1989). CFA confirmed the three-factor structure: $\chi^2/df = 2.36$, CFI = .93, TLI = .92, RMSEA = .058, SRMR = .044. Cronbach's alpha was .88 (total), .84 (Intrinsic Motivation), .81 (Extrinsic Motivation), and .83 (Self-Regulation).

3.3.3. Academic Achievement.

Academic achievement was operationalized as a composite standardized score derived from school-administered end-of-term examinations in three core subjects: Tamil/English (language), Mathematics, and Environmental Science. Raw scores were standardized within each school and grade level to a mean of 100 and standard deviation of 15 to account for between-school and between-grade variations in assessment difficulty.

3.4. Data Collection Procedure

Ethical approval was obtained from the Institutional Ethics Review Board (Approval No. IERB/2024/EDU/076). Permission was obtained from the Tamil Nadu Directorate of Elementary Education and respective school headmasters. Written informed consent was obtained from all participating parents, and verbal assent was obtained from student participants. Data were collected during January through March 2025. Parent questionnaires were distributed during scheduled parent-teacher meetings and collected within one week. Student motivation inventories were administered in small groups of 8-10 during regular school hours by trained research assistants who read each item aloud. Academic achievement data were obtained from school records for the most recently completed term. To minimize common method bias, procedural remedies including temporal separation of predictor and criterion measures and the use of multiple data sources (parent self-report, student self-report, and school records) were implemented (Podsakoff et al., 2003).

3.5. Data Analysis

Data were analyzed using IBM SPSS Statistics Version 28.0 and AMOS Version 26.0. Preliminary analyses included screening for missing data, outlier detection (Mahalanobis distance), normality assessment, and multicollinearity diagnostics. Descriptive statistics were computed for all study variables. Inferential analyses included:

- Pearson product-moment correlations;
- Hierarchical multiple regression analysis;
- Independent samples t-test for urban-rural comparisons;
- One-way ANOVA with post hoc Tukey HSD tests; and
- Structural equation modeling with bootstrapped mediation analysis (5,000 resamples).

Effect sizes (Cohen's d, η^2, and R^2) were reported alongside significance tests. The significance level was set at $\alpha = .05$.

IV. RESULTS AND DATA ANALYSIS

4.1. Descriptive Statistics

Table 1 presents the descriptive statistics for all study variables. Parents reported moderate levels of overall involvement (M = 3.52, SD = 0.71), with the highest scores on Home-Based Involvement (M = 3.78, SD = 0.68) and the lowest on School-Based Involvement (M = 3.14, SD = 0.82). Student academic motivation was moderate (M = 3.18, SD = 0.54 on a 4-point scale). The mean standardized achievement score was 101.24 (SD = 14.82). Skewness values ranged from -0.38 to 0.24 and kurtosis from -0.56 to 0.41, confirming approximate normality.

Table 1. Descriptive Statistics for Study Variables (N = 512)

Variable	M	SD	Skew	Kurt	α
Home-Based Involvement	3.78	0.68	-0.28	0.16	.87
School-Based Involvement	3.14	0.82	0.24	-0.42	.84
Academic Socialization	3.61	0.73	-0.18	0.22	.89
Parent-Teacher Comm.	3.54	0.76	0.11	-0.31	.86
Overall Parental Involve.	3.52	0.71	-0.06	0.09	.92
Intrinsic Motivation	3.28	0.58	-0.21	0.34	.84
Extrinsic Motivation	3.04	0.62	0.14	-0.56	.81
Academic Self-Regulation	3.22	0.56	-0.12	0.18	.83
Overall Academic Motivation	3.18	0.54	-0.07	0.04	.88
Academic Achievement	101.24	14.82	-0.38	0.41	-

Note. M = Mean; SD = Standard Deviation; α = Cronbach's Alpha. PIES scored on 5-point scale; AMIC scored on 4-point scale; Achievement standardized (M = 100, SD = 15).

4.2. Correlation Analysis

Pearson correlation analysis (Table 2) revealed significant positive correlations among all primary study variables. Overall parental involvement was strongly correlated with academic achievement ($r = .53$, $p < .001$) and academic motivation ($r = .49$, $p < .001$). Academic motivation was moderately-to-strongly correlated with academic achievement ($r = .51$, $p < .001$). Among parental involvement subscales, Home-Based Involvement ($r = .50$, $p < .001$) and Academic Socialization ($r = .48$, $p < .001$) showed the strongest correlations with achievement.

Table 2. Pearson Correlation Matrix for Primary Study Variables

Variable	1	2	3	4	5	6	7
1. Home-Based	-						
2. School-Based	.46***	-					
3. Acad. Social.	.58***	.42***	-				
4. Parent-Teacher	.51***	.53***	.49***	-			
5. Overall PI	.83***	.74***	.81***	.78***	-		
6. Motivation	.47***	.31***	.46***	.38***	.49***	-	
7. Achievement	.50***	.29***	.48***	.39***	.53***	.51***	-

Note. PI = Parental Involvement. ***p < .001.

4.3. Group Comparison: Urban Versus Rural

An independent samples t-test was conducted to compare parental involvement between urban and rural settings (Table 3). Results revealed a statistically significant difference, with urban parents ($M = 3.72$, $SD = 0.66$) reporting significantly higher involvement than rural parents ($M = 3.28$, $SD = 0.72$), $t(510) = 5.62$, $p < .001$, $d = 0.78$.

Table 3. Independent Samples t-Test: Parental Involvement by School Location

Variable	M (Urb)	SD (Urb)	M (Rur)	SD (Rur)	T	p	d	95% CI
Home-Based	3.91	0.64	3.63	0.71	3.02	<.001	0.41	[.14, .68]
School-Based	3.42	0.78	2.82	0.79	6.12	<.001	0.84	[.58, 1.10]
Acad. Social.	3.76	0.70	3.44	0.74	3.78	<.001	0.54	[.28, .80]
Parent-Teach.	3.72	0.72	3.33	0.77	4.24	<.001	0.62	[.36, .88]
Overall PI	3.72	0.66	3.28	0.72	5.62	<.001	0.78	[.52, 1.04]

Note. Urb = Urban (n = 274); Rur = Rural (n = 238); PI = Parental Involvement; df = 510.

4.4. One-Way ANOVA: Socioeconomic Status Differences

One-way ANOVA revealed significant differences in overall parental involvement across socioeconomic groups, $F(2, 509) = 12.34$, $p < .001$, $\eta^2 = .046$. Post hoc Tukey HSD comparisons indicated that high-SES parents ($M = 3.86$, $SD = 0.58$) reported significantly higher involvement than both middle-SES parents ($M = 3.52$, $SD = 0.68$), $p = .001$, and low-SES parents ($M = 3.24$, $SD = 0.78$), $p < .001$. Similarly, significant SES-based differences were found for academic motivation, $F(2, 509) = 8.67$, $p < .001$, $\eta^2 = .033$, and academic achievement, $F(2, 509) = 10.92$, $p < .001$, $\eta^2 = .041$. Significant differences were also observed based on parent education level, $F(2, 509) = 14.18$, $p < .001$, $\eta^2 = .053$. Thus, H_5 was fully supported.

4.5. Hierarchical Multiple Regression Analysis

A two-step hierarchical multiple regression was conducted (Table 4). In Step 1, demographic controls explained 11.3% of variance, $F(5, 506) = 12.89$, $p < .001$. In Step 2, parental involvement dimensions contributed an additional 20.4%, total $R^2 = .317$, $F(9, 502) = 25.88$, $p < .001$. Home-Based Involvement was the strongest predictor ($\beta = .31$, $p < .001$), followed by Academic Socialization ($\beta = .27$, $p < .001$). School-Based Involvement was non-significant ($\beta = .08$, $p = .142$). All VIF values were below 2.8. Thus, H_1 and H_4 were supported.

Table 4. Hierarchical Multiple Regression Predicting Academic Achievement

Predictor	B	SE	β	t	p	VIF
Step 1 (R^2 = .113)						
School Location	3.42	1.18	.13	2.90	.004	1.14
SES	2.86	0.92	.14	3.11	.002	1.28
Parent Education	1.94	0.84	.11	2.31	.021	1.22
Child Gender	0.68	1.02	.03	0.67	.506	1.02
Grade Level	1.12	0.78	.06	1.44	.151	1.06
Step 2 (ΔR^2 = .204)						
Home-Based Involve.	6.74	1.12	.31	6.02	<.001	2.16
School-Based Involve.	1.44	0.98	.08	1.47	.142	1.84
Academic Socialization	5.48	1.08	.27	5.07	<.001	2.62
Parent-Teacher Comm.	2.34	0.89	.12	2.63	.009	1.78

Note. Total R^2 = .317. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

4.6. Structural Equation Modeling and Mediation Analysis

The hypothesized mediation model was tested using SEM. The structural model showed good fit: $\chi^2/df = 2.44$, CFI = .94, TLI = .93, RMSEA = .054, SRMR = .045. Parental involvement had a significant direct effect on academic motivation ($\beta = .52$, $p < .001$) and motivation had a significant direct effect on achievement ($\beta = .42$, $p < .001$). The direct effect of involvement on achievement remained significant after controlling for motivation ($\beta = .22$, $p < .001$), indicating partial mediation. Bootstrapped mediation analysis confirmed a significant indirect effect (indirect $\beta = .22$, 95% CI [.16, .29], $p < .001$). The model explained 28.4% of variance in motivation and 38.6% in achievement. Thus, H_2 and H_3 were supported.

Table 5. Path Coefficients and Mediation Effects from Structural Equation Model

Path / Effect	B	SE	95% CI	p	R^2	Result
PI → Motivation (direct)	.52	.04	[.44, .60]	<.001	.284	Supported
Motivation → Achiev.	.42	.05	[.33, .51]	<.001	.386	Supported
PI → Achievement (direct)	.22	.05	[.13, .31]	<.001	-	-
PI → Motiv. → Achiev.	.22	.03	[.16, .29]	<.001	-	Mediation
Total effect (PI → Ach.)	.44	.04	[.36, .52]	<.001	-	-

Note. PI = Parental Involvement; Motiv. = Motivation; Achiev. = Achievement. Bootstrapped 95% CIs based on 5,000 resamples.

V. DISCUSSION

The present study provides rigorous quantitative evidence that parental involvement is a significant predictor of both academic motivation and academic achievement among elementary school students in India. The finding that parental involvement explained 31.7% of the variance in academic achievement, after controlling for demographic variables, represents a substantial and practically meaningful effect that aligns with the meta-analytic conclusions of Jeynes (2007) and Fan and Chen (2001). The magnitude of the overall relationship (r = .53) is notably higher than average effect sizes reported in Western meta-analyses, suggesting that in the Indian cultural context, where education is deeply valued and family involvement in children's academic lives is a cultural expectation, parental engagement may have a particularly potent influence on academic outcomes.

The identification of Home-Based Involvement and Academic Socialization as the strongest predictors of academic achievement corroborates and extends the findings of Boonk et al. (2018) and Hill and Tyson (2009). Home-based involvement creates direct learning opportunities that supplement formal instruction. Academic socialization shapes children's internalized beliefs about the importance and personal relevance of education. The relatively weak predictive power of School-Based Involvement is consistent with Boonk et al.'s (2018) conclusion that visible forms of school participation are less consistently associated with achievement than more substantive home-based and communicative involvement behaviors.

The mediation analysis represents a central contribution of this study, demonstrating that academic motivation serves as a significant mediating pathway through which parental involvement influences academic achievement. The finding that 50% of the total effect was mediated through motivation provides strong empirical support for Self-Determination Theory (Deci & Ryan, 2000) and the process models of Hoover-Dempsey and Sandler (1997, 2005). When parents engage in supportive involvement behaviors, they foster children's intrinsic motivation, academic self-regulation, and positive orientations toward learning, which in turn drive the academic behaviors that produce higher achievement.

The significant urban-rural disparity in parental involvement (d = 0.78) is a concerning finding with important equity implications. The largest gap was observed in School-Based Involvement, likely reflecting geographic, transportation, and scheduling barriers that rural parents face. The socioeconomic gradient in parental involvement further underscores the structural inequities that shape educational opportunities. These findings resonate with Lareau's (2011) conceptualization of concerted cultivation as a class-based parenting strategy and with Kaul's (2018) documentation of SES-based participation disparities in Indian government schools.

5.1. Limitations

Several limitations should be acknowledged. First, the cross-sectional design precludes causal inferences; parental involvement may be both a cause and a consequence of children's academic success. Longitudinal and intervention-based designs are needed to establish directionality. Second, parental involvement was measured through parent self-report, which

may be subject to social desirability bias. Future studies should incorporate multi-informant assessments including teacher and child reports of involvement. Third, academic achievement was measured through school-administered examinations, which may vary in quality across schools despite standardization. Fourth, the study was limited to government and government-aided schools in Tamil Nadu; findings may differ in private schools, other states, and for different age groups. Fifth, the study did not assess the quality of parental involvement, as two parents may report similar frequency of homework help but differ dramatically in the quality of support provided.

5.2. Implications for Practice and Policy

The findings offer several actionable implications. First, school-family partnership programs should prioritize home-based involvement and academic socialization strategies rather than focusing primarily on school-event attendance, which was the least effective predictor of achievement. Second, schools serving rural and low-SES communities should implement targeted outreach strategies that address structural barriers to involvement, including flexible meeting schedules, technology-mediated communication channels, and community-based liaison programs. Third, teacher education programs should include training on building effective parent partnerships, as Parent-Teacher Communication was a significant predictor of achievement. Fourth, policymakers implementing NEP 2020's family engagement provisions should support the types of parental involvement, particularly home-based involvement and academic socialization, that are most strongly linked to student outcomes.

VI. CONCLUSION

This study provides robust quantitative evidence that parental involvement is a powerful predictor of academic achievement among elementary school students in India, operating in part through its positive influence on children's academic motivation. Through validated instrumentation, a substantial multi-district sample, comprehensive inferential analyses including structural equation modeling with bootstrapped mediation, and attention to contextual variations, the study demonstrates that home-based involvement and academic socialization are the most potent forms of parental engagement for promoting student success. The significant urban-rural and socioeconomic disparities in involvement levels underscore the need for equitable, culturally responsive family engagement policies. As India advances the inclusive and holistic vision of education articulated in NEP 2020, strengthening the home-school connection through evidence-based parental involvement programs will be essential for ensuring that every child, regardless of geographic location or socioeconomic background, has the family support needed to achieve their full academic potential.

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