

Educational Inequality and Social Capital: A Mixed-Methods Study of Access and Participation in Public Education Systems

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DOI: <https://doi.org/10.63084/cognexus.v2i2.300>

Abstract

Educational inequality persists despite global policy commitments to equitable access, extending beyond enrolment disparities to encompass unequal classroom participation, resource availability, and institutional support. While socio-economic factors have traditionally been considered primary determinants, growing evidence indicates that social capital — the resources embedded in social relationships, such as family support, peer relationships, and teacher encouragement also plays an important role in shaping educational experiences. Grounded in Social Capital Theory, this study explores how students, teachers, and education functionaries perceive the role of social capital in educational access and participation within public education systems. Consistent with its exploratory, descriptive design, the study characterises perceptions and patterns rather than testing causal relationships. A convergent parallel mixed-methods design was employed. Quantitative data were collected from 45 students using a structured questionnaire measuring family support, educational resources, classroom participation, and educational aspirations, analysed through descriptive statistics. Qualitative data were obtained through semi-structured interviews with five teachers and two education functionaries and analysed using thematic analysis. Findings indicate that students perceived high levels of family support ($M = 4.25$), educational resource availability ($M = 4.21$), classroom participation ($M = 4.04$), and very high educational aspirations ($M = 4.41$). Teacher interviews suggested that parental encouragement, peer interaction, inclusive teaching, mentoring, and institutional support are perceived to support engagement. However, first-generation learners and economically disadvantaged students continue facing barriers including limited parental guidance, financial constraints, inadequate resources, and psychological challenges. The study suggests that strengthening social capital through family-school partnerships, inclusive institutional practices, mentoring programmes, and equitable policy implementation may support educational participation and help reduce inequality; these are interpretive propositions rather than tested causal claims. The findings contribute to Social Capital Theory while offering practical recommendations for policymakers, educators, and institutions committed to equitable and inclusive education.

Keywords: Educational inequality; Social capital; Educational access; Classroom participation; Family support; Educational equity; Mixed-methods research

1. Introduction

Education is universally recognized as a powerful instrument for individual empowerment, social mobility, economic development, and social justice. Ensuring equitable access to quality education has become a global priority, reflected in the United Nations Sustainable Development Goal 4, which advocates inclusive and equitable quality education for all (United Nations, 2015; UNESCO, 2021). In India, the National Education Policy (NEP) 2020 similarly emphasizes inclusion, equity, and learner-centred education as essential components of educational transformation.

Despite these commitments, educational inequality remains a major concern across public education systems worldwide (OECD, 2023; World Bank, 2022). Educational inequality extends beyond disparities in enrolment or achievement to encompass unequal opportunities to access resources, participate actively in learning, receive institutional support, and achieve positive outcomes (UNESCO, 2021). Students from economically disadvantaged families, rural communities, first-generation backgrounds, and marginalized groups frequently experience multiple barriers, financial hardship, inadequate learning resources, limited parental support, and reduced access to academic guidance (OECD, 2023).

Traditional explanations of educational inequality have focused on economic resources and institutional factors such as infrastructure, teacher availability, and public expenditure. While these remain significant, contemporary research increasingly recognizes that educational experiences are associated with social relationships and support systems (Bourdieu, 1986; Coleman, 1988; Putnam, 2000). Social capital - the resources embedded within social relationships that facilitate cooperation, provide access to information, offer emotional support, and create developmental opportunities has therefore emerged as a critical framework for understanding how networks, trust, family relationships, and institutional support relate to educational success. Students possessing stronger social capital are generally more likely to access opportunities, participate confidently, and demonstrate higher aspirations than those with weaker support networks (Coleman, 1988; Fan & Williams, 2022).

Within the Indian context, although enrolment has improved substantially through the Right to Education Act (2009), Samagra Shiksha, PM eVIDYA, and NEP 2020, disparities persist between urban and rural learners, advantaged and disadvantaged students, and first-generation and continuing-generation learners. Unlike many studies examining inequality primarily through economic or structural perspectives, this research adopts a broader social perspective by integrating the experiences of students, teachers, and education functionaries within a single mixed-methods framework. By triangulating statistical findings with lived experiences, the study provides a holistic understanding of how social capital is associated with educational participation and offers evidence-based guidance for achieving educational equity.

Literature Review and Theoretical Framework

Educational Inequality and Access

Educational inequality is multidimensional, extending beyond financial disadvantage to disparities in access to qualified teachers, digital technologies, learning materials, parental guidance, and supportive environments (UNESCO, 2021; OECD, 2023; Reimers, 2022; Schleicher, 2023). These inequalities are associated with academic performance, confidence, motivation, classroom participation, and long-term aspirations. Within developing countries, students from rural communities, economically disadvantaged households, first-generation backgrounds, and marginalized groups frequently encounter limited resources and inadequate institutional support, which are associated with lower participation and achievement (World Bank, 2022). Researchers increasingly argue that educational equity should be evaluated not merely through enrolment statistics but through learners' ability to participate meaningfully in educational processes. Educational access itself is now understood as encompassing physical, financial, academic, psychological, digital, and social dimensions (UNESCO, 2021; OECD, 2023; World Bank, 2022).

Social Capital Theory: Integrating Bourdieu, Coleman, and Putnam

Social Capital Theory provides one of the most influential frameworks for explaining educational participation, arguing that individuals derive important benefits from relationships, networks, trust, cooperation, and shared norms rather than economic resources or individual ability alone (Coleman, 1988). Pierre Bourdieu (1986) conceptualized social capital as the aggregate of actual and potential resources linked to durable networks of institutionalized relationships. According to Bourdieu, educational systems often reproduce existing inequalities because families with greater economic and cultural resources also possess stronger social networks supporting educational success. Students from educated families benefit from better academic guidance, greater awareness of opportunities, stronger expectations, and wider professional networks, whereas first-generation and disadvantaged learners often possess weaker networks that limit participation despite equal formal access (Bourdieu, 1986; Lareau, 2021).

James S. Coleman (1988) extended the concept by emphasizing the functional role of relationships in facilitating educational achievement. Coleman argued that trust, reciprocal relationships, parental involvement, and community engagement create supportive environments enhancing academic performance. Unlike Bourdieu, who emphasized inequality reproduction, Coleman viewed social capital as a positive resource capable of improving outcomes through collaboration among families, schools, and communities (Coleman, 1988; Fan & Williams, 2022). Robert D. Putnam (2000) further broadened the concept by linking social capital with civic engagement and institutional trust, distinguishing between bonding social capital developing among individuals of similar backgrounds

and providing emotional support and bridging social capital connecting individuals across diverse groups to enable access to broader opportunities, mentoring, and institutional resources (Putnam, 2000; Woolcock, 1998).

Together, these complementary perspectives provide a comprehensive explanation of how social relationships relate to educational opportunities. Family relationships constitute bonding social capital offering emotional support and guidance, while teachers and institutional programmes develop bridging social capital connecting disadvantaged learners with opportunities unavailable through immediate family networks. Educational institutions therefore should not merely provide instruction but strengthen collaborative relationships among teachers, families, communities, and policymakers to promote equity.

Empirical Evidence on Social Capital and Educational Participation

Recent empirical studies consistently demonstrate positive relationships between social capital and educational outcomes. Parental involvement became increasingly important for maintaining educational continuity after the COVID-19 pandemic, particularly in digital learning environments, with students receiving stronger family support showing higher motivation, better attendance, and improved achievement (OECD, 2023). Research within developing countries indicates that first-generation learners frequently experience barriers related to financial limitations, limited parental educational experience, and inadequate institutional guidance; however, mentoring programmes, counselling services, scholarships, and inclusive teaching are associated with improved participation among disadvantaged learners (World Bank, 2022; Hattie, 2023). Within India, studies examining NEP 2020 implementation suggest that although enrolment has improved considerably, inequalities remain evident in classroom participation, digital access, aspirations, and institutional support, emphasizing that strengthening collaboration among families, schools, and communities is essential for equitable outcomes.

Table 1. *Summary of Selected Literature*

Author(s)	Focus	Major Findings	Relevance to Present Study
Bourdieu (1986)	Social Capital	Social networks reproduce educational advantages	Provides theoretical foundation
Coleman (1988)	Family & Community	Trust and relationships improve achievement	Supports family support dimension
Putnam (2000)	Community Networks	Civic engagement strengthens institutions	Explains institutional collaboration
UNESCO (2021)	Educational Equity	Equal access requires equal participation	Supports access framework

World Bank (2022)	Educational Recovery	Disadvantaged learners need institutional support	Supports policy implications
OECD (2023)	Student Well-being	Family engagement improves participation	Supports quantitative findings

Research Gap

Although previous studies have substantially advanced understanding of educational inequality, several gaps remain. First, many investigations examine economic disadvantage, infrastructure, or achievement while paying less attention to social capital as a multidimensional determinant of participation. Second, most studies focus on either students or teachers independently, with limited research simultaneously incorporating students, teachers, and education functionaries. Third, existing research frequently relies on either quantitative surveys or qualitative interviews alone, with few employing mixed-methods approaches integrating descriptive statistics with thematic analysis. Finally, despite NEP 2020's emphasis on equity, limited empirical evidence explains how family support, institutional practices, and social relationships collectively relate to participation within public education systems. This study addresses these gaps through a mixed-methods design grounded in Social Capital Theory examining access and participation from multiple stakeholder perspectives.

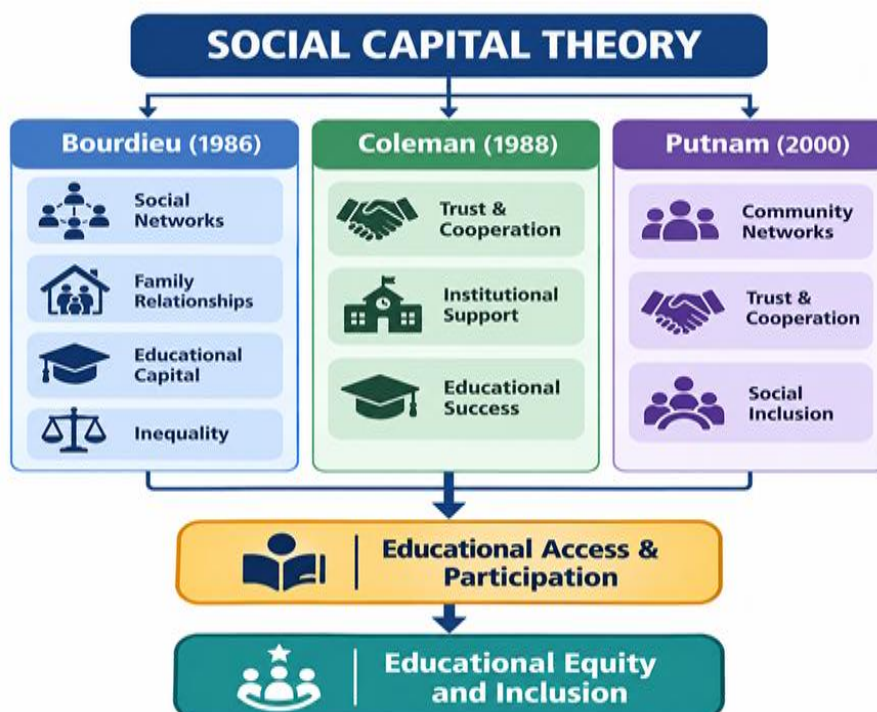
Figure 1. Research Gap Framework



Theoretical and Conceptual Framework

This study is grounded in Social Capital Theory, drawing upon the foundational works of Bourdieu (1986), Coleman (1988), and Putnam (2000). Unlike economic capital (financial resources) or cultural capital (educational knowledge and competencies), social capital represents the resources embedded within social relationships that individuals mobilize to achieve personal and collective goals. In educational settings, social capital is reflected through supportive family relationships, constructive teacher-student interactions, peer collaboration, institutional support, and community engagement, facilitating access to information, emotional encouragement, academic guidance, and opportunities that enhance participation and achievement. The three theorists offer distinct but complementary lenses: Bourdieu explains how networks reproduce advantage and inequality, Coleman demonstrates how trust and relationships function to improve outcomes, and Putnam distinguishes the bonding and bridging mechanisms through which social capital operates.

Figure 2. Theoretical Foundation of the Study

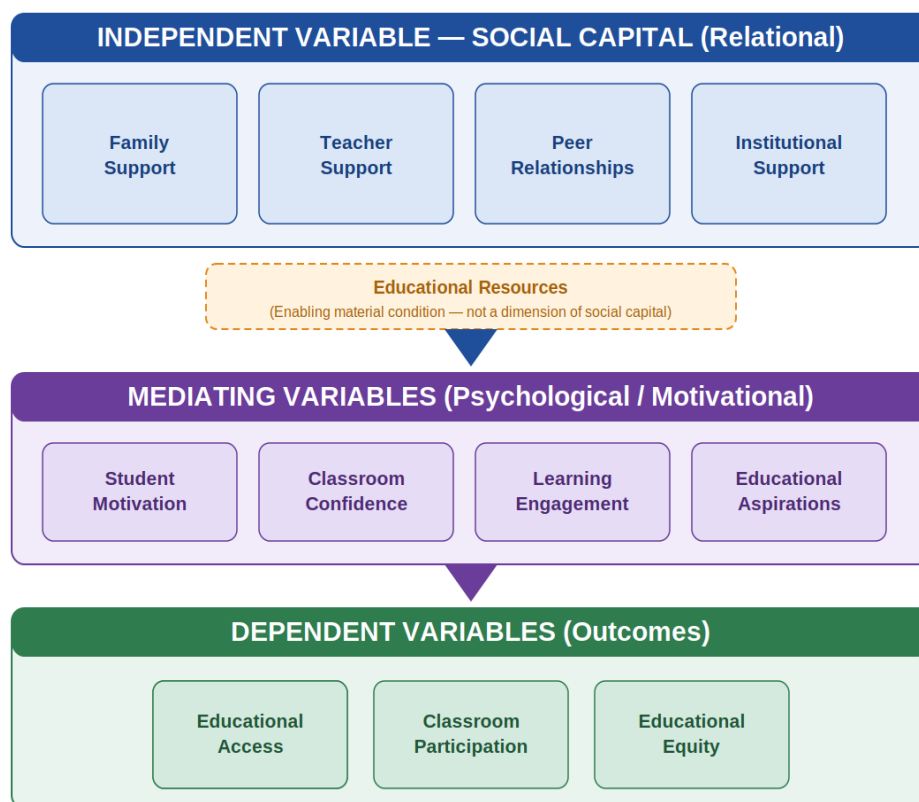


Conceptual Framework

The conceptual framework treats social capital as the independent variable and educational access and participation as the dependent variables, with student motivation, classroom confidence, learning engagement, and aspirations functioning as mediating (psychological and motivational) factors. Learning engagement is treated solely as a mediating process and is not also classified as an outcome. Social capital is defined here as resources embedded in relational ties (family, teacher, peer, and

institutional support) and is kept conceptually distinct from material and economic resources; educational resources are therefore treated as an enabling material condition rather than as a dimension of social capital itself. Figure 3 has been redrawn so that the visual model matches this written framework exactly: learning engagement now appears only under the mediating variables, and educational resources are shown as a separate enabling condition rather than alongside the relational social-capital variables. The framework proposes that the relational dimensions of social capital- family support, teacher support, peer relationships, and institutional support- together with educational resources (an enabling material condition), collectively relate to participation, engagement, and equity through mediating psychological and motivational processes.

Figure 3. Conceptual Framework



Research Objectives and Questions

The study examined the association between family support and participation; the relationship between educational resources and access; the role of classroom participation in engagement; students' educational aspirations; teachers' perceptions of how social capital relates to inequality; institutional practices contributing to equity; and policy recommendations for reducing inequality. Correspondingly, six research questions guided the inquiry:

(RQ1) How is family support associated with participation?

(RQ2) What role do educational resources play in access?

(RQ3) How are teacher support and classroom environment associated with participation?

(RQ4) What challenges continue affecting participation despite improved access?

(RQ5) How do teachers perceive the relationship between social capital and inequality?

(RQ6) What institutional interventions can strengthen equity?

Table 2. *Alignment of Research Objectives, Variables, and Data Sources*

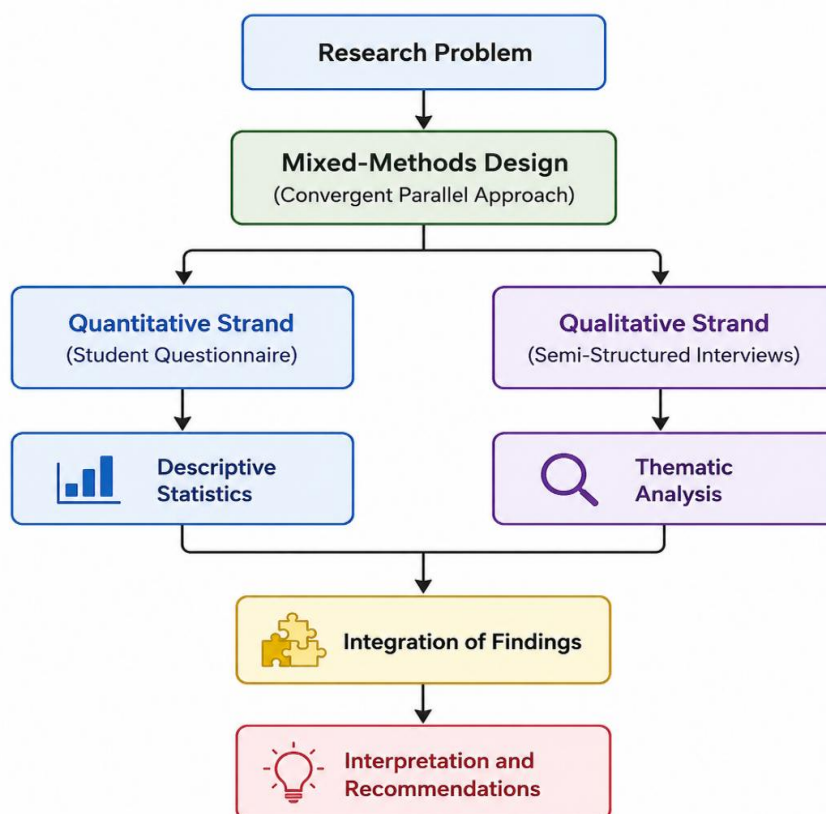
Research Objective	Variable(s)	Data Source	Analysis Technique
Examine family support	Family Support	Student Survey	Descriptive Statistics
Assess educational resources	Educational Resources	Student Survey	Mean & Frequency
Evaluate classroom participation	Classroom Participation	Student Survey	Descriptive Statistics
Analyse educational aspirations	Educational Aspirations	Student Survey	Mean Analysis
Explore teacher perceptions	Social Capital Themes	Teacher Interviews	Thematic Analysis
Recommend policy interventions	Integrated Findings	Quant + Qual Data	Triangulation

Research Methodology

Design, Philosophy, and Approach

The study adopted a convergent parallel mixed-methods design, in which quantitative and qualitative data were collected during the same period, analysed independently, and integrated during interpretation (Creswell & Creswell, 2018; Creswell & Plano Clark, 2018). This design strengthens credibility through methodological triangulation and enables comparison between statistical trends and stakeholder perspectives. The research was guided by a pragmatic philosophy, which recognizes that no single approach fully captures complex educational phenomena and permits combining methods according to research objectives. A deductive approach guided the quantitative component, measuring constructs derived from Social Capital Theory, while an inductive approach allowed themes to emerge from qualitative interviews, enabling both theory testing and theory enrichment.

Figure 4. *Convergent Parallel Mixed-Methods Design*



Population, Sampling, and Instruments

Purposive sampling was employed for both strands. The quantitative sample comprised 45 students who met the inclusion criteria a size appropriate for descriptive analysis focused on frequencies, percentages, means, and standard deviations rather than inferential testing. The qualitative sample included 5 teachers and 2 education functionaries possessing firsthand knowledge of educational practices and policy implementation, enabling rich, context-specific insights. The study was conducted in Shahjahanpur district of Uttar Pradesh, India, an area comprising both rural and urban localities. Participating students were enrolled at the undergraduate level in public institutions. The inclusion criteria were: (i) currently enrolled in an undergraduate programme; (ii) aged 18 years or above; and (iii) willing to provide informed consent. Purposive recruitment prioritised students from rural backgrounds, first-generation learners, and those from middle- and lower-income families, so that the sample would reflect the populations most relevant to questions of educational access and equity. Of the 45 students, 23 were first-generation learners. In terms of gender, 19 participants were male and 26 were female. Most participants' parents had completed formal education at the graduate level, while a smaller proportion had studied only up to the higher-secondary level or below. The data were collected through a structured questionnaire measuring four constructs (family support, educational resources, classroom participation, and educational aspiration) using five-point Likert scales,

coded so that 1 = strongly disagree and 5 = strongly agree; higher mean scores therefore indicate stronger agreement (i.e., higher perceived support, resources, participation, or aspirations). No items required reverse-scoring. Each construct comprised the following number of items: family support (5 items), educational resources (4 items), classroom participation (4 items), and educational aspiration (3 items) — 16 items in total. These item counts correspond exactly to the statements reported in Tables 5–8, and the Cronbach's alpha value for each scale was calculated from these same items. A semi-structured interview covered educational inequality, family involvement, institutional support, student motivation, policy implementation, and barriers experienced by participants.

Items were adapted from established instruments corresponding to each construct. Family-support items were adapted from the parental-support dimension of the Barai and Saha Parental Behaviour Inventory (Barai & Saha, 2021), with the conceptualisation of family relationships as social capital informed by Coleman (1988). Educational-resource items were adapted from the OECD/PISA Home Educational Resources (HEDRES) framework (OECD, 2001, 2017), together with researcher-developed items covering access to learning materials and academic guidance. Classroom-participation items were adapted from the behavioural-engagement dimension of the Student Engagement in Schools Questionnaire (SESQ; Hart, Stewart, & Jimerson, 2011) and informed by Fredricks, Blumenfeld, and Paris (2004). Educational-aspiration items were adapted from the Future Goals and Aspirations subscale of the Student Engagement Instrument (SEI; Appleton, Christenson, Kim, & Reschly, 2006). All items were contextualised for the Indian public-education setting and reviewed for content validity (see Section 4.3). Construct scores reported in Tables 5–8 are simple averages of their constituent items. Category labels were assigned using fixed, equal-interval mean bands: 1.00–1.80 = “Very Low”, 1.81–2.60 = “Low”, 2.61–3.40 = “Moderate”, 3.41–4.20 = “High”, and 4.21–5.00 = “Very High”.

Missing data were not encountered: the questionnaire was administered through Google Forms with all items set as required responses, so incomplete forms could not be submitted; all 45 returned responses were complete, and no imputation or case deletion was necessary. Internal-consistency reliability was assessed for each multi-item scale using Cronbach's alpha (Family Support $\alpha = .91$; Educational Resources $\alpha = .92$; Classroom Participation $\alpha = .89$; Educational Aspirations $\alpha = .91$), all indicating high internal consistency.

Table 3. Sample Distribution

Participant Category	Number	Data Collection Method
Students	45	Structured Questionnaire
Teachers	5	Semi-Structured Interview
Education Functionaries	2	Semi-Structured Interview

Total Participants	52	Mixed Methods
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Validity, Data Analysis, and Ethics

To establish content validity, the draft questionnaire with items adapted from frameworks proposed by Bourdieu (1986), Coleman (1988), Putnam (2000), and Epstein (2018) was reviewed by three experts in education, educational research, and questionnaire design, who evaluated relevance, clarity, coverage, and alignment with objectives; minor revisions improved wording and readability. Given the exploratory nature and limited sample, advanced construct validation such as factor analysis was not undertaken. Quantitative data were entered into IBM SPSS and analysed using frequency distribution, percentage analysis, means, and standard deviations. Interviews lasted approximately 30 minutes, were audio-recorded with participant consent, and were transcribed verbatim. Transcripts were analysed using thematic analysis following Braun and Clarke's (2006) six-step framework: familiarization, initial coding, theme generation, refinement, definition, and reporting. Coding was carried out by the first author, with a subset of transcripts independently coded by the second author; themes were reviewed by both authors through repeated re-reading of the transcripts and discussion to reconcile coding differences and reach consensus, thereby establishing the credibility of the analysis. Ethical principles were maintained throughout — informed consent was obtained, participation was voluntary, confidentiality and anonymity were preserved, and findings were reported without fabrication or selective reporting.

Table 4. *Summary of Research Methodology*

Component	Description
Research Design	Convergent Parallel Mixed-Methods
Research Philosophy	Pragmatism
Research Approach	Deductive (Quantitative) + Inductive (Qualitative)
Population	Students, Teachers, Education Functionaries
Sample Size	45 Students, 5 Teachers, 2 Functionaries
Sampling Technique	Purposive Sampling
Quantitative Analysis	Frequency, Percentage, Mean, SD (SPSS)
Qualitative Analysis	Thematic Analysis (Braun & Clarke, 2006)
Ethics	Informed Consent, Confidentiality, Voluntary Participation

Results

Quantitative Findings

The 45 student respondents represented varied educational and socio-economic backgrounds, providing an appropriate basis for examining differences in access and participation. Analysis across the four constructs revealed consistently high perceptions (Tables 5–8). Family support recorded an overall mean of 4.25 (SD = 0.84), indicating students generally perceived strong parental encouragement, academic monitoring, and future support. Educational resources showed a mean of 4.21 (SD = 0.83), suggesting adequate access to learning materials, digital resources, and institutional facilities. Classroom participation recorded a mean of 4.04 (SD = 0.82), reflecting confidence in expressing ideas and engaging in discussions. Educational aspirations achieved the highest mean of 4.41 (SD = 0.81), demonstrating strong commitment to higher education.

Table 5. Family Support

Statement	Mean	SD	Interpretation
My parents encourage me to continue my education.	4.58	0.94	Very High
My family discusses my studies with me.	4.31	0.92	Very High
My family motivates me to perform well in college.	4.36	0.88	Very High
My family provides a positive home environment for my studies.	4.22	1.08	Very High
Someone at home helps me with my college work.	3.80	1.20	High
Overall Mean	4.25	0.84	Very High

The high family support score supports Coleman's (1988) proposition that strong family relationships constitute valuable social capital enhancing engagement, functioning as both emotional and informational capital enabling active participation (Coleman, 1988; OECD, 2023; Fan & Williams, 2022).

Table 6. Educational Resources

Statement	Mean	SD	Interpretation
I have access to textbooks when needed.	4.36	0.93	Very High
I have a suitable place for studying.	4.20	0.89	High

I can access learning material outside school.	4.04	1.00	High
I receive academic guidance when required.	4.24	0.91	Very High
Overall Mean	4.21	0.83	Very High

Although resources were perceived as adequate overall, qualitative evidence revealed considerable variation between urban and rural settings, with economically disadvantaged students struggling to access digital devices and connectivity — indicating persistent resource inequality despite positive aggregate perceptions (UNESCO, 2021; World Bank, 2022).

Table 7. Classroom Participation

Statement	Mean	SD	Interpretation
I actively participate in classroom discussions.	3.98	1.08	High
I ask questions during lessons.	3.91	0.97	High
I participate in school activities.	4.11	0.86	High
I feel confident expressing my ideas.	4.18	0.96	High
Overall Mean	4.04	0.82	High

While participation was high overall, interviews revealed that first-generation and economically weaker learners remained hesitant due to language barriers, limited confidence, and fear of making mistakes, reinforcing the importance of inclusive pedagogy and psychologically safe environments (Hattie, 2023; OECD, 2023).

Table 8. Educational Aspirations

Statement	Mean	SD	Interpretation
I want to continue my education after school.	4.40	0.91	Very High
I believe education will improve my future.	4.51	0.92	Very High
I have clear educational goals.	4.33	0.88	Very High
Overall Mean	4.41	0.81	Very High

Educational aspirations recorded the highest score, supporting the argument that aspirations are shaped by access to social and cultural capital; students receiving stronger encouragement and institutional support demonstrated greater commitment to long-term achievement (Bourdieu, 1986; Reimers, 2022).

Table 9. Summary of Mean Scores across Constructs

Construct	Mean	SD	Interpretation
Family Support (5 items)	4.25	0.84	Very High
Educational Resources (4 items)	4.21	0.83	Very High
Classroom Participation (4 items)	4.04	0.82	High
Educational Aspirations (3 items)	4.41	0.81	Very High

Note: All means and standard deviations were computed from the first 45 valid student responses, with items coded 1 = strongly disagree to 5 = strongly agree. Interpretation labels were assigned using the fixed cut-off bands stated in Section 4.2; because the “Very High” band begins at 4.21, Family Support (4.25), Educational Resources (4.21), and Educational Aspirations (4.41) are labelled “Very High”, and Classroom Participation (4.04) is labelled “High”.

Qualitative Findings

Thematic analysis of interviews generated five major themes illustrating how social capital is perceived to relate to participation. Family support emerged as a central theme: all five teachers reported that family background affects student participation, and both functionaries rated family support as “very” or “most” important. Teacher mentoring guidance, constructive feedback, and emotional support was repeatedly identified, with three of the five teachers recommending stronger counselling and mentoring services. Inclusive classroom practices, including interactive and student-centred pedagogy, were named by several teachers as the main way institutions support disadvantaged learners. Institutional support such as scholarships, remedial programmes, and counselling benefited disadvantaged learners. Finally, continuing barriers, limited academic guidance at home, financial hardship, limited access to learning resources, communication and social-interaction difficulties, psychological hurdles, and, at the system level, programmes that succeed “on paper but not on the ground” persisted despite institutional improvements.

The following verbatim excerpts, drawn directly from the interview transcripts and identified only by anonymous labels, illustrate each theme.

On family support:

“Yes, family background affects participation — peer interaction, students' behaviour and family support are the main factors that influence how they take part in class.” (Teacher 5)

On teacher mentoring and institutional support:

“Financial assistance and scholarships help, but what really makes a difference is strengthening counselling and mentoring services for these students.” (Teacher 2)

On inclusive classroom practices:

“Inclusive teaching practice, along with parent and institute engagement, is how we support disadvantaged students — through inclusive curriculum, academic support services and counselling.” (Teacher 3)

On barriers facing first-generation learners:

“The main challenges first-generation learners face are limited academic guidance at home and financial issues.” (Teacher 2)

On resource and digital inequality (added to evidence the resource theme):

“The most prevalent inequality is around technology tools, and rural students face the greatest barriers.” (Education Functionary 1)

On systemic inequality and family capacity (policy perspective):

“Family support is most important, but at the same time, when a family is unable to earn and meet its basic needs, how can we expect them to support their children's educational development? Many good programmes were successful on paper but not on the ground.” (Education Functionary 2)

Table 10. Themes Emerging from Interviews

Theme	Description	Representative Finding
Family Support	Parents encourage academic success	Strong involvement improves motivation
Teacher Mentoring	Guidance and emotional support	Mentoring increases confidence
Inclusive Practices	Student-centred pedagogy	Interactive teaching promotes engagement
Institutional Support	Scholarships and counselling	Assistance benefits disadvantaged learners
Barriers to Participation	Financial & psychological challenges	First-generation learners need support

Integration of Quantitative and Qualitative Findings

Integrating the two strands showed both convergence and important divergence. The high quantitative scores for family support ($M = 4.25$), educational resources ($M = 4.21$), classroom participation ($M = 4.04$), and educational aspirations ($M = 4.41$) describe the sample as a whole, and the interviews help

explain why these averages are high while also revealing sub-groups for whom the averages do not hold. The strongest convergence was for family support: the quantitative score was high, and all five teachers independently confirmed that family background shapes participation, while both functionaries rated family support as highly important.

The clearest divergence concerned resources and participation. Although students rated educational resources highly on average, Education Functionary 1 identified technology tools as the most prevalent form of inequality and named rural students as the most affected, and two teachers cited limited access to learning resources as a core challenge for first-generation learners. Similarly, although average participation was high, teachers pointed to communication and social-interaction difficulties (Teacher 1) and psychological hurdles (Teacher 4) that specifically affect first-generation learners. The qualitative strand therefore qualifies the quantitative picture: positive averages coexist with real digital, material, and confidence-related gaps concentrated among disadvantaged and rural students.

Educational aspirations were the highest-scoring construct quantitatively, but the interviews did not directly address aspirations; instead, participants stressed conditions that could prevent high aspirations from translating into outcomes — chiefly financial hardship (Teacher 2) and the observation that support cannot be expected from families who cannot meet basic economic needs (Education Functionary 2). This finding is therefore reported as a single-strand quantitative result whose real-world realisation depends on the barriers the qualitative data identify, rather than as a point of direct convergence. Taken together, this pattern of partial convergence and targeted qualification enhances credibility and demonstrates the value of the mixed-methods design: the survey shows generally positive perceptions, while the interviews locate precisely where inequality persists.

To make the integration explicit, Table 9a presents a joint display linking each quantitative result to the specific interview evidence that confirms, qualifies, or is unaddressed by the qualitative strand, together with an integrated interpretation grounded in the participants' own statements.

Table 9a. *Joint Display: Integration of Quantitative and Qualitative Findings*

Quantitative Finding	Corresponding Qualitative Evidence (from interviews)	Relationship Between Strands	Integrated Interpretation
Family support high (M = 4.25, Very High)	All five teachers said family background affects participation; both functionaries rated family support very/most important; Functionary 2 noted families who cannot meet basic needs cannot fully support study.	Confirm (with qualification)	Families strongly value education, but the capacity to support it is constrained where basic economic needs are unmet.

Educational resources high (M = 4.21, Very High)	Functionary 1 named technology tools as the most prevalent inequality and rural students as most affected; Teachers 3 and 5 cited limited access to learning resources for first-generation learners.	Qualify / partially contradict	High average perceptions mask persistent digital and material inequality concentrated among rural and first-generation students.
Classroom participation high (M = 4.04, High)	Teacher 1 cited communication and social-interaction difficulties; Teacher 4 cited psychological hurdles; first-generation learners described as more hesitant.	Qualify	High average participation coexists with quieter, less confident first-generation learners who need inclusive, psychologically safe pedagogy.
Educational aspirations very high (M = 4.41, Very High)	Not directly addressed in interviews; participants instead highlighted financial hardship (Teacher 2) and unmet family basic needs (Functionary 2) as obstacles to continuation.	Not addressed by qualitative strand (single-strand finding)	Aspirations are strong on the survey but their translation into outcomes depends on removing the financial and structural barriers raised in interviews.

Note: Each row of Table 9a is now tied to specific interview evidence. The aspiration row is labelled a single-strand (quantitative-only) finding because no interviewee discussed aspirations directly; this is a more accurate reading of the data than the earlier claim that mentoring “reinforced” aspirations.

Figure 5. Integration of Findings

Quantitative Findings (Support, Resources, Participation, Aspirations)



Positive Average Perceptions (whole sample)



Qualitative Evidence (family influence, mentoring, inclusive practice) AND targeted barriers (digital/rural gaps, first-generation hesitancy, financial hardship)



Integrated Understanding: high averages coexist with concentrated inequality



Social Capital is Associated with Access & Participation



Educational Equity (conditional on removing barriers)

Discussion

The findings suggest that social capital is closely associated with educational participation through interconnected mechanisms while simultaneously highlighting persistent structural barriers. Because the quantitative strand is descriptive, these associations are interpretive and should not be read as tested causal effects. Family support functions as foundational social capital, providing emotional encouragement, guidance, and motivation consistent with Coleman's (1988) theory that family relationships facilitate learning through trust and shared educational values. The finding that families of first-generation learners strongly value education yet lack knowledge to assist with academic planning shows that family support operates as an educational resource whose effectiveness depends on parents' own educational capital (Bourdieu, 1986; Reimers, 2022).

Educational resources correspond with Bourdieu's (1986) argument that success depends on unequal access to multiple forms of capital. While economic capital enables families to purchase materials, social capital facilitates access to information and institutional networks; students possessing both are better positioned to benefit. The persistence of digital inequality despite positive aggregate perceptions confirms that expanding infrastructure is insufficient unless disadvantaged students can effectively access and utilize resources (World Bank, 2022; UNESCO, 2021).

Classroom participation findings support Coleman's (1988) proposition that trust and supportive relationships promote engagement, and Putnam's (2000) argument that institutions create bridging social capital connecting students with wider networks. However, the hesitancy of first-generation learners demonstrates that participation is associated not only with instructional methods but also with prior educational experiences and socio-cultural backgrounds, underscoring the need for continuous teacher development in learner-centred instruction (Hattie, 2023; OECD, 2023). Educational aspirations, the highest-scoring construct, reflect education's continuing role in social mobility, though interview participants cautioned that high aspirations alone do not guarantee success when financial constraints limit continuation — indicating that policy must transform aspirations into achievable opportunities.

A key contribution is the recognition of teachers as central builders of social capital. Beyond content delivery, teachers mentor, counsel, and connect disadvantaged learners with scholarships, counselling, and career guidance otherwise inaccessible — extending Coleman's conceptualization of schools as communities and Putnam's concept of bridging capital. Institutional support similarly supports Putnam's argument that trust and collaborative governance strengthen outcomes, though functionaries emphasized implementation challenges including uneven resource distribution and insufficient coordination. These findings align with NEP 2020's emphasis on equity and inclusion but demonstrate

that achieving these objectives requires sustained investment in institutional capacity, teacher development, digital infrastructure, and community partnerships (Putnam, 2000; UNESCO, 2021).

Practical and Policy Implications

Educational institutions should strengthen social capital through structured mentoring programmes for first-generation learners, collaborative and active learning strategies, expanded academic counselling and psychological support, parent orientation programmes, and enhanced digital and library resources. Teachers require professional development integrating mentoring, counselling, inclusive pedagogy, and socio-emotional learning alongside subject expertise, together with early identification of vulnerable students and stronger parent communication. At the policy level, governments should encourage family-school partnerships through parent awareness and community engagement initiatives; expand support services including career counselling, mental health services, remedial education, and scholarship awareness particularly for disadvantaged and first-generation learners; and reduce digital inequality through affordable internet access, rural digital infrastructure, device support programmes, and open educational resources. These interventions directly support NEP 2020's objectives of inclusive, equitable, student-centred education.

Conclusion

Educational inequality remains a significant challenge that cannot be explained solely through economic factors; it is closely associated with the availability and quality of social capital. Grounded in the perspectives of Bourdieu (1986), Coleman (1988), and Putnam (2000), and employing a convergent parallel mixed-methods design, this study examined how family support, educational resources, classroom participation, and aspirations relate to access and participation. Quantitative findings revealed consistently positive perceptions, while qualitative findings suggested that parental encouragement, teacher mentoring, inclusive practices, and institutional support are perceived to support participation. However, persistent barriers — financial hardship, digital inequality, limited parental educational experience, and language barriers — continue affecting disadvantaged learners, demonstrating that expanding enrolment alone is insufficient for equity. The study makes three contributions: it extends Social Capital Theory's relevance to contemporary public education; it provides methodological strength through mixed-methods triangulation; and it offers practical recommendations for institutions and policymakers. The findings position social capital as a potentially important factor in reducing inequality, and suggest that strengthening family-school partnerships, teacher mentoring, institutional support, and community engagement may improve participation and contribute to more equitable, inclusive education systems (Putnam, 2000; UNESCO, 2021).

Limitations and Future Research

Several limitations should be acknowledged. The quantitative sample of 45 students and the small qualitative sample limit generalizability. The study employed descriptive techniques; future research may incorporate inferential analyses such as regression modelling or structural equation modelling to examine causal relationships. The focus on selected public institutions means findings may differ in private or international contexts, and self-reported responses may reflect social desirability bias. Future investigations may pursue comparative studies between public and private institutions, longitudinal examinations of social capital over time, cross-cultural comparisons, structural equation modelling of causal relationships, digital social capital and online learning communities, institutional leadership effects on equity, gender differences in participation, and policy evaluation studies examining NEP 2020 implementation. These directions will further advance understanding of educational inequality and social capital's role in promoting equitable opportunities.

Table 11. *Summary of Study Contributions*

Area	Contribution
Theory	Extends Social Capital Theory by integrating Bourdieu, Coleman, and Putnam in public education contexts.
Methodology	Demonstrates the value of a convergent parallel mixed-methods design combining descriptive statistics with thematic analysis.
Practice	Provides evidence-based recommendations for teachers, school leaders, and institutions.
Policy	Supports educational reforms promoting equity, inclusion, and family-school collaboration.

Declarations

Funding: The authors received no external financial support for this research.

Conflict of Interest: The authors declare no conflict of interest.

Ethical Approval: The study was conducted in accordance with accepted ethical standards. Informed consent was obtained from all participants, and confidentiality and anonymity were maintained throughout.

Data Availability: Data supporting the findings are available from the corresponding author upon reasonable request, subject to ethical requirements.

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