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Educational Participation and Attainment among Scheduled Castes in Telangana: Implications for Skills and Employability

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CENTRE FOR ECONOMIC AND SOCIAL STUDIES

(Planning Dept, Govt. of Telangana & ICSSR - Ministry of Education, Govt. of India)

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PREFACE

This publication is part of the Working Paper series in the CESS-DSSI Telangana Scheduled Castes Development Series. Over the past eight years, the Division for Studies in Social Inclusion (DSSI) of the Centre for Economic and Social Studies (CESS) has carried out a comprehensive range of studies focusing on the development of the Scheduled Castes in Telangana State, in addition to studies on other historically disadvantaged and marginalised social groups. Research aimed at identifying and quantifying the development disparities between the Scheduled Castes and other social groups is central to the DSSI's mandate. These empirical studies are designed to enable policymakers to formulate evidence-driven, implementable policies, so that new policies can be developed or necessary course corrections can be made to existing schemes and interventions. The research and academic activities undertaken by the DSSI team in the domains of social exclusion and inclusive development encompass the following:

- Baseline surveys and impact evaluation studies (concurrent, formative, and endline)
- Empirical studies on priority themes and areas to address development gaps
- Dissemination of findings through publications such as research reports, working papers, monographs, policy briefs, and journal articles
- Organising seminars, workshops, and special lectures on emerging themes related to inclusive development

This Working Paper presents the findings of an empirical study on a critical area of inclusive development, focusing on the educational status of Scheduled Castes in Telangana and its implications for labour market outcomes. It includes, inter alia, evidence-based recommendations for enhancing their livelihoods. This publication is the fifth in the series of working papers that draw on survey data from over 10,000 SC households. The survey, conducted by DSSI, was commissioned by the TGCOST (Telangana Council of Science and Technology). I am deeply grateful to TGCOST for providing us with the opportunity to undertake the study titled “Comprehensive Survey of SC Community in Telangana State: Mapping Data and Resources on a Spatial Domain”. This publication provides a holistic perspective on the subject and offers implementable recommendations. I am confident that policymakers, practitioners, and other stakeholders find it useful and relevant in addressing development disparities in Telangana and beyond.

E. Revathi
Director, CESS

Educational Participation and Attainment among Scheduled Castes in Telangana: Implications for Skills and Employability

Venkatanarayana Motkuri ¹

Abstract

This working paper employs a data-triangulation approach, integrating multiple sources, including primary surveys and secondary data. It examines the educational development of Scheduled Castes (SCs) in Telangana, benchmarked against normative desired outcomes. It compares their status with that of the general category within the state and with SCs nationally. The analysis incorporates both a stock and flow perspective, assessing literacy and educational attainment among the adult population while simultaneously examining current enrolment and attendance patterns among school and college-age cohorts. Outcomes are disaggregated by sub-caste, gender, rural–urban location, and economic class within SCs. The study further analyses the extent to which educational participation and advancements translate into labour market outcomes, contextualising this discussion within the broader discourse on skills and employability. Telangana has witnessed a significant educational transformation since the 1990s, with notable gains observed among SCs. Historically characterised by low literacy and limited educational access, the state subsequently expanded schools, residential institutions, scholarships, fee-reimbursement programmes, and private educational provision.

This transformation is evidenced in the educational attainment of cohorts born in the 1980s, who reached school age during the reform period. Both SCs and other social groups in the state have outperformed their national counterparts, and intra-state gaps in years of schooling have narrowed, particularly among younger cohorts. These

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trends reflect substantial improvements in participation across all levels of education. Nevertheless, disparities persist at the pre-primary, secondary, and higher education levels, as well as in enrolment patterns across public and private institutions between SCs and other social groups. Within SCs, gender, rural-urban, and economic class disparities are more pronounced. Education also imposes a substantial financial burden on SC households. Scholarships and tuition fee reimbursements do not cover all eligible students or the full cost of education. Most significantly, SCs are lagging in translating their academic credentials into favourable labour market outcomes. This is attributable to factors such as labour-market segmentation, discrimination, limited social capital, affordability constraints and a lack of equitable employment opportunities-particularly in the private sector.

Keywords: Scheduled Castes, Educational Participation, Educational Attainment, Disparities, Discrimination, Social Capital, Skills, Employability, Telangana.

I. Introduction

Education is a critical factor within the frameworks of human capital and the capability (or human development) approach, and it is also a fundamental normative human right. From a welfarist perspective within the human capital framework, education plays a crucial role in promoting intergenerational economic and social mobility and in reducing poverty (Psacharopoulos, 1970, 1973, 1977). From an economic standpoint, it is essential for the dissemination and diffusion of emerging and useful technologies, enhancing labour productivity, and driving overall economic growth (Nelson & Phelps, 1966; Barro & Lee, 2013; Hanushek & Woessmann, 2016). The capability approach further broadens the significance of education by emphasising its role in enhancing individual capabilities, expanding the choice set, and enabling valued functionings and achievements (Sen, 1999). In the same direction, the human rights perspective regards education as a non-negotiable entitlement (Motkuri, 2016). Moreover, the presence of positive externalities, along with both social and private returns, renders education a public good and justifies viewing educational expenditure as an investment rather than mere consumption (Shultz, 1961, 1971; Psacharopoulos, 1970, 1973, 1977; Locatelli, 2019; Tilak, 2018).

A growing concern in education is attainment, measured in years of schooling, which extends beyond mere participation in formal education and the acquisition of basic literacy and numeracy skills. Historically, social policy and institutional arrangements were designed to achieve universal primary education and were subsequently expanded to encompass elementary and, eventually, secondary education. It is now a global norm that all children of school-going age (6–17 years) should attend school and complete 12 years of education. Concurrently, higher education—once largely elite-oriented—is undergoing a global transition towards massification.

Research on the returns to education, which earlier indicated higher returns at lower levels of schooling, now points to a shift towards increasing returns at higher levels of education (Psacharopoulos & Patrinos, 2004; Kingdon, 2009; Colclough et al., 2010; Barro & Lee, 2013; Castelló-Climent & Mukhopadhyay, 2013; Castelló-Climent et al., 2017). In the context of globalisation, the rise of knowledge-based economies and the unfolding Fourth Industrial Revolution, driven by digital technologies, have made higher levels of education increasingly instrumental. At the same time, the growing discourse on quality, skills and employability highlights that beyond years of schooling, the quality of education and learning outcomes are equally critical (Hanushek & Woessmann, 2008, 2012, 2015; World Bank, 2018, 2020; World Bank et al., 2022).

Educational deprivation, as well as inequalities in educational participation and attainment, are both causes and consequences of prevailing social and economic conditions at the household level and broader developmental processes within a country. Decisions regarding educational participation are primarily made by parents at the household level, conditioned by their socio-economic circumstances and significantly influenced by the state's wider social, economic, and educational policies. From a policy perspective, the supply side of educational development is shaped by institutional arrangements and the provision of education, both of which are determined by educational policy. In contrast, the demand side is largely shaped by household characteristics and broader social policy frameworks that influence households' capacity and willingness to invest in education.

India's education system has evolved from pre-colonial community or parent-supported learning centres-characterised by restricted access and teacher or institution-centric curricula and pedagogy-to a colonial phase marked by the gradual expansion of mass education with state support and standardised curricula. The post-colonial period witnessed further broad-based expansion of mass education. While historically marginalised groups such as the Scheduled Castes and the Scheduled Tribes, who had little or no access to education in the pre-colonial era, gained limited access during the colonial period, their educational opportunities have expanded further in the post-independence era. Accordingly, inequalities in educational participation, attainment, and outcomes across socio-economic groups have been shaped by policies implemented during these transitions. Although educational inequalities that have historically placed Scheduled Castes and Scheduled Tribes at a disadvantage have narrowed since independence, they continue to persist in 21st-century India. Such inequalities in education are likely to have implications for their labour market outcomes from a human capital perspective. Moreover, sub-national variations in these inequalities remain a significant concern.

Telangana, the youngest state in India, was formed in 2014 following the bifurcation of the erstwhile united Andhra Pradesh. Historically, the Telangana region was part of the princely state of Hyderabad under the Nizam during the pre-independence period. Post-independence, under military and civil administration, it remained until the reorganisation of states in 1956. Hyderabad State was dissolved, and Telangana was merged with Andhra State to form the united Andhra Pradesh, which continued until 2014. The trajectory of educational development and inequalities in Telangana has been shaped by successive political and administrative regimes and their educational and

social policies (Motkuri, 2024). Telangana, over time, transitioned from an educationally backward region within Hyderabad State and later Andhra Pradesh to a frontrunner in 21st-century India, particularly since the 1990s and again since state formation in 2014 (Motkuri, 2016, 2024; Motkuri and Revathi, 2025; Tilak, 2025). Within this broader transformation, understanding how educational inequalities have evolved remains an important research question that warrants deeper exploration.

Against this backdrop, the present study examines and analyses the educational development of Dalits in Telangana with reference to normative desired outcomes. It also compares their progress with that of the general category within the state and with their counterparts at the national level. The analysis covers literacy and educational attainment among the adult population using a stock approach, as well as current enrolment or attendance patterns among school- and college-age populations. The study draws on multiple data sources, including both secondary datasets and primary surveys.

II. Data and Methods

Following a data-triangulation research strategy, this working paper draws on multiple primary and secondary data sources. The secondary data include the Census, UDISE+, AISHE and the Telangana Caste Survey, among others. The primary data sources comprise unit-level data from large-scale national household surveys, particularly the Periodic Labour Force Survey (PLFS) 2025. In addition, the Social Consumption on Education (SCE) and the Comprehensive Modular Survey (CMS) on Education, conducted by the National Sample Survey Office (NSO) in its 75th and 85th rounds, are utilised to analyse education expenditure. It also uses PARAKH and Young Lives India data to assess quality-of-education parameters. Young Lives India is a longitudinal survey that tracks the same cohort of children across multiple rounds at different ages, beginning in 2002 at age eight for the older cohort and age one for the younger cohort. The study is conducted by the Centre for Economic and Social Studies (CESS) and coordinated by the University of Oxford, UK. Its sentinel sites are located in Andhra Pradesh and Telangana. A key contribution of this paper is the use of original data from the TGCOST baseline survey. The survey, conducted in 2023, covered over 10,000 sample households belonging to the SC community, representing all districts in Telangana.

This study, while drawing on household survey data from different sources such as PLFS and other NSS rounds, has undertaken a disaggregated analysis to the extent

permitted by the sample size. All the analysis in this study is primarily descriptive, based on proportions, percentages, and arithmetic means. It compares Dalits with the ‘others’ within Telangana, as well as with Dalits and ‘others’ at the all-India level. In this context, ‘others’ refers to the general category, excluding SCs, STs, and OBCs. It comprises Hindu upper castes along with Muslims and other minority communities, excluding Backward Classes. In selected analyses, Scheduled Castes are directly compared with the Hindu upper castes.

III. Educational Development and Attainment in a Population: A Stock Approach

The literacy rate, though a crude measure, remains a crucial indicator of educational development at national and subnational levels. Telangana has consistently lagged behind the national average, ranking among the relatively educationally backward states, comparable to the BIMARU category (Motkuri, 2016; 2024). Currently, the state’s literacy rate stands at 74.6%, about 6.6 percentage points below the national average (see Table 1). The gap between Telangana and the national average widened to nearly 17 percentage points during 1951-1981, but thereafter it has narrowed to around 6–7 percentage points.

Among Scheduled Castes (SCs) in Telangana, the literacy rate is 70%, which is 4.6 percentage points lower than the state average (see Table 1). At the national level, SC literacy stands at 76.3%, about 6.3 percentage points below the overall average across social groups. The most significant improvements in SC literacy, both in India and Telangana, occurred during the 1980s and 1990s. The disparity between SCs and the overall population was highest during the 1970s and 1980s at both the national and state levels; however, this gap has consistently been smaller in Telangana compared to the national average.

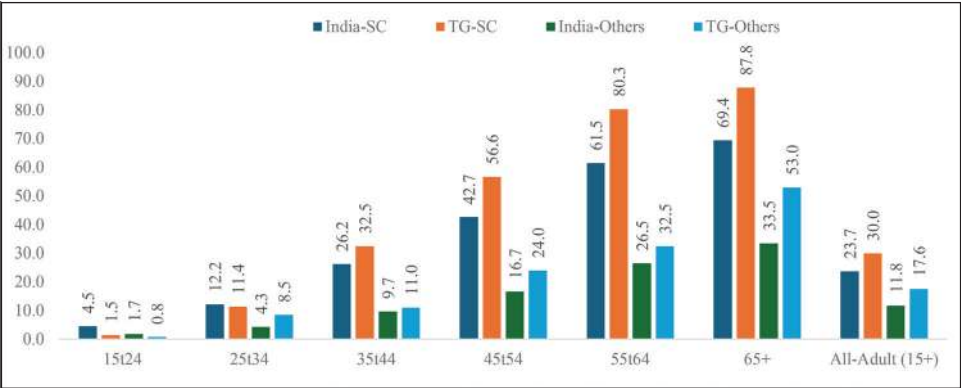
**Table 1: Literacy Rate (Average) in India and Telangana:
Scheduled Castes vs All Social Groups**

State	Category	1951	1961	1971	1981	1991	2001	2011	2025
India	All	18.3	28.3	34.5	43.6	52.2	64.8	73.0	81.2
Telangana	All	11.1	17.3	20.7	26.5	41.1	58.0	66.5	74.6
India	SC	-	10.3	14.7	21.4	37.4	57.5	66.1	76.3
Telangana	SC	-	8.5	10.7	17.7	31.6	48.2	58.9	70.0

Source: Census 1951 to 2011 and PLFS 2025. Data covers the 5+ and 7+ age population. Data from 1951 to 2011 is Census-based, and for 2025, PLFS-based.

Illiteracy rates among adults increase with age, reflecting the historical neglect of primary education and literacy in earlier decades. At the same time, the gap in illiteracy between SCs and other social groups widens across age cohorts, both nationally and in Telangana (Figure 1), indicating that SCs were disproportionately affected by this neglect. This disparity is more pronounced in Telangana than it is at the national level. Moreover, the gap in illiteracy between Telangana and the national average is larger for SCs than for other social groups. However, these disparities have been converging and narrowing in recent years, as is evident among younger age cohorts (15-24 and 25-34), reflecting the impact of educational policies and interventions over the past three decades, aimed at universalising primary/elementary education and ensuring more equitable access.

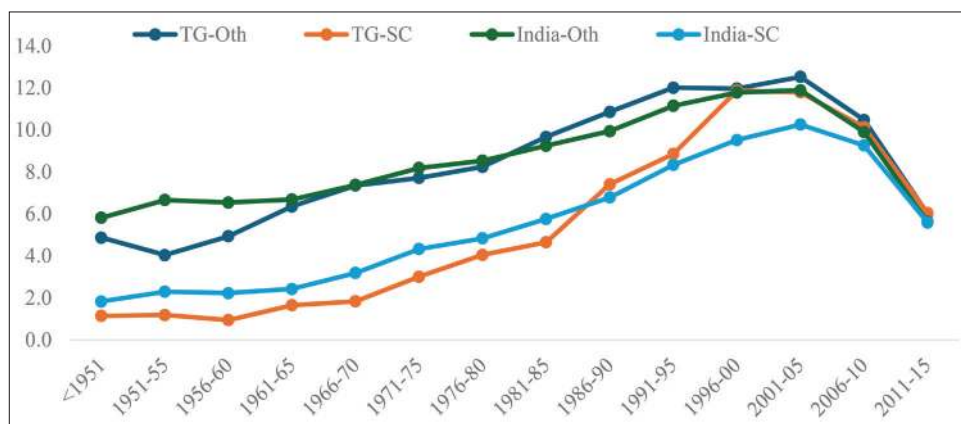
Figure 1: Illiteracy Rate (%) across Decennial Age Groups among SCs and Others in India and Telangana



Source: Author’s estimates based on PLFS-2025 unit-level data.

Literacy reflects the acquisition of basic reading, writing, and numeracy skills, typically associated with primary-level education or below. By contrast, average years of schooling quantifies the overall educational attainment of a population across all levels of the education spectrum. Furthermore, average years of schooling across birth cohorts provide insights into changes in educational attainment over time, particularly reflecting the educational trajectories of different cohorts during their school and college-going ages.

Figure 2: Average Years of Schooling among SCs and Other Social Groups in Telangana and India



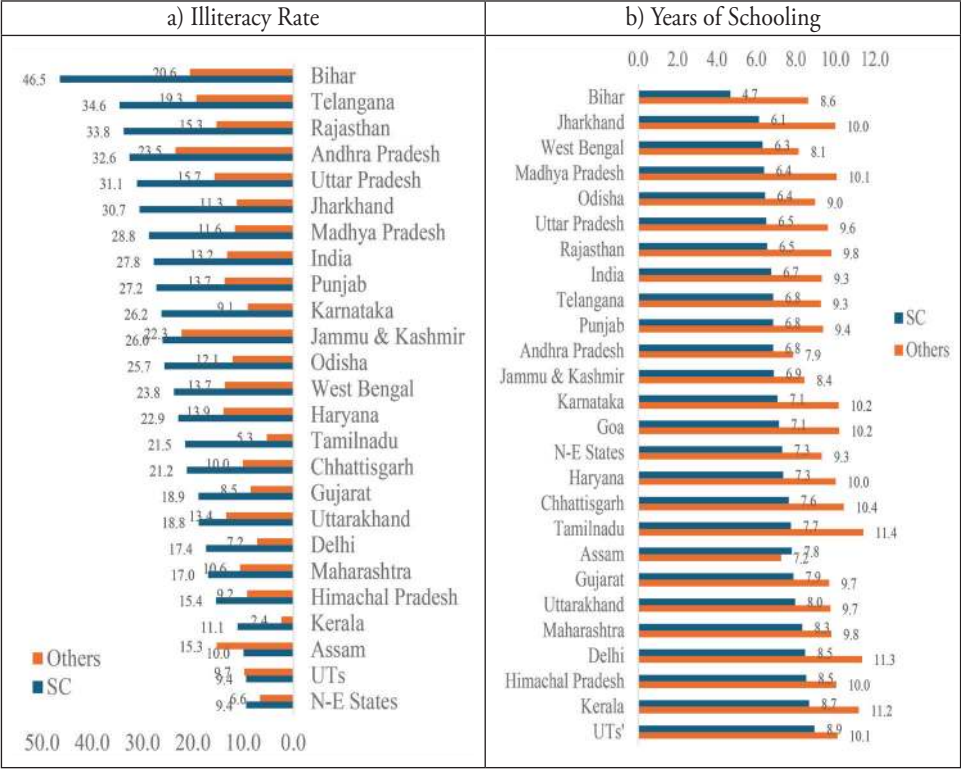
Source: Author's Estimates using PLFS-2025 unit-level data.

Note: "Oth" in the legend refers to "Others".

The increase in average years of schooling across birth cohorts reflects sustained progress in educational attainment over time. Although the gap between Telangana and India in average years of schooling among the 'Other' social category is relatively narrow, Telangana exhibited lower educational attainment than the national average until the early 1980s birth cohorts. Subsequently, the state began to surpass its counterparts in the rest of India (see Figure 2). A similar pattern is observed for SCs in Telangana, where the cohorts born in the late 1980s overtook their peers nationally.

Overall, the 1980s birth cohorts marked a turning point for Telangana, with the state subsequently exceeding the educational attainment levels observed in the rest of India (Motkuri, 2024; Motkuri and Revathi, 2025). Notably, the educational attainment of SCs in Telangana has converged with that of the 'Other' social category in the state's birth cohorts since the late 1990s. Furthermore, for cohorts born since the mid-1990s, SCs in Telangana not only surpass their counterparts in the rest of India but also achieve educational attainment levels comparable to those of the 'Other' social category at the national level.

Figure 3: Illiteracy Rate (%) and Mean Years of Schooling among Adult (15+) Population of SC and Other Social Categories across Indian States



Source: Author’s estimates using PLFS-2025 unit-level data.

Note: “Others” social category comprises Hindu upper castes, excluding SCs/STs/OBCs, non-BC Muslims and other minorities, excluding SCs/STs/OBCs among them.

However, Telangana ranks only after Bihar in terms of illiteracy, falling below the other BIMARU states (see Figure 3a). The state’s performance in terms of average years of schooling among the adult population (aged 15 years and above) indicates that, although Telangana is on a par with the national average, it remains grouped with relatively lower-performing states-often associated with the BIMARU category-along with states such as West Bengal and Odisha (see Figure 3b). This pattern mirrors the state’s performance on literacy rates and reflects historical deficits not only in primary education but also in subsequent levels of education that build cumulatively on foundational learning achieved at earlier stages.

From Historical Backwardness to Rapid Expansion: A Turnaround in the 1990s

Historically, Telangana was part of the erstwhile Hyderabad State both before and after Independence, until its merger with Andhra State to form the united Andhra Pradesh, where it remained until its bifurcation in 2014. Although Telangana was not deeply affected by inter-regional disparities during the Nizam period, the overall educational development of Hyderabad State lagged behind that of the British Provinces and several other princely states in India, especially Cochin-Travancore, Baroda, and Mysore, among others (De, 1911; Motkuri, 2016, 2024). Consequently, Telangana shared this relatively low level of educational development before Independence. In the post-Independence period, as part of the combined Andhra Pradesh, regional disparities became more pronounced, and Telangana continued to experience relative educational disadvantage. This can be partly attributed to the differing initial levels of educational development inherited by Telangana and Andhra regions (from their parent states: Hyderabad and Madras), as well as to policy neglect in adequately addressing Telangana's educational backwardness while pursuing balanced regional development.

Although the Andhra region inherited relatively better educational development from the Madras Presidency under British rule, the unified state of Andhra Pradesh accorded relatively low priority to education in the post-independence period, focusing instead on sectors such as irrigation and energy (Dev et al., 2009). Consequently, until the 1990s, the state experienced poor educational outcomes, including a high incidence of child labour, elevated dropout rates, and low school participation (Motkuri, 2016). However, from the 1980s onwards, a series of policy initiatives marked a turning point in the state's educational trajectory.

Legislative intervention through the Andhra Pradesh Education Act (1982), followed by the National Policy on Education (NPE, 1986) and its Programme of Action (POA, 1992), provided a strong policy framework for educational expansion. These were complemented by targeted programmes such as the Andhra Pradesh Primary Education Project (1984–87), Operation Blackboard (1987), and the District Primary Education Programme (DPEP) initiated in the early 1990s (Motkuri and Revathi, 2025; Motkuri, 2024). Subsequently, the implementation of Sarva Shiksha Abhiyan (SSA), along with the universalisation of the mid-day meal scheme in the early 2000s and the enactment of the Right to Education (RTE) Act in 2009, further strengthened the state's efforts toward universal elementary education. These interventions collectively contributed to improvements in school attendance and a reduction in dropout rates over time.

The educational development-or persistent backwardness-of Scheduled Castes in Telangana must be understood within this broader historical context. Under the Nizam's rule in the erstwhile Hyderabad State, education in general received limited attention, and education among SCs was particularly neglected. In response, caste-based social movements, notably the Adi-Hindu movement, played a crucial role (Venkataswamy, 2020; Bhukya, 2014, 2017). While asserting Scheduled Caste identity as original inhabitants and resisting caste oppression and untouchability, the movement strongly emphasised education as integral to self-respect, dignity, and social reform. Bhagya Reddy Varma, a key pioneer, viewed education as a central pillar of the advancement of the Scheduled Castes. He established a school in 1910 and the Bhagya Memorial School for girls in 1913, and went on to build a network of approximately 25–40 community-funded schools.

Through organisations such as the *Jagan Mitra Mandali* (established in 1906) and the Adi-Hindu Social Service League (1920s), which functioned as community-based educational institutions, Varma mobilised educational initiatives among the Scheduled Castes. His sustained efforts drew the attention of the Nizam's administration, leading to negotiations in the 1930s. Consequently, in 1934, the state assumed responsibility for about 26 Adi-Hindu schools established by Varma. Further expansion of education among SCs followed in the mid-1940s, when the Nizam government established around 186 special schools for the depressed classes.

In a hierarchical social order-particularly under the feudal conditions of the Nizam's rule, marked by entrenched structural inequalities-Dalits' access to education remained severely constrained, with only limited expansion of schooling resources. Within this context, the initiatives led by Bhagya Reddy Varma, followed by subsequent state interventions, made a significant but modest contribution to education among SCs. However, their overall scale remained limited: approximately 186 schools were established, together reaching fewer than 10,000 students, with an average enrolment of fewer than 50 per school. A similar pattern is observable in British Indian provinces. The Hunter Commission (1882) encouraged local bodies to support education for disadvantaged sections, and provincial governments introduced incentives such as fee concessions, stipends, and scholarships to promote enrolment among Depressed Class children.

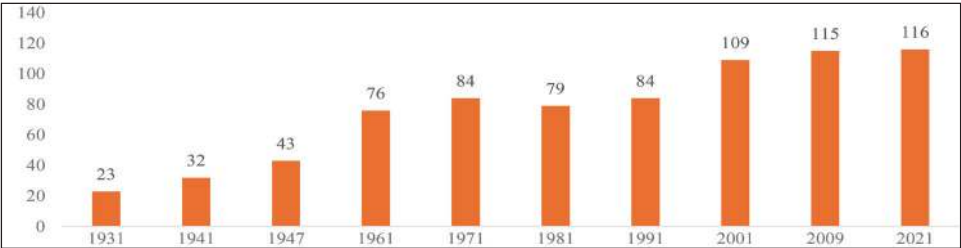
In the early twentieth century, further measures included the establishment of special schools, the reservation of seats in existing institutions, and the Government of India's Education Policy Resolution (1913), which formally acknowledged the

state’s commitment to mass education, including that of marginalised groups. The administrative reforms in 1919, by transferring education to provincial governments under dyarchy, also led to increased grant-in-aid to schools serving these communities. Despite these initiatives, their impact remained modest, with persistent social barriers and inadequate provisioning continuing to restrict meaningful educational access for SCs. Meanwhile, Christian missionaries also played a significant role in promoting education among the depressed classes across both British provinces and princely states (Kannan, 2025).

Post-Independence, several measures were incorporated within the constitutional framework and during the planning era to expand school education in general, and to promote access for Scheduled Castes and other marginalised communities in particular. However, progress remained slow until the 1990s. Despite the delay in recognising education as an enforceable legal right, the Indian state carried a directive obligation to achieve universal elementary education. The Kothari Commission (1964–66) recommended establishing a Common School System to serve all social groups, emphasising neighbourhood schools within walking distance for every child (Sadgopal, 2007).

Although the number of schools gradually increased during the first four decades after Independence, this expansion did not keep pace with population growth and the rising demand for education (Motkuri, 2024). Until the 1990s, many villages and habitations, including SC colonies, lacked access to schools. Consequently, the absence of schools within a reasonable distance emerged as a critical barrier to educational access in the Indian context (Tewari & Jena, 1990; PROBE Team, 1999; Dreze & Kingdon, 2001; Little, 2010; Mukhopadhyay & Sahoo, 2016; Motkuri, 2016). This issue was addressed to a considerable extent through interventions such as the DPEP and the SSA during the 1990s and subsequent decades.

Figure 4: Number of Schools Per One Lakh Population in Telangana



Source: Motkuri (2024). The data represent all types of schools (primary to secondary) across all management types (public and private).

In Telangana, more than 50% of existing schools-across both the public and private sectors-have been established since the 1990s (Motkuri, 2024). Consequently, the number of schools per one lakh population has risen significantly (see Figure 4). Although this indicator remained low, it gradually improved during the Nizam era. A notable surge occurred between 1947 and 1961, reflecting expansion under the erstwhile Hyderabad State before its merger with Andhra Pradesh. However, for nearly four decades following the merger, growth in schools per lakh population remained largely stagnant, as increases in the number of schools merely kept pace with population growth. Since the 1990s, this trend has reversed, with school expansion outstripping population growth. A substantial share of public-sector schools was established during this period through initiatives such as the DPEP and SSA. Concurrently, the economic reforms initiated in 1991 encouraged greater private sector participation in school education. Meanwhile, the increasing availability of hostels, pre-matric and post-matric scholarships, and fee reimbursement, along with the rising number of residential schools, has also contributed to progress.

Table 2: Type of Schools in Telangana as of 2025

	Government-Residential										Total
	BCWREIS	SWREIS	TWREIS	TWDS	EMRS	MREIS	TREIS	Model	KGBV	JNV	
#	294	246	146	367	23	205	35	194	495	9	
Day-Scholar											
	LB	ED	TWD	PA	PU	KVs					
	24335	2359	1422	662	12126	37	42974				

Source: UDISE+ 2024-25; LB- Local Body; PA-Private Aided;
 PU – Private Unaided; CG – Central Govt (KVs)

Children who have never attended school constitute one dimension of exclusion, while dropping out of the education system represents another. Together, these contribute to the population of out-of-school children, which includes child labourers as well as “nowhere children”-those neither in school nor at work (Motkuri, 2004a, 2004b, 2009). Moving beyond the conventional notion of dropping out, the concept of “pushout” underscores how institutional practices and structural inequalities systematically exclude children from marginalised groups (Fine, 1991). In the Indian context, substantial evidence documents such exclusion among Scheduled Castes and other marginalised communities across both school and higher education (Nambisan, 1996; Bhalotra, 2009; Sinha & Reddy, 2010; Thorat & Newman, 2010; Govinda & Bandyopadhyay,

2010; Chanana, 2011; Ramachandran, 2013; Singh & Mukherjee, 2017). These outcomes arise from supply-side constraints, demand-side factors, or their interaction.

Supply-side constraints-particularly limited physical access to schools-have historically posed major barriers. At the same time, demand-side factors such as the opportunity cost of schooling, affordability, and parental perceptions of education have also played a critical role. These perceptions are often shaped by forms of false consciousness, whether socially imposed or otherwise, that undermine the perceived utility of education (Bhatty, 1996; Dreze & Kingdon, 2001; Motkuri, 2004, 2016). The cost dimension includes both direct expenses and indirect costs, especially the foregone contribution of child labour, which many poor households cannot afford (Burra, 1995; Basu, 1999). Along with economic conditions, social attitudes and cultural practices also contributed to the phenomenon of child labour and out-of-school children (Weiner, 1991; Bhatty, 1996; Burra, 2001). These patterns of exclusion are disproportionately concentrated, particularly among the Scheduled Castes and other marginalised communities. As a result, participation rates have remained low, and enrolment growth has been slow over a prolonged period among these groups (Motkuri, 2016).

Educational participation, attainment, and overall development-across social groups and especially among Dalits in the state-have been shaped by the combined influence of these supply and demand-side factors (Motkuri, 2016). In Telangana, the education system underwent a structural shift beginning in the 1990s, moving beyond constraints of limited access and exclusion towards broader participation. This transition is reflected in improved outcomes for the 1980s birth cohort, which benefited during its school-age years. Concurrently, the socio-economic transformations triggered by the economic reforms of 1991, particularly in the agricultural sector, contributed to changing aspirations. Increasing agrarian uncertainty encouraged households to invest in education as an alternative pathway. At the same time, the expansion of private-sector opportunities-especially in fields such as information technology and finance-reinforced the perceived value of education as a route to non-agricultural employment. In the wake of economic reforms, which were accompanied by rural distress and growing economic uncertainty-with Andhra Pradesh emerging as a frontrunner-a proliferation of civil society organisations and non-governmental organisations (NGOs) took shape across the state. These organisations played a crucial role in strengthening the resilience of the rural economy through social mobilisation, microcredit initiatives, and women's empowerment, particularly via self-help groups (SHGs). Notably, more than half of India's NGOs and microcredit institutions were concentrated in Andhra Pradesh,

accounting for nearly half of the country's total microcredit disbursement (Motkuri, 2016).

At the same time, global trade regimes such as the World Trade Organisation (WTO), along with other international forums, imposed restrictions or bans on goods produced using child labour in developing countries (Basu, 1999). While these measures prompted national and subnational governments to take corrective action, they also created additional space for NGOs to intervene in addressing child labour and promoting welfare initiatives. From the mid-1990s onwards, concerted campaigns by both Union and State governments-particularly involving the Labour and Education Departments-targeted the eradication of child labour and the enrolment of out-of-school children. Bridge schools were established as transitional mechanisms to mainstream former child labourers into formal education, yielding significant positive outcomes in the state.

Furthermore, substantial improvements in road networks, transportation, and communication infrastructure expanded rural economies' exposure to markets, transactions, and broader socio-economic interactions. This increased connectivity facilitated the commercialisation of agriculture and rural production systems. While such commercialisation acted as a mechanism for extracting rural surplus, it also intensified monetary circulation-often without proportionate benefits to rural communities, as evidenced by recurring instances of farmers' suicides.

Despite these challenges, the social and economic transformations witnessed in rural Andhra Pradesh produced a notable positive outcome: a heightened perceived value of education. This shift translated latent demand for education into an explicit and growing aspiration among rural populations, thereby significantly increasing educational demand (Motkuri, 2006, 2016, 2024).

IV. School and College-Age Children Participating in Education: A Flow Approach

Further to the above analysis of the population's literacy and average years of schooling, this section presents an analysis of the educational participation status of the school- and college-age population in Telangana, with a focus on the SC community.

In Telangana, about three-quarters of children aged 3–5 attend pre-primary education in 2025, while participation among the 6–14 age group-for whom schooling is constitutionally mandated-is nearly universal (see Table 3). At the secondary level (ages

15–17), participation reaches 93%, falling short of universal coverage by 7 percentage points, despite near-universal attendance being a global norm. Among the college-age population, nearly half are enrolled. Compared to the national average, Telangana records higher participation across all age cohorts: by 20 percentage points at ages 3–5, by 2 percentage points at 6–14, and by 10 percentage points at each of the secondary and college levels (see Table 3). This advantage extends across social groups, all of which outperform their national counterparts.

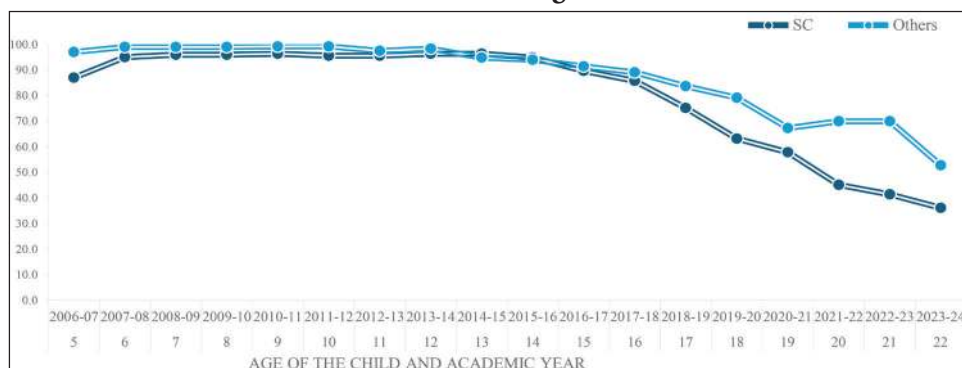
Table 3: Current Attendance Rate (CAR) in Formal Education among School and College-Age Population across Social Groups in India and Telangana

Age-Co- hort	Telangana					All India				
	ST	SC	OBC	HUC	All	ST	SC	OBC	HUC	All
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
PP: 3-5	74.1	72.3	74.0	78.0	73.5	50.2	46.8	52.1	61.7	52.1
6-14	99.8	99.3	99.0	99.4	99.2	95.9	96.5	97.2	98.7	97.0
15-17	91.1	96.0	94.4	98.1	93.3	74.1	79.3	85.1	93.7	83.6
18-23	47.5	39.5	49.5	64.9	48.0	27.2	32.1	40.4	53.5	38.8
All	85.3	75.3	81.0	84.5	80.4	67.9	68.7	72.9	79.2	72.1

Source: Author’s estimates based on unit-level data of PLFS-2025. HUC – Hindu Upper Castes. All figures are %

Within the state, Scheduled Castes exhibit slightly lower participation rates than Hindu Upper Castes (HUCs), except in the 6–14 age cohort, where both groups achieve near-universal participation (see Table 3). The SC–HUC gap is 6 percentage points at the pre-primary level, narrows to 2 percentage points at the secondary level, but expands substantially to 15 percentage points at the tertiary level. Although these disparities persist, they are more pronounced at the national level; SCs in Telangana nevertheless demonstrate higher participation rates than their counterparts elsewhere in India.

Figure 5: Percentage of Younger Cohort Children Attending Educational Institutions and Their Transition from Pre-Primary to College Age: SCs and Others in Telangana



Source: Author's estimates using Young Lives India unit-level data.

The strong educational attainment observed among younger cohorts in Telangana, as noted above, is largely driven by their high participation rates, which have improved markedly since the 1990s (Motkuri, 2016). Accordingly, disparities have also begun to narrow. This pattern is reflected in the Young Lives India longitudinal survey, which tracks a cohort of children over time. The younger cohort comprises approximately 2,000 children who were 1 year old in 2002 and were followed across multiple survey rounds. Figure 5 shows the percentage of these children attending educational institutions as they transition from ages 5 to 22. Attendance remains nearly universal, around 95%, for both SC and Other children between ages 6 and 14 (school age). Thereafter, the participation rate begins to decline, accompanied by the emergence of disparities across social groups that widen during the cohort's college age (see Figure 5).

Attending an Age-Appropriate Level of Education

The Indian Constitution mandates that all children aged 6–14 years be in school, and the RTE 2009 mandates that this age cohort complete elementary schooling (Pajanker & Srivatsava, 2026; Gantla et al., 2025). Global norms emphasise a broader goal: that all children aged 6–17 years should be enrolled in school and complete twelve years of education (Motkuri, 2024). The latter implies that a child who has reached the age of 18 should have completed Class 12 and be prepared for post-secondary or tertiary education. Achieving this global norm requires that children be enrolled in age-appropriate classes, with a child entering Class 1 at age 6 and progressing successfully and sequentially through each subsequent class in each academic year, without stagnation or exit until completion of Class 12.

Moreover, theories of education and psychology emphasise age–grade alignment. Jean Piaget’s theory of cognitive development posits that children progress through age-linked stages with similar cognitive abilities, making learning most effective when matched to their developmental level (Piaget, 1952). Similarly, Erik Erikson’s psychosocial theory links each age to specific developmental tasks (Erikson, 1963). Accordingly, curricula and pedagogy aligned with age and cognitive readiness improve learning outcomes. In contrast, age-inappropriate placement can hinder comprehension among underage students and cause boredom among overage students, while also lowering self-esteem, fostering inferiority and weakening peer cohesion.

Neither school-based data, such as the Gross Enrolment Ratio (GER) from UDISE, nor household survey-based indicators, like the Gross Attendance Rate (GAR) or Current Attendance Rate (CAR) from NSS, adequately capture or distinguish age–grade appropriateness in schooling. As a result, the reported attendance rates for pre-primary and school-age cohorts do not guarantee that children are enrolled in age-appropriate classes. While Net Enrolment Rate (NER) or Net Attendance Rate (NAR) improves upon this by focusing on the official age group at a given level of education, these indicators still operate at the level of schooling stages rather than specific grades and therefore fail to capture age-appropriate class progression fully. However, we present level-based analysis due to sample size restrictions.

Table 4: Age and Level-Appropriate Current Attendance Rate across School-Age Cohorts of SCs and Hindu Upper Castes (HUC) in Telangana and India

State-Category	Telangana					India				
	PP	Primary	Middle	LS	HS	PP	Primary	Middle	LS	HS
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
Aligned										
SC	62.5	90.6	80.8	77.6	80.0	39.2	86.5	73.7	60.7	45.4
HUC	72.1	90.5	81.3	83.1	92.6	54.1	88.2	78.1	69.4	65.2
All	60.6	88.6	82.5	79.1	71.8	44.1	87.4	74.1	63.3	51.7
Non-Aligned										
SC	9.9	9.4	18.6	20.7	13.0	7.6	10.6	23.0	29.5	29.9
HUC	5.9	7.7	18.7	15.7	5.4	7.6	10.5	20.9	28.1	26.9
All	13.0	10.7	16.9	19.0	19.2	7.7	10.1	23.0	29.2	28.4

Source: Author’s estimates using unit-level data of PLFS-2025. PP- Pre-primary; LS – Lower Secondary; HS- Higher Secondary.

The age and level-appropriate (aligned) attendance rate across level-based age cohorts is significantly lower than the broader current attendance rate, which includes both aligned and non-aligned (overage and underage) students, in both Telangana and India (see Table 4). However, Telangana performs better than the national average in terms of aligned attendance and correspondingly records a lower share of non-aligned attendance. Despite this relative advantage, disparities between SCs and HUCs persist in Telangana, particularly among pre-primary and secondary (LS and HS) age cohorts.

Gross Enrolment or Attendance Rate (GER/GAR) in Higher Education

Concurrently, the current attendance rate (CAR) among the college-age population (18-23 years) does not necessarily indicate participation in higher education. A substantial proportion of this group, although enrolled in educational institutions, is attending levels at or below the higher secondary level.

Table 5: Educational Participation among College-Age Population (18-23) Across SCs and Hindu Upper Castes (HUCs) in Telangana and India

Attendance Status	Telangana			India		
	SC	HUC	All	SC	HUC	All
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
Attending HS or below	7.0	4.4	8.5	6.9	8.0	7.5
Attending Post-Secondary (NAR)	32.5	60.5	39.5	25.2	45.4	31.3
Gross Attendance Rate (GAR)	35.0	-	44.5	29.8	-	36.7
Completed a first degree and left education	14.5	21.0	14.3	8.3	14.7	9.8

Source: Author’s estimates using unit-level data of PLFS-2025.

About 8.5% of the college-age population in Telangana are attending at the higher secondary level or below, while nearly 40% are participating in post-secondary education; the latter reflects the net attendance rate at that level, i.e. NAR-PS (see Table 5). The gross attendance rate of post-secondary education (GAR-PS) in the state is 44.5%. In addition, around 14% of the state’s age cohort have completed at least a first degree in post-secondary education and subsequently exited the education system. However, a significant disparity persists between SCs and HUCs, both within the state and at the national level, with SCs continuing to lag. Despite this gap, Telangana records higher rates across all these indicators and social groups compared to the national average.

Table 6: Gross Enrolment Ratio in Higher Education (GER-HE)

State-Catg	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>
TG-SC	32.2	35.4	36.1	36.1	33.0	30.4	32.5	31.8	35.4	39.2	41.9	45.7
India-SC	16.0	17.1	19.1	19.9	20.3	21.0	22.0	22.3	23.1	25.9	27.3	27.8
TG-All	33.1	35.5	36.1	36.3	34.6	34.4	34.9	34.3	39.1	40.0	42.7	46.6
India-All	21.5	23.0	24.3	24.5	24.1	24.6	24.9	25.6	27.3	28.4	29.5	30.0
Share (%) of SCs in Total Enrolment in Higher Education												
TG-SC	15.8	16.2	16.2	16.2	15.5	14.4	15.1	15.1	14.7	15.9		
India-SC	12.8	13.1	13.5	13.9	14.3	14.4	14.9	14.7	14.2	15.3		

Source: AISHE.

As per the AISHE (All India Survey of Higher Education) data, the overall Gross Enrolment Ratio in Higher Education (GER-HE) for Telangana was 46.6% in 2023–24, nearly 16.6 percentage points higher than the national average (see Table 6). Among SCs in the state, the GER-HE is around 45.7%, just one percentage point lower than the state average, but significantly higher than the national averages, by about 15.6 percentage points compared to the overall figure for all social groups and 17 percentage points compared specifically to SCs. The GER-HE estimates from AISHE are higher than the GAR based on household surveys (GAR-PS), possibly due to denominator projections. There are limitations to AISHE data, including under-coverage of institutions and unaccounted student migration (Motkuri and Revathi, 2026).

Privatisation and Increasing Cost of Schooling

Results from the recent census-scale caste survey of Telangana (2024) show that nearly two-thirds of the 6–29 age cohort who received schooling attended public institutions, while the remaining one-third attended private institutions (see Table 7). Similarly, around 60% of this cohort studied at English-medium institutions, compared with about 40% at non-English-medium institutions (schools and colleges). Compared with the 30-and-above age cohort, a significantly higher proportion of the younger cohort (6-29) has studied at private and English-medium institutions, indicating a growing shift towards these forms of education.

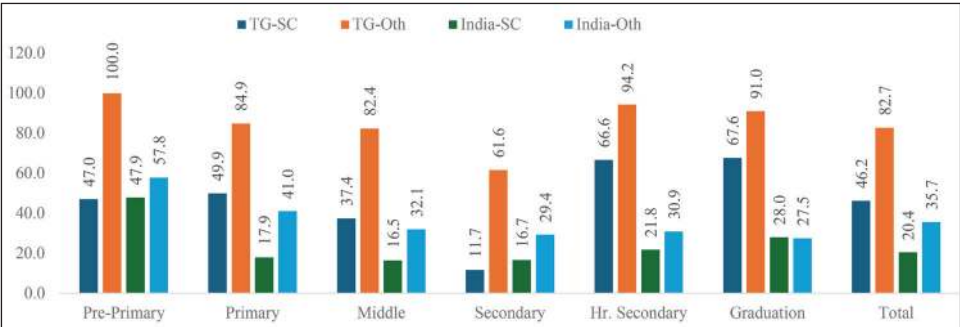
Table 7: Percentage of Telangana’s Population Studied in Private and English Medium Institutions (2024)

Indicator	6-29 Age Cohort					30+ Cohort				
	All	General	OBC	SC	ST	All	General	OBC	SC	ST
1	2	3	4	5	6	7	8	9	10	11
% Public	66.7	41.9	65.1	79.7	82.9	85.6	76.4	86.9	92.0	94.1
% Private	33.3	58.1	34.9	20.3	17.1	14.4	23.6	13.1	8.0	5.9
% English-Medium	60.5	79.6	61.0	51.9	48.8	21.6	34.9	18.6	15.2	12.7
% non-English Medium	39.5	21.4	39.0	48.1	51.2	78.4	65.1	81.4	84.8	87.3

Source: TGSEEPSCS 2024.

There are significant differences across social groups in the proportion of students attending private and English-medium educational institutions. SCs have a substantially lower attendance share in private institutions-nearly three times lower than that of the general category (see Table 7). Similar disparities are observed in access to English-medium education, although the gap is somewhat less pronounced. While private schools have traditionally been more likely to offer English-medium instruction, public institutions in Telangana have increasingly adopted English as a medium of instruction, particularly in welfare residential institutions. While there is a growing preference among SC parents for private schooling and English-medium instruction, such choices are limited by discrimination, intersecting class and gender biases, and most significantly, economic constraints (Silveru & Gundimeda, 2021).

Figure 6: Percentage of Enrolments in Private Institutions across Levels of Education in India and Telangana (NSS 2017-18)

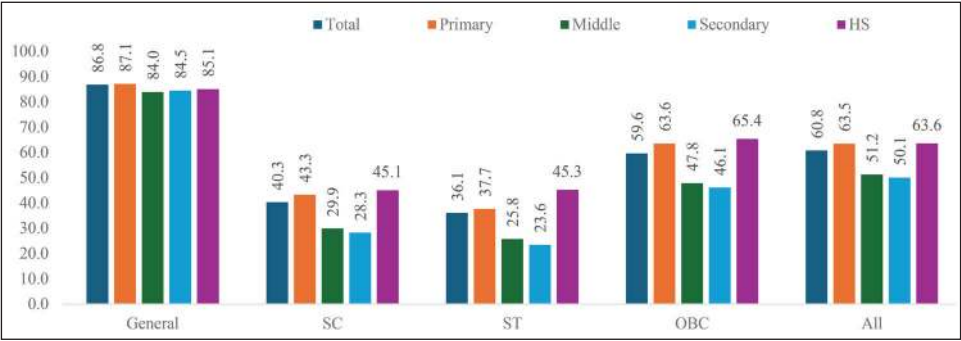


Source: Author’s estimates using unit-level data of NSS Social Consumption on Education, 75th Round (2017-18).

Note: “Oth” in the legend refers to “Others”

Reflecting on currently enrolled students, estimates from the 75th round of the National Sample Survey (NSS), which focused on Social Consumption on Education (SCE) conducted in 2017–18, show that the private sector accounts for more than 80% of enrolment across all levels of education for the “Others” social category (primarily Hindu upper castes) in Telangana (see Figure 6). For SCs in the state, the share of enrolment in private institutions varies markedly across levels of education: nearly half at the kindergarten and primary levels, about two-thirds at the higher secondary and graduation levels, and the lowest at the secondary level. Although enrolment of SCs in private institutions is considerably lower than that of the “Others” category within the state, nationally, it remains higher than that of their counterparts.

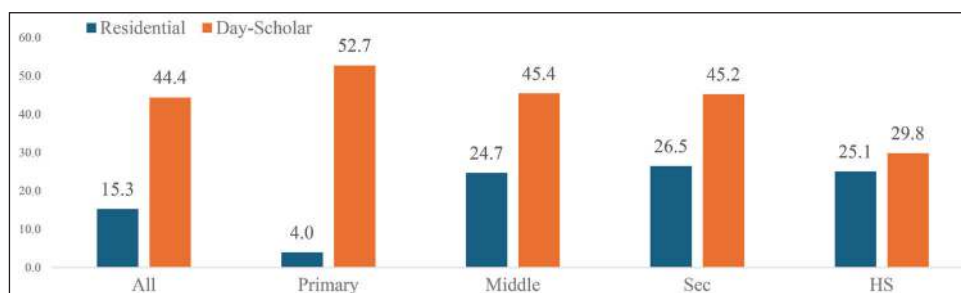
Figure 7: Percentage of Enrolments in Private Institutions across Social Groups and Levels of Education in Telangana (UDISE+ 2024-25)



Source: Author’s estimates using school-level data of UDISE+ 2024-25.

According to UDISE+ 2024–25, the average share of school enrolment in private institutions across social groups and levels of education in Telangana is 61%. However, this share is significantly higher for the general category (87%) and much lower among SCs at 40%-less than half that of the general category (see Figure 7). While the proportion at the primary level is slightly higher than the overall average for each social group across levels, it declines considerably at the middle and secondary levels for all backward classes, including SCs, STs, and OBCs. This pattern may be attributed to the availability of welfare residential schools. A quarter of SC school enrolment, especially at the middle and secondary (lower and higher) levels, occurs in government residential schools, including social welfare schools and others (see Figure 8).

Figure 8: Percentage of SC School Enrolments in Public Residential and Day-Scholar Institutions in Telangana (UDISE+ 2024-25)



Source: Author's estimates using school-level data of UDISE+ 2024-25.

Households that might otherwise prefer private institutions for perceived quality appear to opt instead for residential schools, particularly from the middle level onwards. Studies that assessed school functioning across management found better performance in social welfare residential schools (Silveru, 2020; Revathi et al., 2020). As a result, a decline in the share of private enrolment is observed at the middle and secondary stages. However, at the higher secondary level, the share of private enrolment rises again and is the highest across all levels for the backward social groups. This suggests a different set of considerations influencing parental choice at this stage, possibly linked to academic specialisation, perceived quality, or preparation for higher education. However, enrolment shifting to private at this level is from public day-scholar institutions, not from residential ones.

Table 8: Average Per Annum Expenditure Per Student by Level of Education among SCs and Other Social Groups in Telangana and India (in Rs)

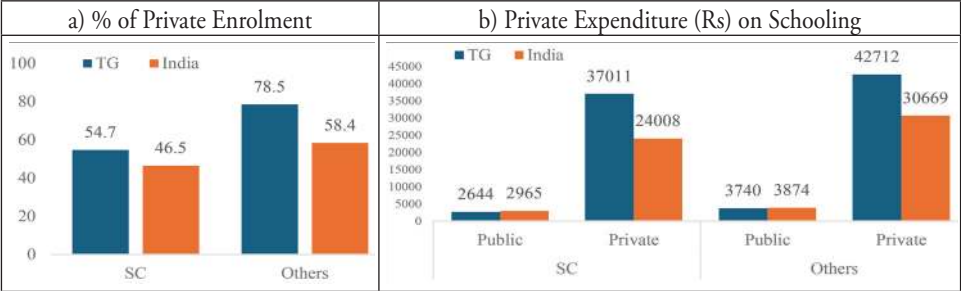
Social Group	State	PP	Primary	Middle	Secondary	Hr.Sec.	Graduation	All
1	2	3	4	5	6	7	8	9
Private Institutions								
Others	TG	29005	22192	23021	29349	38018	48180	30006
	India	16917	19736	22959	28537	36674	56209	26677
SC	TG	9085	10858	12503	19821	23497	32294	17964
	India	10038	11252	12006	14829	19937	27444	14516
All Institutions								
Others	TG	29005	19688	20730	25682	36548	48260	27584
	India	12843	11272	11958	15143	21584	35430	16665
SC	TG	5262	5924	5797	4147	17317	24823	9654
	India	6770	3481	4202	6363	10402	18742	6263

Source: Author's estimates using unit-level data of 75th round NSS-SCE, 2017-18.

Household private expenditure on education per student increases with education level and remains consistently higher for those enrolled in private institutions at all levels (see Table 8). Beyond variations in private participation across social categories-particularly between SCs and others-differences in household expenditure among students attending private institutions also persist. However, these disparities are lower in Telangana than at the national level. Further, the lower private expenditure on education for SC children, especially those enrolled in private institutions, suggests that they tend to attend lower-cost or budget schools and colleges due to affordability constraints.

Estimates from the NSO’s Comprehensive Modular Survey (CMS) of Education (2025) indicate that private school enrolment among SCs and other groups, both in Telangana and across India, is notably higher than the estimates based on UDISE+ 2024–25 (see Figure 9a). Although the proportion of SCs enrolled in private schools within the state is lower than that of other social groups, the figures still suggest that more than half of SC children in Telangana attend private schools. Furthermore, the share of private enrolment in Telangana-for both SCs and other groups-exceeds the national average.

Figure 9: Percentage of Enrolment in Private Schools and Private Expenditure on Schooling across Social Groups and Public and Private Institutions in Telangana



Source: Author’s estimates using unit-level data of the Comprehensive Modular Survey (CMS) of Education, 2025.

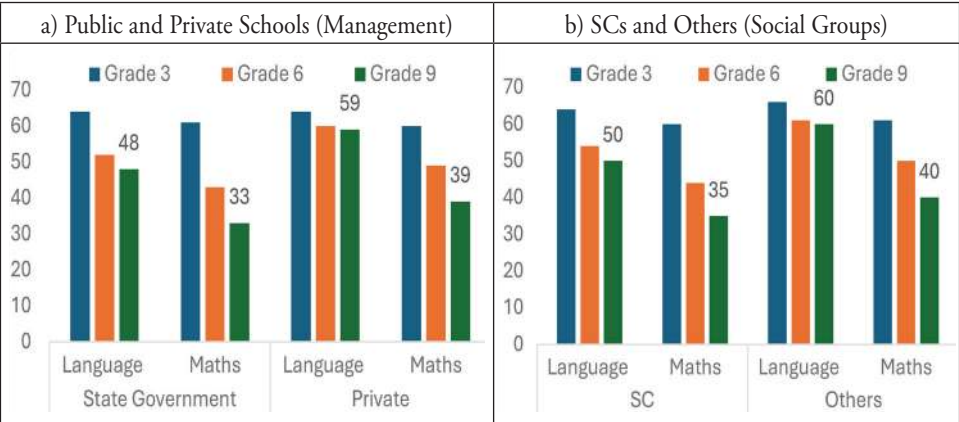
It is not only the increasing spread of privatisation that is of concern, but also the rising cost of schooling. Private (household) expenditure on education-covering pre-primary to higher secondary levels-is higher in Telangana than the national average for both SCs and other social groups, particularly among those attending private schools (see Figure 9b). Telangana ranks among the top few states in private expenditure on schooling per student (NSO, 2025). Despite considerable differences in the proportion of enrolment in private schools between SCs and other groups, SCs’ private schooling expenditure is about 86% of other groups’ within the state. This gap is slightly wider at the national level.

Quality, Skill Development, and Employability

Mere levels of education or years of schooling are insufficient; rather, the quality of schooling-encompassing learning achievements and outcomes-is increasingly becoming critical for individual welfare and broader economic development in the context of globalisation and the rise of knowledge-based economies (Hanushek & Woessmann, 2008, 2012, 2015; World Bank, 2020). However, despite the remarkable progress in educational participation and attainment in India and Telangana, which has narrowed social group disparities, the quality of education remains inadequate. The rapid quantitative expansion over the past three decades has come at the cost of quality. This is consistently evidenced by the ASER, which repeatedly highlights significant deficits in foundational literacy and numeracy (FLN) in both India and Telangana (ASER, 2024).

Similarly, findings from the National Achievement Survey (NAS) conducted by the National Council of Educational Research and Training (NCERT) and recent PARAKH assessments of educational outcomes also reveal such deficiencies (NCERT, 2022; GoI, 2025). Furthermore, the latest NITI Aayog report highlights these shortcomings at both the national and state levels (NITI Aayog, 2026). Telangana’s relative strength in quantitative metrics-such as educational participation rates and attainment-is not equally reflected in qualitative dimensions. Across several quality parameters, including FLN, learning outcomes, and the Performance Grading Index (PGI), the state continues to lag (Motkuri, 2024a).

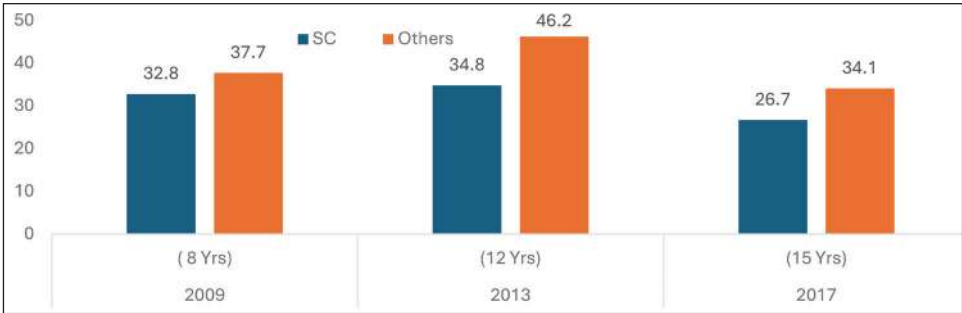
Figure 10: Performance of Students across Grades on Learning Outcomes by School Management (Public vs Private) and Social Groups (SCs vs Others) in Telangana, 2024



Source: PARAKH Rashtriya Survekshna 2024.

The PARAKH assessment of student learning outcomes in Telangana indicates that at Grade 3, there is minimal variation in performance between students attending state government schools and SC students, and those in private schools and other caste groups (see Figure 10a & 10b). However, as students advance to higher grades, the performance of students in government schools and SC students declines more rapidly-especially in mathematics-than that of their counterparts. Consequently, the academic disadvantage experienced by SC students in terms of learning outcomes becomes more pronounced.

Figure 11: Maths Score of Younger Cohort in Young Lives India Longitudinal Survey by Social Groups, Telangana



Source: Young Lives India. Note: Based on Younger-Cohort Sample.

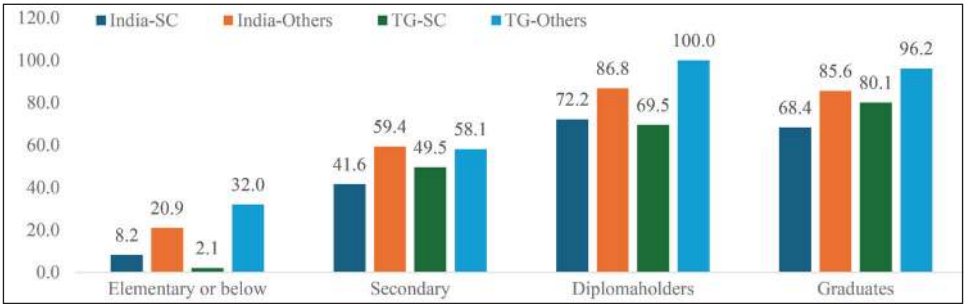
Estimates from the Young Lives India longitudinal survey, conducted in sentinel sites in Telangana for the younger cohort, report mathematics scores on a 0–100 scale (see Figure 11). The results reveal a clear disparity between Scheduled Caste children and those from other social groups. While both groups exhibit improved performance as they transition to the middle level, performance declines upon progression to the secondary level. Correspondingly, social group disparities widen during the transition to the middle level and then narrow slightly at the secondary level, although they remain substantial.

Digital Skills

With the increasing prevalence of digital technologies and information and communication technologies (ICTs), the importance of digital skills has significantly increased. However, gaps in digital public infrastructure and private access-including ownership of devices like smartphones and laptops/desktops, internet connectivity, and other essential facilities-have become a major concern. These limitations also impede the acquisition of digital skills and the ability to benefit from digital technologies.

Research studies have consistently highlighted a significant digital skills deficit among the young population, as well as disparities in digital infrastructure across schools in India (Jadav & Choudhury, 2024; Gantla, 2026). Furthermore, estimates from ASER (2024) highlight that these gaps are more pronounced among youth in rural India, particularly in rural Telangana.

Figure 12: Percentage of Youth (aged 15-25) in Telangana and India Who Can Operate Computers by Educational Attainment



Source: Author’s estimates using unit-level data from 75th Round NSS-SCE 2017-18.

The proportion of young people with computer-operating skills increases with their level of education across social groups, that is, SCs and other social groups; however, a considerable gap persists between these groups (see Figure 12).

Table 9: Percentage of Students in Telangana and India Who Could Perform Selected Digital Skills across SCs and Others by Educational Attainment (2021)

Sl No	Indicator	Telangana						India					
		SC			Others			SC			Others		
		HS	Dip	Grad	HS	Dip	Grad	HS	Dip	Grad	HS	Dip	Grad
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Copy/move file/folder	38.8	70.7	80.1	69.3	97.4	97.0	46.7	80.1	71.4	66.2	91.3	86.5
2	Copy-Paste tools	38.1	70.7	80.0	57.3	97.4	96.6	43.3	76.1	69.6	62.9	87.8	85.1
3	Mail with attachment	32.0	70.3	75.3	51.5	97.4	91.1	25.6	60.0	56.0	42.6	75.5	73.0
4	Formula in Spreadsheet	9.5	26.1	35.8	17.3	57.7	61.2	5.7	23.3	20.5	15.6	39.0	34.6
5	e-Presentation	5.8	22.7	26.3	16.2	53.9	54.9	4.5	18.2	18.3	10.9	28.3	28.1
6	Connect/install devices	7.0	29.0	24.0	11.0	61.1	52.2	7.9	26.3	23.6	16.9	44.4	37.7
7	Write a program	1.5	7.7	4.2	6.1	0.8	26.7	0.6	6.3	4.2	2.1	8.4	8.4

Source: Author’s estimate using unit-level data of 78th round NSS-MIS in 2021. HS - Higher Secondary; Dip - Diploma; Grad – Graduation.

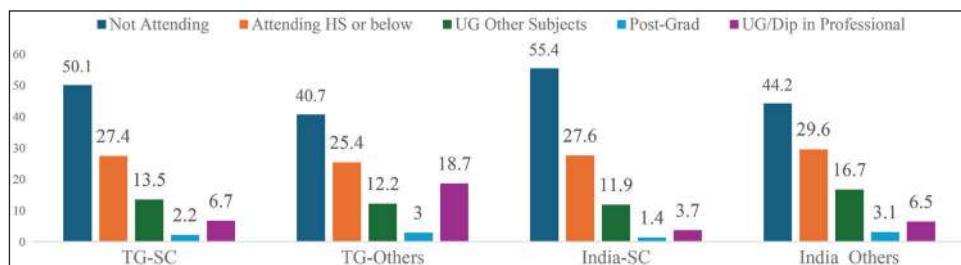
The percentage of students who are able to perform computer operations increases with their level of education in Telangana and nationally (see Table 9). However, this percentage declines as the difficulty level of tasks increases—from basic operations such as copying or moving files and folders to more advanced tasks such as connecting or installing devices or writing programmes. Diploma and undergraduate students perform better than higher secondary students across most tasks. This pattern is comparable across Scheduled Castes and other social groups in both Telangana and India. However, Telangana performs better than the national average. Disparities between social groups persist at each level of education and across all types of computer operations, both within the state and nationwide.

Skills and Employability

Accumulated deficits in knowledge, skills, and competencies—arising from low participation and inadequate training at the pre-primary level, alongside persistent shortcomings in quality and learning outcomes across successive stages of school education—become compounded by the time students reach graduate level. This cumulative disadvantage ultimately manifests in significant challenges related to graduate employability. Since 2014, the annual India Skills Report series has consistently highlighted persistent employability gaps among graduates. Although there has been some improvement over the past 12 years, nearly half of all graduates across various fields of study remain deemed unemployable. Telangana, which had intermittently featured among the top ten states for employability, has lost its position in the most recent survey.

Telangana's higher education system exhibits several distinctive characteristics, most notably the predominance of college-age student enrolment in STEM, technical, and professional programmes (Motkuri & Revathi, 2025, 2026). While the diversification of post-secondary enrolment—from conventional humanities, arts, and social sciences (HASS) to STEM fields—is widely regarded as desirable, it has posed a significant challenge across India (Ravi et al., 2020). However, Telangana has made considerable progress in overcoming this challenge. Nevertheless, the distribution of youth by attendance status, level of education, and enrolment in professional programmes among Scheduled Castes and other social groups in Telangana and India reveals notable social disparities, even though the state performs better than the national average overall (see Figure 13).

Figure 13: Distribution of Youth (15-24) in Telangana and India by Attendance Status, Level, and Professional Course across Social Groups (SCs and Others)



Source: Author's estimates using unit-level data of PLFS-2025.

In Telangana, a higher proportion of Scheduled Caste (SC) youth aged 14-24 are not enrolled in any educational institution, are studying at or below the higher secondary level, or are pursuing non-technical undergraduate programmes than among other social groups. Conversely, their representation in postgraduate education and in technical or professional courses at undergraduate and diploma levels is lower. Among other social groups in the state, enrolment in undergraduate and diploma-level technical and professional programmes exceeds enrolment in non-technical undergraduate courses by 6.5 percentage points. In contrast, this pattern is reversed for SCs in the state and for both social groups at the national level. Although SCs in Telangana perform better than their counterparts in the rest of India in terms of enrolment in technical and professional courses, significant inter-group disparities persist within the state. The gap between SCs and other social groups remains substantial, with the latter having nearly three times as high a participation rate in these programmes.

Moreover, despite the state's strong performance in post-secondary enrolment diversity, particularly in desirable non-conventional programmes, a corresponding advantage in graduate skills and employability is not evident. Although available data are insufficient to clearly demonstrate social group disparities in employable skills or employment outcomes of fresh graduates, the broader context suggests potential disadvantages. SC graduates—who are more likely to rely on public or low-budget private institutions—may face structural constraints that adversely affect the development of employable skills and their subsequent labour market prospects.

In sum, Telangana's trajectory in educational participation, attainment, and development underwent a significant turnaround in the 1990s, with Scheduled Castes also experiencing notable gains. Participation rates among school and college-age

populations, along with average years of schooling among adults-particularly younger cohorts-prior to the 1990s were below the national average, but later they surpassed it. Both SCs and other social groups in the state witnessed this upward shift relative to their national counterparts. Inter-group disparities also narrowed, especially in school-age participation, illiteracy rates, and average years of schooling among younger cohorts. However, despite substantial improvements in enrolment among the college-age population across all social groups, disparities persist.

Furthermore, inequalities remain evident in access to private and English-medium schooling, learning outcomes, digital skills, enrolment in post-secondary technical and professional programmes, and opportunities for skill development and employability. These disparities are likely to translate into unequal labour market outcomes across social groups, thereby undermining the role of education as an equaliser and as a key instrument for intergenerational mobility and enhanced socio-economic status.

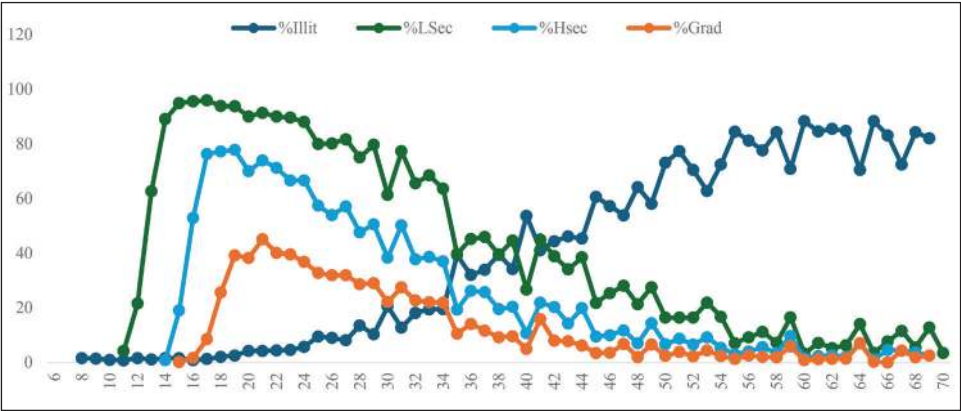
V. Educational Status of SCs in Telangana: Empirical Evidence from TSCOST Survey

This section presents the findings from the CESS-TSCOST baseline survey on Scheduled Castes in Telangana. Conducted in 2023, this extensive survey captured data from a sample of more than 10,000 households, comprising over 37,000 individuals. The sample households were drawn from all 33 districts of Telangana, spread across 400 locations (300 rural and 100 urban). This represents the most comprehensive survey of SCs in the state, covering a comprehensive range of socio-economic dimensions derived from the Sustainable Livelihoods Framework (Sankineni, 2025). Through its education module, the multi-module survey gathered information on the educational attainment and enrolment status of household members. The survey employed a multi-stage stratified sampling design and is limited to SC households; therefore, comparisons with other social groups are not included in this section. However, the data allows intra-group analysis within SCs, particularly across sub-castes such as Mala and Madiga, as well as by gender and other household characteristics. Sub-group analysis within Scheduled Castes is particularly relevant in the context of the recent sub-classification of SCs in Telangana, undertaken in response to a long-standing demand (Damera et al., 2026).

The age-specific patterns of illiteracy rates and the proportion of the population completing secondary and tertiary education closely align with estimates from the 2025

PLFS. Among SCs in Telangana, illiteracy remains negligible during school-age years, becomes noticeable at the college-going stage, and increases significantly beyond age 25 (see Figures 14 & 15). Educational attainment-measured as the proportion completing secondary (both lower and higher secondary) and graduate levels-is highest among the 11–20 and 18–23 age cohorts for SCs in Telangana (see Figures 14&15). This attainment declines progressively across older age cohorts, reflecting historically lower educational access and participation. The pronounced peak in attainment among younger cohorts indicates significant educational advancements over the past three decades.

Figure 14: Age-Wise Illiteracy Rate along with Percentages of Lower Secondary, Higher Secondary and Graduation Completed among SCs in Telangana



Source: Author’s estimates using CESS-TSCOST Survey. The sample in the figure above is truncated (winsorised) at 70 years of age because the trend thereafter is unchanged.

Children’s educational attendance among Scheduled Castes, according to TSCOST survey data, is low at the pre-primary level but rises to near saturation by age 6. It remains high until age 14, then gradually declines, flattening out from around age 24 (see Figure 16).

Figure 15: Percentage of Children and Youth Currently Enrolled by Age

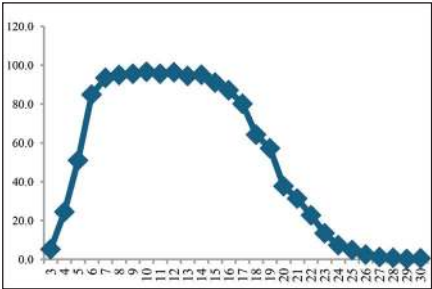
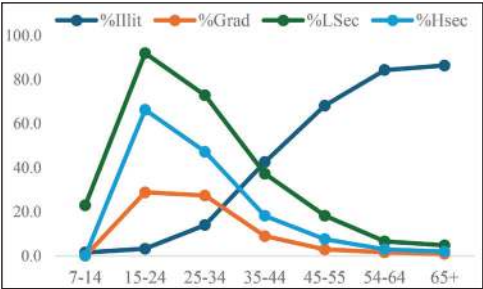


Figure 16: Illiteracy and Educational Attainment by Age-Groups



Source: Author’s estimates using CESS-TSCOST Survey, 2023.

According to the CESS–TSCOST Survey, nearly two-fifths (39%) of Scheduled Castes in Telangana are illiterate (see Table 10). Illiteracy rates vary across sub-castes, as well as by gender, location, and economic class. Among SC sub-groups, the Madiga community-comprising about two-thirds of the SC population in the state-records the highest level of illiteracy. However, disparities in illiteracy between sub-castes are relatively smaller compared to the more pronounced differences observed across gender and rural–urban locations among SCs in Telangana. Illiteracy rates among SCs, disaggregated by age cohorts and across population groups (including sub-caste and other characteristics), show a clear decline from older to younger cohorts. Across all groups, the rates are converging towards zero (see Figure 17).

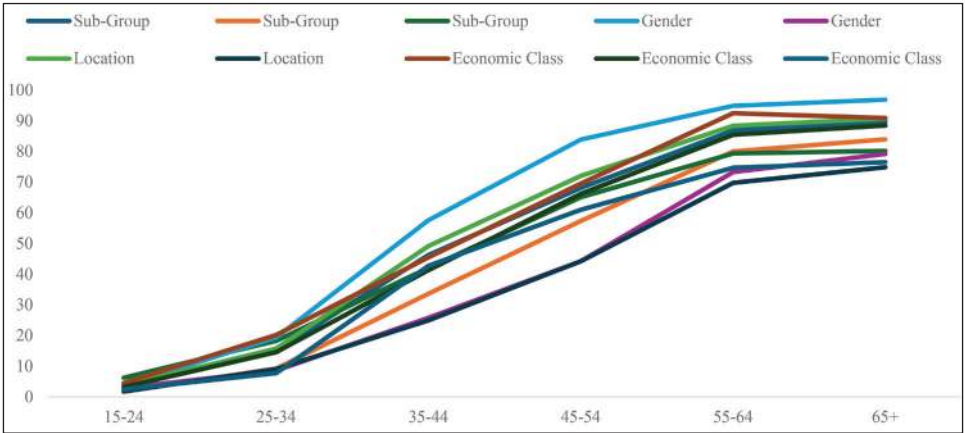
Table 10: Educational Attainment among Adult SC Population (Aged 15+) in Telangana, by Sub-Caste, Gender, Location and Economic Class

S. No.	Indicator	Dalit Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Rural	Urban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
0	% of Population	65.8	24.6	9.7	49.8	50.2	74.6	25.4	25.0	50.0	25.0	100
1	Illiteracy	40.5	35.8	37.6	29.2	48.6	43.1	26.9	41.3	35.4	34.9	39.1
2	Up to Elementary	11.9	11.1	16.0	14.1	10.0	12.0	12.0	22.1	12.5	12.1	12.0
3	Secondary +	47.7	53.2	46.4	56.7	41.5	44.9	61.1	42.0	50.0	53.0	49.0
4	Hr. Sec. +	30.8	36.2	29.0	36.5	27.6	29.5	39.3	26.8	31.5	37.2	32.0
5	Graduates	14.7	19.4	14.3	17.4	14.3	14.2	20.9	22.1	15.0	20.1	15.9

Source: Author’s estimates using CESS-TSCOST Survey of 2023. B25: bottom 25%; M50: middle 50%; and T25: top 25%.

Although 61% of the adult SC population in the state has received formal schooling, only 12% have completed elementary school. Nearly half have completed secondary education or higher, and about one-third have attained higher secondary education or above (see Table 10). Furthermore, 16% are graduates. Despite these achievements, significant disparities persist among SCs across sub-castes, gender, location, and economic classes. The Malas exhibit lower illiteracy rates and higher educational attainment than the Madigas and other sub-castes. However, disparities by gender, rural–urban location, and economic terciles are more pronounced than those across subgroups, with females, rural residents, and lower-income groups consistently lagging behind their counterparts. SC females have lower participation rates and higher dropout rates, resulting in lower educational attainment (Silveru, 2013, 2025). The pattern is similar in rural areas and among lower-income groups compared with their respective counterparts.

Figure 17: Illiteracy Rate (%) among SCs in Telangana Across Age-cohorts, Sub-Castes, Gender, Location and Economic Class



Source: Author's estimates using CESS-TSCOST Survey of 2023.

Findings from the CESS–TSCOST survey on the current attendance rate (CAR) among SCs indicate the following pattern: 27% of children in the pre-primary age group, 94% in the elementary school-age group (6–14 years), and 85.9% in the secondary school-age group are attending educational institutions (see Table 10). By contrast, only 37% of the state's college-age SC population is currently enrolled. Disparities persist across SC sub-castes, gender, location, and economic classes. However, these differences are less pronounced at the school level (from pre-primary to secondary education) and become more significant at the college level, particularly across sub-castes and between rural and urban areas (see Table 11).

Table 11: Educational Participation among SC Age Cohorts in Telangana by Sub-Caste, Gender, Location and Economic Class

S No	Cohort	SC Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Ru- ral	Ur- ban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
1	3-5 Cohort	26.6	28.1	26.7	26.6	27.4	21.6	44.7	21.7	27.8	36.5	27.0
2	6-14 Cohort	94.5	95.2	91.5	94.9	93.7	93.9	95.3	92.9	95.1	94.4	94.3
3	15-17 Cohort	85.9	87.8	81.7	84.6	87.1	84.9	88.7	86.6	86.4	83.1	85.9
4	18-23 Cohort	36.0	42.2	31.0	37.1	36.8	34.9	43.3	45.8	37.9	29.3	37.0

Source: Author's estimates using CESS-TSCOST Survey of 2023.

The proportion of currently enrolled Scheduled Caste children/students attending private institutions varies considerably, ranging from two-fifths to four-fifths across different age cohorts and the selected population groups (see Table 11). Specifically, about two-thirds of children at the pre-primary level attend private institutions, compared with one-third of school-age children and approximately one-half of college-age cohorts. The low current attendance rate (CAR) at the pre-primary level (27%; Table 11) may be associated with greater reliance on private institutions and related affordability issues. Furthermore, across age cohorts, the proportion of SC children/students attending private institutions is lower among Madigas and other sub-castes compared to Malas, lower among females than males, and lower among economically disadvantaged groups than among better-off groups. However, disparities in private institutional attendance are more pronounced between rural and urban areas and across income terciles (see Table 12).

More than half of school-age SC children currently enrolled attend public day-scholar institutions. This proportion is about one-third among pre-primary children and 44% among those of college-going age (see Table 12). Public residential educational institutions, predominantly run by the state government, accommodate 11% of SC children of primary school age, 18% of secondary school age, and 6% of college age (see Table 12). Enrolment in public residential institutions is notably higher among Madigas, girls, rural populations, and economically disadvantaged groups. Notably, a quarter of SC girls in the secondary-age cohort currently enrolled attend public residential institutions.

Table 12: Public-Private Distribution of Currently Attending SC Students by Sub-Caste, Gender, Location and Economic Class in Telangana

S No	Indicator/ Cohort	SC Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Rural	Urban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
% of Private												
1	3-5 Cohort	64.0	60.4	77.8	66.7	62.9	54.3	81.8	57.1	63.0	85.5	64.9
2	6-14 Cohort	27.2	36.7	25.5	30.5	28.0	19.1	55.2	21.6	29.5	43.4	29.3
3	15-17 Cohort	28.0	37.9	23.7	31.5	28.4	21.7	52.3	26.8	28.9	38.4	29.9
4	18-23 Cohort	47.9	55.9	47.6	52.8	47.0	46.1	59.6	45.6	47.0	61.4	49.9
% of Public Day Scholars												
1	3-5 Cohort	34.2	39.6	20.4	32.4	35.1	43.4	18.2	41.3	36.2	11.6	33.7
2	6-14 Cohort	61.4	52.1	66.2	61.2	58.1	68.1	38.3	67.7	58.9	46.9	59.7
3	15-17 Cohort	52.3	44.8	62.8	57.3	46.1	56.9	37.3	51.8	52.5	48.7	51.6
4	18-23 Cohort	45.1	39.8	45.2	43.3	44.1	46.6	36.4	45.8	46.8	34.5	43.7
% of Public Residential												
1	6-14 Cohort	11.3	10.8	8.3	8.3	13.6	12.7	6.2	10.7	11.2	9.7	10.8
2	15-17 Cohort	19.5	17.3	13.5	11.1	25.2	21.3	10.3	21.2	18.5	12.9	18.3
3	18-23 Cohort	6.9	4.4	7.1	3.7	8.8	7.2	3.8	8.5	6.0	4.1	6.2

Source: Author's estimates using CESS-TSCOST Survey of 2023.

Close to four-fifths (79%) of pre-primary and over 70% of secondary and higher-secondary school-age SC children currently enrolled are studying in English medium (Table 13). It is important to recall the caution noted earlier in this paper: the proportion of students in English-medium education exceeds that of those in private institutions, as some public day-scholar schools and all residential institutions in the state have adopted English-medium instruction. However, this raises concerns about the quality of English-medium education, particularly in public day-scholar institutions, where the same teachers who previously taught in the Telugu medium are now required to teach in English.

Table 13: Percentage of English Medium among Currently Attending SC Students by Sub-Caste, Gender, Location and Economic Class in Telangana

S No	Cohort	SC Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Rural	Urban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
1	3-5 Cohort	79.3	78.2	83.3	81.3	77.6	72.8	90.3	73.8	79.1	91.3	79.5
2	6-14 Cohort	69.2	76.9	65.4	70.9	70.3	64.9	85.3	66.3	70.9	78.2	70.6
3	15-17 Cohort	78.6	85.2	68.6	77.0	81.1	76.4	86.5	78.8	79.5	78.7	79.2
4	18-23 Cohort	84.9	90.8	78.6	84.4	87.6	82.9	93.7	84.7	85.4	88.6	86.0

Source: Author's estimates using CESS-TSCOST Survey of 2023.

The average distance SC children/students travel to educational institutions increases with age and level of education. For pre-primary children, this distance is 3.6 km. It rises to 10 km for the elementary-age cohort, 29 km for the secondary-age cohort, and 59 km for college-age students (see Table 14). Girls in the secondary age cohort tend to travel farther, primarily because a substantial proportion are enrolled in residential schools away from home. Rural children, across all age cohorts, travel greater distances than urban children. This is primarily because many rural students attend private institutions in urban areas and residential schools, often located in distant places.

Table 14: Average Distance (in Km) to Educational Institution for the Currently Attending SC Students by Sub-Caste, Gender, Location and Economic Class in Telangana

S No	Cohort	SC Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Rural	Urban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
1	3-5 Cohort	4.1	2.6	3.4	3.0	4.3	4.7	1.9	3.2	3.5	4.9	3.6
2	6-14 Cohort	10.0	9.7	11.1	9.9	10.2	11.3	6.7	9.5	10.3	10.2	10.0
3	15-17 Cohort	28.8	27.3	33.5	26.2	31.6	33.5	16.4	30.2	27.6	30.8	28.9
4	18-23 Cohort	57.8	62.2	60.8	59.0	59.3	66.8	40.1	54.5	59.4	64.1	59.1

Source: Author’s estimates using CESS-TSCOST Survey of 2023.

The percentage of SC children/students currently attending educational institutions in Telangana and receiving scholarships (pre- or post-matric) varies significantly across age cohorts and levels of education. It is as low as 5.3% among the elementary-age group, increases to 40.6% at the secondary level, and reaches a high of 70.7% among the college-age cohort (see Table 15). Similarly, the proportion of students receiving reimbursement of tuition fees (RTF) is minimal at 3.1% for the elementary cohort and 15.2% for the secondary cohort, but rises substantially to 43.7% for the college-age group.

Table 15: Percentage of Currently Attending SC Students Receiving Scholarship/ RTF by Sub-Caste, Gender, Location and Economic Class in Telangana

S No	Indicator/ Cohort	SC Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Rural	Urban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
% Received Scholarships												
2	6-14 Cohort	5.3	5.3	5.4	5.0	5.7	6.2	3.0	5.2	5.3	5.3	5.3
3	15-17 Cohort	40.0	43.7	37.2	37.9	43.2	44.3	30.5	37.7	40.5	45.6	40.6
4	18-23 Cohort	70.8	71.0	69.0	70.0	71.5	72.9	65.5	71.2	72.6	66.1	70.7
% Received RTF												
2	6-14 Cohort	2.8	3.4	4.3	2.8	3.3	3.5	2.1	5.8	2.1	1.4	3.1
3	15-17 Cohort	16.0	14.8	11.5	13.6	16.8	15.9	13.5	16.3	14.1	16.7	15.2
4	18-23 Cohort	42.5	46.7	44.4	45.9	41.5	43.4	44.6	51.0	43.4	36.0	43.7

Source: Author's estimates using CESS-TSCOST Survey of 2023.

Regarding SC children currently attending educational institutions, the proportion paying tuition fees is highest in the pre-primary cohort (see Table 16). Among school-age children, 21% incur tuition fees, while the corresponding share rises to 28.6% among the college-age cohort. However, the average tuition fee amount paid is highest among the college-age cohort and lowest among the pre-primary cohort (see Table 16). Tuition fees paid by the Madigas are considerably lower than those incurred by the Malas. Gender differences persist, albeit to a lesser extent, whereas differences across rural–urban locations and economic classes are more pronounced (see Table 16). Among those paying tuition fees, variations in the amount paid also persist.

The average household expenditure per Dalit child currently attending educational institutions is ₹12,936 for the pre-primary cohort, ₹11,050 for the elementary cohort, ₹17,760 for the secondary cohort, and ₹34,196 for the college-age cohort (Table-17). This total expenditure comprises tuition fees (for those who pay) and non-tuition educational expenses. Moreover, gender disparities in household expenditure on education across age cohorts are negligible. These disparities are relatively smaller among Dalit sub-groups but are more pronounced across rural–urban divides and among tercile economic classes.

Table 16: Proportions of Currently Enrolled Students Paying Tuition Fees and Average Amounts Paid by Sub-Caste, Gender, Location and Economic Class within SCs in Telangana

S No	Indicator/ Cohort	SC Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Rural	Urban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
% Paying Tuition Fee												
1	3-5 Cohort	44.4	46.5	46.3	47.6	42.4	37.7	57.0	35.7	45.1	62.3	45.1
2	6-14 Cohort	19.8	27.3	17.9	22.7	19.9	14.3	39.4	13.2	22.0	35.1	21.4
3	15-17 Cohort	18.4	26.5	21.2	22.6	18.7	13.1	40.8	16.5	21.0	26.2	20.6
4	18-23 Cohort	28.2	30.6	25.4	30.5	26.7	27.0	32.6	21.1	28.1	38.3	28.6
Average Tuition Fee Paid												
1	3-5 Cohort	15402	13437	17520	14842	15638	14380	16070	12489	14619	19465	15199
2	6-14 Cohort	20279	21950	19897	20389	21186	19017	22351	21380	18180	26089	20745
3	15-17 Cohort	27126	31608	23579	25851	30715	27497	28662	24677	27835	32500	28119
4	18-23 Cohort	40181	40900	21472	30256	49402	41868	33485	22783	31896	60987	39126

Source: Author's estimates using CESS-TSCOST Primary Survey 2023. Note: Expenditures are per annum.

The average educational expenditure for Scheduled Caste children across school and college-age cohorts is ₹16,895 per household. This accounts for about one-third of the average per capita income (₹53,904) of SC households in the state. Among households with at least one member currently enrolled in an educational institution, per capita educational expenditure accounts for nearly 36% of their per capita income. Notably, expenditure on the college-age cohort alone exceeds 60% of the household's per capita income. These findings underscore the substantial financial burden borne by SC households in supporting education.

Table 17: Average Expenditure on Education for Those Currently Attending by Sub-Caste, Gender, Location and Economic Class within SCs in Telangana

S No	Indicator/ Cohort	SC Sub-Caste			Gender		Location		Economic Class			All
		Madiga	Mala	Others	M	F	Rural	Urban	B25	M50	T25	
1	2	3	4	5	6	7	8	9	10	11	12	13
Per Capita Education Expenditure												
1	3-5 Cohort	12475	12711	15704	12883	12993	10450	16927	9463	12694	20100	12936
2	6-14 Cohort	10556	13332	9131	11070	11027	8011	18818	8434	10541	18020	11050
3	15-17 Cohort	17059	21125	14488	17718	17819	15053	25102	14242	17060	25880	17760
4	18-23 Cohort	32743	39826	27526	32453	35961	33924	34875	25038	30869	51969	34196
5	All	16230	20329	13131	16428	17389	14490	22919	12530	15539	28524	16895
Per Capita Household Income (PCHI)												
1	PCHI-All	52807	59035	48329	55598	52216	50701	63319	18442	44706	108011	53904
2	PCHI-CA	46049	50762	43116	47290	46461	44212	53583	19185	44042	102071	46886

Source: Author's estimates using CESS-TSCOST Survey of 2023. Expenditures are per annum.

Additionally, among those attending private institutions, 50.4% in the secondary school-age group and 20.5% in the college-age group do not receive either scholarships or reimbursement of tuition fees (RTF), and another third in both age cohorts have availed themselves of only scholarships (see Table 18). Accordingly, the tuition fees paid and total educational expenditure are significantly higher for those who do not benefit from such support than for those who do. In the college-age group, tuition fees paid by non-beneficiaries are about five times higher than those paid by beneficiaries. Among the secondary school-age group, benefit levels are approximately 2 to 7 times higher than for those who receive no support, depending on the type of benefit received. Furthermore, even among beneficiaries, the tuition fees paid remain substantial, and overall household expenditure on education remains considerably high. These become affordability economic constraints in further expanding higher education among the Scheduled Castes and other marginalised groups in the state.

Table 18: Coverage of SC Children Attending Private Institutions under Scholarships/RTF and Mean Fee Paid/Education Expenditure in Telangana

Indicator	Secondary School-Age (15-17)				College-Age (18-23)			
	None	Schol-arship	RTF	Both	None	Schol-arship	RTF	Both
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
Percent Distribution	50.4	32.1	2.7	14.8	20.5	31.1	5.4	43.0
Tuition Fee Paid (₹)	27754	13620	4333	9444	54663	14070	11500	11990
Total Education Exp. (₹)	46883	34208	17375	26899	91813	34453	44911	40183
Household Income-PC (₹)	56659	57618	36762	50998	75783	59103	79394	51345

Source: Author’s estimates using CESS-TSCOST Survey of 2023. Fees and expenditure are per annum.

The government of the erstwhile combined Andhra Pradesh introduced scholarship schemes several decades ago, in the latter half of the twentieth century, while the reimbursement of tuition fees (RTF) was introduced in the early twenty-first century. These initiatives continued and have been expanded in Telangana state, with a focus on socially and economically disadvantaged groups. The Government of India also supplements the provision of scholarships. Pre-matric and post-matric scholarships, along with maintenance support, are small in amount and general purpose, intended for students attending both public and private institutions. The RTF scheme is specifically designed to support students enrolled in private institutions that charge tuition fees. With the growing perceived value and quality of education, the demand for private institutions has been increasing. In this context, government support for

those attending private institutions, especially among SCs and other marginalised communities, becomes particularly significant. However, only about half of SCs in the college-age group attending private institutions benefit from the RTF scheme. About one-third receive scholarships, while the remaining one-fifth receive no support. Recent state government decisions regarding the RTF scheme are both confusing and concerning.

Overall, the estimates from the CESS–TSCOST survey resemble patterns observed in other data sources, as presented in the previous sections on attainment and participation. However, estimates for comparable indicators are slightly lower in this survey due to various factors, including differences in survey strategy and methodology. This section highlights disparities within SCs across sub-caste groups, gender, rural/urban location, and economic classes. It is observed that disparities based on gender, location, and economic class within SCs are more pronounced than those among their sub-groups. Girls, rural children, and those from lower socioeconomic classes show higher rates of participation in residential institutions. As a result, rural children tend to travel longer distances than their urban counterparts. The penetration of private education is high in pre-primary and higher education but relatively low in secondary education, partly due to the presence of residential institutions.

Although attendance in English-medium institutions is considerably higher, caution is warranted regarding the quality of education in government day-scholar schools that have adopted English as the medium of instruction. While the proportion of students paying tuition fees is considerable, the coverage of scholarships and the RTF scheme—especially among those attending private institutions—falls far short of universality. In addition to tuition fees, other educational expenses borne by these students are substantial. As a result, education expenditure accounts for a significant share of SC households' income. Thus, the affordability of education in terms of direct costs may constrain participation of SCs, particularly at secondary and higher education levels. In addition, multiple other factors—including discriminatory and exclusionary practices at the institutional level—play a role (Thorat & Newman, 2010; Silveru & Gundimeda, 2021).

VI. Education and Employment: Skills and Employability

The analysis shows that as the state transitioned from being educationally backward to a front-runner since the 1990s, the Scheduled Castes also made notable gains in educational participation and attainment. However, it remains puzzling to scholars

that despite narrowing inequalities in education, these gains have not translated into comparable advantages in the labour market (Motkuri, 2025). Evidence from the recent Telangana Caste Survey (TGSEEEPCS, 2024) further indicates that although backward classes, including SCs, have significantly reduced the gap in educational attainment relative to socially advantaged groups, their disadvantages persist in employment outcomes, particularly in securing professional jobs in the private sector (Revathi et al., 2026). Intergenerational mobility-reflected in improved occupational and economic status and an escape from poverty and deprivation-is a key developmental goal. From a welfare perspective, the human capital framework assigns education an instrumental role in achieving such mobility (Psacharopoulos, 1970, 1973, 1975). This potential can only be realised when educational attainment translates into access to meaningful labour market opportunities. However, results from the Telangana Caste Survey suggest that such a translation has been deferred and delayed in the state (see Table 19).

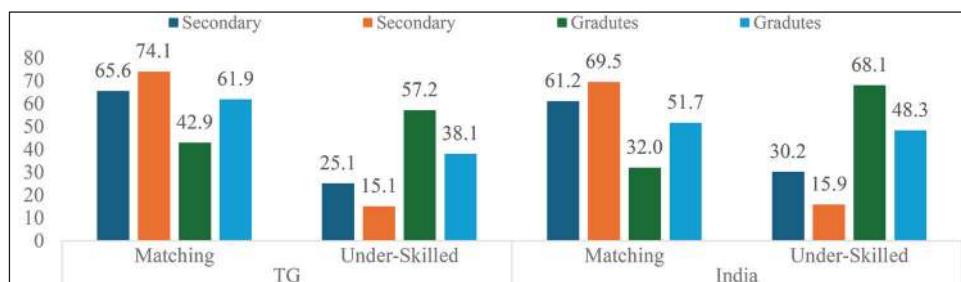
Table 19: Relative Disadvantage (RD) in Educational Attainment and Employment by Social Categories in Telangana

S No	Indicators	Indicator Value as % of Population					RD: a Ratio reference to General Category		
		All	General	BC	SC	ST	BC	SC	ST
1	2	3	4	5	6	7	8	9	10
1	SSC Completed	14.5	14.3	15.7	13.9	9.9	0.9	1.0	1.4
2	Higher Secondary Completed	12.5	11.0	12.6	14.0	11.5	0.9	0.8	1.0
3	Diploma or Graduates	23.7	36.1	22.1	20.7	17.3	1.6	1.7	2.1
4	6-29 Age Cohort Studied in Private Institutions	33.3	58.1	34.9	20.3	17.1	1.7	2.9	3.4
5	6-29 age Cohort Studied in English Medium	60.5	79.6	61.0	51.9	48.8	1.3	1.5	1.6
6	Professional Government Jobs in Workforce	4.7	9.4	4.0	4.0	3.4	2.4	2.4	2.8
7	Professional Private Sector Jobs in Workforce	9.6	21.9	8.8	7.2	3.1	2.5	3.0	7.1
8	Annual Income is between Rs. 1 lakh to 5 lakh	12.5	30.6	16.7	11.7	9.7	1.8	2.6	3.2
9	Annual Income > Rs. 5 lakhs	2.2	13.2	2.9	2.1	2.1	4.6	6.3	6.3
10	Income Taxpayers	6.0	23.5	7.9	6.0	5.0	3.0	3.9	4.7

Source: The Telangana Caste Survey (TGSEEEPCS) 2024, Government of Telangana.

The relative disadvantage (RD) of SCs, STs, and Backward Classes in educational attainment in Telangana is lower than their disadvantage in employment and income dimensions (see Table 19). This indicates that reductions in educational inequalities have not translated-either immediately or with a time lag-into corresponding reductions in employment inequalities.

Figure 18: Percentage of Young (20-35 Years) Secondary Educated and Graduate Workers Who Work in Education Level Matching Skill-Level Occupations



Source: Author's estimate using unit-level data of PLFS-2025.

An examination of young workers (aged 20-35) in Telangana, employed in occupations that match their educational qualifications, reveals notable disparities across social groups (see Figure 18). This age cohort has witnessed the gains of Telangana's educational transition since the 1990s. However, less than half of SC graduates are employed in education-appropriate occupations, while more than half are engaged in under-skilled jobs, indicating over-education. In contrast, among graduates from other social groups in the state, the share of workers in matching occupations is approximately 20 percentage points higher, with a corresponding reduction of about 20 percentage points in under-skilled or over-educated employment. For workers with secondary education, the proportion employed in matching occupations is higher for both social groups, although a significant gap persists between them. Compared to the national average, Telangana exhibits higher occupational matching for both groups, alongside a lower incidence of under-skilled employment or over-education.

Among SCs in Telangana, one-third of the youth population and one-quarter of the workforce in the specified age cohort (20–35 years) are graduates. In contrast, the corresponding share among the “others” social group in the state is higher at around 50% (see Table 20). The share of graduates among the SC youth workforce (24.8%) is about 6 percentage points lower than their share in the population (31.1%). This gap reflects a lower work participation rate (WPR) among SC graduates (48.8%), which is 12 percentage points below the state-level age-cohort average for SCs (61.3%). A key factor behind this is the very high unemployment rate (33.7%) among graduate SC youth. At the same time, the labour force participation rate (LFPR) among SC graduates in this age cohort (73.6%) is slightly higher than that of the overall SC youth population (71.8%). Both figures are also considerably higher than those for the “others” social group in the state and at the all-India level. This indicates the severe

impact of high unemployment among SC graduates in Telangana. Further, a significant proportion of the young SC workforce is engaged in under-skilled occupations, as discussed above. Compounding this issue are disparities in labour earnings within the SC graduate workforce-between those employed in matching occupations and those in under-skilled roles-as well as wage differences between SCs and “others” social group in the state (see Table 20).

Table 20: Labour Market Indicators of Graduate Youth (Aged 20–35) among SCs and ‘Others’ Social Group in Telangana and India

SI No	Indicator	Telangana		India	
		SCs	Others	SCs	Others
1	2	3	4	5	6
1	% Graduates in Youth Population	31.1	50.5	20.7	39.1
2	% Graduates in Young Workforce	24.8	50.0	18.6	38.8
3	LFPR in Youth Population (%)	71.8	68.7	66.8	64.0
4	LFPR in Young Graduates (%)	73.6	68.6	69.9	68.6
5	WPR in Youth Population (%)	61.3	55.3	62.5	58.6
6	WPR in Young Graduates (%)	48.8	54.8	56.1	58.1
7	Unemployment Rate in Youth Labourforce (%)	14.6	19.5	6.4	8.4
8	Unemployment Rate in Young Graduates’ Labourforce (%)	33.7	20.1	19.7	15.3
9	Monthly Labour Earnings in Young Workforce (₹)	15339	27882	12332	20439
10	Monthly Labour Earnings in Young Graduates’ Workforce (₹)	23311	42136	18677	30412
11	Graduates’ Labour Earnings in Matching Occupations (₹)	28241	50001	24361	36959
12	Graduates’ Labour Earnings in Under-skilled Occupations (₹)	18642	25592	14886	20765

Source: Author’s estimate using unit-level data of PLFS-2025.

On average, labour earnings of SCs in the state are nearly half those of the “others” social group across the youth workforce, young graduates, and graduates employed in matching occupations (Table 20). Even in under-skilled occupations, SC graduates’ earnings remain lower, though the gap is relatively smaller. Thus, while higher education increases earnings for both social groups, the disparity remains largely unchanged. In other words, although education raises income levels, it does not significantly narrow the earnings gap between SCs and the “others” social group in the state. Another relevant finding is the difference in graduates’ earnings between matching and under-skilled occupations. Notably, SC graduates in matching occupations earn about 1.5 times as much as those in under-skilled roles, whereas the corresponding multiple is around 2 among the “others” social group. A similar pattern is observed nationally, although average labour earnings in Telangana are generally higher across all dimensions and categories compared to the national averages.

The evidence-based scenario presented above raises several fundamental questions related to social inequalities. Globally, graduates generally exhibit markedly higher unemployment rates than illiterate and less-educated persons (Blaug, 1973; Carnoy, 1987; Khare, 2014; Tilak, 2025). However, the disproportionately high levels of unemployment and of engagement in under-skilled occupations (overeducation) among SCs, coupled with the persistence of lower wages, irrespective of their educational attainment, relative to other social groups, raise critical concerns. A deeper understanding of the interaction between economic processes and social structures is required to determine whether social identity itself acts as a determining factor in shaping these outcomes.

Classical economic theory posits unemployment as largely voluntary, frictional, or arising from wage rigidities. In contrast, the Keynesian perspective attributes unemployment to insufficient aggregate demand in the economy. New Classical economists, while broadly reinstating classical principles, emphasise the role of information asymmetries and expectations in the market-clearing process. The Diamond–Mortensen–Pissarides (DMP) framework further advances this understanding by explaining the coexistence of unemployment and labour demand- particularly for educated and skilled workers- through search frictions and the dynamics of job matching within the labour market (Mortensen & Pissarides, 1994).

However, the relatively low average earnings of SC graduates, coupled with their higher participation in under-skilled occupations, indicate resilience rather than wage rigidity. Moreover, the explanation of insufficient aggregate demand is a general macroeconomic condition and cannot, by itself, account for group-specific disparities. Therefore, the questions raised extend beyond the scope of these theoretical frameworks. Labour market segmentation theories, while strongly critiquing the neoclassical view of a unified labour market, argue that labour markets are inherently structured and segmented. These divisions arise from institutional arrangements, power relations, political processes, social structures, non-market forces, and persistent structural inequalities embedded in class, race, caste, and other socio-economic identities (Dunlop, 1958; Lindblom, 1959; Doeringer & Piore, 1971; Reich et al., 1973; Dickens & Lang, 1992).

Another potential explanation is rooted in the economic theory of social discrimination, particularly within the frameworks of taste-based and statistical discrimination, as well as identity economics (Becker, 1957; Phelps, 1972; Arrow, 1973; Akerlof & Kranton, 2010). Empirical studies in the Indian context provide evidence of exclusionary social

discrimination practices, employing methods such as *Oaxaca–Blinder* or *Fairlie* decomposition econometric techniques, as well as *audit studies* involving field experiments and *correspondence* techniques (Bertrand & Mullainathan, 2004; Thorat & Newman, 2010; Deshpande, 2011; Thorat & Thorat, 2025). Although it is implicit in the state context, further research is required to provide confirmatory evidence of identity-based social discrimination in the state's graduate labour market. Within the Indian constitutional framework, affirmative action policies-particularly the provision of reservations in public sector employment-have sought to ensure the representation of historically disadvantaged groups in such employment and equal wages, whereas the private sector largely remains outside the purview of these mandates. Moreover, with the shrinking size of the state and a growing number of graduates, private sector employment becomes crucial.

Moreover, when coupled with the above framework, the social capital perspective suggests that a lack of social networks or social capital enables education to reproduce structural inequalities, consequently leading to unequal labour market outcomes (Bourdieu & Passeron, 1977; Bourdieu, 1986). Research has shown that in recruitment processes, where employers heavily rely on referrals rather than open competition due to information asymmetries and uncertainty about whether formal qualifications accurately reflect competence, personal contacts and dense network connections play a crucial role in securing employment (Granovetter, 1974). Indeed, referral-based recruitment is a growing practice in the Indian private sector industry.

Furthermore, although the discourse on skills and employability can be traced back to the 1960s, it has gained significant prominence since the 1990s, emphasising the lack of job-relevant skills as a critical factor contributing to both unemployment and the prevalence of low-skilled employment (Motkuri & Shital, 2024; Motkuri & Revathi, 2025, 2026). Annual reports such as the *India Skills Reports*, along with various periodic assessments by other agencies, have consistently highlighted substantial skill deficits in the graduate labour market. Within this discourse, educational institutions are often held responsible for graduates' deficiencies in knowledge, skills, and competencies. A key challenge facing the education system is delivering quality education while ensuring that students achieve expected or desirable learning outcomes appropriate to their grade or level. Additionally, from an industry perspective, educational institutions are expected to produce job-ready graduates by equipping them with the skills required in the industry workplace.

From a skills perspective, the determinants of labour market outcomes are fundamentally linked to the nature and level of individuals' skills (Bowles & Gintis, 2001). An equally important question concerns the specific components that constitute this broader set of skills. Furthermore, where and how these skills are acquired is linked to the education system and formal educational institutions. Moreover, within the widely recognised dual framework of cognitive and non-cognitive skills, considerable debate remains over the subsets that comprise this overall skill vector. In the broader skills discourse, multiple categories are invoked, including hard skills, soft skills, generic skills and domain-specific skills, among others. This raises a critical question: to what extent are educational institutions equipped to impart such a diverse range of skills within curricular, co-curricular, and extra-curricular frameworks?

Skill mismatch or deficit refers to a situation where the skills possessed by graduates or job aspirants fall short of those expected by employers or industry (Motkuri & Shital, 2024). This gap often reflects a systemic shortfall, as the education system may lag in setting goals, regulating, setting standards, updating curricula or tailoring learning to evolving industry requirements. The latter raises a fundamental question about the purpose of higher education: should it prioritise knowledge creation and dissemination, or focus more on preparing graduates for employment through vocational and skill-based training? In addition to system-level issues, institutional shortcomings also contribute to skill mismatch. Educational institutions vary widely in their goals, management, specialisation, infrastructure, human resources, and medium of instruction, among other factors, all of which affect their ability to deliver quality education, mentor students, and support placements. Differences exist both within and across public and private institutions.

Finally, disparities in students' innate and acquired capacities further widen the gap in outcomes. Students differ in cognitive and non-cognitive abilities, learning pace, and socio-economic and parental backgrounds. Furthermore, students' regularity, seriousness, and career aspirations also determine their learning achievements. While educational institutions are expected to bridge these gaps, failure to do so results in unequal learning outcomes, which, in turn, shape labour market prospects. Together, these triangular shortfalls or underperformances-at the system, institutional, and student levels (SIS)-relative to prospective employers or industry expectations, have significant implications for labour market outcomes (Motkuri & Shital, 2024; Motkuri & Revathi, 2026).

The framework offers potential explanations for the high unemployment among SC graduates and their concentration in under-skilled occupations. Although the education system is formally uniform across the state, institutions differ significantly in their organisation and delivery. It is well established that nearly 85% of institutions and about 75% of higher education enrolment are under private management (AISHE, 2023-24; Motkuri & Revathi, 2025). Within both public and private sectors, institutions vary widely in the quality of education, skill formation, and effectiveness in preparing students for employment, as well as in their ability to secure opportunities through reputation and networks. High-performing private institutions command a skill premium, reflected in higher tuition and associated costs, which has important implications for household affordability. Also, technical and professional programmes are accessible at a premium cost. Therefore, SCs are overrepresented in public institutions, conventional programmes (non-technical/professional) and in those with mother-tongue instruction compared to Hindu upper castes or the “others” social group. Even among those attending private institutions, SCs tend to be concentrated in lower-cost institutions due to affordability constraints.

Although government support through scholarships and the RTF scheme is intended to mitigate the financial burden, the analysis shows that only about half of eligible students avail it. Moreover, RTF does not fully cover tuition fees in many high-cost institutions, nor does it account for associated expenses and other charges. Similarly, government schemes on overseas education for SC students-that provide financial assistance for higher education abroad-are extremely limited in their coverage.

First-generation learners, lacking parental educational support, differ widely in their learning needs and the pace of their comprehension in classroom settings. SC students educated in public institutions-often characterised by multi-grade teaching, inadequate infrastructure, and limited human resources or their absenteeism-tend to carry accumulated learning deficits into higher levels of education. Remedial measures, which are widely implemented in higher education systems in developed countries, have not received adequate attention in India or in the state. Although the University Grants Commission (UGC) introduced such measures during the Twelfth Five-Year Plan period and provided budgetary support to higher education institutions, their implementation at the institutional level has been limited and uneven. A CESS study based on a census-scale survey, covering around 90% of higher educational institutions (both universities and colleges), across programme specialisations in the state, found that while most institutions acknowledged the importance of remedial measures, in

practice, they were limited to offering an additional class, contingent on the availability of teachers and their time (Motkuri and Revathi, 2025).

Additionally, a range of skill development interventions targeting the general population, including the Scheduled Castes, are being implemented. These include Government of India initiatives such as the DDU-GKY and PMKVY, as well as State Government programmes such as the TASK and those implemented by the Scheduled Castes Development Department (SCDD). Furthermore, civil society organisations are also part of the skill development ecosystem. Nevertheless, the proportion of SC households reporting benefits from these programmes remains negligible (Sankineni, 2025).

The above analysis raises several critical concerns, particularly in light of the constitutional framework that guarantees the Scheduled Castes equal access to quality education. The critical question is whether such access translates into equality in acquired capabilities, skills, and capacities through formal education and training, leaving only innate abilities-if any-to explain any remaining differences. The evidence presented here suggests that it does not. The analysis thus indicates that while equal access to quality education is necessary, it is not sufficient. It is equally important to ensure equal opportunities for acquiring skills and capacities through formal education and training. In the absence of such opportunities, SC graduates remain underrepresented in private industry, despite possessing comparable levels of educational attainment and formal qualifications.

Education occupies a central place in major normative frameworks. It is a key component of Rawlsian primary goods, a form of knowledge endowment that enhances capabilities in Sen's framework, and a crucial instrument in the human capital approach for enabling intergenerational mobility in occupation and income. Both the Rawlsian perspective-particularly the principle of equity and the difference principle-and Sen's capability approach emphasise the need for social arrangements that are positively discriminatory, ensuring that the least advantaged derive the greatest benefit (Rawls, 1971; Sen, 1999). Accordingly, institutional arrangements within the education system must be designed and implemented to realise these normative goals, while equipping disadvantaged groups, such as SCs and other marginalised communities, with the skills and competencies required to compete effectively in open, market-based private-sector systems.

Further, in Sen's capability framework, the possession of commodities, resources, or endowments does not automatically translate into capabilities; rather, their transformation is mediated by conversion factors, including personal, social or

institutional, and environmental conditions (Sen, 1985; 1999). Therefore, educational attainment and the acquisition of relevant skills, as forms of endowments, may not necessarily or immediately translate into capabilities without appropriate enabling conditions. Social identity-based discrimination in the labour market can impede this conversion process, while social capital may facilitate it, but a lack of social capital impedes it. This underscores the importance of broader social policies and institutional arrangements that support such transformations. While state-led affirmative action remains largely confined to the public sector-which is gradually shrinking and delaying recruitment-there is a pressing need for the private sector to align with normative frameworks that promote equal opportunity.

VII. Concluding Remarks

This paper provides a situational analysis of the educational development of the Scheduled Castes in Telangana. It focuses on their attainment and participation, and on the extent to which these educational gains translate into meaningful life outcomes. Despite a legacy of educational backwardness under the erstwhile Hyderabad State and later undivided Andhra Pradesh, Telangana has made notable progress over the past three decades. While this legacy remains evident in lower literacy and attainment among older cohorts, the state has, since the 1990s, emerged as a frontrunner in school attendance and educational attainment, particularly among younger populations. The Scheduled Castes have shared in this broader progress, registering improvements in both participation and attainment.

Disparities in educational attainment between SCs and other social groups have narrowed among younger cohorts, accompanied by a reduction in participation inequalities among school-aged children. However, inequalities persist. Older cohorts continue to exhibit significant attainment gaps, while participation deficits remain at the pre-primary, secondary, and tertiary levels. Disadvantages are also evident in key sub-dimensions, including age-grade alignment, learning outcomes, digital skills, and enrolment in technical and professional programmes. SC students are underrepresented in private education, and enrolment, where it occurs, is concentrated in lower-cost institutions owing to affordability constraints. Although SCs remain underrepresented in English-medium schools, their presence in such institutions is nonetheless significant. This can be attributed primarily to the adoption of English as the medium of instruction in numerous day-scholar public institutions and nearly all residential schools. However, caution is advised regarding the quality of English-medium instruction, particularly within day-scholar institutions.

Intra-group inequalities within Scheduled Castes are more pronounced along gender, rural–urban, and economic lines than across sub-caste divisions. Gender disparities are particularly stark. Although residential institutions have supported many SC girls, rural students, and economically disadvantaged groups, dependence on public day-scholar institutions remains high. Furthermore, access to scholarships and the RTF scheme is uneven, especially at the secondary and tertiary levels.

Despite their heavy reliance on public institutions, SC households incur substantial educational expenditures, often accounting for a significant share of their household income. This financial burden rises sharply with higher levels of education and is particularly pronounced among students enrolled in private institutions that charge tuition. The burden is especially severe for those unable to access scholarships or benefits under the RTF scheme.

A central challenge is the education system's limited capacity to translate gains in participation and attainment into meaningful labour market outcomes for the Scheduled Castes. High graduate unemployment, their concentration in low-skill occupations, and persistent earnings disparities are particularly striking. These outcomes partly reflect disadvantages within the educational process that constrain the acquisition of knowledge, skills, and competencies. Moreover, structural barriers—including social discrimination, limited social capital and weak conversion factors—impede the translation of educational attainment into capabilities and effective functioning in employment and earnings. As constitutionally mandated affirmative action remains largely confined to a shrinking public sector, and the expanding private sector lacks such obligations, SCs continue to face disadvantages in labour market opportunities and earnings despite their educational credentials.

The empirical evidence presented in this paper indicates that equal access to quality education is necessary but insufficient to ensure equality in acquired abilities, including skills and competencies, or equity in labour market outcomes such as employment and earnings. The Scheduled Castes continue to experience disadvantage owing to persistent barriers within educational processes, thereby necessitating targeted policy interventions. The labour market, particularly the private sector, must align with a normative framework of equitable opportunity and fair competition, free from implicit barriers. Failure to address these issues undermines education's instrumental role in enabling economic mobility, thereby perpetuating existing inequalities.

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