

What drives Student Engagement in Indian higher education? Exploring key demographic, institutional and personal variables

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Abstract

Student engagement is widely recognized as a significant factor influencing academic and developmental outcomes in higher education. Student engagement has thus become a significant consideration for educators both as a means of understanding student behavior and performance and for addressing student needs – individually and through system-wide efforts. Against the backdrop of the massification and diversification of Indian higher education, coupled with persistent concerns regarding learning outcomes and employability, the present study has been designed to examine the factors shaping student engagement and to inform contextually relevant interventional measures. The study investigates demographic, institutional and personal variables that may predict student engagement in higher education by using differential analysis and stepwise multiple regression analysis on data collected from 553 students. The key predictors included demographic variables such as gender, socioeconomic status, locale, institutional variables, namely, Modes of Curriculum Transaction and Organizational Culture and Ambience, and personal variables such as Lifestyle, Achievement Motivation, and Perceived Relevance of Curriculum. Findings revealed a non-significant influence of demographic variables (except for gender) on student engagement. The regression model explained 30.5% of the variance in student engagement by institutional and personal variables. Institutional variables demonstrated greater predictive strength, jointly accounting for 21% of the variance, while personal variables explained an additional 10%. The findings accentuate the pivotal role of institutional practices in shaping student engagement and offer a pathway for educational stakeholders to design interventions to engagement of students in higher education.

Introduction

In an increasingly globalized and knowledge-oriented society, higher education is undergoing a significant transformation. The democratization of access to higher education, once the domain of a privileged few in developed countries, has become a global phenomenon. Today, nations across the world, including developing countries, are striving to achieve high participation in tertiary education. This expansion, however, brings with it new and complex challenges. Recent socioeconomic shifts demand not only greater access but also improved quality and relevance of education.

Quality in higher education can no longer be defined merely by infrastructure, faculty qualifications, or enrollment numbers. There is a growing consensus that deeper

indicators particularly those related to the student experience are critical to understanding and improving educational outcomes. While efforts to upgrade physical infrastructure, curricula, and administrative processes are essential, they do not automatically translate into high-quality human capital. True educational excellence lies in students being intellectually involved and emotionally invested in their learning. In other words, student engagement i.e. the degree to which students participate meaningfully in academic and co-curricular activities, is at the heart of quality education.

Student engagement is essential because it fuels sustained attention, deepens understanding, and fosters the internal motivation necessary for lifelong learning. Although often taken for granted, engagement is most visible in its absence when students appear indifferent, passive, or disconnected. Research consistently shows that engaged students are more likely to persist, perform better, and experience personal growth (Carini, Kuh & Klein, 2006; Denovan et al., 2020; Shulman, 2002; Thomas, 2019; Zepke, 2015) and academic achievement (Wong et al., 2024). Engaged students develop habits of inquiry, collaboration, and reflection that serve them well beyond college. Engagement also promotes critical thinking, and a sense of belonging (Astin, 1984; Pascarella & Terenzini, 2005). Schaufeli et al. (2002) endorsed that engagement contributes to a positive psychological state that enhances student well-being and coping mechanisms. Kahu and Nelson (2018) also found that engagement is intertwined with student well-being, identity, and success, especially for diverse student populations. Additionally, it serves as a key indicator of institutional effectiveness, guiding improvements in teaching practices and student support systems (Coates, 2005). Enhancing student engagement thus contributes meaningfully to both student success and institutional quality.

One promising approach to transform higher education is thus embedding student engagement within quality assurance mechanisms. Internationally, student engagement is increasingly being recognized as a key metric in assessing institutional effectiveness. Tools such as the National Survey of Student Engagement in the United States, Community College Survey of Student Engagement, Australasian Survey of Student Engagement, and the UK National Student Survey have been instrumental in linking engagement practices to learning outcomes (Hu & Kuh, 2002; Hockings et al., 2007; Wilson, 2010). Leading global universities like Harvard, Cambridge, and Princeton prominently report their student engagement initiatives, embedding them within curriculum design, faculty practices, and institutional policies. Asian universities also assess student engagement to ensure educational quality, emphasizing that quality assurance evaluations should be more attuned to local requirements (Hou, 2020). Zhoc et al., (2019) believed that re-examining the construct validity and cultural appropriateness of theoretically grounded student engagement measures and adapting them to the specific realities of Asian higher education appears both necessary and promising.

Student engagement in Indian higher education also has growing significance in the context of rapid system expansion, institutional diversification, changing student

demographics, and persistent concerns regarding learning outcomes and employability. India has the largest higher education with around 1,600 universities and more than 45,000 colleges, with over 44 million students. It reflects extensive institutional diversification and widening access across regions and social groups (AISHE, 2021–22). However, expansion has not been accompanied by proportional improvements in quality, leading to significant gaps in higher-order competencies such as critical thinking, communication, and problem-solving outcomes, as the India Skills Report estimates that only about 45–50% of graduates are job-ready (India Skills Report, 2024). Similarly, reports highlight mismatches between academic preparation and labour-market expectations (World Bank, 2019). In addition, concerns regarding student persistence remain significant, with national policy discussions, including the Economic Survey of India, pointing to dropout and transition challenges during the early years of undergraduate study (Economic Survey, 2023). These deficiencies accentuate the need to foster student engagement as a driver of improved learning outcomes.

Further, a closer look at Indian higher education classrooms reveals that increasing enrolment of students from rural backgrounds, first-generation learners, and socio-economically disadvantaged groups has led to growing classroom heterogeneity. Many students enter with limited academic preparation, affecting their participation and persistence. Institutional diversification has created variations in culture, teaching practices, and support systems (Mehta, 2019). Public institutions maintain traditional structures, while private ones emphasize market-oriented programs, influencing learning opportunities and participation (Sharma & Verma, 2020). Students may be acquiring disciplinary knowledge and conceptual understanding, largely because university assessment systems remain examination-oriented and emphasize content coverage and recall (Tilak, 2015; Varghese, 2019) but progression from knowledge acquisition to application-based learning is uneven, as many students struggle with academic writing, research skills, and independent learning practices, particularly those from first-generation or rural educational backgrounds (Nambissan & Rao, 2013). Further, higher-order outcomes such as critical thinking, creativity, and analytical reasoning remain comparatively underdeveloped due to lecture-dominated pedagogy and limited inquiry-based or experiential learning opportunities (Varghese, 2019). Also, early year attrition with students withdrawing due to academic difficulties, poor institutional integration, or weak campus connection, is of critical concern.

These persistent challenges underscore the need to systematically examine student engagement, as it serves as a central process and an explanatory framework linking teaching practices, institutional environment, and student participation with learning outcomes and persistence. While international research has established these relationships, empirical evidence within the Indian context remains limited, necessitating a closer examination of the context-specific factors shaping student engagement in Indian higher education.

Literature Review

International literature highlighted multiple contributory factors influencing the extent and quality of student engagement in higher education, operating across individual, instructional, and institutional levels. Among these, teaching quality and pedagogical approaches being most influential. Research shows that high-quality instructional strategies positively influence student engagement and achievement (Umbach & Wawrzynski, 2005; Pascarella & Terenzini, 2005). Student-centered methods beyond traditional lectures promote intellectual curiosity, critical discourse, and the application of knowledge to authentic problems, thereby deepening cognitive engagement and fostering emotional investment through social interaction and peer collaboration (Tight, 2023; Umbach & Wawrzynski, 2005; Zepke & Leach, 2010). Decelles III et al. (2025) highlighted relationship building, student voice, agency, and power sharing as central to engagement. They argue that engagement is most meaningful when it moves beyond a "helpful" interaction toward a critical rethinking of roles where students act as active collaborators or "allies" rather than passive recipients of teaching. Faculty-student relationships, characterized by empathy, enthusiasm, and responsiveness, further reinforce engagement by providing emotional support and academic guidance, particularly benefiting marginalized, first-generation, and underrepresented student populations (Wang et al., 2023). Supportive faculty interactions enhance students' sense of belonging (Pianta, Hamre & Allen, 2012). Studies show faculty interactions promote student integration (Tinto, 2017), while instructor support increases persistence (Bond et al., 2020). Institutional support and environment constitute another critical domain influencing student engagement. Inclusive campus climates that promote diversity, equity, and access to comprehensive academic resources create a supportive atmosphere conducive to student involvement (Kuh, 2003, 2009; Hurtado et al., 2012; Trowler, 2010). Further, Smith and Rodriguez (2022) empirically evidenced that equity and inclusion initiatives such as culturally responsive teaching and inclusive curriculum, increase engagement among diverse populations by affirming their identities and experiences. Furthermore, institutional support systems that attend to psychological needs are closely linked to sustained engagement (Maunder et al., 2023; Schunk & DiBenedetto, 2020).

Curriculum relevance and flexibility significantly influence student engagement, as linking academic content with real-world applications enhances motivation and perceived learning value (Zepke & Leach, 2010; Kuh, 2009). Studies also show that employability-oriented curricula significantly improve motivation and participation (Healey et al., 2014) and interdisciplinary approaches, blended modes of delivery accommodate diverse learner needs and support persistence, particularly among non-traditional students (Tinto, 2012; Kahu & Nelson, 2018). Besides curriculum, the meaningful peer relationships and participation in learning communities strengthen emotional commitment and active involvement, thereby improving persistence and retention (Astin, 1993; Pascarella & Terenzini, 2005; Thomas, 2012).

Individual factors also play a pivotal role. Research indicates that academic self-efficacy, motivation, interest and self-regulated learning are strong predictors of behavioral, cognitive, and emotional engagement, with self-efficacy serving as a crucial intermediary between psychological factors and learning involvement (Ryan & Deci, 2000; Fredricks et al., 2004; Wang & Zhang, 2024; Hladík, et al., 2025). Additionally, students' value orientations, peer culture, and leisure preferences shape learning attitudes and commitment to academic tasks (Kahu, 2013). Similarly, research based on self-determination theories reveals that autonomy, competence beliefs, and learning attitudes significantly influence engagement paths (Ghbari et al., 2024).

Collectively, these findings affirm that student engagement in higher education is a complex, multifaceted engagement is not solely driven by institutions or individual factors but contextually influenced phenomenon shaped by the interplay of teaching quality, institutional environment, individual motivation, curriculum design, and social integration.

Indian researchers also linked engagement to persistence and success, which is influenced by institutional climate, teaching practices, motivation, faculty support, and relevant curricula (Bansal, 2019; Gupta & Nagpal, 2021; Halder & Kumar, 2024; Singh & Srivastva, 2014; Sharif-Nia, et al., 2024; Sharma & Bhoumik, 2013). These studies are confined to specific institutions or programs and primarily focus on student engagement measurement or correlation with one or another variable. The absence of large-scale, comprehensive empirical studies examining engagement across diverse institutional settings and student backgrounds highlights a significant research gap. Therefore, this study aims to answer the following research question: 'How do institutional factors (organizational culture, modes of curriculum transaction, infrastructural support) and student personal characteristics (previous academic experiences, achievement motivation, lifestyle, and perceived relevance of the curriculum) predict student engagement in diverse Indian higher education settings?

In the present study, the selection of potential institutional factors and student personal characteristics as predictors of student engagement was grounded in its specific relevance in the Indian higher education context, existing empirical gaps in Indian research, and established international evidence. Prior studies have consistently demonstrated that teaching quality, institutional support, academic culture, and student motivation play a critical role in shaping students' participation and learning experiences. Examining institutional variables is particularly relevant in India, where public and private higher education institutions differ substantially in resources, academic practices, and learning environments. Moreover, the growing presence of first-generation learners and students from heterogeneous schooling backgrounds makes previous academic experiences and evolving lifestyles especially significant in understanding engagement patterns within Indian universities. The contextually grounded findings may contribute to practices and policy in enhancing student engagement, for example, by informing targeted interventions

to address structural inefficiencies, reduce student attrition, and improve learning outcomes within the Indian higher education system.

Methodology

The current research employed a descriptive survey research design to investigate the characteristics and factors influencing student engagement in higher education. This method was deemed suitable as it facilitated the systematic gathering and analysis of data concerning students' engagement levels and the related institutional and personal factors. Differences in student engagement across demographic variables, viz., gender and native places of students (rural–urban) were analyzed using independent samples *t*-tests. One-way analysis of variance (ANOVA) was employed to examine variations in student engagement across social categories (SC/ST, OBC, and General) and economic groups (low-, middle-, and high-income). Regression analysis was performed to assess the individual and combined predictive contributions of institutional and personal variables in explaining the variance in student engagement.

Sample

The study included students from public and private universities in Punjab, India, using a multistage simple random sampling approach. Initially, two public and two private universities were randomly selected from eligible institutions, excluding those offering highly specialized programmes. Faculty and programme lists were then compiled to ensure representation from both professional and non-professional programmes across science and social science disciplines. Owing to differences in programme availability and nomenclature between institutions—public universities largely offering traditional courses and private universities more professional programmes. Programmes were primarily selected through random sampling, with comparable courses included where necessary to enable institutional comparison. The sampling frame comprised 17 programmes representing diverse academic streams. Postgraduate students in their second semester were selected, as they were considered sufficiently adjusted to the university environment and available during data collection. Initially, 1,048 students participated. Data were collected through a standardized student engagement scale along with seven instruments measuring institutional and personal variables, administered during multiple classroom visits. Only fully completed responses were retained; consequently, 447 cases with missing data were excluded. The final sample consisted of 553 students, including 271 from public universities and 282 from private universities.

Research Instruments

The study employed a set of eight standardized instruments developed by the researcher. The Student Engagement Scale was constructed on a multidimensional theoretical framework comprising cognitive, affective, and behavioral dimensions of engagement. Cognitive engagement was conceptualized as students' investment in learning through active thinking, meaningful understanding, and the use of higher-order cognitive

processes, reflected in items related to deep learning strategies, self-regulation, and sustained effort to comprehend complex ideas. Affective engagement represented students' emotional responses to learning, including interest, enjoyment, anxiety, or frustration, as well as their sense of belonging, emotional connection with teachers and peers, and personal investment in educational goals. Behavioral engagement encompassed observable student actions such as effort, participation, and adherence to academic expectations, including attendance, timely submission of work, and active involvement in classroom activities.

To assess institutional determinants, four tools were constructed: a scale on *Infrastructural Support* examining the availability and quality of physical facilities; a scale on *Organizational Culture and Ambience* assessing institutional values and norms; and *Modes of Curriculum Transaction* scale evaluating teaching methods, teacher–student interaction, and evaluation practices. Personal variables were assessed through four additional instruments: the *Previous Academic Experiences* scale, measuring students' prior human, social, and cultural capital; an *Achievement Motivation* scale assessing the tendency to strive for success; a *Lifestyle* scale examining attitudes and values influencing academic behaviour; and a *Perceived Curriculum Relevance* scale assessing students' perceptions of the usefulness and future relevance of curricular content.

Items for the instruments were developed in accordance with established scale-construction guidelines (Kerlinger, 1998). Face validity was initially established through discussions with research scholars, followed by expert review to ensure clarity and relevance of content. The preliminary versions were pilot tested on a sample similar to the target population to assess practicability in terms of length, administration, and scoring. Feedback from respondents, interview inputs, and readability analysis informed subsequent revisions, leading to the removal of ambiguous or unclear items. Content validity was further strengthened through expert evaluation of item relevance, representativeness, and redundancy. The refined tools were then administered to a small sample to compute the Item Discrimination Index following Thorndike and Hagen (1977). Reliability was established using split-half reliability and Cronbach's alpha, in line with accepted standards (Kline, 2000).

The items in the final Student Engagement scale were reduced to 66 (23 items for Cognitive, 22 for Affective and 21 for Behavioral Engagement) from the initial 95 items after face validity by experts and item analysis. Cronbach alpha coefficient of Student Engagement Scale was .951, indicative of an 'excellent' internal consistency range.

For statistical analysis, *t*-tests and one-way ANOVA were employed to examine differential variations in student engagement across groups. The predictive efficiency of institutional and personal variables in determining student engagement in higher education was assessed using regression models. In the multiple regression analysis, only those variables that demonstrated a significant preliminary association with the dependent

variable, as identified through Pearson’s product–moment correlation analysis, were included. Statistical significance was evaluated at the .05 level.

Findings

The sample comprised a higher proportion of female students (65.22%) than males (34.78%). Most respondents were from urban areas (61.49%), while 38.51% belonged to rural backgrounds. Socially, 72.03% were from the general category, followed by Scheduled Castes (16.83%), Backward Classes (7.84%), and Scheduled Tribes (3.24%). Economically, 43.98% of students belonged to the low-income group, 39.77% to the middle-income group, and 16.25% to the high-income group. Overall, the distribution broadly reflects national trends reported in AISHE, particularly increased female participation and the inclusion of socio-economically diverse learners. Against this backdrop, differential analysis was conducted to examine whether demographic characteristics were associated with variations in student engagement (Table 1).

Prior to differential analysis, overall engagement levels were examined. Results indicated that 38.77% of students demonstrated average engagement, suggesting participation that was present but not consistently deep. Notably, 28.99% fell in the low-engagement category, indicating a sizeable group potentially at risk of weaker learning outcomes and reduced persistence, while 32.24% were highly engaged. The overall pattern points to uneven engagement across the student population, underscoring the need for institutional strategies to move students from moderate and low toward higher engagement levels.

Variable	Group(s)	Cognitive Engagement	Behavioral Engagement	Affective Engagement	Overall Engagement
Gender	Female*/Male	$t = 4.05^{**}$, $p = .000$	$t = 4.50^{**}$, $p = .000$	$t = 4.85^{**}$, $p = .000$	$t = 5.18^{**}$, $p = .000$
Locale	Urban/Rural	$t = 0.73$, $p = .468$	$t = 0.20$, $p = .842$	$t = 0.25$, $p = .807$	$t = 0.28$, $p = .784$
Economic Class	3 groups (Low–middle–High)	$F = 1.61$, $p = .170$	$F = 2.10$, $p = .080$	$F = 1.63$, $p = .166$	$F = 1.20$, $p = .311$
Social Status	Gen, SC, ST, OBC	$F = 1.44$, $p = .218$	$F = 1.28$, $p = .277$	$F = 0.82$, $p = .510$	$F = 1.07$, $p = .371$
Type of University	Private* vs. Public	$t = 0.95$, $p = .340$	$t = 1.99$, $p = .047^{**}$	$t = 0.99$, $p = .322$	$t = 0.12$, $p = .902$

Table 1: Differential Analysis of Student Engagement across Demographic Variables

* Higher group mean ** Significant difference

The differential analysis revealed significant gender-based differences in student engagement, with female students exhibiting higher cognitive, behavioral, affective, and overall engagement levels compared to male counterparts. A statistically significant difference was also observed in behavioral engagement between students of private and public universities, favoring the private over the public ones. Except for these, no significant differences were found in student engagement across locale (urban vs. rural), economic class, or social status categories. These results suggest that gender and institutional type may be influential factors in shaping student engagement, while other demographic variables had a negligible effect on student engagement levels.

Correlation analysis revealed that all the selected institutional variables (i) Organization Culture and Ambience-OCA ($r=0.415, p=.000$) (ii) Modes of Curriculum Transactions-MCT ($r=0.442, p=.000$), (iii) Infrastructural Support-INFS ($r=0.236, p=.000$), and personal variables of the students, viz. (i) Previous Academic Experiences at school-PAES ($r=0.226, p=.000$) and college level-PAEC ($r=0.255, p=.000$) (ii) Achievement Motivation-AM ($r=0.288, p=.000$) (iii) Perceived Relevance of the Curriculum-PROC ($r=0.304, p=.000$) and (iv) Lifestyle-LS ($r=0.313, p=.000$) were positively and significantly related to student engagement in higher education.

Further, to identify the contribution of these variables towards the variance in the criterion variable, student engagement in higher education, a stepwise multiple regression analysis was conducted. On computing stepwise multiple regression analysis, three predictors, Previous Academic Experiences at School (PAES), Previous Academic Experiences at College (PAEC), and Infrastructural Support (INFS) were excluded by SPSS due to their weaker correlations with the dependent variable. Consequently, five independent variables exhibiting the strongest correlations with student engagement were retained in the model, selected sequentially based on the strength of their associations. The results of the stepwise multiple regression analysis are summarized in Table 2 and explained below:

Model	Predictors	R	R ²	Adj. R ²	ΔR ²	F	p
1	Modes of Curriculum Transaction (MCT)	.442	.195	.194	—	133.46	< .001
2	MCT, Lifestyle (LS)	.510	.260	.258	.065	96.58	< .001
3	MCT, LS, Achievement Motivation (AM)	.536	.288	.284	.028	73.71	< .001
4	MCT, LS, AM, Organizational Culture and Ambience (OCA)	.550	.303	.298	.015	59.38	< .001
5	MCT, LS, AM, OCA, Perceived Relevance of Curriculum (PROC)	.558	.311	.305	.008	49.38	< .001

Table 2: Summary of Stepwise Multiple Regression Analysis Predicting Student Engagement **Note.** ΔR² = Change in R² from the previous step; Adj. R² = Adjusted R²; $p < .001$ for all models.

In Model 1, Modes of Curriculum Transaction (MCT) alone significantly predicted student engagement, $R = .442$, $R^2 = .195$, $F(1, N) = 133.46$, $p < .001$, indicating that approximately 19.4% of the variance in student engagement was explained by MCT.

In Model 2, the addition of Life Styles (LS) increased the explained variance by 6.5%, $\Delta R^2 = .065$, $R^2 = .260$, $F(2, N) = 96.58$, $p < .001$. In other words, 6.5% variance in student engagement is due to the lifestyles of students in higher education.

Model 3 added Achievement Motivation (AM), resulting in a modest but statistically significant increase in variance explained ($\Delta R^2 = .028$), with a total R^2 of .288, $F(3, N) = 73.71$, $p < .001$. Achievement motivation of students brings 2.8% variation in their engagement.

Model 4 incorporated Organizational Culture and Ambience (OCA), contributing an additional 1.5% to the explained variance in student engagement ($\Delta R^2 = .015$), $R^2 = .303$, $F(4, N) = 59.38$, $p < .001$.

Finally, in Model 5, the inclusion of Perceived Relevance of Curriculum (PROC) raised the explained variance to 31.1% ($R^2 = .311$), although the incremental gain was modest i.e. 0.08% ($\Delta R^2 = .008$). The overall model remained statistically significant, $F(5, N) = 49.38$, $p < .001$.

Collectively, the final model accounted for a meaningful proportion of the variability in student engagement. The adjusted R^2 of .305 indicates that approximately 30.5% of the variance in student engagement can be predicted by the combined influence of institutional and personal factors. Among these, the two institutional variables, i.e. *Modes of Curriculum Transaction and Organizational Culture and Ambience* were the most influential, jointly explaining approximately 21% of the variance. In comparison, the three personal variables, namely, *Lifestyle, Achievement Motivation, and Perceived Relevance of Curriculum*, accounted for an additional 10% of the variance in student engagement. These findings underscore the greater predictive power of institutional conditions in shaping student engagement within the higher education context.

While the explained variance in student engagement may appear moderate, it is considered satisfactory given the inherently complex and multifaceted nature of student engagement, which is influenced by a wide range of psychological, social, and contextual factors. Despite incorporating several key predictors, approximately 70% of the variance remains unexplained, highlighting the need for further research to identify additional determinants that may contribute to student engagement in higher education.

To further examine the contribution of individual dimensions of the most influential predictor of student engagement, i.e. Modes of Curriculum Transaction (MCT) separate stepwise multiple regression analyses were conducted (Table 3).

Model	Predictors	R	R ²	Adj. R ²	ΔR ²	F	p
1a	Teacher–Taught Relationship (TTR)	.396	.156	.155	—	101.99	< .001
1b	TTR, Methods of Teaching (MT)	.441	.195	.194	.39	37.15	< .001

Table 3: Stepwise Regression Analysis of Dimensions of Modes of Curriculum Transaction

The regression analysis revealed that among the dimensions of the predictor *Modes of Curriculum Transaction*, the Teacher–Taught Relationship (TTR) emerged as a significant individual predictor of student engagement. TTR alone accounted for approximately 15.6% of the variance in student engagement, $R = .396$, $R^2 = .156$, $F(1, N) = 101.99$, $p < .001$. This indicates that the quality of the teacher–student relationship plays a substantial role in shaping students' engagement levels in higher education.

Subsequently, the addition of the second dimension, Methods of Teaching (MT), significantly improved the model, contributing an additional 3.9% to the explained variance in student engagement, $\Delta R^2 = .039$, bringing the total R^2 to .195, $F(2, N) = 37.15$, $p < .001$. This suggests that the approach and techniques employed in teaching further enhance students' engagement when considered alongside relational aspects. Collectively, TTR and MT—two dimensions of the broader construct *Modes of Curriculum Transaction* explained 19.5% of the variance in student engagement, reinforcing the importance of both interpersonal and instructional practices in fostering meaningful academic involvement.

Regression analysis further revealed that cognitive engagement was predicted primarily by modes of curriculum transaction, whereas affective and behavioral engagement were mainly influenced by organizational culture and institutional ambience, with smaller contributions from achievement motivation and lifestyle factors. Perceived curriculum relevance accounted for a modest additional variance in affective engagement. These findings indicate that different dimensions of student engagement are shaped by distinct influences: cognitive engagement depends largely on instructional practices, while affective and behavioral engagement are more strongly linked to the broader institutional environment, alongside limited individual factors. Overall, the results underscore the need for targeted strategies addressing both teaching practices and institutional climate to foster holistic student engagement.

Discussion

The findings revealed that overall student engagement in Indian universities tended to be average to low, with only a minority exhibiting high engagement. This reflects broader systemic challenges in Indian higher education. While studying the determinants of engagement, it was found that, except for gender, demographic variables did not

significantly impact student engagement, while institutional and personal factors emerged as key predictors. The notable gender differences can be understood in India, as in many developing nations, girls often exhibit higher levels of academic involvement due to a mix of intrinsic drive, persistence, and societal expectations (UNESCO, 2020). Family pressures urge girls toward academic success for social mobility and financial independence, especially where education offers an alternative to early marriage (Grant & Hallman, 2008). Studies also show girls demonstrate better self-regulation, study habits, and classroom discipline, enhancing their academic engagement (Duckworth & Seligman, 2006). Further, the minimal effect of demographics may stem from engagement's psychological nature. When institutions provide equitable learning opportunities and support systems, socioeconomic disparities' influence decreases (Kahu, 2013). Individual motivation and academic goals mediate engagement more than demographic traits. Fredricks et al. (2004) demonstrated that engagement is shaped by teaching quality, learning environment, and institutional support rather than background characteristics. Thus, while demographics may affect access, they may not be a determinant of student engagement post-enrollment.

The key drivers of student engagement in Indian higher education included both institutional and personal factors, together accounting for 30.5% of the variance in engagement. Institutional elements, particularly curriculum delivery and organizational culture, emerged as the strongest influences, explaining 21% of the variance, while personal factors contributed 10%. Among these, the teacher–student relationship emerged as the single most important predictor (15.6%), highlighting the dual importance of both relational and instructional elements in curriculum delivery. These findings highlight the pivotal role of institutional structures, environments, and pedagogical practices in shaping students' academic engagement. This aligns with existing literature suggesting that student engagement is significantly influenced by the quality of curriculum delivery, faculty interactions, and the broader organizational culture of educational institutions (Coates, 2005; Kahu, 2013; Quin, 2017; Trowler, 2010; Zepke & Leach, 2010; Zhang & Aasheim, 2011).

Low levels of student engagement and associated institutional determinants identified in the study are indicative of teacher-centered modes of curriculum delivery, inadequate teacher–student interaction and relation, less supportive organizational culture and not much relevant curriculum in Indian higher education that reduce opportunities for active learning, discouraging participation and academic involvement, collectively resulting in moderate to low overall engagement among its students. Our findings indicate the teacher–student relationship as the strongest predictor of engagement, a phenomenon further illuminated by the socio-cultural context of Indian higher education. Traditionally, the Indian teacher–student relationship has been shaped by a hierarchical '*Guru–shishya*' model, where teachers are viewed as authority figures and knowledge transmitters, and students are expected to demonstrate respect, obedience, and limited questioning (Kumar, 2005). While this structure historically fostered reverence for learning, in

contemporary mass higher education, it may unintentionally discourage open dialogue, critical questioning, and help-seeking behaviour—key components of student engagement. Institutional conditions further reinforce this pattern. In many private universities, faculty members face intense performance monitoring, administrative reporting, and ranking-driven accountability structures, which constrain the time and emotional labour required to build supportive relationships with students (Tilak, 2015; Varghese & Sabharwal, 2017). Conversely, in public universities, large class sizes, bureaucratic responsibilities, and research pressures may reduce opportunities for sustained interaction with learners. Across both sectors, due to limited formal preparation in pedagogy or andragogy, faculty rely on traditional lecture-based approaches, restricting relational and participatory practices (Joshi & Ahir, 2019; Kumar & Kumar, 2018). When combined with institutional pressures, the cultural norms may further constrain the development of supportive and interactive teacher–student relationships.

Previous research and reports consistently also indicated that curriculum and pedagogical practices in Indian higher education had several structural deficiencies that limit effective student learning and engagement. Curricula remain largely content-heavy, examination-oriented, and insufficiently aligned with interdisciplinary learning, skill development, and industry relevance, resulting in superficial learning outcomes. Research also found inadequate flexibility and weak integration of curriculum with local contexts and diverse learner needs, which restricts inclusiveness and responsiveness to heterogeneous student populations (Altbach, 2015; Srivastva & Srivastva, 2024, Tilak, 2015). Teaching practices continue to be predominantly lecture-based and teacher-centered, with limited use of active learning, collaborative pedagogy, or formative assessment, thereby constraining students' cognitive and participatory engagement (Malik & Annalakshmi, 2022; NEP, 2020). Research further highlights that although policy frameworks such as NEP-2020 advocate multidisciplinary, learner-centered and competency-based reforms, empirical evidence suggests a persistent policy–practice gap, with many institutions struggling to translate reform intentions into classroom pedagogy (RISE Programme, 2022; Kahu, 2013). Further, Indian higher education is shifting from a purpose-driven to a data-driven academic culture. Increasing emphasis on rankings, accreditation metrics, and performance indicators has encouraged institutions to prioritize measurable outputs and documentation over meaningful learning processes and student development. The system has become more compliance-oriented, where teaching, mentoring, and student support receive comparatively less institutional attention. Faculty time is increasingly consumed by reporting, audit preparation, and evidence generation, limiting opportunities for pedagogical innovation and relationship-building with students. Consequently, education risks becoming outcome-reporting rather than learning-centered, weakening student engagement and undermining the broader developmental purpose of higher education envisioned in national policy frameworks.

While this study focused on institutional and personal determinants of student engagement, it is important to acknowledge that broader socio-economic factors (e.g.,

instrumental orientation, aptitude-course mismatches) were beyond the scope of our investigation and may contribute significant additional variance. Future research could explore these in detail. The rapid expansion of the system has led many students to adopt an instrumental or casual orientation toward higher education, viewing degrees primarily as credentials rather than as processes of learning, which weakens intrinsic motivation and engagement (Tilak, 2015; Arum & Roksa, 2011). Additionally, inadequate educational and vocational guidance often results in aptitude–course mismatches, where students enroll in programmes misaligned with their interests or abilities, reducing academic involvement and persistence (Watts & Fretwell, 2004). Engagement is further affected when students are unable to relate classroom learning to real-life contexts due to examination-oriented pedagogy and limited experiential learning opportunities (Biggs & Tang, 2011; Kahu, 2013). Moreover, the persistent academic–vocational gap in India, reflected in concerns over graduate employability and skill readiness, may diminish students’ perceived value of academic effort and participation (India Skills Report, 2023; World Bank, 2020). The findings of this study, while robust within its defined scope, offer a partial understanding of student engagement. A more comprehensive understanding necessitates future investigation into the unexamined broader variables.

Recommendations

Enhancing student engagement in India requires a multi-faceted approach that addresses pedagogy, institutional culture, and support systems. To begin with, teaching strategies need a significant transformation. In contrast to school-level education, faculty in Indian universities are often selected based on their subject expertise, with little emphasis on formal training in effective teaching methods. This perpetuates the belief that subject expertise alone equates to teaching proficiency (Varghese & Malik, 2016). Although Human Resource Development Centres, now known as MMTC, have been established to improve teaching quality through orientation programs, refresher courses, and faculty induction programs, these initiatives are mandatory for college and university faculty. However, they remain heavily content- and lecture-focused, reflecting traditional pedagogical methods rather than promoting active, learner-centered teaching practices. These programs also offer limited contextualization for discipline-specific teaching challenges, large classroom settings, or the diverse needs of learners typical in Indian universities. Faculty development should extend beyond subject matter expertise to include training in active learning strategies, such as problem-solving exercises, collaborative projects, and reflective assignments, as well as classroom dynamics and inclusive practices to address the needs of increasingly diverse learners. Involving professionally trained pedagogical experts, rather than relying solely on senior disciplinary faculty, could enhance these programs. Innovative approaches can further support engagement; for example, Warikoo (2025) illustrates that gamification, when thoughtfully integrated into curricula, can significantly boost student participation and motivation. Further, for culturally diverse classrooms like India, culturally responsive pedagogy is more pertinent as recommended by Byrom & Cawkwell (2023), that implementing inclusive, student-centered practices for

disadvantaged students, educators need to bridge the gap between traditional methods and modern, technology-based instruction.

Additionally, fostering teacher-student relationships should be a key institutional goal. Structured mentoring, tutorial groups, and academic advising can offer personalized support, particularly for first-generation and rural students. Teachers must be attuned to the social identities and life experiences of their students and adapt curriculum design and assessment to create truly inclusive learning environments (Hockings, Cooke & Bowl, 2007). Indian educators need to transition from a hierarchical authority role to one of active facilitation, as modern learners now prioritize pedagogical responsiveness and relational support over traditional content delivery. Reducing administrative burdens could allow faculty to engage more with students. Instead of sporadic standalone tutorial sessions, incorporating 5-10 minutes in each class for students to express their concerns, queries, and issues could be beneficial. Collaborative learning environments, where faculty and students co-create learning experiences, can enhance confidence, participation, and academic identity formation, especially among students who have traditionally felt marginalized in higher education.

Thirdly, institutions should enhance the relevance of their curriculum by partnering with industry and engaging with the community during the development or revision process. Moreover, moving away from exam-focused assessments to competency-based evaluations will foster deep learning instead of rote memorization. Internships, fieldwork, and industrial projects can effectively connect theoretical knowledge with practical application (NEP, 2020). Institutions ought to actively solicit student feedback and create mechanisms to ensure their participation in academic decision-making. To achieve genuine inclusion, institutions must extend beyond basic infrastructure to offer a comprehensive support system that includes counseling services, peer-learning platforms, and specialized bridge or language programs. However, structural support is most effective when it is accompanied by a professional work culture that students can emulate. As Johnson et al. (2007) assert, it is the fundamental duty of an institution to nurture an environment of psychological safety and belonging that transcends racial, caste, or socio-economic barriers. Additionally, engagement is enhanced when universities adopt a developmental approach and integrate motivation-building initiatives into their support services. Career guidance and aptitude alignment are crucial through orientation, counseling centers, and skill-mapping initiatives to reduce course-aptitude mismatches. When students establish purposeful goals and structured routines, engagement becomes sustainable rather than situational. Matthews et al. (2023) showed that when students are actively involved in academic decision-making, their sense of ownership, belonging, and responsibility toward learning increases, making engagement a collaborative process rather than solely a student responsibility, thereby contributing to institutional improvement and deeper learning experiences.

With regards to improving achievement motivation and lifestyles, the structured mentoring, formative feedback, and participatory classroom practices will enhance students' goal clarity and self-confidence, thereby strengthening achievement motivation. Simultaneously, supportive teacher–student interactions combined with counselling, peer learning, and guidance on time management will encourage healthier academic lifestyles and balanced learning habits.

At the policy level, metric-based, quantitative and data-driven quality measurement and ranking approaches should be replaced with outcome-oriented evaluation systems that assess institutions on student learning, engagement, and developmental outcomes. Drawing on global practices such as learning-outcome funding and engagement assessment frameworks like the National Survey of Student Engagement and teaching-quality models such as the Teaching Excellence Framework, such a shift would encourage institutions to prioritise meaningful learning, retention, and student-centered educational environments over performance metrics alone.

Collectively, these evidence-based measures suggest that enhancing engagement in India requires coordinated reforms in pedagogy, curriculum relevance, faculty preparation, and student support ecosystems. Ultimately, fostering meaningful engagement requires aligning policy frameworks with these reforms to make higher education meaningful for all students who enter.

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