

Perceived Institutional Support and Psychological Well-Being Among International Students in Universities in India: The Mediating Role of Student Engagement

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Abstract

This study examines the relationships among perceived institutional support (PIS), student engagement (SE), and psychological well-being (PWB) among international students in Indian higher education. Data were collected via an online survey from 201 international students and analyzed using partial least squares structural equation modeling (PLS-SEM). PIS had a significant positive relation with SE, which in turn strongly predicted PWB. The direct association of PIS on PWB was negative and non-significant, indicating a suppression-type full mediation. SE amplifies rather than merely transmits the benefit of institutional support through a suppression-type full mediation. Personal growth (outer loading = .793) and self-acceptance (.807) emerged as the dominant well-being dimensions responsive to institutional action. These findings suggest that Indian higher education institutions will generate stronger psychological returns by investing in engagement-centered strategies: structured peer mentoring, intercultural learning communities, and achievement recognition programs, rather than relying on passive resource provision alone.

Keywords: Perceived institutional support; psychological well-being; student engagement; PLS-SEM; international students; Indian higher education.

Introduction

International students occupy a uniquely challenging position within higher education. Beyond the academic pressures familiar to all students, they contend with cultural adjustment, social isolation, language barriers, and the disorientation of navigating unfamiliar institutional environments; each of which takes a measurable toll on both engagement and well-being (Andrade, 2006; Smith & Khawaja, 2011). Student engagement (SE), understood as students' behavioral, cognitive, and emotional investment in learning (Fredricks et al., 2004; Kahu, 2013), and psychological well-being (PWB), conceptualized from a eudaimonic perspective (Ryff & Keyes, 1995), are closely intertwined and together constitute essential foundations of

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academic success. Perceived institutional support (PIS), rooted in perceived organizational support (POS) theory (Eisenberger et al., 1986), captures students' beliefs that their institution genuinely values their contributions and cares about their well-being. While distinct from general social support in its organizational character, the role of PIS in shaping student functioning has received surprisingly limited empirical attention, particularly outside Western higher education contexts.

Three important gaps remain in the existing literature. First, the majority of studies treat both engagement and well-being as unidimensional constructs, thereby overlooking sub-construct dynamics that matter considerably for intervention design. Second, few studies have integrated POS theory and self-determination theory (SDT; Deci & Ryan, 2000) into a single model to trace how institutional support shapes student well-being. Third, despite India's rapidly growing international student population, empirical evidence from this context remains remarkably sparse (Aristovnik et al., 2020; Li et al., 2025). Addressing these gaps carries real practical weight: understanding the mechanism by which institutional support affects student well-being equips university administrators in India to move beyond generic services and to design interventions that are genuinely responsive to the psychological and academic realities of international students. This study tests a mediation model in which SE links PIS to PWB, treating both as multidimensional constructs, and derives findings with direct implications for practice in the Indian higher education context. Notably, the study finds that PIS promotes PWB exclusively through engagement; the direct relation is negative and non-significant, and a suppression-type pattern whose theoretical and practical implications are developed in full below.

Literature Review and Hypothesis Development

PIS in Higher Education

PIS, adapted from POS theory (Eisenberger et al., 1986) to the student context, refers to students' perceptions that their institution values their contributions and cares about their well-being. Unlike general social support, PIS captures the organizational dimension of support: orientation programs, counseling services, mentoring, and academic facilities. Students who perceive higher institutional support demonstrate greater resilience, reduced distress, and stronger academic integration (Chaudhry et al., 2024; Gbobaniyi et al., 2023; Li et al., 2025). SDT further explains this link: environments that satisfy students' needs for autonomy, competence, and relatedness foster intrinsic motivation and positive psychological outcomes (Deci & Ryan, 2000, 2017).

Psychological Well-Being of International Students

Ryff and Keyes (1995) conceptualize PWB as a six-dimensional construct covering self-acceptance, purpose in life, environmental mastery, positive relations with others, personal growth, and autonomy. This eudaimonic model resonates strongly with the international student experience, precisely because it foregrounds the kind of sustained, adaptive functioning that studying abroad demands, rather than momentary happiness or the absence of distress (Byrd & McKinney, 2012; Diener et al., 2018). International students carry a particular psychological load. Acculturative stress, encounters with discrimination, financial uncertainty, and the severance of long-established social ties do not arrive one at a time; they tend to accumulate, often within the first months of arrival, and their combined weight falls in ways that most domestic students simply do not experience (Razgulin et al., 2023; Smith & Khawaja, 2011). It is against this backdrop that the institution's role must be understood. Far from being peripheral to student well-being, universities and colleges represent, for many international students, the most accessible and consistent source of support available to them.

Student Engagement as a Mediating Mechanism

Fredricks et al. (2004) describe SE as a three-dimensional construct spanning behavioral, emotional, and cognitive investment in learning. Each of these dimensions is, for international students, harder to sustain than the literature on domestic populations might suggest. Academic conventions that domestic students take for granted can feel opaque or alienating; cultural distance makes a genuine emotional connection to the university community genuinely difficult to achieve; and persistent language demands slow and sometimes discourage the kind of deep cognitive engagement that academic success requires (Byrd & McKinney, 2012; Smith & Khawaja, 2011). Supportive institutional environments can work against these tendencies by creating the conditions in which belonging becomes possible, integration feels achievable, and academic involvement is actively encouraged (Chaudhry et al., 2024; Graham et al., 2023). When engagement takes hold and persists, it does more than improve academic performance. Drawing on SDT, sustained engagement generates competence, meaning, and real social connection, which are the foundational conditions of eudaimonic well-being (Deci & Ryan, 2017; Pui et al., 2024). This is precisely what positions SE as a theoretically compelling mediator in the present model.

International students may also experience less visible but equally significant pressures, in addition to structural challenges. These include guilt about relying on family for financial support, the expectation to represent one's home country, and the loss of familiar cultural spaces, foods, and social traditions. These experiences are rarely captured in institutional needs assessments but can have a significant impact on students' well-being. Language hurdles, racism, xenophobia, and varied family expectations make student engagement more complex. International students also have to learn to study in a second or third language and adjust to institutional environments that may not fully reflect their cultural backgrounds as domestic students. These interlinked challenges are mutually compounding, making equitable engagement more difficult than is often acknowledged in the literature.

Hypothesis Development

PIS and Psychological Well-Being

When students believe that their institution takes their contributions seriously and has a genuine interest in their welfare, something shifts in how they experience university life. This is the core insight of POS theory as applied to the student context: perceived support is not simply a backdrop to academic functioning but an active influence on psychological outcomes (Eisenberger et al., 1986). Research in higher education has consistently found that students who feel recognized and supported by their institution report stronger well-being and greater capacity to manage the demands placed on them (Chaudhry et al., 2024). For international students navigating an unfamiliar environment, this relationship is likely to carry even greater weight.

H1: PIS has a positive association with PWB.

PIS and Student Engagement

Engagement, operationalized as behavioral, emotional, and cognitive association in academic life, is influenced by the organizational system. SDT holds that a system that satisfies students' welfare needs fosters intrinsic motivation and deep involvement (Deci & Ryan, 2000). Empirical evidence shows that a supportive institutional environment promotes high engagement in higher education (Graham et al., 2023; Karabchuk & Roshchina, 2023).

H2: PIS has a positive association with SE.

SE and Psychological Well-Being

Engagement serves as a proximal indicator of students' greater engagement in academic and social practices. Evidence (Chaudhry et al., 2024; Puii et al., 2024) indicates that active involvement is associated with greater well-being outcomes, such as enhanced life satisfaction and resilience. Based on the SDT viewpoint (Deci & Ryan, 2017), involvement indicates satisfaction and intrinsic motivation, which promote a favorable psychological mind.

H3: SE has a positive association with PWB.

Student Engagement as a Mediating Mechanism

Incorporating POS theory and SDT into a single model, it posits that SE functions as a mediating process through which organizational context shapes well-being. Organizational support promotes intrinsic motivation, crucial for engagement and involvement, thereby fostering well-being. Research has shown that engagement serves as a mediator linking a supportive environment to psychological outcomes (Chaudhry et al., 2024; Gbobaniyi et al., 2023; Xin, 2022). Maintaining both direct and indirect paths permits investigation of partial mediation, demonstrating the potential for organizational support to exert both direct and indirect relations.

H4: SE mediates the relationship between PIS and PWB.

Methodology

Participants and Sampling

The target population comprised international students enrolled in Indian higher education institutions. Given the absence of any formal sampling frame for this population, a combined convenience and snowball sampling approach was adopted. The survey was promoted through institution-based communication channels, email platforms, and social media networks; respondents were encouraged to share the link within their own peer networks. This distribution strategy, while not equivalent to probability sampling, is well-suited to geographically dispersed populations whose members are most readily reached through social ties (Etikan et al., 2016). Participants from 30 countries responded to the survey. Of the 204 initial responses received, three were excluded due to uniform response patterns, yielding a final analytical sample of 201. While the sample reflects considerable national diversity, the absence of a formal population registry precludes confirmation of proportional representation across nationalities; this constraint is acknowledged as a limitation of the study.

Measures

PIS was measured using a 12-item scale adapted from Rhoades and Eisenberger (2002). SE was assessed using the University Student Engagement Inventory (USEI; Maroco et al., 2016), covering behavioral, emotional, and cognitive dimensions. PWB was measured with a six-dimensional scale adapted from Ryff and Keyes (1995). All items used a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

A pilot study with 51 participants across three Indian states (Andhra Pradesh, Punjab, and Kerala) assessed item clarity, response distributions, and internal consistency. Missing data analysis confirmed no missing values. Cronbach's alpha values were: PIS ($\alpha = .946$), SE ($\alpha = .902$), and PWB ($\alpha = .638$, initial). The lower PWB reliability reflected multidimensionality and reverse-coded items; two items from the Personal Growth and Positive Relations subscales displaying negative inter-item correlations were removed. Following minor wording refinements to address floor effects, ceiling effects, and high response variability, PWB internal consistency improved to $\alpha = .735$. The final questionnaire comprised 43 items (PIS: 12; SE: 15; PWB: 16).

Model Specification

PIS was operationalized as a unidimensional reflective construct. SE and PWB were specified as second-order reflective–formative constructs, with their respective first-order dimensions as formative indicators at the higher-order level (Diamantopoulos & Winklhofer, 2001). A disjoint two-stage approach was adopted for estimating higher-order constructs (Becker et al., 2012).

Data Collection

Data were collected during December 2025, a period when students had completed at least one full semester, ensuring sufficient exposure to institutional support structures and academic routines to provide meaningful responses. Ethical approval was obtained prior to data collection. Participation was voluntary, with informed consent obtained electronically.

Data Analysis

PLS-SEM was used for analysis (Hair et al., 2022). Reliability was assessed via Cronbach's alpha and composite reliability ($CR \geq .70$). Convergent validity was evaluated using average variance extracted ($AVE \geq .50$; Fornell & Larcker, 1981). Discriminant validity was assessed using the HTMT ratio (Henseler et al., 2015). Mediation was tested using bootstrapping (5,000 resamples) following Nitzl et al. (2016) and Zhao et al. (2010). Common method bias was assessed using Harman's single-factor test (28.972%), which confirmed no single factor accounted for more than 50% of variance (Podsakoff et al., 2003); full collinearity VIF values were also inspected as a more rigorous supplementary check and were within acceptable limits ($PIS \approx 1.45$, $SE \approx 2.05$, $PWB \approx 1.53$) (Kock, 2015). Model fit was evaluated using SRMR ($< .08$).

Results

Measurement Model

Table 1 presents reliability and validity statistics for all lower-order constructs (LOCs). All Cronbach's alpha and CR values exceeded .70. AVE values surpassed the .50 threshold, confirming convergent validity. Item CE2 showed a moderate loading ($\lambda = .490$); deletion testing confirmed that its removal did not improve AVE or CR beyond acceptable thresholds, and it was retained on both statistical and theoretical grounds (Hair et al., 2022). The rho_A value for Environmental Mastery exceeded 1.000 ($\rho_A = 1.252$). This is attributable to the high inter-item correlation between EM2 and EM3, which, while reflecting the construct's narrow measurement scope, do not conceptually duplicate one another: EM2 captures being overwhelmed by daily demands, and EM3 captures a sense of situational control. Given strong CR (.931) and AVE (.872), EM was retained. The HTMT values for all construct pairs fell below .85, confirming discriminant validity. PR items (PR1 and PR2) displayed negative inter-construct correlations with several other constructs, consistent with their reverse-scored nature in the original Ryff and Keyes (1995) scale; this is a scoring artifact and does not reflect a genuine negative relationship.

Table 1*Reliability and Validity of Lower-Order Constructs*

Construct	Items	Loadings	α	ρ_A	CR	AVE
PIS	PIS1–PIS12	.722–.859	.950	.952	.956	.644
BE	BE1–BE5	.747–.814	.838	.840	.885	.607
CE	CE1–CE5	.490–.848	.778	.809	.850	.539
EE	EE1–EE5	.809–.938	.936	.956	.951	.795
AU	AU1–AU3	.878–.919	.887	.918	.929	.813
EM	EM2–EM3	.889–.976	.870	1.252	.931	.872
PG	PG1–PG3	.810–.930	.859	.883	.914	.781
PL	PL1–PL2	.827–.923	.708	.779	.869	.768
PR	PR1–PR2	.898–.932	.808	.829	.912	.838
SA	SA1–SA3	.823–.930	.869	.919	.918	.789

Note. PIS = Perceived Institutional Support; BE = Behavioral Engagement; CE = Cognitive Engagement; EE = Emotional Engagement; AU = Autonomy; EM = Environmental Mastery; PG = Personal Growth; PL = Purpose in Life; PR = Positive Relations; SA = Self-Acceptance.

Higher Order Constructs

Table 2 reports the formative outer weights and loadings for SE and PWB. All VIF values were below 5, ruling out multicollinearity. For SE, all three dimensions showed significant weights. For PWB, PL showed a non-significant weight ($\beta = .173$, $p = .138$) but a significant outer loading ($\beta = .653$), justifying its retention (Hair et al., 2022). The non-significant weight for PL suggests that purpose in life, while a valid component of PWB, contributes less distinctively than personal growth or self-acceptance among this sample, possibly because international students' sense of purpose is already channeled through their study-abroad decision itself. The PR dimension showed a non-significant weight ($\beta = -.117$, $p = .215$) and a marginal outer loading ($-.198$, $p = .070$); its reverse-scored items are consistent with the measurement approach, but its formative contribution to PWB was weak in this sample.

Table 2*Higher-Order Construct Weights and Loadings*

Path	Outer Weight	t	p	Outer Loading	VIF
BE → SE	.389	3.703	.000	.838	1.844
CE → SE	.359	3.524	.000	.835	1.878
EE → SE	.459	4.732	.000	.814	1.372
AU → PWB	.188	1.836	.066	.558	1.262
EM → PWB	.251	2.343	.019	.563	1.175
PG → PWB	.399	3.467	.001	.793	1.491
PL → PWB	.173	1.483	.138	.653	1.480
PR → PWB	-.117	1.241	.215	-.198	1.064
SA → PWB	.373	2.813	.005	.807	1.624

Structural Model

Table 3 presents the direct relations. All VIF values were below 5. PIS had a significant positive association with SE (H2: $\beta = .564$, $t = 10.492$, $p < .001$, $f^2 = .467$), and SE had a significant positive relation with PWB (H3: $\beta = .693$, $t = 10.881$, $p < .001$, $f^2 = .554$). The direct relations to PIS on PWB was negative and non-significant (H1: $\beta = -.106$, $t = 1.465$, $p = .143$, $f^2 = .013$), leading to the rejection of H1 (See Figure 1).

Figure 1

The structural model diagram indicates the reflective-formative relationship between HOCs

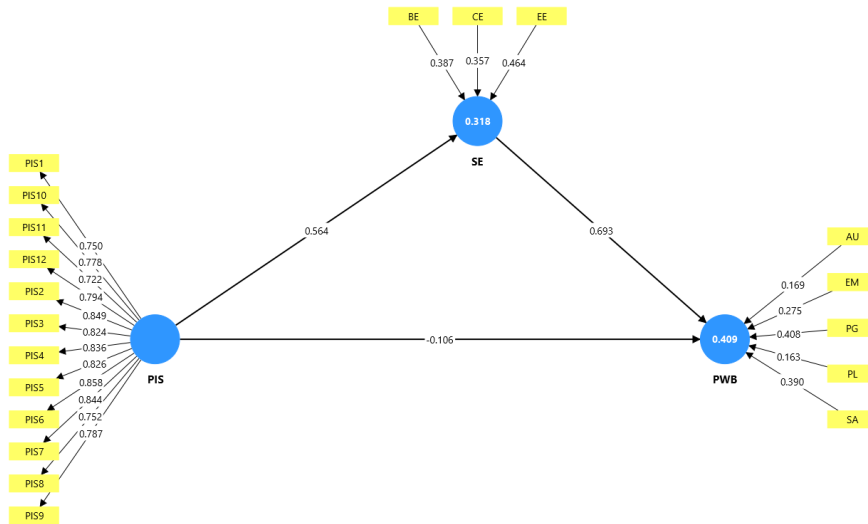


Table 3

Direct Effects and Effect Sizes

Path	Hypothesis	β	t	p	f^2	Decision
PIS $\rightarrow$ PWB	H1	-.106	1.465	.143	.013	Not supported
PIS $\rightarrow$ SE	H2	.564	10.492	<.001	.467	Supported
SE $\rightarrow$ PWB	H3	.693	10.881	<.001	.554	Supported

Table 4 presents the mediation results. The indirect effect of PIS on PWB through SE was significant ($\beta = .391$, $t = 6.569$, $p < .001$), while the direct effect remained non-significant. Following Zhao et al. (2010) and Nitzl et al. (2016), this pattern constitutes suppression-type full mediation: the indirect and direct effects carry opposite signs, indicating that SE not only transmits but amplifies the effect of institutional support on well-being by counteracting a latent suppressive direct path. The total effect was positive and significant ($\beta = .285$, $p < .001$), confirming the overall beneficial role of PIS. PIS explained 31.8% of the variance in SE ($R^2 = .318$), and PIS + SE explained 40.9% in PWB ($R^2 = .409$). Model fit was satisfactory ($SRMR = .066 < .08$). PLSpredict Q^2 scores were positive for all constructs except PL ($Q^2 = -.007$), which did not materially affect overall predictive relevance.

Table 4*Mediation Analysis*

Effect	Path	β	t	p	Result
Total	PIS $\rightarrow$ PWB	.285	3.983	<.001	Significant
Direct	PIS $\rightarrow$ PWB	-.106	1.465	.143	Non-significant
Indirect (H4)	PIS $\rightarrow$ SE $\rightarrow$ PWB	.391	6.569	<.001	Supported

Discussion

This study set out to examine the relationships among PIS, SE, and PWB among international students in Indian higher education, with SE hypothesized as the primary mediating mechanism. The findings are discussed below in the order of the hypotheses.

H1 (PIS $\rightarrow$ PWB direct) was not supported; the direct path was negative and non-significant ($\beta = -.106$). This result deserves careful interpretation; it does not mean that institutional support is harmful. What it reveals, rather, is a suppression dynamic (Nitzl et al., 2016; Zhao et al., 2010): in the absence of active engagement, institutional support structures may fail to reach students psychologically, and may in some cases introduce a subtle counterforce: whether through the performance expectations that formal support carries, or through a form of institutional dependency that marginally compromises the autonomy dimension of eudaimonic well-being. The practical message is direct: the mere availability of support is not sufficient. Support must actively draw students into engagement if it is to yield genuine psychological returns.

H2 (PIS $\rightarrow$ SE) was strongly supported ($\beta = .564$, $f^2 = .467$ —a large association). When international students feel that their institution genuinely values their presence and responds to their needs, they invest more deeply across all three dimensions of engagement: behavioral, emotional, and cognitive. This finding sits comfortably within the broader logic of POS theory (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002) and aligns with growing evidence that perceivably supportive environments are among the most reliable drivers of sustained student engagement (Graham et al., 2023; Karabchuk & Roshchina, 2023).

H3 (SE $\rightarrow$ PWB) was equally well-supported ($\beta = .693$, $f^2 = .554$ —again a large association). The pathway is conceptually coherent: sustained engagement cultivates the very experiences that SDT identifies as foundational to eudaimonic well-being: competence, meaning, and genuine belonging (Chaudhry et al., 2024; Deci & Ryan, 2017; Puiu et al., 2024). For international students who are simultaneously negotiating cultural and academic transitions, this matters in a particular way: engagement does not merely improve performance, it provides a structured, institution-mediated pathway to psychological stability.

H4 was supported. SE fully mediates the PIS–PWB relationship through a suppression-type mechanism (Zhao et al., 2010; Nitzl et al., 2016). That the indirect effect ($\beta = .391$) substantially exceeds the total effect ($\beta = .285$) is not an arithmetic curiosity; it is the signature of suppression: SE does not merely channel the influence of institutional support, it actively amplifies it by counteracting the latent negative direct path. This positions engagement not as a passive conduit, but as the mechanism through which institutional investment is converted into psychological benefit. The finding resonates with Xin (2022), who similarly documented engagement as the critical mediating link between perceived support and student psychological outcomes.

Practical Implications

The findings carry specific, data-driven implications for student success administrators in Indian higher education institutions hosting international students. First, the strong PIS–SE relationship ($f^2 = .467$, a large association by conventional benchmarks) establishes that engagement, not well-being itself, should be the proximate target of institutional investment. Simply making support services available is insufficient; institutions must actively draw students into academic and social life. Concretely, this means structured peer mentoring programs that pair new international arrivals with senior students from similar backgrounds, intercultural learning communities embedded within academic departments, and faculty-facilitated integration seminars that bridge classroom learning with social participation. These are not cosmetic additions: the SE–PWB path ($f^2 = .554$) confirms that once engagement is secured, psychological well-being follows with considerable force. Second, the negative direct PIS–PWB path is a signal that support, perceived as obligatory or paternalistic, may marginally suppress

the autonomy dimension of well-being. Administrators should reframe support services as student-led resources rather than institutional obligations—opt-in counselling, student-driven cultural events, and self-directed mentoring choices preserve the sense of agency that underpins eudaimonic functioning. Third, personal growth (outer loading = .793) and self-acceptance (.807) were the strongest formative contributors to PWB in this sample, while purpose in life was the weakest (.653, non-significant weight). This tells practitioners where to focus: reflective learning portfolios, cultural competence workshops, and formal achievement recognition ceremonies address the specific dimensions of well-being most amenable to institutional action for this population. Emotional engagement (outer loading = .814 toward SE) was the single strongest predictor among SE dimensions, suggesting that belonging and emotional connection to the university, not merely academic compliance, is the gateway through which institutional support reaches student well-being.

Limitations and Future Research

Several limitations of the present study warrant acknowledgment. The cross-sectional design, while appropriate for an initial test of the proposed model, does not permit causal inference; longitudinal designs would be better placed to trace how shifts in institutional support practices translate into changes in engagement and well-being over time. The non-probability sampling approach, necessitated by the absence of a formal sampling frame, constrains generalization; future studies with access to institutional registries should employ probability-based methods. Although common method bias was not identified as a critical concern here, as supported by both Harman's single-factor test and full collinearity VIF assessment, reliance on self-report data remains an inherent limitation, and CMB cannot be ruled out given the self-report cross-sectional design. Treating students from 30 nationalities as a single analytical group is a further constraint; multi-group analysis by nationality or region of origin would surface important heterogeneity that the present study was unable to examine. Finally, the contextual specificity of the findings, grounded in the Indian higher education system, invites caution in generalizing across national higher education contexts. Comparative cross-national research and studies incorporating additional antecedents such as faculty support, self-efficacy, and social integration would substantially advance understanding in this area. The rho_A value for Environmental Mastery (EM) exceeded 1.000 ($pA = 1.252$). Despite its attribution to the high inter-item correlation between EM2 and EM3, this is a major limitation of this study.

Conclusion

This study demonstrated that perceived institutional support promotes psychological well-being among international students in Indian universities exclusively through student engagement, via a suppression-type full mediation. Perceived institutional support had a strong positive relation with student engagement, which in turn strongly predicted psychological well-being; the direct path from perceived institutional support to psychological well-being was negative and non-significant. These findings carry a clear message for student success leaders in Indian higher education: institutional support works, but only when it actively engages students. The data are specific about where to focus: personal growth (outer loading = .793) and self-acceptance (.807) are the psychological outcomes most responsive to what institutions do, while emotional engagement (outer loading = .814) is the behavioral gateway through which support reaches well-being. Practically, this means investing in achievement recognition programs, cultural competence workshops, reflective learning portfolios, and emotionally inclusive campus environments, not as supplementary initiatives, but as the primary levers of international student psychological flourishing in the Indian higher education context.

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