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# Academic Resilience and Institution Type Among Pre-Service Teachers

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***Abstract***
***Background:*** *Academic resilience is the capacity to adapt well when there is adversity, stress or pressure in academic settings and has three constituent dimensions — Perseverance, Reflective and Adaptive Help Seeking (RAHS), and Negative Affect and Emotional Regulation (NAER). The study investigated the academic resilience between public and private teacher education institutions, and tested the moderating role of institution type on the relationship between academic resilience and academic achievement among pre-service teachers in Manipur.*
***Material and Method****: A cross-sectional survey was administered to N = 200 pre-service teachers. Academic resilience was measured using the ARS-30 (Cassidy, 2016). Data were analyzed using descriptive statistics, independent t-test, Cohen's d and moderation analysis.*
***Results:*** *Private institution students scored significantly higher on global academic resilience, Perseverance, and RAHS; NAER was significantly higher in public/government institution students. Moderation analyses revealed that institution type significantly predicted academic achievement only in the NAER model (B = 2.63, p = .028), but no Predictor × Institution Type interaction was statistically significant (all p > .63).*
***Conclusion****: The resilience–achievement pathway is invariant across institutional context, supporting the implementation of universal resilience-building interventions in teacher education.*
***Keywords****: academic resilience, ARS-30, institution type, moderation, pre-service teachers, academic achievement*

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## I. Introduction

Academic achievement is a central indicator of success in teacher education, reflecting the extent to which pre-service teachers acquire the knowledge and competencies required for effective professional practice (Richardson et al., 2012). Among the personal resources associated with academic success, *academic resilience* — the capacity to maintain motivation, engagement, and performance in the face of academic challenges — has emerged as a construct of considerable practical significance (Cassidy, 2016; Martin & Marsh, 2008). The Academic Resilience Scale–30 (ARS-30; Cassidy, 2016) operationalizes this construct across three dimensions: (a) *Perseverance*, sustained effort and goal-directed persistence; (b) *Reflective and Adaptive Help Seeking* (RAHS), strategic mobilization of academic and social resources; and (c) *Negative Affect and Emotional Regulation* (NAER), management of academic-related stress. Global academic resilience — the aggregate of all three dimensions — provides a comprehensive index of students' overall adaptive capacity (Cassidy, 2016).

In Manipur — a northeastern Indian state characterized by geographic isolation, infrastructural constraints, and socio-political disruption (Devi & Singh, 2021) — government and private teacher education institutions differ substantially in resources, instructional climate, and student support infrastructure, which may produce differential resilience development and achievement trajectories. While international research finds that institution type influences academic resilience (Elnaem et al., 2024; Naseem, 2022; Khalilah, 2023), direct empirical tests of institution type as a moderator of the ARS-30–achievement relationship in the Northeast Indian context remain absent. The *equifinality principle* (Ungar, 2011) predicts that even when institutional contexts produce different mean resilience levels, the functional pathway from resilience to achievement may remain structurally invariant. The present study tested this prediction with pre-service teachers in Manipur.

## II. Objectives of the Study

The present study addressed two primary objectives:

(1) To compare academic resilience and Academic Resilience dimensions scores between pre-service teachers.

(2) To examine whether institution type moderates the relationship between each Academic Resilience dimensions and academic achievement.

## III. Review of Related Literature

**Academic Resilience: The ARS-30 Framework**

Academic resilience describes students' capacity to maintain positive academic functioning despite the challenges, setbacks, and pressures inherent in higher education (Martin & Marsh, 2008) Seminal theoretical work by Masten (2001) established that resilience is not an extraordinary trait but an ordinary adaptive process rooted in the activation of protective resources at individual, relational, and systemic levels. Cassidy (2016) extended this framework to higher education, developing the ARS-30 as a multidimensional self-report measure grounded in self-regulated learning theory (Zimmerman, 2000) The three subscales capture distinct but theoretically related resilience processes: motivated goal pursuit (Perseverance), strategic resource mobilization (RAHS), and emotional coping (NAER). The ARS-30 has demonstrated strong internal consistency ($\alpha$ = .88–.92) and factorial validity across diverse postsecondary populations, making it the most widely validated academic resilience measure currently available.

Perseverance is consistently the most potent ARS-30 predictor of academic outcomes, theoretically aligned with grit (Duckworth et al., 2007) and conscientiousness (Poropat, 2009), both of which show robust positive associations with academic performance in meta-analytic reviews. Credé et al. (2017) found that perseverance-related traits predicted GPA incrementally beyond cognitive ability. RAHS reflects adaptive metacognitive help-seeking behaviour — strategically drawing on instructors, peers, and institutional resources — and is linked to academic achievement in self-regulated learning research (Newman, 2002; Zimmerman, 2000). NAER, by contrast, shows weaker and more variable associations with objective performance indicators; its effects are more strongly tied to academic well-being and persistence than to course-level grades (Putwain et al., 2021; Richardson et al., 2012).

**Institution Type and Academic Outcomes**

Research across diverse higher education contexts documents meaningful differences between government and private institutions in academic motivation, self-efficacy, resilience, and performance. Bernardo et al. (2018), in the Philippine higher education context, found that private institution students reported higher academic motivation and achievement, attributing these differences to a more intensive instructional climate and greater resource availability. Naseem (2022) found that the resilience–engagement correlation was substantially stronger in private higher education institutions ($r$ = .707) than in public institutions ($r$ = .559), suggesting that institution type may condition how resilience operates functionally within the academic context. Khalilah (2023) demonstrated that contextual institutional factors shaped academic resilience profiles in both state and private university settings. Elnaem et al. (2024) found higher scores of academic resilience among private institutions than the public scores in Malaysian pharmacy education.

Within the Indian higher education landscape, the public\government–private divide in teacher education is particularly pronounced. Public teacher education institutions in Manipur are governed by the state education department and the National Council for Teacher Education (NCTE), and often face resource constraints, infrastructural deficits, and geographic challenges that may limit the quality of academic support available to students (Devi & Singh, 2021; Naik, 2013). Private institutions frequently invest more heavily in student support infrastructure and instructional capacity to remain competitive in the teacher education market (Sharma, 2016) These structural differences create a natural quasi-experimental context for examining the institutional conditioning of academic resilience. However, whether these differential institutional environments alter the *mechanism* by which resilience predicts achievement — as opposed to merely shifting mean resilience levels — is a theoretically distinct question that only moderation analysis can address.

**Academic Resilience in Pre-Service Teacher Education**

Pre-service teacher preparation is characterized by simultaneous cognitive, emotional, and professional demands that make academic resilience particularly salient (Flores & Day, 2006) Mansfield et al. (2016) identified perseverance and adaptive help-seeking as the central resilience factors enabling teacher candidates to navigate programme demands, and linked these dispositions to stronger academic and professional outcomes. In the Northeast Indian context, pre-service teachers face additional stressors including socio-political instability, limited access to high-quality academic resources, and the cultural and linguistic challenges of navigating curricula that may not reflect local realities (Devi & Singh, 2021) Despite this distinctive contextual backdrop, empirical research on academic resilience among pre-service teachers in Manipur remains limited, and no prior study has employed the Academic Resilience framework to examine institution type as a moderator of the resilience–achievement relationship in this population. The present study addresses this gap, contributing region-specific evidence critical for informing locally relevant teacher education policy and practice.

## IV. Method

**Participants and Design**

A quantitative cross-sectional moderation design was employed. Participants were $N = 200$ pre-service teachers in B.Ed. programme across public/government ($n$ = 100, 50%) and private ($n$ = 100, 50%) teacher education institutions in Manipur, India. Convenience sampling ensured equal representation across institution types. Institutional approval and informed consent were obtained prior to data collection.

**Measures**

The ARS-30 (Cassidy, 2016) is a 30-item self-report measure employing a five-point Likert response format (α = .88–.92) yielding three subscale scores — Perseverance (14 items), RAHS (nine items), and NAER (seven items) — and a Global Academic Resilience.

**Statistical Analysis**

Group differences in ARS-30 scores were examined using Welch's independent-samples $t$-tests with Mann–Whitney $U$ tests as non-parametric verification, and Cohen's $d$ as the effect-size index. Moderation analyses followed Hayes (2022) following Hayes (2022), using the JMPE moderation module in jamovi (Version 2.6) in jamovi (Version 2.6) Separate models were estimated for each ARS-30 predictor (Perseverance, RAHS, NAER, and Global Academic Resilience) with PC as the criterion. Simple slope analyses decomposed the interaction at low (−1$SD$), average, and high (+1$SD$) levels of the moderator.

## V. Results

**Objective 1: Academic Resilience and it's three dimensions by Institution Type**

Descriptive statistics are presented in Table 1. Private institution pre-service teachers ($M$ = 118.0, $SD$ = 8.40) demonstrated significantly higher academic resilience than public/government institution students ($M$ = 114.9, $SD$ = 11.07), $t(185) = -2.23$, $p = .027$, $d = -0.316$. At the subscale level, private students scored significantly higher on Perseverance, $t(198) = -3.31$, $p = .001$, $d = -0.469$, and on RAHS, $t(179) = -3.33$, $p = .001$, $d = -0.471$. For NAER, the direction reversed: public/government students scored significantly higher than private students, $t(183) = 2.58$, $p = .011$, $d = 0.365$, indicating greater negative affect and emotional regulation challenges in the public/government institution cohort. These findings were corroborated by Mann–Whitney $U$ tests (all $p \leq .007$), as shown in Table 2.

**Table 1**

*Descriptive Statistics for ARS-30 Measures by Institution Type (N = 200)*

| | *Public/Government (n = 100)* | | | *Private (n = 100)* | | |
|---|---|---|---|---|---|---|
| ARS-30 Measure | *M* | *SD* | *SE* | *M* | *SD* | *SE* |
| **Academic Resilience** | **114.9** | **11.07** | **1.11** | **118.0** | **8.40** | **0.84** |
| Perseverance | 55.4 | 5.58 | 0.56 | 58.0 | 5.64 | 0.56 |
| RAHS | 36.5 | 4.70 | 0.47 | 38.4 | 3.35 | 0.34 |

| | | | | | | |
|---|---|---|---|---|---|---|
| NAER | 22.9 | 4.50 | 0.45 | 21.5 | 3.37 | 0.34 |

**Table 2**
*Group Comparison Results: Welch's t-Tests and Mann–Whitney U by Institution Type (N = 200)*

| | *Welch's t-Test* | | | | *Mann–Whitney U* | | |
|---|---|---|---|---|---|---|---|
| ARS-30 Measure | *t* | *df* | *P* | Cohen's d | *U* | *p* | *r* |
| **Academic Resilience** | **−2.23** | **185** | **.027** | **−0.316** | **3900** | **.007** | **0.220** |
| Perseverance | −3.31 | 198 | .001 | −0.469 | 3510 | <.001 | 0.298 |
| RAHS | −3.33 | 179 | .001 | −0.471 | 3714 | .002 | 0.257 |
| NAER | 2.58 | 183 | .011 | 0.365 | 3907 | .007 | −0.219 |

**Objective 2: Moderation of the ARS-30–Achievement Relationship by Institution Type**

Full moderation estimates and simple slope analyses are presented together in Table 3. Institution type was a significant predictor of PC only in the NAER model ($B = 2.626$, $SE = 1.199$, $Z = 2.191$, $p = .028$), indicating that private institution students achieved higher examination scores independent of NAER levels. None of the Predictor × Institution Type interaction terms reached statistical significance: Perseverance × Institution Type ($B = 0.075$, $p = .727$); RAHS × Institution Type ($B = 0.149$, $p = .631$); NAER × Institution Type ($B = 0.114$, $p = .719$) — all confidence intervals included zero. Simple slope analyses confirmed invariance across all four models: at low, average, and high levels of institution type, no individual slope reached statistical significance, indicating that the resilience–PC associations were equivalent across both institution types (right panel, Table 3).

**Table 3**
*Moderation Estimates and Simple Slope Analysis: ARS-30 Subscales Predicting Academic Achievement (PC) Moderated by Institution Type (N = 200)*

| **Moderation Estimates** | | | | | **Simple Slope Analysis** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model / Term | *B* | *SE* | *Z* | *p* | Slope | *B* | *SE* | *Z* | *p* |
| *Model 1: Perseverance Predicting PC* | | | | | | | | | |
| Perseverance | 0.063 | 0.104 | 0.603 | .546 | Average | 0.063 | 0.105 | 0.603 | .546 |
| Institution Type | 2.334 | 1.198 | 1.948 | .051 | Low (−1SD) | 0.026 | 0.151 | 0.170 | .865 |
| Perseverance × Inst. | 0.075 | 0.215 | 0.349 | .727 | High (+1SD) | 0.100 | 0.149 | 0.674 | .500 |
| *Model 2: RAHS Predicting PC* | | | | | | | | | |
| RAHS | 0.159 | 0.151 | 1.049 | .294 | Average | 0.159 | 0.151 | 1.049 | .294 |
| Institution Type | 2.195 | 1.197 | 1.834 | .067 | Low (−1SD) | 0.084 | 0.179 | 0.469 | .639 |
| RAHS × Institution Type | 0.149 | 0.311 | 0.480 | .631 | High (+1SD) | 0.233 | 0.249 | 0.937 | .349 |
| *Model 3: NAER Predicting PC* | | | | | | | | | |
| NAER | 0.087 | 0.155 | 0.561 | .575 | Average | 0.087 | 0.155 | 0.561 | .575 |
| Institution Type* | 2.626 | 1.199 | 2.191 | .028 | Low (−1SD) | 0.030 | 0.188 | 0.161 | .872 |
| NAER × Institution Type | 0.114 | 0.316 | 0.360 | .719 | High (+1SD) | 0.144 | 0.250 | 0.575 | .565 |
| *Model 4: Academic Resilience Predicting PC* | | | | | | | | | |
| Academic Resilience | 0.066 | 0.058 | 1.136 | .256 | Average | 0.066 | 0.058 | 1.139 | .255 |
| Institution Type | 2.295 | 1.232 | 1.863 | .062 | Low (−1SD) | 0.027 | 0.065 | 0.412 | .680 |
| Global AR × Institution Type | 0.079 | 0.112 | 0.701 | .483 | High (+1SD) | 0.106 | 0.094 | 1.122 | .262 |

## VI. Discussion

This study compared global academic resilience and ARS-30 subscale profiles between government and private pre-service teachers ($N = 200$) and tested whether institution type moderated the resilience–achievement relationship. The findings provide coherent and theoretically interpretable answers to both objectives.

**Resilience Differences by Institution Type**

Private institution students demonstrated significantly higher global academic resilience, Perseverance, and RAHS — small-to-medium. This pattern aligns with prior findings from Bernardo et al. (2018), Naseem (2022), and Elnaem et al. (2024), extending ARS-30 sensitivity to institutional context to the Manipur teacher education setting. The NAER finding diverged from the other subscales: government institution students showed significantly higher NAER scores, indicating greater self-reported difficulty managing negative affect and academic stress. This is theoretically coherent — government institutions in Manipur face greater resource constraints and administrative instability (Naik, 2013; Devi & Singh, 2021), environmental factors that elevate emotional burden without necessarily reducing goal-directed behaviour. Emotional regulation is also more closely tied to temperamental dispositions and contextual stress than to structural instructional quality (Gross, 2015; Richardson et al., 2012). The convergence of parametric and non-parametric results across all four comparisons strengthens confidence in these conclusions.

**Non-Significant Individual Predictors of Achievement**

In the present sample ($N = 200$), none of the ARS-30 subscales significantly predicted PC, though effect directions were consistent with prior literature (Cassidy, 2016; Credé et al., 2017). The trend for RAHS ($B = 0.159$, $p = .294$) is directionally consistent with adaptive help-seeking as an achievement facilitator (Newman, 2002). These findings underscore the importance of adequate sample size when detecting small-to-medium resilience–achievement associations.

**Non-Significant Moderation by Institution Type**

Despite institutional differences in mean resilience levels, institution type did not moderate any resilience–achievement relationship. All interaction terms were non-significant with confidence intervals spanning zero, and simple slopes were equivalent across institution type levels — directly supporting the equifinality principle (Ungar, 2011: the functional pathway from resilience to achievement is structurally invariant across institutional contexts. This finding suggests that resilience-building interventions targeting Perseverance and RAHS should yield equivalent achievement benefits in both government and private institutions. The significant direct effect of institution type on PC in the NAER model ($B = 2.63$, $p = .028$) indicates that structural factors — resources, examination support, administrative stability — independently influence achievement differences (Naik, 2013; Sharma, 2016), making structural investment in government institutions a necessary complement to individual-level resilience programmes.

**Limitations and Future Directions**

The cross-sectional design precludes causal inference. The reduced sample size ($N = 200$) limited statistical power to detect small interaction effects in moderation analyses. Convenience sampling restricts generalizability beyond the participating institutions. Future research should employ longitudinal designs, multilevel modelling with continuous institutional quality indicators, larger and probability-based samples, and examine resilience in relation to practicum performance and professional readiness outcomes beyond examination-based achievement.

## VII. Conclusion

Using the ARS-30 (Cassidy, 2016) with $N = 200$ pre-service teachers in Manipur, this study demonstrated that private institution students possess significantly higher academic resilience, Perseverance, and RAHS than government institution counterparts — with small-to-medium effects. Government institution students, conversely, scored significantly higher on NAER, reflecting greater emotional regulation burden. While resilience subscale–achievement associations were directionally consistent with the literature, none reached significance in the present sample. Critically, institution type did not moderate any resilience–achievement relationship: simple slope analyses confirmed that the resilience–PC associations were structurally equivalent across institutional

contexts. These findings affirm the cross-contextual validity of ARS-30 dimensions, support the equifinality principle in pre-service teacher education in Manipur, and endorse the universal implementation of Perseverance- and RAHS-focused resilience-building programmes across institution types. Structural investments in government institutions remain a necessary complement to address the resilience and achievement gaps documented here.

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