

Parental Satisfaction with School Governance: Scale Validation and Findings from Adarsha Vidyalayas in Educationally Backward Blocks

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Abstract

This study validated the parental satisfaction scale which was created based on the Accreditation Standard for Quality School Governance Framework formed by the National Accreditation Board for Education and Training (NABET) and then assessed parental satisfaction with school governance practices in Adarsha Vidyalayas of Assam, India. Items were created following NABET's manual, content validity assessment [CVI \geq 0.83] with six experts from various Universities, and pretesting with 30 parents followed by pilot testing. In next step, 372 parents from 14 Adarsha Vidyalayas across four regions of Assam's educationally backward blocks were taken as the sample. Psychometric validation included Exploratory Factor Analysis, Confirmatory Factor Analysis, reliability as well as validity assessments. The regional variations of the state were analysed via Welch's ANOVA. The validated 12-item Parent Agreement Scale had excellent psychometric qualities, characterised by a three-factor structure: Context of School, Governance Leadership and Administration, and Physical Infrastructure and Support Facilities. The scale showed superior reliability [Cronbach's $\alpha >$ 0.85, CR $>$ 0.85], strong convergent validity [AVE $>$ 0.50], and confirmed discriminant validity. CFA demonstrated excellent model fit [CFI = 0.988, TLI = 0.985, RMSEA = 0.0409]. Hypothesis testing indicated that there is no significant regional disparities in total parental satisfaction [F(3, 73.7) = 0.812, p = 0.491], implying uniform governance quality across various divisions of Assam, India. The validated instrument provides educational administrators and policymakers with a reliable tool for monitoring governance effectiveness from parental perspectives, supporting evidence-based quality assurance processes.

Keywords: Educational Quality Assurance, NABET Standards, Parental Satisfaction, Scale Validation, School Governance.

Introduction

These days, many people are aware of the importance of education as a determinant of a country's prosperity. Education requires that the community as a whole develop intelligence and comprehension in order to comprehend the subjects examined in accordance with the goals of the curriculum (1). As technology advances at an accelerated rate, so do the issues that arise in educational institutions. Educational institutions ought to be able to identify the numerous forms of competition they face and select the most effective marketing strategy in order to improve the quality of education at every institution (2). Parents' perception is their reaction or point of view about the quality of educational institutions. Parents' perceptions about the calibre of educational institutions will have a big influence on their excitement, self-assurance, and satisfaction while determining whether to register their children in them (3). Currently, an increasing number of

parents recognize the importance of providing their children with high-quality education from an early age. Especially after essential stakeholders and government representatives acknowledge the importance of education in the contemporary environment, this study therefore aims to deepen the understanding regarding the subject of parents' satisfaction with educational institutions by developing a questionnaire based on NABET's core parameters. School governance has increasingly been viewed as a key determinant of school quality, as it shapes transparency, leadership responsiveness, stakeholder participation, and the adequacy of learning conditions. In governance-oriented school systems, parents are among the most important stakeholders because they directly observe administrative practices, communication, fairness and school support services. Measuring parental satisfaction in relation to governance is therefore, valuable not

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only for institutional improvement but also for strengthening accountability and evidence-based decision-making in school administration, particularly in publicly funded schools operating in disadvantaged contexts.

Parental satisfaction in education

Students' academic performance and general well-being are significantly influenced by their parents' happiness with their schooling. In a previous study, parental satisfaction is essential to successful educational collaborations between schools, neighbourhoods, and parents (4). Because of its significant effects on instructional results and educational efficiency, the significance of parental satisfaction has attracted greater interest in the past few decades from academics, teachers, and politicians (5). One indicator of the calibre of education the educational institutions offer is parental satisfaction (6). Parents are more inclined to be involved in their child's academic experience and to promote the school's endeavours, provided they are pleased with the educational opportunities available to their kids (7). On the other hand, low parental satisfaction scores may indicate deeper problems, including poor instructional strategies, a shortage of assets, or an instability in parent-teacher interactions. Therefore, cultivating an optimistic school atmosphere and encouraging student success requires a comprehension of and attention to parental satisfaction (8). Studies repeatedly show that student academic performance and parental happiness are strongly correlated.

Role of NABET and ASQSG in Quality Education

The education industry is eligible for a variety of quality system certifications, credentials, and rewards. While most of these are accessible on global networks, others are exclusively applicable at the national level (9). NABET is one of the boards that make up the Quality Council of India. The National Accreditation Board for Education and Training (NABET) has expanded its operations in the past few years and is attempting to align its advancements with QCI's tagline, "Creating an Ecosystem for Quality" (10). It offers vocational education facilities and educational organisations' accreditation. The educational institution's comprehensive educational offerings and its strategic plan are overseen by NABET (11). To meet the demands of the marketplace, NABET has

been quickly broadening the range of services it offers (12). NABET has set up a system for accrediting educational institutions, organisations that provide vocational instruction and organisations that certify skills. NABET established four separate committees in different fields to give targeted strategic guidance for carrying out the Board's operations (11).

School governance is commonly conceptualized within frameworks such as decentralised governance, school-based management, and participatory decision-making models, where authority and accountability are shared among administrators, teachers, parents, and community stakeholders. These models emphasize transparency, stakeholder engagement, and responsiveness as indicators of governance quality rather than merely academic outcomes. Parental satisfaction in this context serves as a proxy for governance effectiveness, as parents directly experience administrative transparency, leadership responsiveness, infrastructure adequacy, and inclusiveness in decision-making processes. Therefore, the present study conceptualizes parental satisfaction not as an evaluation of student performance, but as an assessment of governance quality aligned with the Accreditation Standard for Quality School Governance (ASQSG) framework of NABET.

Factors Affecting Parental Satisfaction and Stakeholder Feedback

Because of its significance, society is now very concerned about the quality of education. Enhancing the quality of education is essential to the growth, efficiency, and achievement of educational institutions worldwide. According to a variety of outside influences and market dynamics, education is now viewed as an offering for which customers, such as students and their parents can select the best educational institutions (13). Consumers, particularly students, are both "products" and actively participate in the process of learning. Their opinions regarding their level of satisfaction with educational amenities, including the programme, infrastructure, amenities, diligence, and training for educators, are consequently very appreciated (14). This is a vital and impartial source of information that aids in evaluating the present state of educational aid and assists educational establishments in making

appropriate modifications to satisfy student and societal demands (15).

Evaluating the satisfaction of parents is essential since it serves as a feedback system for the educational institution. Feedback allows for the formulation of necessary tactics that will lead to progress. This study emphasised how crucial it is for learning institutions' administration to keep enhancing the educational programme and instructional elements in the environment of higher education (16). In the context of school education, the agreement of parents—as key instructional stakeholders—must be given top priority in educational organisations when it comes to the quality of instruction. A previous study declared that in every educational institution, quality should constitute the primary focus of instruction (17).

A few of the prerequisites for high-quality education are the participation of all educational elements, as quality is solely attained when all of the school's capacity is utilised. However, in order to grow and maximise learning institutions' full abilities, a cooperative partnership between government and educational organisations must be developed (18). The primary goal is to occasionally raise the standard of education. In a previous study, cooperation between school components and cooperation with the government and other organisations is crucial to ensuring an excellent standard of learning (19).

Accreditation and Stakeholder Perceptions

A crucial component of higher education is accreditation, which guarantees that establishments fulfil predetermined criteria for excellence. It performs a vital part in preserving the validity of educational institutions in addition to boosting the legitimacy of qualifications granted (20). One of the most important tools for raising the calibre, legitimacy, and acceptability of educational organisations is the accreditation of courses of study. Despite being an exceedingly recent and voluntary method used by HEIs, universities now need to get accredited in order to remain competitive. It is the procedure of determining if a school or course of study satisfies the requirements and is eligible for a particular status (21). A number of accrediting organisations specialise in accrediting organisations for particular skills, including the "National Medical

Council (NMC)", "Indian Council for Agricultural Research (ICAR)", "National Board of Accreditation (NBA)", "National Accreditation Board for Education and Training (NABET)", and "National Accreditation Board for Hospitals and Healthcare Providers (NABH)". In order to incorporate quality control into the operational structure of recognised organisations, higher education institutes in India are assessed and accredited by the "National Assessment and Accreditation Council (NAAC)" (22).

Because of its significance, society is now very concerned about the quality of education. Enhancing the quality of education is essential to the growth, competition, and achievement of educational institutions worldwide. Owing to a variety of outside influences and market forces, schooling is now viewed as an offering for which customers, such as children and their parents, can select the best educational institutions. Consumers, particularly students, are both "products" and actively participate in the process of learning (23). Their opinions regarding their level of satisfaction with educational amenities, including the curriculum, infrastructure, amenities, care, and training for educators, are thus greatly valued. This is a vital and impartial source of information that aids in evaluating the present state of educational amenities and assists educational establishments in making appropriate modifications to satisfy student and societal demands (24). Previous research studies have been conducted in the domain of parental satisfaction in education, NABET Accreditation Standards and educational quality, factors affecting parental agreement, and stakeholder perceptions. Existing tools assessing parental perceptions have largely focused on general satisfaction with schooling, communication practices, or parental involvement (25, 26). However, it was found that these instruments are not explicitly aligned with structured institutional accreditation frameworks such as the Accreditation Standard for Quality School Governance (ASQSG). To address this gap, the present study validated a scale specifically tailored to the school governance domain as defined by NABET (2016), with the aim of measuring parental agreement with governance practices in Adarsha Vidyalayas of Assam (27).

The primary objective of this research is to develop a scale grounded on NABET's key parameters and then to compare the parental satisfaction among various divisions of Assam using the scale. The objectives of this study were to analyse the key variables affecting parental satisfaction with the quality of education and services provided by schools, based on the NABET accreditation criteria, to develop and validate a parent agreement scale grounded in ASQSG standards based on NABET's key parameters, to analyse the level of satisfaction among parents with regard to school governance of Adarsh Vidyalayas of educationally backward blocks of Assam with respect to the regions, and to provide recommendations for improving governance practices in government-run schools.

Research Hypothesis

Based on the objectives of the study, it was hypothesized that there exists no significant difference in satisfaction among parents with regard to the school governance of Adarsh Vidyalayas of educationally backward blocks of Assam with respect to the regions (H01), whereas the alternative hypothesis (H11) states that there exists a significant difference in satisfaction among parents with regard to the school governance of Adarsh Vidyalayas of educationally backward blocks of Assam with respect to the regions.

Methodology

In this section the researcher outlined the research methodology, including the design, paradigm, data collection techniques, and analytical approaches used in the study. A questionnaire was developed using core parameters from NABET's framework. Items were created after careful review of the ASQSG (NABET, 2016) manual (27). Although institutional standard-guided item development, psychometric validation remained the study's main focus along with application of the scale. Model fit of the questionnaire was assessed through EFA and CFA. For analytical purposes, the terms "regions" and "divisions" are used interchangeably to refer to the four administrative divisions of Assam.

Scale Construction

There are three domains specified in the ASQSG framework—namely School Governance, Education and Support Process, and Performance Management and Improvement—as part of the broader accreditation system. However, in this

study particularly research emphasized solely on the school governance domain, which underwent independent psychometric validation for a more detailed analysis. The initial set of items was developed through a thorough examination of the Accreditation Standard for Quality School Governance (ASQSG) manual issued by NABET (27). Specific standards and subdomains within the school governance domain were carefully considered to extract performance indicators that could be translated into parent-oriented statements. At the beginning 25 items were generated for this domain however after expert evaluation and application of the Content Validity Index (CVI), 16 items were retained for pretesting. These items effectively represented key elements of school governance services as outlined in the ASQSG manual. Data analysis was conducted by the researcher using SPSS version 25 for exploratory factor analysis (EFA) and reliability testing, Jamovi version 2.3.28 for confirmatory factor analysis (CFA), and Microsoft Excel 2021 for calculating composite reliability (CR) and average variance extracted (AVE).

Content Validation

The Content validity Index (CVI) was conducted with six experts who evaluated the items, there were 25 items however, after CVI calculation 16 items were retained. (I-CVI) Scores below 0.83 were excluded from the scale. The retained items addressed critical school governance indicators across three dimensions: Context of School (CS), Governance, Leadership and Administration (GLA), and Physical Infrastructure and Support Facilities (PISF). The refinement process adhered to the CVI protocol, applying an inclusion threshold of I-CVI \geq 0.83 (28, 29).

Pretesting

Sampling and Data Collection

Pretesting was conducted with a total of 30 parents, among them, 20 parents were from Lowairpoa and 10 from Dokuchi Adarsha Vidyalayas of Assam. To know the readability, clarity, and discriminatory power of the 16 selected items pretesting was conducted. Initial item analyses included computations of the Difficulty Index and Discrimination Index which was conducted in accordance with established guidelines for educational measurement and scale refinement (30, 31). Pretesting with small samples (typically 10 to 30 participants) is recognised as a

crucial phase in scale development to ensure that items are clear, understandable, and elicit accurate responses before full-scale validation (32, 33) hence this step was also followed by the researcher. Based on the pretest results, three items were removed due to redundancy, unclear wording, items being too difficult or too easy, or poor discrimination, resulting in a refined 13-item version of the Parent Agreement Scale.

Although probability sampling was not feasible due to contextual constraints, the sample adequately represents the population of parents from Adarsha Vidyalayas operating in educationally backward blocks of Assam. Parents were drawn from 14 schools across four geographical regions, covering diverse socio-cultural and administrative contexts. As Adarsha Vidyalayas follow uniform governance structures under a centralized framework, the sample is considered sufficiently representative for psychometric validation and comparative regional analysis.

Statistical Analysis

SPSS version 25.0 was used for Exploratory Factor Analysis (EFA) and reliability estimation (Cronbach's alpha), Jamovi version 2.3.28 for Confirmatory Factor Analysis (CFA), and Microsoft Excel 2021 for calculating Composite Reliability (CR) and Average Variance Extracted (AVE).

Pre-Analysis Data Screening

Incomplete responses were not considered for testing, and the Mahalanobis distance and the IQR method indicated no significant outliers in the EFA and CFA datasets.

Results

Exploratory Factor Analysis (EFA)

Item Screening and Reduction

Prior to factor extraction, factor loadings identified item CS2, which exhibited substantial cross-loadings on multiple factors. As this compromised the item's discriminant validity, it was removed from further analysis. According to established guidelines, items with cross-loadings exceeding 0.32 on more than one factor may distort the clarity of the factor solution and are generally recommended for exclusion (34, 35). The final EFA was conducted using 12 items.

Exploratory Factor Analysis was conducted using Principal Axis Factoring with Promax rotation, which is appropriate for identifying correlated

latent constructs. This approach aligns with current best practices in scale development, where the goal is construct identification rather than merely data reduction.

Sampling Adequacy and Factorability

The Kaiser-Meyer-Olkin (KMO) value of 0.917 indicated excellent suitability for factor analysis and sampling adequacy. Bartlett's Test of Sphericity was statistically significant, $\chi^2(66) = 1562.64$, $p < 0.001$, confirming that the correlation matrix was factorable (35, 36).

Communalities and Extraction

All 12 items exhibited substantial communalities after extraction ranging from 0.555 to 0.763, beyond the generally accepted minimum threshold of 0.40. This suggested that a meaningful proportion of each item's variance was accounted for by the extracted factors, supporting their retention in the factor model (35, 36).

Number of Factors and Variance

Explained

Three factors were extracted using Kaiser's criterion (eigenvalues > 1), and this decision was reinforced by a visual inspection of the scree plot, which revealed a distinct break after the third factor. Together, these three factors accounted for **78.60%** of the total variance, surpassing the commonly recommended 50% threshold for factor retention in social and behavioural research. The variance explained by each factor was as follows: Factor 1 = 53.12%, Factor 2 = 14.69%, and Factor 3 = 10.79% (35, 36).

Pattern Matrix and Factor Structure

The pattern matrix obtained through Promax rotation revealed a well-defined and interpretable three-factor structure, with strong and distinct item loadings on their respective factors.

Factor Structure

Principal Axis Factoring with Promax rotation showed an interpretable and clear three-factor solution:

Factor 1: Context of School (CS) – Items from the first sub-domain, CS1 to CS6 loaded significantly with values ranging from 0.787 to 0.897. These items reflected how the school engages with the community, manages its environment, and communicates with parents.

Factor 2: Governance, Leadership and Administration (GLA) – Items GLA1, GLA2, GLA3, and GLA5 with high loadings between 0.811 and 0.838 captured leadership practices, decision-

making transparency, and administrative processes.

Factor 3: Physical Infrastructure and Support Facilities (PISF) –PISF1, PISF3, and PISF4 had loadings between 0.767 and 0.885, representing parents’ perceptions of the availability and quality of physical and support services in the school.

Clean and strong loadings on a single factor, with no cross-loadings exceeding the 0.40 threshold, were exhibited. This confirms the construct distinctiveness and supports the validity of the three-factor solution (35, 36).

Factor Correlations

The factor correlation matrix showed moderate positive correlations among the three extracted factors, with values ranging from 0.490 to 0.565. These results suggest that while the constructs are conceptually related, they remain empirically

distinct. The presence of such inter-factor correlations justifies the use of oblique rotation (Promax), which is appropriate when latent dimensions are expected to be correlated, as is often the case in educational and behavioural research (35, 36). Table 1 presents the pattern matrix from principal axis factoring with Promax rotation.

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was performed to validate the three-factor structure of the Parent Agreement Scale, as established by prior Exploratory Factor Analysis (EFA). The model was estimated using the Diagonally Weighted Least Squares (DWLS) method, which is appropriate for ordinal Likert-type data and performs robustly under conditions of non-normality (37, 38).

Table 1: Pattern Matrix

	Factors		
	1	2	3
CS1	0.886		
CS3	0.787		
CS4	0.858		
CS5	0.843		
CS6	0.897		
GLA1		0.811	
GLA2		0.838	
GLA3		0.815	
GLA5		0.828	
PISF1			0.805
PISF3			0.885
PISF4			0.767

Extraction Method: Principal Axis Factoring
 Rotation Method: Promax with Kaiser Normalization
 a. Rotation converged in 5 iterations

Model Fit Evaluation

The model demonstrated an excellent fit to the data, as evidenced by multiple goodness-of-fit indices. The chi-square test of exact fit was non-significant, $\chi^2[51] = 67.1, p = 0.065$, indicating no considerable difference between the observed and model-implied covariance matrices. Additional fit indices further supported model adequacy, including a Comparative Fit Index (CFI) of 0.988, a Tucker-Lewis Index (TLI) of 0.985, a Root Mean Square Error of Approximation (RMSEA) of 0.0409 with a 90% confidence interval of [0.00, 0.0656], and a Standardized Root Mean Square Residual (SRMR) of 0.0345.

All values met or exceeded commonly recommended cutoffs for good model fit in structural equation modeling—CFI and TLI values above 0.95, RMSEA below 0.06, and SRMR below .08—indicating that the hypothesized model

provides a robust representation of the data (35, 39).

Factor Loadings and Convergent Validity

All standardized factor loadings were statistically significant [$p < 0.001$] and exceeded the recommended threshold of 0.70, which demonstrated strong item reliability and supported convergent validity of the measurement model (35). Every observable variable exhibited a significant loading on its corresponding latent construct:

For the Context of School (CS) dimension, items CS1 (0.857), CS3 (0.901), CS4 (0.843), CS5 (0.818), and CS6 (0.858) demonstrated strong standardized factor loadings. Similarly, the Governance, Leadership and Administration (GLA) dimension included items GLA1 (0.834), GLA2 (0.888), GLA3 (0.846), and GLA5 (0.884), all of

which exhibited substantial loadings. The Physical Infrastructure and Support Facilities (PISF) dimension comprised items PISF1 (0.858), PISF3 (0.868), and PISF4 (0.870), indicating strong associations with their respective latent construct. These consistently high loadings indicate that the items are strong and reliable indicators of their respective latent constructs, thereby establishing the convergent validity of the scale.

Inter-Factor Correlations

The latent constructs were found to be moderately correlated, supporting the theoretical assumption that the components of parental agreement—while distinct—are meaningfully related.

The standardized correlations among the latent factors indicated moderate positive relationships. Specifically, the correlation between Context of School (CS) and Governance, Leadership and Administration (GLA) was $r = 0.526$ ($p < 0.001$), while the correlation between Context of School (CS) and Physical Infrastructure and Support Facilities (PISF) was $r = 0.404$ ($p < 0.001$). In addition, Governance, Leadership and Administration (GLA) was moderately correlated with Physical Infrastructure and Support Facilities (PISF) ($r = 0.452$, $p < 0.001$).

These statistically significant inter-factor correlations affirm the appropriateness of using

oblique rotation during Exploratory Factor Analysis (EFA) and support the multidimensional structure of the Parent Agreement Scale (35, 40).

Sample and Estimation Context

Confirmatory Factor Analysis (CFA) was conducted using responses from 189 parents, as designated for model confirmation. The model estimation was carried out using the Diagonally Weighted Least Squares (DWLS) estimator in Jamovi.

Composite Reliability and Convergent Validity

Composite Reliability (CR) and Average Variance Extracted (AVE) were calculated using standardized factor loadings from the final Confirmatory Factor Analysis (CFA) model. All three latent constructs demonstrated strong internal consistency; with CR values were ranging from 0.856 to 0.880, exceeding the recommended threshold of 0.70. Additionally, AVE values for each construct were above the minimum cutoff of 0.50, which indicated satisfactory convergent validity, as each construct accounted for a substantial proportion of variance in its indicators (35, 41). Table 2 summarizes composite reliability (CR) and average variance extracted (AVE) values.

Table 2: Results of Composite Reliability and Convergent Validity

Construct	CR	AVE	\sqrt{AVE}
Context of School (CS)	0.879	0.592	0.770
Governance, leadership and administration (GLA)	0.880	0.648	0.805
Physical Infrastructure and Support Facilities (PISF)	0.856	0.664	0.815

These results confirm that each observed item reliably measures its intended latent construct, and that a substantial portion of item variance is explained by the construct rather than measurement error.

Discriminant Validity and Heterotrait-Monotrait (HTMT) ratio

Discriminant validity was evaluated using two methods, the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio, to confirm

that each latent construct within the Parent Agreement Scale is distinct from the others. According to the Fornell-Larcker criterion, discriminant validity is supported when the square root of the Average Variance Extracted (\sqrt{AVE}) for a construct exceeds its correlations with all other constructs. As shown in Table 3, this condition was satisfied for all pairs of constructs, and the HTMT values further supported adequate discriminant validity.

Table 3: Results of Discriminant Validity and HTMT Ratio

Construct Pair	$\sqrt{AVE_1}$	$\sqrt{AVE_2}$	Correlation	Fornell-Larcker Validity
CS ↔ GLA	0.770	0.805	0.526	valid
CS ↔ PISF	0.770	0.815	0.404	valid
GLA ↔ PISF	0.805	0.815	0.452	Valid

Table 4: Constructs of HTMT

Construct Pair	HTMT Value	HTMT Validity (HTMT < 0.85)
CS ↔ GLA	0.526	Valid
CS ↔ PISF	0.404	Valid
GLA ↔ PISF	0.452	Valid

Additionally, the HTMT ratio was used as a more stringent and modern test of discriminant validity. All HTMT values were well below the conservative threshold of 0.85, confirming that the constructs are distinct: Table 4 below shows the heterotrait-monotrait (HTMT) ratios confirming discriminant validity.

These results indicate that Community Support, Governance and Leadership Alignment, and Parental Involvement in School Functioning are theoretically related yet empirically distinct constructs. The consistent support from both

criteria reinforces the discriminant validity of the three-factor structure.

Final Confirmatory Model (Path Diagram)

The final three-factor measurement model was confirmed via CFA and is illustrated in Figure 1. The diagram presents standardised factor loadings, indicating strong relationships between latent constructs and their respective items. Bidirectional arrows between constructs reflect the modelled inter-construct covariances, as supported by the correlation estimates.

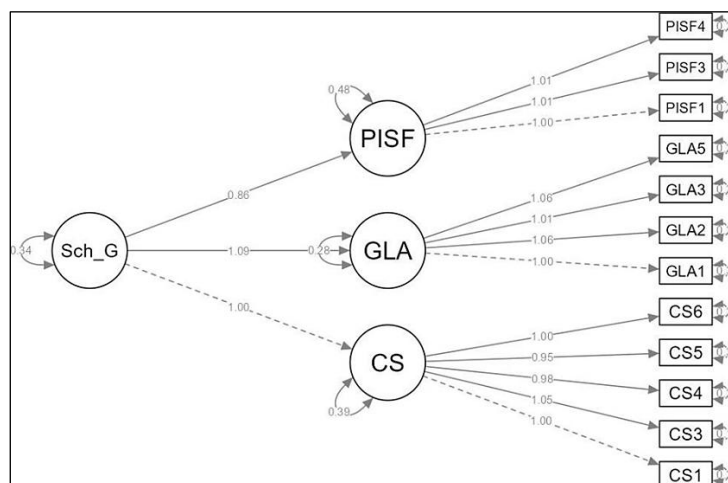


Figure 1: Final Confirmatory Model Path Diagram

Final Scale Items

Based on the psychometric analyses, a total of 12 items were retained across the three validated dimensions. These items are presented below, grouped by their respective constructs. The finalized scale is reliable, valid, and suitable for assessing parental satisfaction in school governance contexts. Table 5 lists the final 12

items of the Parent Agreement Scale grouped by factors.

Instruction to Respondents

Respondents were asked to indicate their level of agreement with each statement using a five-point Likert scale ranging from Strongly Disagree [1] to Strongly Agree [5].

Table 5: Final Parent Satisfaction Scale Items with Codes and Factor Allocation

Factor	Item Statement	Item Code
Context of School (CS)	Educators communicate with parents in their children’s day-to-day school life.	CS1
	School does not discriminate based on economic condition of students.	CS3
	School encourages parents along with students to promote their culture.	CS4
	Teachers only speak the local language with students.	CS5
	School enriches social skills in students.	CS6
	Governance, Leadership and Administration (GLA)	Students, parents and teachers have participation in management committee.
	The school has diversified learning environment.	GLA2
	The head of the school is a good leader for this school.	GLA3
	School does not involve stakeholders (such as parents, students, teachers, and the community) in the decision-making process regarding fund utilization.	GLA5
Physical Infrastructure and Support Facilities (PISF)	School provides designated play areas and equipment that are safe and accessible for Children with Special Needs students.	PISF1

The school does not have special educators for Children with Special Needs students. PISF3
 School infrastructure adequately supports a conducive learning environment. PISF4

Hypothesis Testing Using the Validated Scale

Following the establishment of the scale’s reliability and validity through CVI, Exploratory Factor Analysis, and Confirmatory Factor Analysis, the validated Parent Agreement Scale was employed to test the study’s hypotheses regarding parental satisfaction with school governance practices."

A one-way analysis of variance (ANOVA) was conducted to examine differences in parent satisfaction with school governance across four

regions of educationally backward blocks in Assam. The dependent variable was overall parent satisfaction with school governance, measured on a continuous scale.

The ANOVA revealed no statistically significant difference in parent satisfaction with school governance across the four regions, $F[3, 368] = 0.986, p = 0.399, \eta^2 = 0.008$. The effect size was small, indicating that regional differences accounted for less than 1% of the variance in parent satisfaction scores. Table 6 and Figure 2 present descriptive statistics of parental satisfaction levels across regions.

Table 6: Descriptive statistics showed similar mean satisfaction levels across regions

Division	M	SD	N
Barak Valley	3.77	0.59	45
Lower Assam	3.72	0.70	241
Middle Assam	3.68	0.75	62
Upper Assam	3.48	0.81	24

Note. M = Mean; SD = Standard Deviation; N = Sample Size. This table summarizes descriptive statistics of parental satisfaction scores across four geographic regions in Assam.

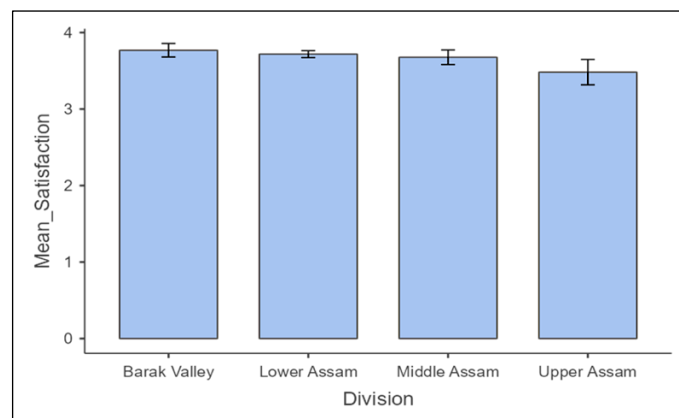


Figure 2: Descriptive Statistics of Mean Parental Satisfaction Levels across Divisions (Regions), Error Bars Represent ± 1 Standard Deviation (SD)

The null hypothesis (H_{01}) stating that there exists no significant difference in satisfaction among parents with regard to school governance across regions was retained. The alternative hypothesis (H_{11}) proposing significant regional differences were not supported by the data.

Item-level Analysis

The assumption of homogeneity of variance was also assessed using Welch's ANOVA due to unequal group sizes. Results indicated no statistically significant difference in parent satisfaction with school governance across the four regions, $F[3, 73.7] = 0.812, p = 0.491$. The effect size was small,

suggesting minimal practical difference between regions.

In addition to the overall mean satisfaction, Welch’s ANOVA was also performed for individual items. Among these, most items did not show statistically significant differences across regions [$p > 0.05$]. However, one item—GLA2 (“The school has diversified learning environment.”)—showed a statistically significant result: $F[3, 75.2] = 3.298, p = 0.025$. This suggests that while overall satisfaction showed no significant regional differences, one variable did show significance: Table 7 as shown below presents Welch's ANOVA results for individual items across regions.

Table 7: Welch's ANOVA Results for Parent Satisfaction Items across Regions

Item	Welch's F	df1	df2	p-value
Mean Satisfaction	0.812	3	73.7	0.491
CS1	0.888	3	74.8	0.451
CS3	0.685	3	74.6	0.564
CS4	0.874	3	72.0	0.459
CS5	0.388	3	73.6	0.762
CS6	0.980	3	72.5	0.407
GLA1	1.347	3	74.0	0.266
GLA2	3.298	3	75.2	0.025
GLA3	2.627	3	76.3	0.056
GLA5	1.121	3	73.9	0.346
PISF1	0.246	3	74.1	0.864
PISF3	1.347	3	75.0	0.266
PISF4	0.672	3	73.4	0.572

Note. Only item GLA2 of second sub-domain showed a statistically significant difference across regions ($p < 0.05$).

Parents across all four regions (Barak Valley, Lower Assam, Middle Assam, and Upper Assam) are equally satisfied with school governance. Location doesn't matter for satisfaction levels. Hence, the null hypothesis is accepted, and the alternative hypothesis is rejected.

Key findings demonstrate that parent satisfaction levels exhibit remarkable consistency across all examined regions, with mean satisfaction scores clustering within a narrow range of 3.48 to 3.77. The statistical analysis yielded a non-significant result [$F(3, 73.7) = 0.812, p = .491$], providing conclusive evidence that geographical location does not constitute a determining factor in parent satisfaction with school governance.

Discussion

The aim of this study was to validate a 5-point Likert scale and also to assess parental agreement with the same validated scale for school governance practices across divisions of Assam for Adarsha Vidyalayas. The scale was grounded in the Accreditation Standard for Quality School Governance (ASQSG) as defined by NABET (2016) (27). The validation process included content validation (CVI), Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and at last hypothesis testing through Welch's ANOVA. The validated Parent Agreement Scale showed excellent psychometric properties, including good reliability (Cronbach's $\alpha = 0.85$), composite reliability (CR = 0.85), and confirmed validity via exploratory and confirmatory factor analysis, with the final 12 items exhibiting three sub-domains. Confirmatory Factor Analysis demonstrated strong model fit indices (CFI = 0.988, TLI = 0.985, RMSEA = 0.0409) using DWLS estimation which is suitable for ordinal data and robust to non-normality. The final validated scale demonstrated acceptable psychometric properties and

effectively captured the perceptions of parents regarding the governance quality in Adarsha Vidyalayas across four regions in Assam's educationally backward blocks.

The descriptive statistics found that there was consistently moderate-to-high satisfaction across all four divisions, where mean satisfaction scores ranged from 3.48 to 3.77. This suggested a predominantly positive perception of governance practices among parents, irrespective of divisions of Assam. Welch's ANOVA results further supported this finding, as no statistically significant differences were found in overall satisfaction scores across Barak Valley, Lower Assam, Middle Assam, and Upper Assam, $F[3, 73.7] = 0.812, p = 0.491$. These results implied that institutional practices aligned with ASQSG standards recognised equally across diverse socio-cultural settings, highlighting the framework's relevance and applicability.

One item, GLA2 ("The school has diversified learning environment") exhibited a significant divisional difference [$p = 0.025$], indicating possible variation in leadership perception across regions. This aligns with previous research highlighting that while governance frameworks may be standardised, their implementation often depends on contextual leadership (17, 42).

This finding underscores the importance of localised leadership training to make consistent implementation of national accreditation norms. The use of parent-based input to validate governance practices created a vital stakeholder perspective aligned with participatory governance models in education (43). This approach aligned with contemporary views that recognise parents as key stakeholders in ensuring educational quality (8).

Policy and Practice Recommendations

Based on the findings of the study, it is recommended that school administrators should strengthen participatory governance mechanisms by actively involving parents in school management committees and decision-making processes. Policymakers may use the validated Parent Agreement Scale as a routine governance monitoring tool for government-run schools. In addition, leadership training programs should focus on promoting transparency and diversified learning environments, particularly in regions showing variability in governance perception. Furthermore, oversight bodies such as Adarsha Vidyalaya Sangathan may integrate parental feedback indicators into periodic institutional reviews.

Limitations and Future Directions

This study has certain limitations. First, the cross-sectional design limits causal interpretation. Second, the use of self-reported data may involve response bias. Third, Measurement invariance across subgroups such as gender, socioeconomic status, or rural-remote location was not examined in the present study. Future studies may apply longitudinal designs, test invariance across gender and socioeconomic groups, and extend validation to private or residential schools across other Indian states.

Conclusion

This study successfully validated a psychometrically robust instrument for measuring parental agreement with school governance practices based on NABET's ASQSG framework and compared parental satisfaction among four divisions of Assam, India, with the samples from Adarsha Vidyalayas of Assam, India. The 12-item Parent Agreement Scale demonstrates excellent reliability, validity, and practical utility for assessing governance quality from parental perspectives. All the stated objectives of the study were achieved. The psychometric validation of the Parent Agreement Scale confirmed the key governance-related factors affecting parental satisfaction. Regional differences were statistically examined using Welch's ANOVA. Future research could extend the tool's use across other Indian states and in different types of schools, including private and residential institutions, to examine broader applicability. The study supports the

integration of structured accreditation standards with stakeholder-based feedback mechanisms to promote inclusive, accountable, and high-quality school governance.

Abbreviations

HTMT: Heterotrait–Monotrait Ratio, I-CVI: Item-level Content Validity Index, IQR: Interquartile Range, KMO: Kaiser–Meyer–Olkin Measure of Sampling Adequacy.

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Authors Contribution

Biplab Dey: conceptualization, data curation, formal analysis, investigation, methodology, resources, software, visualization, writing-original draft, review and editing, Anoop Beri: project administration, supervision, validation.

Conflict of Interest

The authors have no conflicts of interest to declare.

Data Availability

The datasets generated and analysed during the current study are not publicly available due to confidentiality of respondents but are available from the corresponding author upon reasonable request.

Declaration of Artificial Intelligence (AI) Assistance

AI tools were used only for language editing and proofreading, not for idea generation, data analysis, or interpretation.

Ethics Approval

Ethical permission to conduct the survey among students and parents was granted by the Adarsha Vidyalaya Sangathan, Assam (Office of the Managing Director, Government of Assam; Ref. No. AVS/Estt/2025/316-A, dated 23 June 2025). Participation was voluntary, and confidentiality of responses was assured.

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