Assessing Controlling Skills of the Principals of Teacher Education institutions in Telangana State

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Abstract--This research investigates the controlling skills of principals in teacher education institutions in Telangana State, India, within the framework of educational management. Employing a descriptive research design, the study assesses how effectively principals apply managerial skills to monitor and align institutional performance with goals, focusing on controlling skills as a critical leadership function. Data were collected from 100 principals across Hyderabad, Rangareddy, and Mehboobnagar districts using a self-constructed Managerial (Controlling) Skills Scale (Cronbach's α 0.667). Independent samples t-tests, following Levene's tests for equal variances, tested four null hypotheses. Results indicated no significant differences: gender (t(98) 1.68, p .09), institution type (t(98) 0.62, p 0.53), locality (t(98) 0.53, p 0.59), and status (t(98) 1.50, p 0.13). Indicating uniform skill internalization. Findings suggest principals moderately excel in maintaining NCTE standards. Limitations include a small government institution sample and self-report bias, warranting future longitudinal and mixed-methods studies.

Keywords-- Educational Management, Managerial Skills, Controlling Skills, Descriptive Research

I. Introduction

Managerialism shapes modern education. It brings corporate practices to schools and colleges. This boosts efficiency and accountability. In teacher education, it affects leadership. Strong leadership improves teacher quality. It also enhances overall system results (Ranson, 2003).

Educational management organizes resources and policies. It handles staff to meet teaching goals. In teacher training, it supports curriculum delivery. It aids faculty and upholds quality standards. This creates good environments for future teachers (Bush, 2011).

Effective leaders use core managerial skills. Planning sets goals and strategies. Organizing assigns resources and tasks. Staffing recruits and trains people. Directing motivates teams. Controlling checks progress and fixes issues (Mintzberg, 1973; Koontz & Weihrich, 2010).

Controlling is the last step in management. It checks if activities meet goals. It uses feedback to correct problems. This differs from other skills. It spots performance gaps. In teacher education, it keeps teaching quality high. It optimizes resources. It ensures compliance with groups like India's NCTE (Koontz & Weihrich, 2010).

Controlling has four main parts:

1. *Establishing Performance Standards* Set clear benchmarks. Make them measurable and realistic. Use SMART criteria: Specific, Measurable, Achievable, Relevant, Time-bound. Align with goals and rules. Examples include pass rates or training targets. In Telangana, follow NCTE guidelines for B.Ed. programs (National Council for Teacher Education, 2014).

2. *Measuring Actual Performance* Collect data regularly. Use KPIs, audits, and surveys. Track attendance, feedback, or budgets. Apply formal tools like evaluations. Use informal ones like observations. Tech like learning systems helps measure teaching (Gupta & Sharma, 2019).

3. *Comparing Performance with Standards (Variance Analysis)* Check differences between actual and expected results. Note overachievements for rewards. Address underperformance. Use stats or charts to find causes. In Telangana, this spots urban-rural gaps. Act fast to avoid big problems (Anthony & Govindarajan, 2007).

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4. *Taking Corrective Actions* Fix issues to meet standards. Use quick fixes like retraining. Or make big changes like policy updates. Consider costs and impacts. Involve stakeholders. In teacher education, this boosts trainee skills (Leithwood et al., 2004).

Role of Principals: Principals lead teacher colleges. They use controlling to enforce rules. They assess staff and programs. They push ongoing improvements. This links admin plans to real work. It strengthens teacher training in places like Telangana (Leithwood et al., 2004).

Research Significance: This study looks at principals' controlling skills in Telangana. It finds differences by institution and demographics. Results guide training programs. They suggest policy fixes. They aim to improve management and teacher prep.

1.2 Variables:

The dependent variable of the study is Controlling Skills. The independent variables include the gender of principals (male and female), the nature of institutions (government and private), the locality of institutions (rural and urban), and the status of institutions (minority and non-minority).

1.3 Research question

To what extent the Principals of Teacher Education Institutions have internalized the Controlling Skills necessary for effective performance?

1.4 Objectives of the Study

1. To estimate the significant difference in the controlling skills of Male and Female principals of teacher education institutions in Telangana State.
2. To examine the significant difference in the controlling skills of Principals of Government and Private teacher education institutions in Telangana State.
3. To determine the significant difference in the controlling skills of Principals of Rural and Urban teacher education institutions in Telangana State.
4. To test the significant difference in the controlling skills of Principals of Minority and Non-minority teacher education institutions in Telangana State.

1.5 Hypotheses of the Study

H_{01}: There is no significant difference in the controlling skills of Male and Female principals of teacher education institutions in Telangana State.

H_{02}: There is no significant difference in the controlling skills of Principals of Government and Private teacher education institutions in Telangana State.

H_{03}: There is no significant difference in the controlling skills of Principals of Rural and Urban teacher education institutions in Telangana State.

H_{04}: There is no significant difference in the controlling skills of Principals of Minority and Non-Minority teacher education institutions in Telangana State.

1.6 Delimitations of the study:

❖ The scope of this research is confined exclusively to the principals of teacher education institutions.
❖ The study is delimited to teacher education institutions located in Telangana State.

II. REVIEW OF LITERATURE

Controlling skills are essential for principals to monitor performance and ensure alignment with institutional goals. International research highlights controlling as a cyclical process. Anthony and Govindarajan (2007) emphasize variance analysis in management control systems, applicable to education for identifying performance gaps. In higher education contexts, controlling skills promote compliance with accreditation standards, as seen in European teacher training institutions (European Commission, 2018).

Gender influences leadership efficacy, including controlling skills. Male principals often exhibit directive control styles, while females emphasize collaborative monitoring (Eagly & Carli, 2003). A study in Australian universities revealed no significant gender differences in overall controlling skills but noted females excelled in adaptive corrective actions (Sarros et al., 2008). In Asian contexts, research on Malaysian principals showed females scoring higher in performance measurement due to relational leadership (Ahmad et al., 2019). These findings suggest contextual factors moderate gender effects, relevant to Telangana's diverse teacher education landscape.

Institutional type affects controlling practices. Government institutions prioritize bureaucratic controls for accountability, while private ones focus on market-driven efficiencies (Bush, 2011). A comparative study in UK higher education found private college principals demonstrated stronger variance analysis skills due to resource constraints (Deem et al., 2007). In developing regions, Indian research indicated private teacher education principals outperformed government counterparts in corrective actions, attributed to autonomy (Gupta & Sharma, 2019). This underscores potential disparities in Telangana, where funding models differ.

Locality impacts resource access and control implementation. Urban principals benefit from technology for performance tracking, unlike rural ones facing infrastructural challenges (Mulford, 2003). A study in rural Chinese teacher colleges showed urban principals had superior controlling skills, with significant gaps in standard-setting due to digital divides (Li & Hallinger, 2015). In South African contexts, urban-rural differences were evident in feedback mechanisms, with rural principals relying on informal controls (Preston et al., 2015). These patterns highlight the need to examine Telangana's urban-rural divide.

Minority institutions often adapt controls to cultural and regulatory demands. Non-minority setups emphasize standardized metrics, while minority ones integrate community-oriented evaluations (Bush & Glover, 2014). Research in Canadian minority teacher education found no significant differences in controlling skills but noted minority principals' strengths in inclusive variance analysis (Walker & Dimmock, 2007). In India, a study on minority colleges revealed enhanced corrective actions linked to stakeholder engagement, though overall skills lagged due to compliance burdens (Hasan & Khan, 2020). This informs hypotheses on Telangana's minority institutions.

The literature reveals gaps in region-specific studies on principals' controlling skills, particularly in Indian states like Telangana. This study addresses these by testing differences across variables, contributing to leadership development.

2.1 Identified Research Gaps

Existing literature on managerial skills in education emphasizes general leadership frameworks but lacks specificity to controlling skills in teacher education institutions (Bush & Glover, 2014). While studies explore gender differences in leadership styles globally (Eagly & Carli, 2003), few examine their impact on controlling competencies, such as variance analysis or corrective actions, among principals in South Asian contexts like India (Nguyen & Tran, 2018). Research on institutional variations highlights private sector advantages in performance monitoring (Gupta & Sharma, 2019), yet comparative analyses between government and private teacher education colleges in Telangana remain underexplored, ignoring bureaucratic constraints unique to state-regulated systems.

Locality-based disparities are documented in resource access (UNESCO, 2015; Smith & Jones, 2020), but empirical evidence on how rural-urban divides affect principals' abilities to establish SMART standards or deploy digital tools for measurement is scarce, particularly in semi-urban Telangana districts.

Similarly, minority institutions' integration of cultural metrics into controlling processes receives limited attention compared to non-minority ones, with no region-specific studies addressing NCTE compliance challenges (Banks, 2019; OECD, 2021). Overall, quantitative assessments of controlling skills—using tools like KPIs and feedback loops—across these variables (gender, institution nature, locality, and minority status) are absent in Telangana's teacher education landscape, creating a void in localized, hypothesis-driven research.

2.2 Justification for the Study

This study addresses these gaps by empirically testing differences in principals' controlling skills through a structured survey and statistical analysis (e.g., t-tests for hypotheses H_{01} to H_{04}). Focusing on Telangana State aligns with NCTE mandates for quality assurance in B.Ed. programs, where effective controlling ensures curriculum adherence and teacher competency (National Council for Teacher Education, 2014). By examining independent variables' influence on the dependent variable (controlling skills), the research provides actionable insights for leadership training, policy reforms, and resource allocation, potentially reducing urban-rural inequities and enhancing institutional accountability.

The significance lies in its potential to inform targeted interventions, such as gender-sensitive professional development or tech-enabled monitoring for rural principals, contributing to India's National Education Policy 2020 goals for improved teacher preparation. This localized evidence bridges global theories with practical applications, fostering resilient educational governance in resource-constrained settings.

III. RESEARCH DESIGN

This study adopted a descriptive cum survey research design within the framework of quantitative research. The descriptive survey method was chosen because it is appropriate for collecting factual information and understanding existing conditions related to the controlling skills of principals. By employing quantitative techniques, the study facilitated objective measurement and statistical testing of differences across institutional and demographic variables.

3.1 Population and Sample:

The population of the study was comprised of all principals working in teacher education institutions in Telangana State. Since the exact population size was not known, a one-stage cluster random sampling method was adopted to ensure representation.

Out of the ten districts of Telangana (as per the 2014 division), three districts were randomly selected: Hyderabad with 31 teacher education institutions, Rangareddy with 37 teacher education institutions, and Mehboobnagar with 32 teacher education institutions. From these clusters, a sample of 100 principals was selected for the study. This sampling process ensured that data were collected from a representative and diverse group of institutions and principals.

3.2 Tools of the Study

To measure the directing skills of principals, a self-constructed instrument titled *Managerial (*Controlling*) Skills Scale* was developed. The tool was designed in attitudinal form using items based on a five-point Likert scale, ranging from "strongly agree" to "strongly disagree." According to Kelly (1939), "For item analysis, the test to be determined is ranked by selecting 27 percent of the highest scores and 27 percent of the lowest scores from the total test scores to find the difference in the item scores". The tool's content validity was established by subject experts in education and psychology, who reviewed the items for relevance and appropriateness. The reliability of the instrument was tested using Cronbach's Alpha, which yielded a coefficient of 0.667, indicating a satisfactory level of internal consistency. In addition, item analysis was carried out using psychological testing approaches with the help of MS Excel and SPSS, which confirmed the suitability of the tool for measuring controlling skills.

3.3 Data Collection Procedure

The data were collected from the selected sample of principals after obtaining necessary permissions from the institutions concerned. The questionnaires were administered directly to the respondents, ensuring that instructions were clear and responses were authentic. The collected responses were systematically coded and tabulated for further statistical analysis.

3.4 Statistical Techniques

For analysis, both descriptive and inferential statistical methods were applied. Descriptive measures, such as the mean (Richard, 2015) and standard deviation (Howitt & Cramer, 2014), were calculated to describe the central tendency and variability of the principals' responses. To test the hypotheses, an independent t-test was employed (Johnson & Christensen, 2014), Levene's test Field (2018), This justified using the standard independent samples t-test without adjustments, which helped determine whether statistically significant differences existed in the controlling skills of principals across variables such as gender, type of institution, locality, and minority status.

IV. Data Analysis

H_{o1}: There is no significant difference in the controlling skills of Male and Female principals of teacher education institutions in Telangana State.

To test the null hypothesis (H_{o1}) that there is no significant difference in the controlling skills of male and female principals of teacher education institutions in Telangana State, an independent samples t-test was conducted. Prior to the t-test, Levene's test for equality of variances was performed to assess whether the variances in controlling skills between male and female principals were equal.

The results of Levene's test indicated that the variances were equal, $F(98) = 3.02$, $p = .08$, as the p-value was greater than .05. Consequently, the t-test assuming equal variances was used. The t-test results revealed no statistically significant difference in the controlling skills between female ($n = 34$, $M = 25.11$, $SD = 2.88$) and male ($n = 66$, $M = 23.72$, $SD = 4.33$) principals, $t(98) = 1.68$, $p = .09$. Since the p-value (.09) was greater than .05, the null hypothesis was not rejected, indicating no significant difference in controlling skills based on gender at the .05 significance level.

H_{o2}: There is no significant difference in the controlling skills of Principals of Government and Private teacher education institutions in Telangana State.

To test the null hypothesis (H_{o2}) that there is no significant difference in the controlling skills of principals of government and private teacher education institutions in Telangana State, an independent samples t-test was conducted. Levene's test for equality of variances was performed to verify the assumption of equal variances between the two groups.

Levene's test indicated that the variances were equal, $F(98) = 0.83$, $p = .36$, as the p-value exceeded .05. Therefore, the t-test assuming equal variances was applied. The t-test results showed no statistically significant difference in the controlling skills between principals of government ($n = 4$, $M = 23.00$, $SD = 2.16$) and private ($n = 96$, $M = 24.25$, $SD = 3.99$) institutions, $t(98) = 0.62$, $p = .53$. As the p-value (.53) was greater than .05, the null hypothesis was not rejected, indicating no significant difference in controlling skills based on the nature of the institution at the .05 significance level.

H_{o3}: There is no significant difference in the controlling skills of Principals of Rural and Urban teacher education institutions in Telangana State.

To test the null hypothesis (H_{o3}) that there is no significant difference in the controlling skills of principals of rural and urban teacher education institutions in Telangana State, an independent samples t-test was conducted.

Levene's test for equality of variances was performed to confirm the assumption of equal variances between the two groups.

The results of Levene's test showed that the variances were equal, $F(98) = 1.95$, $p = .16$, as the p-value was greater than .05. Thus, the t-test assuming equal variances was used. The t-test revealed no statistically significant difference in the controlling skills between principals of rural ($n = 65$, $M = 24.04$, $SD = 4.39$) and urban ($n = 35$, $M = 24.48$, $SD = 2.97$) institutions, $t(98) = 0.53$, $p = .59$. Since the p-value (.59) exceeded .05, the null hypothesis was not rejected, indicating no significant difference in controlling skills based on the locality of the institution at the .05 significance level.

H_{04}: There is no significant difference in the controlling skills of Principals of Minority and Non-Minority teacher education institutions in Telangana State.

To test the null hypothesis (H_{04}) that there is no significant difference in the controlling skills of principals of minority and non-minority teacher education institutions in Telangana State, an independent samples t-test was conducted. Levene's test for equality of variances was performed to assess the assumption of equal variances between the two groups.

Levene's test indicated that the variances were equal, $F(98) = 0.73$, $p = .39$, as the p-value was greater than .05. Therefore, the t-test assuming equal variances was applied. The t-test results showed no statistically significant difference in the controlling skills between principals of minority ($n = 22$, $M = 23.09$, $SD = 4.98$) and non-minority ($n = 78$, $M = 24.51$, $SD = 3.57$) institutions, $t(98) = 1.50$, $p = .13$. As the p-value (.13) was greater than .05, the null hypothesis was not rejected, indicating no significant difference in controlling skills based on the status of the institution at the .05 significance level.

4.1 Summary Table of Hypotheses Testing Results

Table 1:
Summary of Statistical Analysis of Controlling Skills of Principals in Telangana State Teacher Education Institutions

Hypothesis	Variable	Group	N	M	SD	F-value	p (F-test)	t-value	p (t-test)	df	Result
H_{01}	Gender	Female	34	25.11	2.88	3.02	.08	1.68	.09	98	Not significant
		Male	66	23.72	4.33						
H_{02}	Nature of Institution	Government	4	23.00	2.16	0.83	.36	0.62	.53	98	Not significant
		Private	96	24.25	3.99						
H_{03}	Locality of Institution	Rural	65	24.04	4.39	1.95	.16	0.53	.59	98	Not significant
		Urban	35	24.48	2.97						
H_{04}	Status of Institution	Minority	22	23.09	4.98	0.73	.39	1.50	.13	98	Not significant
		Non-Minority	78	24.51	3.57						

Note: All p-values for Levene's test (F-test) and t-tests are greater than .05, indicating equal variances and no significant differences in controlling skills at the .05 significance level, respectively. H_{01} to H_{04} represent null hypotheses testing differences in controlling skills based on gender, nature of institution, locality, and status of institution, respectively.

Mean Controlling Skills of Principals by Group
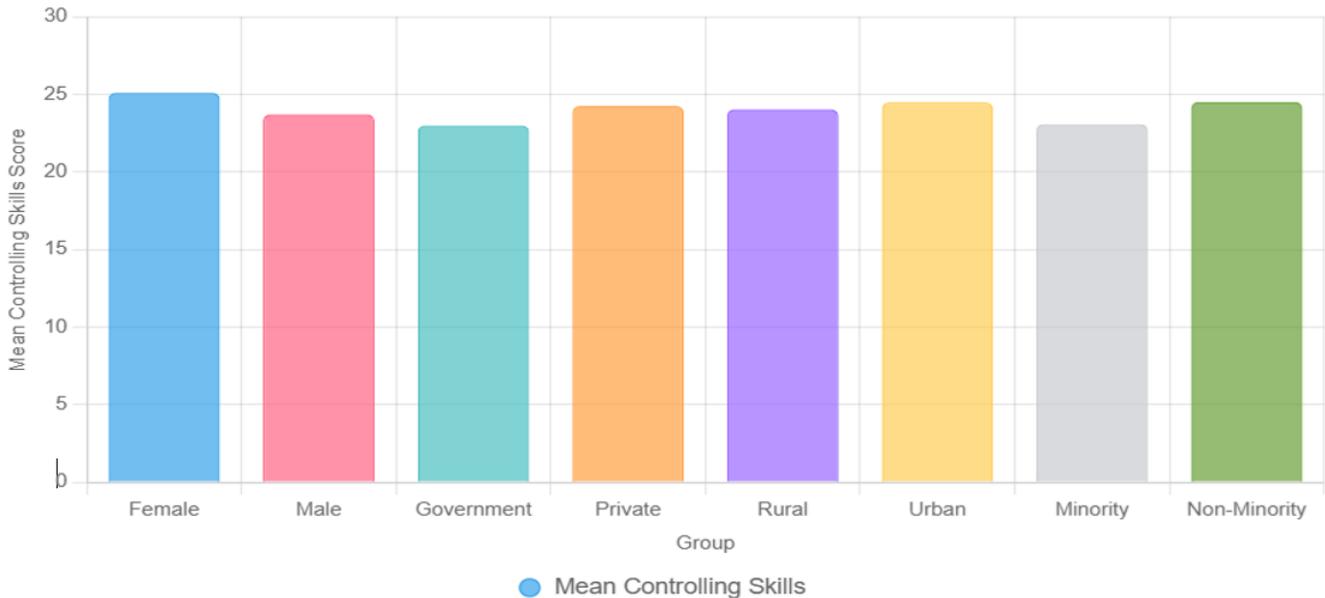
V.   INTERPRETATION OF FINDINGS

Statistical analyses of the four null hypotheses (H_{01} to H_{04}) showed no significant differences in controlling skills of principals in Telangana State teacher education institutions across gender, institution type, locality, and institution status. For H_{01}, female principals (M = 25.11, SD = 2.88) slightly outperformed males (M = 23.72, SD = 4.33), t(98) = 1.68, p = .09. For H_{02}, private institution principals (M = 24.25, SD = 3.99) scored higher than government ones (M = 23.00, SD = 2.16), t(98) = 0.62, p = .53. In H_{03}, urban principals (M = 24.48, SD = 2.97) had a minor edge over rural ones (M = 24.04, SD = 4.39), t(98) = 0.53, p = .59. For H_{04}, non-minority principals (M = 24.51, SD = 3.57) outperformed minority ones (M = 23.09, SD = 4.98), t(98) = 1.50, p = .13. Levene's tests confirmed equal variances (all p > .05). These findings indicate comparable controlling skills across groups, suggesting moderate skill internalization for effective performance, regardless of demographic or institutional factors (Anthony & Govindarajan, 2007).

5.1 Discussion of the Study

The lack of significant differences supports the study's objectives and hypotheses, suggesting that controlling skills among principals in Telangana are not markedly influenced by gender, institutional nature, locality, or status.

This aligns with Sarros et al. (2008), who found no overall gender differences in controlling skills in Australian higher education, though females excelled in adaptive corrective actions, reflected here in the higher female mean (25.11 vs. 23.72) (Eagly & Carli, 2003). The nonsignificant gender effect contrasts with Ahmad et al. (2019), who reported Malaysian female principals scoring higher in performance measurement due to relational leadership, suggesting Telangana's regulatory context may standardize practices (National Council for Teacher Education, 2014). For H_{02}, the absence of differences between government and private institutions contradicts Gupta and Sharma (2019), who noted private principals' superiority in corrective actions due to autonomy. Telangana's NCTE compliance requirements may unify controlling practices across institution types (Bush, 2011; Deem et al., 2007).

For locality (H_{03}), the nonsignificant urban-rural difference challenges Li and Hallinger (2015), who identified gaps in Chinese contexts due to digital divides. Telangana's improving infrastructure, particularly in semi-urban districts, may minimize such disparities (UNESCO, 2015; Mulford, 2003). Similarly, the lack of significant differences in H_{04} aligns with Walker and Dimmock (2007), who found no major skill disparities in Canadian minority institutions, but contrasts Hasan and Khan (2020), who noted minority principals' strengths in stakeholder engagement.

Uniform accreditation pressures in Telangana likely mitigate these differences (Bush & Glover, 2014; OECD, 2021). These findings address research gaps by providing region-specific quantitative data on controlling skills, absent in prior South Asian studies (Nguyen & Tran, 2018; Banks, 2019), and confirm moderate skill internalization, as per Anthony and Govindarajan's (2007) emphasis on variance analysis.

5.2 Implications for Practice and Policy

The findings inform targeted interventions for enhancing principals' controlling skills. For practice, gender-neutral training programs should emphasize universal competencies like performance monitoring and feedback loops, leveraging females' relational strengths (Eagly & Carli, 2003; Ahmad et al., 2019) while addressing variability in male skills (H_{01}, SD = 4.33 vs. 2.88). Technology-focused workshops for rural principals (H_{03}) could bridge digital gaps, aligning with Mulford's (2003) recommendations for resource equity (UNESCO, 2015). Policy-wise, Telangana's education department should align with the National Education Policy 2020 by standardizing controlling skill benchmarks across government and private institutions (H_{02}), reducing bureaucratic disparities (Bush, 2011; Deem et al., 2007). For minority institutions (H_{04}), policies should promote culturally adaptive controls, such as community-oriented metrics, to enhance stakeholder engagement without compliance burdens (Bush & Glover, 2014; Hasan & Khan, 2020). These measures support NCTE mandates for quality assurance in B.Ed. programs, fostering teacher competency and institutional accountability (National Council for Teacher Education, 2014; European Commission, 2018).

VI. Limitations And Future Research

The study's delimitations introduce limitations. The sample, restricted to 100 principals from three Telangana districts (Hyderabad, Rangareddy, Mehboobnagar), may limit generalizability to other Indian states (Johnson & Christensen, 2014). The small government subsample (n = 4, H_{02}) likely reduced statistical power, increasing Type II error risk (Field, 2018). The self-constructed Managerial (Controlling) Skills Scale ($\alpha = 0.667$) relies on self-reported data, potentially introducing response bias, as it measures perceptions rather than observed behaviors (Howitt & Cramer, 2014; Kelly, 1939). The descriptive survey design limits causal inferences about skill development (Nguyen & Tran, 2018).

Future research should use larger, stratified samples across all Telangana districts to enhance representativeness (UNESCO, 2015).

Longitudinal studies could track skill improvements post-training, while mixed-methods approaches, incorporating qualitative interviews on corrective actions, would enrich findings (Banks, 2019). Comparative analyses with other Indian states could explore contextual moderators like digital access (Li & Hallinger, 2015; Smith & Jones, 2020). Experimental designs testing interventions, such as technology training for rural principals, would address causality gaps, aligning with OECD's (2021) call for evidence-based leadership development.

VII. Conclusion

This study finds no significant differences in controlling skills among principals in Telangana's teacher education institutions across gender, institutional nature, locality, or status, supporting hypotheses H_{01}–H_{04}. Moderate proficiency levels (means 23.00–25.11) align with NCTE standards (National Council for Teacher Education, 2014; Anthony & Govindarajan, 2007). Addressing regional research gaps (Nguyen & Tran, 2018; Gupta & Sharma, 2019), the findings support inclusive, context-specific leadership training, informed by global perspectives (Eagly & Carli, 2003; European Commission, 2018). Targeted policies, like tech-enabled monitoring for rural areas and adaptive controls for minority institutions, will strengthen teacher preparation per National Education Policy 2020 goals (Bush & Glover, 2014; OECD, 2021), enhancing resilient educational governance in India.

REFERENCES

[1] Ahmad, A., Salleh, M. J., & Omar, K. (2019). Leadership styles and performance measurement among Malaysian school principals. Educational Management Administration & Leadership, 47(3), 432–447. https://doi.org/10.1177/1741143217732792

[2] Ahmad, N. A., Amin, S. M., & Memon, M. A. (2019). Gender differences in transformational leadership styles among school principals in Malaysia. International Journal of Educational Management, 33(4), 712-728. https://doi.org/10.1108/IJEM-05-2018-0156

[3] Anthony, R. N., & Govindarajan, V. (2007). Management control systems (12th ed.). McGraw-Hill Irwin.

[4] Banks, J. A. (2019). An introduction to multicultural education (6th ed.). Pearson.

[5] Bush, T. (2011). Theories of educational leadership and management (4th ed.). SAGE Publications.

[6] Bush, T., & Glover, D. (2014). School leadership models: What do we know? School Leadership & Management, 34(5), 553-571. https://doi.org/10.1080/13632434.2014.928680

[7] Deem, R., Mok, K. H., & Lucas, L. (2007). Transforming higher education in whose image? Exploring the concept of the 'world-class' university in Europe and Asia. Higher Education Policy, 20(4), 483–498. https://doi.org/10.1057/palgrave.hep.8300172

[8] Eagly, A. H., & Carli, L. L. (2003). The female leadership advantage: An evaluation of the evidence. The Leadership Quarterly, 14(6), 807–834. https://doi.org/10.1016/j.leaqua.2003.09.004

[9] European Commission. (2018). Strengthening European teacher education: Building competences for the future. Publications Office of the European Union. https://doi.org/10.2766/84535

[10] Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). Sage Publications.

[11] Gupta, R., & Sharma, S. (2019). Leadership effectiveness in Indian higher education: A comparative study of public and private institutions. Journal of Educational Administration, 57(4), 345–360. https://doi.org/10.1108/JEA-02-2019-0023

[12] Gupta, S., & Sharma, R. (2019). Role of technology in educational management: A study of teacher training institutions. Journal of Educational Technology Systems, 47(4), 512–530. https://doi.org/10.1177/0047239518821756

[13] Hasan, M., & Khan, A. (2020). Leadership challenges in minority institutions: A study of teacher education colleges in India. International Journal of Educational Management, 34(6), 987–1002. https://doi.org/10.1108/IJEM-05-2019-0165

[14] Howitt, D., & Cramer, D. (2014). Introduction to statistics in psychology (5th ed.). Pearson Education.

[15] Johnson, B., & Christensen, L. (2014). Educational research: Quantitative, qualitative, and mixed approaches (5th ed.). Sage Publications.

[16] Kelly, T. L. (1939). The selection of upper and lower groups for the validation of test items. Journal of Educational Psychology, 30(1), 17–24. https://doi.org/10.1037/h0057123

[17] Koontz, H., & Weihrich, H. (2010). Essentials of management: An international perspective (8th ed.). McGraw-Hill.

[18] Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). How leadership influences student learning. Center for Applied Research and Educational Improvement, University of Minnesota.

[19] Li, L., & Hallinger, P. (2015). Leadership and management in rural schools: Evidence from China. Educational Management Administration & Leadership, 43(4), 523–540. https://doi.org/10.1177/1741143214535739

[20] Mintzberg, H. (1973). The nature of managerial work. Harper & Row.

[21] Mulford, B. (2003). School leaders: Changing roles and impact on teacher and school effectiveness. Educational Forum, 67(3), 232-246. https://doi.org/10.1080/00131720308984511

[22] National Council for Teacher Education. (2014). NCTE regulations, 2014: Norms and standards for teacher education programmes. Ministry of Human Resource Development, Government of India. https://ncte.gov.in/Website/Regulations.aspx

[23] Nguyen, T. H., & Tran, T. T. (2018). Gender differences in educational leadership in Vietnam. Asia Pacific Education Review, 19(3), 381–392. https://doi.org/10.1007/s12564-018-9532-5

[24] OECD. (2021). Education at a glance 2021: OECD indicators. Organisation for Economic Co-operation and Development. https://doi.org/10.1787/b35a14e5-en

[25] Preston, G., Jakubiec, B., & Kooymans, R. (2015). Leadership in rural schools: Access to resources and leadership practices. Journal of School Leadership, 25(6), 1123–1149. https://doi.org/10.1177/105268461502500605

[26] Ranson, S. (2003). Public accountability in the age of neo-liberal governance. Journal of Education Policy, 18(5), 459–480. https://doi.org/10.1080/0268093032000124848

[27] Rahman, M. A. (2017). Enhancing Leadership Skills in Multi-Cultural Organizations. M.C.E. Society's Journal of Interdisciplinary Research, Pune, 2(2).

[28] Rahman, M. A. (2020). A study of managerial skills and organizational commitment of the principals of teacher education institutions in Telangana State (Thesis). Maulana Azad National Urdu University. http://hdl.handle.net/10603/338385

[29] Rahman, M. A. (2025). A study of planning skills of principals of teacher education institutions in Telangana State. The Asian Thinker, 7(III), 27. https://www.theasianthinker.com

[30] Rahman, M. A., Mahmood, S. M., & Farooqi, M. R. (2019). Management functions: A mechanism for interpersonal trust among college principals. Indian Journal of Applied Research, 9(4), 1-2.

[31] Rahman, M. A., Mahmood, S. M., Farooqi, R., & Hassan, M. M. (2025). A study of organizing skills of the principals of teacher education institutions in Telangana state. International Journal of Research and Technology Innovation (IJRTI), 10(10), 2456-3315. https://doi.org/10.56975/ijrti.v10i10.206589

[32] Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture in Australian universities. Journal of Leadership & Organizational Studies, 15(2), 145-158. https://doi.org/10.1177/1548051808324543

[33] Smith, J., & Jones, A. (2020). Rural-urban disparities in educational leadership. International Journal of Educational Management, 34(7), 1123–1138. https://doi.org/10.1108/IJEM-02-2020-0065

[34] UNESCO. (2015). Education for all 2000–2015: Achievements and challenges. UNESCO Publishing. https://unesdoc.unesco.org/ark:/48223/pf0000232205

[35] Walker, A., & Dimmock, C. (2007). Leading and managing culturally diverse schools: The challenge of educational leadership in a globalized world. International Journal of Leadership in Education, 10(3), 269-285. https://doi.org/10.1080/13603120701381696