

Factor Structure of Transformational Leadership, School Culture, Organizational Commitment, and Job Satisfaction among Malaysian Special Education Teachers..

Khadijah binti Amat@Kamaruddin^{1*}, Prof. Datuk Dr. Yasmin bin Hussain²

¹ Institut Pendidikan Guru Kampus Perempuan Melayu, Melaka, Malaysia.

² City University, Petaling Jaya, Malaysia.

Corresponding Author

Khadijah binti Amat@Kamaruddin

Email: khadijah.amat@ipgm.edu.my

Abstract

This study investigates the underlying factor structure of four key organizational constructs—Transformational Leadership, School Culture, Organizational Commitment, and Job Satisfaction—among Malaysian Special Education teachers. Establishing valid and reliable measurement instruments is essential for accurately examining the organizational factors that influence teachers' professional well-being and educational effectiveness. A quantitative cross-sectional survey design was employed, involving 424 primary school teachers serving in the Integrated Special Education Programme (PPKI) across five Malaysian states. Exploratory Factor Analysis (EFA) using Principal Component Analysis (PCA) with Varimax rotation was conducted to evaluate the dimensionality, construct validity, and internal consistency of the measurement instruments.

The findings demonstrated excellent sampling adequacy, with Kaiser–Meyer–Olkin (KMO) values exceeding .90 across all constructs and statistically significant Bartlett's Tests of Sphericity ($p < .001$). EFA yielded clear two-factor solutions for all four constructs, with factor loadings exceeding .60 and cumulative explained variance ranging from 67.52% to 75.24%. The instruments demonstrated excellent internal consistency, with Cronbach's alpha coefficients ranging from .945 to .982. These findings provide strong evidence that the adapted instruments possess satisfactory psychometric properties and are suitable for assessing organizational constructs within the Malaysian Special Education context.

The study contributes to educational leadership and organizational research by providing empirically supported measurement instruments for Special Education teachers. The identified factor structure provides a foundation for future Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM), and policy-oriented research aimed at strengthening teacher well-being, organizational commitment, school culture, and transformational leadership practices in inclusive education..

Keywords: Transformational leadership; school culture; organizational commitment; job satisfaction; special education teachers; exploratory factor analysis; psychometric validation..

INTRODUCTION

Teacher well-being has become a central concern in educational research because it is closely associated with instructional quality, student learning outcomes, and organizational effectiveness. Within the field of Special Education, teachers encounter additional professional demands arising from diverse student needs, individualized instructional planning, behavioural management, collaboration with multidisciplinary teams, and inclusive educational practices. These responsibilities increase the complexity of teachers' professional roles and highlight the importance of establishing organizational environments that promote sustainable job satisfaction and professional commitment.

In Malaysia, the growing implementation of inclusive education and the expansion of the Integrated Special Education Programme (Program Pendidikan Khas Integrasi, PPKI) have further intensified expectations placed upon Special Education teachers. National educational initiatives, including the Ministry of Education Strategic Plan 2024–2030, the School Curriculum 2027, Sustainable Development Goal 4 (Quality Education), and the Thirteenth Malaysia Plan (2026–2030), emphasize educational quality, teacher professionalism, and inclusive educational development. These policy directions underscore the need for valid measurement instruments capable of evaluating organizational factors that contribute to teachers' professional well-being within the Malaysian educational context.

Previous research consistently demonstrates that organizational variables play an important role in influencing teachers' job satisfaction and organizational effectiveness. Transformational leadership has been associated with enhanced teacher motivation, professional efficacy, and school improvement through supportive leadership practices and positive organizational climates. Likewise, collaborative school culture has been identified as an

important contributor to teachers' psychological well-being, resilience, and professional engagement. Organizational commitment, particularly teachers' emotional attachment and willingness to remain within their institutions, has also been shown to influence long-term professional sustainability.

Although these constructs have been extensively investigated in general educational settings, evidence concerning their measurement validity among Malaysian Special Education teachers remains limited. Instruments originally developed in different cultural and educational contexts require empirical verification before they can be confidently applied within Malaysian Special Education settings. Consequently, establishing the dimensionality and psychometric properties of these constructs represents an essential preliminary step before examining their structural relationships using advanced statistical modelling.

Accordingly, this study employs Exploratory Factor Analysis (EFA) to examine the underlying factor structure of four organizational constructs: Transformational Leadership, School Culture, Organizational Commitment, and Job Satisfaction among Malaysian Special Education teachers. The findings are expected to provide empirically validated measurement instruments that support future Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM), and evidence-based policy development aimed at strengthening teacher well-being and organizational effectiveness in Special Education.

Literature Review

2.1 Job Satisfaction

Job satisfaction represents one of the most widely investigated constructs in educational management because it reflects teachers' overall evaluation of their professional experiences and working environment. Within Special Education, job satisfaction is particularly important because teachers frequently encounter demanding instructional responsibilities, individualized educational planning, behavioural interventions, and extensive collaboration with parents and multidisciplinary professionals. These unique professional demands distinguish Special Education teachers from their mainstream counterparts and justify the need to examine job satisfaction within this specific educational context.

The Minnesota Satisfaction Questionnaire (MSQ) developed by Weiss et al. (1967) remains one of the most widely accepted instruments for measuring job satisfaction. The instrument distinguishes between intrinsic satisfaction, which reflects achievement, recognition, responsibility, and personal accomplishment, and extrinsic satisfaction, which concerns salary, organizational policies, supervision, and working conditions. Recent empirical studies continue to support the multidimensional nature of job satisfaction while emphasizing that cultural and occupational contexts may influence the factor structure of the instrument. Consequently, revalidating the MSQ within Malaysian Special Education settings is necessary to ensure construct validity and measurement accuracy before subsequent structural analyses.

2.2 Organizational Commitment

Organizational commitment describes the psychological attachment individuals develop toward their organizations and influences their intention to remain within the profession, organizational loyalty, and work performance. Meyer and Allen's (1991) three-component model remains the dominant theoretical framework, comprising affective commitment, continuance commitment, and normative commitment. Among teachers, stronger organizational commitment has consistently been associated with higher motivation, greater professional engagement, and improved educational outcomes.

Recent Malaysian studies indicate that teachers' organizational commitment is influenced by organizational support, school leadership, and workplace environment. However, empirical evidence focusing specifically on Special Education teachers remains comparatively limited. Since professional responsibilities and working conditions differ substantially between Special Education and mainstream teachers, validating the organizational commitment construct within the Special Education context is essential. Therefore, this study employs Exploratory Factor Analysis to examine whether the organizational commitment instrument demonstrates an appropriate factor structure among Malaysian Special Education teachers.

2.3 School Culture

School culture encompasses the shared values, beliefs, norms, and professional practices that shape collaboration, communication, and organizational behaviour within schools. A supportive school culture promotes teacher motivation, professional learning, psychological well-being, and organizational effectiveness. Within Special Education, collaborative relationships among teachers, school leaders, parents, and support personnel are particularly important because educational provision often requires interdisciplinary cooperation and continuous professional interaction.

The School Culture Survey developed by Gruenert and Valentine (1998) has been extensively employed to measure organizational culture within educational institutions. Malaysian studies have demonstrated positive relationships between collaborative school culture, teacher resilience, and psychological well-being. Furthermore,

evidence suggests that effective school leadership contributes substantially to the development of collaborative organizational cultures that support teachers' professional effectiveness. Previous adaptation studies also indicate that Exploratory Factor Analysis is an appropriate technique for validating school culture instruments across different educational and cultural contexts. Consequently, reassessing the dimensionality of school culture among Malaysian Special Education teachers is necessary to ensure the validity of the adapted measurement instrument.

2.4 Transformational Leadership

Transformational leadership refers to leadership behaviours that inspire, motivate, and intellectually stimulate followers while fostering organizational commitment and professional growth. Within educational settings, transformational school leaders create supportive learning environments, establish clear organizational visions, encourage innovation, and promote collaborative decision-making among teachers. These leadership practices are particularly important in Special Education, where instructional complexity requires continuous professional support and adaptive organizational management.

This study adopts the transformational leadership framework proposed by Leithwood and Jantzi (1995), which has been widely applied in educational leadership research. Previous studies consistently report positive associations between transformational leadership and teacher motivation, school effectiveness, organizational commitment, and job satisfaction. Nevertheless, most validation studies have focused on mainstream educational settings, leaving limited empirical evidence regarding Malaysian Special Education teachers. Therefore, this study re-examines the factor structure of transformational leadership using Exploratory Factor Analysis to determine whether the adapted instrument adequately represents leadership practices within Malaysian Special Education schools.

Conceptual Framework

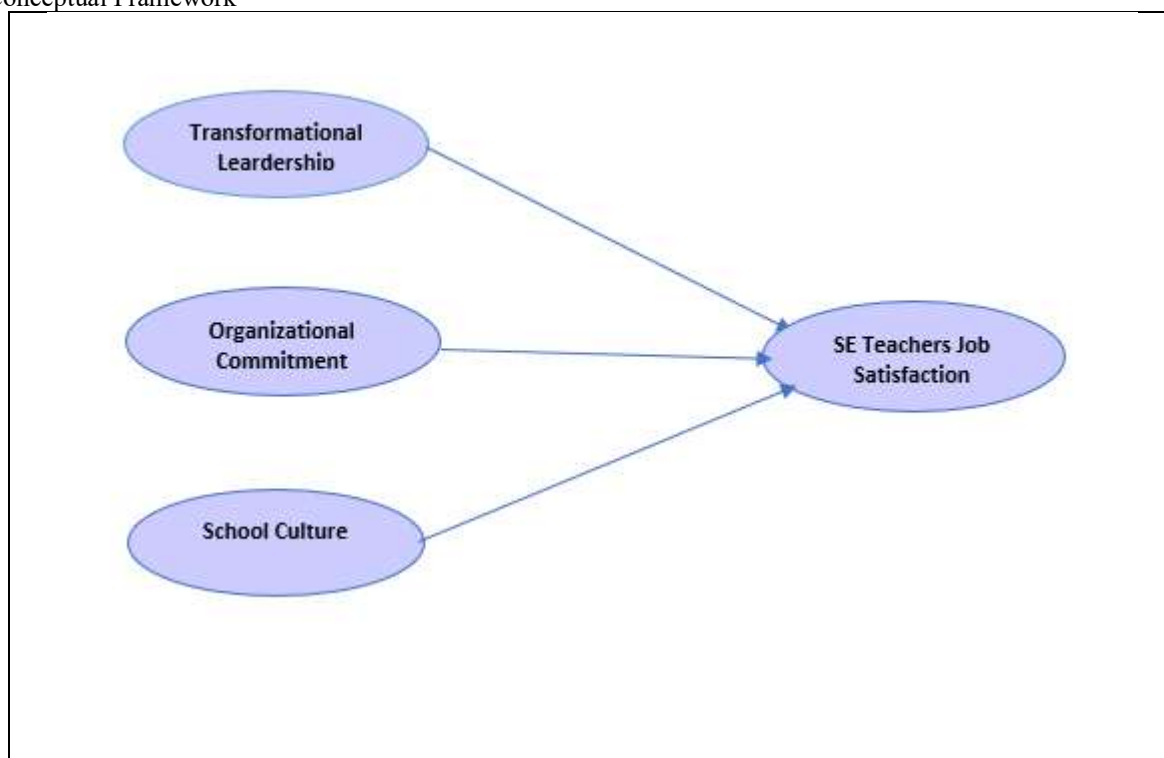


Figure 1: Conceptual Framework of the Study

This study proposes a conceptual framework that examines the factor structure of four organizational constructs among Malaysian Special Education teachers. The framework positions Transformational Leadership, School Culture, and Organizational Commitment as organizational constructs associated with Job Satisfaction, which represents teachers' professional well-being and serves as the principal outcome construct. The selection of these constructs is supported by empirical evidence and theoretical perspectives indicating that organizational factors play a critical role in enhancing teachers' effectiveness, motivation, and workplace well-being.

Transformational Leadership is conceptualized as a leadership approach that enhances teachers' motivation, professional efficacy, and commitment through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Contemporary educational leadership research consistently reports that transformational leadership contributes positively to teacher performance and organizational improvement.

School Culture represents the shared organizational values, collaborative practices, communication patterns, and professional relationships that shape teachers' daily working environment. A supportive school culture encourages professional collaboration, strengthens collegial relationships, and promotes teacher well-being. Previous studies have demonstrated significant relationships between positive school culture and teachers' professional satisfaction, organizational commitment, and instructional effectiveness.

Organizational Commitment refers to teachers' psychological attachment to their educational institutions and their willingness to remain committed to organizational goals and professional responsibilities. Consistent with Meyer and Allen's commitment framework, stronger organizational commitment reflects greater emotional attachment, loyalty, and long-term engagement within the organization.

Collectively, these organizational constructs are expected to contribute to higher levels of Job Satisfaction among Malaysian Special Education teachers. Since the present study focuses on validating the measurement instruments rather than testing structural relationships, the proposed conceptual framework serves as the theoretical foundation for evaluating the dimensionality and construct validity of the four latent constructs through Exploratory Factor Analysis (EFA). The validated measurement model is intended to provide a robust basis for subsequent Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) in future investigations.

Methodology

4.1 Research Design

This study adopted a quantitative cross-sectional survey design to evaluate the factor structure and psychometric properties of four organizational constructs among Malaysian Special Education teachers. The quantitative approach was selected because it enables systematic measurement of latent variables and provides appropriate statistical procedures for examining construct dimensionality and measurement validity. The study specifically employed Exploratory Factor Analysis (EFA) as the primary analytical technique to determine the underlying factor structure of the adapted measurement instruments.

4.2 Research Participants

The study involved 424 Special Education teachers serving in the Integrated Special Education Programme (Program Pendidikan Khas Integrasi, PPKI) in Malaysian primary schools. Participants were selected from five Malaysian states to ensure adequate representation of the target population. The sample size satisfies commonly recommended requirements for Exploratory Factor Analysis and provides sufficient statistical power for evaluating construct validity and reliability.

4.3 Research Instruments

Data were collected using a structured questionnaire comprising four adapted measurement scales:

Transformational Leadership

School Culture

Organizational Commitment

Job Satisfaction The instruments were adapted from established measures that have been widely applied in educational and organizational research. Prior to the factor analysis, all questionnaire items were reviewed and refined to ensure their suitability for the Malaysian Special Education context. The primary objective of this study was to evaluate the dimensionality, construct validity, and internal consistency of these adapted instruments before they are employed in subsequent structural analyses.

4.4 Data Collection Procedure

Questionnaire data were collected from participating teachers following the necessary institutional and ethical approval procedures. Participation was voluntary, and respondents were informed that all information would be treated confidentially and used solely for research purposes. Completed questionnaires were screened prior to statistical analysis to ensure data completeness and suitability for Exploratory Factor Analysis.

4.5 Data Analysis

Data analysis was conducted using IBM SPSS Statistics. Exploratory Factor Analysis was performed using Principal Component Analysis (PCA) with Varimax orthogonal rotation to identify the underlying factor structure of each construct. The suitability of the data for factor analysis was assessed using the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity.

The following criteria were applied throughout the analysis:

KMO values greater than .60 indicate adequate sampling suitability.

Bartlett's Test of Sphericity should be statistically significant ($p < .05$), indicating sufficient intercorrelations among the variables.

Factors with eigenvalues greater than 1.00 were retained.

Items with factor loadings of .60 or above were considered practically significant.

The cumulative percentage of explained variance was evaluated to determine the adequacy of the extracted factor structure.

Internal consistency reliability was assessed using Cronbach's Alpha, with coefficients above .70 considered acceptable for research purposes.

The EFA results were subsequently interpreted to determine the dimensionality of Job Satisfaction, Organizational Commitment, School Culture, and Transformational Leadership within the Malaysian Special Education context. The validated measurement structure established in this study provides the empirical foundation for future Confirmatory Factor Analysis and Structural Equation Modelling.

Findings

5.1 Exploratory Factor Analysis of the Job Satisfaction Construct

Exploratory Factor Analysis (EFA) was performed on the 20 items measuring the Job Satisfaction construct using Principal Component Analysis (PCA) with Varimax orthogonal rotation. The preliminary assessment confirmed that the dataset satisfied all statistical assumptions required for factor analysis. As presented in Table 1, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was .970, indicating excellent sampling adequacy according to established EFA guidelines. Furthermore, Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 8284.60$, $df = 190$, $p < .001$), confirming that the correlation matrix was appropriate for factor extraction. These findings demonstrate that the inter-item correlations were sufficiently strong to justify the application of Exploratory Factor Analysis.

Table 1: Kaiser–Meyer–Olkin (KMO) and Bartlett's Test for the Job Satisfaction Construct

Test Statistic	Value
Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy	.970
Bartlett's Test of Sphericity (Approx. Chi-Square)	8284.60
Degrees of Freedom	190
Significance (p)	.000

The factor extraction results indicated that two components possessed eigenvalues greater than 1.00. As shown in Table 2, the first component accounted for 65.47% of the total variance, whereas the second component contributed an additional 5.80%, producing a cumulative explained variance of 71.26%. This level of explained variance exceeds the commonly accepted threshold for construct validation, indicating that the adapted Job Satisfaction instrument possesses a stable and well-defined underlying factor structure. In addition, all communalities exceeded the recommended minimum value, supporting the retention of all questionnaire items within the measurement model.

Table 2: Total Variance Explained for the Job Satisfaction Construct

Component	Eigenvalue	% of Variance	Cumulative %
1	13.093	65.47	65.47
2	1.160	5.80	71.26

Following Varimax rotation, the factor loading matrix demonstrated a clear separation between two distinct dimensions of Job Satisfaction. As presented in Table 3, the first factor represents Intrinsic Job Satisfaction, encompassing items associated with achievement, professional fulfilment, responsibility, and personal accomplishment. The second factor represents Extrinsic Job Satisfaction, comprising items related to organizational support, supervision, working conditions, and external rewards. All retained items exhibited factor loadings greater than .60, indicating strong practical significance and satisfactory construct validity. The findings therefore confirm that the adapted Job Satisfaction instrument demonstrates a robust two-factor structure within the Malaysian Special Education context.

Table 3: Rotated Factor Loadings for the Job Satisfaction Construct

Item	Factor 1 (Intrinsic Satisfaction)	Factor 2 (Extrinsic Satisfaction)
KK1	.770	
KK2	.739	
KK3	.792	
KK4	.776	
KK5	.807	
KK6	.749	
KK7	.602	

KK15	.718	
KK16	.672	
KK17	.776	
KK18	.652	
KK19	.695	
KK20	.717	
KK8		.737
KK9		.776
KK10		.795
KK11		.765
KK12		.774
KK13		.725
KK14		.738

5.2 Findings for The Organizational Commitment Construct

Exploratory Factor Analysis (EFA) was subsequently performed to examine the dimensionality of the Organizational Commitment construct. Prior to factor extraction, the adequacy of the dataset was evaluated using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's Test of Sphericity. As reported in the source article, the KMO value was .939, indicating excellent sampling adequacy for factor analysis. In addition, Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 5208.201$, $df = 105$, $p < .001$), confirming that the correlation matrix was appropriate for factor extraction. These results demonstrate that the inter-item correlations were sufficiently strong to support Exploratory Factor Analysis.

Table 4: Kaiser–Meyer–Olkin (KMO) and Bartlett's Test for the Organizational Commitment Construct

Test Statistic	Value
Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy	.939
Bartlett's Test of Sphericity (Approx. Chi-Square)	5208.201
Degrees of Freedom	105
Significance (p)	.000

The factor extraction procedure identified two factors with eigenvalues greater than 1.00. As presented in the original article, the first factor explained 58.29% of the total variance, while the second factor contributed an additional 11.16%, producing a cumulative explained variance of 69.45%. The cumulative variance exceeded the recommended threshold for construct validation, indicating that the adapted Organizational Commitment instrument possesses a stable and interpretable factor structure suitable for subsequent measurement modelling.

Table 5: Total Variance Explained for the Organizational Commitment Construct

Component	Eigen value	% of Variance	Cumulative %
1	8.744	58.29	58.29
2	1.674	11.16	69.45

Following Varimax rotation, the Organizational Commitment construct was clearly differentiated into two underlying dimensions. The first dimension consisted of KG8–KG15, representing Affective Commitment, whereas the second dimension comprised KG1–KG6, representing Continuance Commitment. All retained items demonstrated factor loadings above .60, satisfying the recommended criterion for practical significance and construct validity. These findings indicate that the adapted Organizational Commitment instrument exhibits a well-defined and theoretically consistent two-factor solution within the Malaysian Special Education context.

Table 6: Rotated Factor Loadings for the Organizational Commitment Construct

Item	Factor 1 (Affective Commitment)	Factor 2 (Continuance Commitment)
KG1		.726
KG2		.750
KG3		.878
KG4		.860
KG5		.727

KG6		.830
KG8	.740	
KG9	.678	
KG10	.759	
KG11	.778	
KG12	.789	
KG13	.816	
KG14	.793	
KG15	.747	

The EFA results provide strong empirical evidence supporting the multidimensional nature of Organizational Commitment among Malaysian Special Education teachers. The emergence of Affective Commitment and Continuance Commitment is consistent with the theoretical framework proposed by Allen and Meyer (1991), indicating that teachers' commitment is primarily reflected through their emotional attachment to the organization and their perceived costs of leaving it. The high factor loadings and satisfactory cumulative explained variance further demonstrate that the adapted instrument possesses sound construct validity and is appropriate for future Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) involving Malaysian Special Education teachers. This interpretation is grounded in the factor structure reported in the source manuscript.

5.3 Findings for the School Culture Construct

Exploratory Factor Analysis (EFA) was conducted to examine the underlying factor structure of the School Culture construct. Prior to factor extraction, the suitability of the dataset was evaluated using the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. As shown in Table 7, the KMO value was .959, indicating excellent sampling adequacy for factor analysis. Furthermore, Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 7693.801$, $df = 190$, $p < .001$), confirming that the correlation matrix was appropriate for factor extraction. These findings indicate that the inter-item correlations were sufficiently strong to justify the application of Exploratory Factor Analysis.

Table 7: Kaiser–Meyer–Olkin (KMO) and Bartlett's Test for the School Culture Construct

Test Statistic	Value
Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy	.959
Bartlett's Test of Sphericity (Approx. Chi-Square)	7693.801
Degrees of Freedom	190
Significance (p)	.000

The factor extraction procedure identified two factors with eigenvalues greater than 1.00. According to the original analysis, the first factor accounted for 61.98% of the total variance, while the second factor explained an additional 5.55%, producing a cumulative explained variance of 67.52%. The cumulative variance exceeded the minimum threshold commonly recommended for construct validation, indicating that the adapted School Culture instrument possesses satisfactory construct dimensionality and psychometric adequacy.

Table 8: Total Variance Explained for the School Culture Construct

Component	Eigenvalue	% of Variance	Cumulative %
1	12.396	61.98	61.98
2	1.109	5.55	67.52

Following Varimax rotation, the School Culture construct was clearly separated into two meaningful dimensions. The first factor comprised items BS5–BS17, representing a Collaborative School Culture, characterised by shared values, collegial collaboration, professional support, and open communication among school members. The second factor consisted of items BS1–BS4 and BS18–BS20, representing a Leadership-Oriented School Culture, reflecting leadership support, organizational direction, and administrative influence within the school environment. All retained items demonstrated factor loadings exceeding .60, indicating satisfactory practical significance and construct validity. These findings confirm that the adapted School Culture instrument demonstrates a stable and theoretically meaningful two-factor solution among Malaysian Special Education teachers.

Table 9: Rotated Factor Loadings for the School Culture Construct

Item	Factor 1 (Collaborative School Culture)	Factor 2 (Leadership-Oriented School Culture)
BS5	.653	
BS6	.713	
BS7	.660	
BS8	.696	
BS9	.756	
BS10	.736	
BS11	.822	
BS12	.766	
BS13	.718	
BS14	.668	
BS15	.783	
BS16	.754	
BS17	.762	

Table 9 (continued)

Item	Factor 1 (Collaborative School Culture)	Factor 2 (Leadership-Oriented School Culture)
BS1		.711
BS2		.769
BS3		.774
BS4		.671
BS18		.723
BS19		.681
BS20		.648

The EFA results provide strong empirical support for the multidimensional nature of School Culture among Malaysian Special Education teachers. The emergence of Collaborative School Culture and Leadership-Oriented School Culture is consistent with the conceptualisation presented in the original manuscript, where collaborative practices, shared values, professional support, leadership direction, and organizational influence constitute the two principal dimensions of school culture. All retained items exceeded the recommended factor-loading threshold, further supporting the construct validity and internal coherence of the adapted instrument. The cumulative explained variance of 67.52% also indicates that the two-factor solution adequately represents the underlying structure of the School Culture construct within the Malaysian Special Education context.

5.4 Findings for the Transformational Leadership Construct

Exploratory Factor Analysis (EFA) was conducted to examine the dimensionality of the Transformational Leadership construct. Prior to factor extraction, the adequacy of the dataset was evaluated using the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. As reported in Table 10, the KMO value was .974, indicating excellent sampling adequacy. Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 12,857.198$, $df = 300$, $p < .001$), confirming that the correlation matrix was appropriate for factor analysis. These results indicate that the dataset satisfied all statistical assumptions required for Exploratory Factor Analysis.

Table 10: Kaiser–Meyer–Olkin (KMO) and Bartlett's Test for the Transformational Leadership Construct

Test Statistic	Value
Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy	.974
Bartlett's Test of Sphericity (Approx. Chi-Square)	12,857.198
Degrees of Freedom	300
Significance (p)	.000

The factor extraction procedure identified two components with eigenvalues greater than 1.00. As presented in the source manuscript, the first component explained 70.02% of the total variance, while the second component contributed 5.22%, producing a cumulative explained variance of 75.24%. The exceptionally high percentage of

explained variance indicates that the adapted Transformational Leadership instrument possesses a highly stable and interpretable measurement structure suitable for educational research.

Table 11: Total Variance Explained for the Transformational Leadership Construct

Component	Eigenvalue	% of Variance	Cumulative %
1	17.505	70.02	70.02
2	1.306	5.22	75.24

Following Varimax rotation, the EFA results revealed two distinct dimensions of Transformational Leadership. The first factor consisted of KT11–KT25, representing Professional Transformation and Social Relationships, whereas the second factor comprised KT1–KT10, representing Vision, Mission, and School Expectations. All retained items demonstrated factor loadings exceeding .60, supporting the practical significance and construct validity of the adapted measurement instrument. The resulting factor structure closely reflects the Transformational Leadership framework proposed by Leithwood and Jantzi (1995), indicating that the adapted instrument appropriately captures leadership practices within Malaysian Special Education schools.

Table 12: Rotated Factor Loadings for the Transformational Leadership Construct

Item	Factor 1 (Professional Transformation and Social Relationships)	Factor 2 (Vision, Mission, and School Expectations)
KT1		.771
KT2		.787
KT3		.770
KT4		.819
KT5		.781
KT6		.768
KT7		.681
KT8		.760
KT9		.749
KT10		.714
KT11	.704	
KT12	.661	
KT13	.792	
KT14	.678	
KT15	.742	
KT16	.684	
KT17	.704	
KT18	.668	
KT19	.685	
KT20	.837	
KT21	.693	
KT22	.775	
KT23	.795	
KT24	.760	
KT25	.768	

5.5 Instrument Reliability

The internal consistency of the measurement instruments was evaluated using Cronbach's Alpha. As presented in Table 13, all four constructs demonstrated exceptionally high reliability coefficients, exceeding the recommended threshold for psychometric research. According to the source manuscript, the Cronbach's Alpha values ranged from .945 to .982, indicating excellent internal consistency across all constructs. These findings provide additional empirical support for the reliability of the adapted instruments and confirm their suitability for future Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM), and educational leadership research involving Malaysian Special Education teachers.

Table 13: Internal Consistency Reliability of the Measurement Instruments (N = 424)

Construct	Number of Items	Cronbach's Alpha
Transformational Leadership	25	.982

School Culture	20	.967
Organizational Commitment	15	.945
Job Satisfaction	20	.971

5.6 Overall Summary of the EFA Findings

Overall, the Exploratory Factor Analysis confirmed that the four organizational constructs examined in this study possess satisfactory psychometric properties within the Malaysian Special Education context. All constructs achieved excellent KMO values ($> .90$), statistically significant Bartlett's Test of Sphericity ($p < .001$), factor loadings above $.60$, cumulative explained variance exceeding 67% , and excellent internal consistency reliability. Collectively, these findings demonstrate that the adapted measurement instruments are valid and reliable for assessing Transformational Leadership, School Culture, Organizational Commitment, and Job Satisfaction among Malaysian Special Education teachers. The validated measurement structure provides a robust empirical foundation for subsequent Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) in future studies.

Discussion

The present study examined the underlying factor structure of four organizational constructs—Job Satisfaction, Organizational Commitment, School Culture, and Transformational Leadership—among Malaysian Special Education teachers using Exploratory Factor Analysis (EFA). Overall, the findings demonstrated that all four adapted instruments possess strong psychometric properties, as evidenced by excellent KMO values, statistically significant Bartlett's Test of Sphericity, satisfactory factor loadings, substantial cumulative explained variance, and high internal consistency reliability. These findings support the validity and reliability of the measurement instruments for application within the Malaysian Special Education context.

The Job Satisfaction construct produced a stable two-factor solution comprising Intrinsic Satisfaction and Extrinsic Satisfaction, accounting for 71.26% of the total explained variance. This finding is consistent with the two-dimensional structure of the Minnesota Satisfaction Questionnaire (MSQ) introduced by Weiss et al. (1967) and aligns with the studies cited in the original manuscript, which highlight the importance of validating job satisfaction instruments across different cultural and educational contexts. Within Malaysian Special Education, the prominence of intrinsic satisfaction suggests that teachers place considerable value on professional achievement, emotional support, autonomy, and meaningful engagement in teaching. In contrast, the extrinsic dimension reflects the importance of organizational support, administrative relationships, and employment-related rewards in sustaining teachers' professional well-being.

Similarly, the Organizational Commitment construct was represented by two distinct dimensions—Affective Commitment and Continuance Commitment—which together explained 69.45% of the total variance. This factor structure is consistent with the theoretical framework proposed by Allen and Meyer (1991) and reflects the findings discussed in the original article. Affective commitment represents teachers' emotional attachment and identification with their schools, whereas continuance commitment reflects their intention to remain in the profession because of organizational support, career opportunities, and perceived professional stability. These findings suggest that organizational commitment among Malaysian Special Education teachers is influenced by both emotional and practical considerations, highlighting the importance of supportive organizational environments in sustaining teacher retention and professional engagement.

The EFA results also confirmed a two-factor structure for the School Culture construct, namely Collaborative School Culture and Leadership-Oriented School Culture, explaining 67.52% of the cumulative variance. As discussed in the original manuscript, these findings indicate that shared professional values, open communication, collegial collaboration, and supportive leadership collectively contribute to a positive organizational climate for Special Education teachers. The distinction between collaborative practices and leadership influence further demonstrates that school culture encompasses both interpersonal relationships and organizational governance. Such a finding reinforces the importance of fostering collaborative professional environments alongside effective school leadership to support teacher well-being and organizational effectiveness.

For the Transformational Leadership construct, the analysis identified two dimensions: Professional Transformation and Social Relationships and Vision, Mission, and School Expectations, accounting for 75.24% of the total explained variance. These dimensions closely correspond to the leadership model adopted in the study and discussed in the original article. The first dimension reflects leadership behaviours that promote trust, professional support, recognition, and teacher participation in decision-making. The second dimension emphasizes organizational vision, strategic direction, performance expectations, and alignment between school goals and teachers' professional development. Together, these dimensions indicate that transformational leadership within Malaysian Special Education schools extends beyond administrative management by fostering professional growth and collaborative organizational relationships.

An additional strength of this study lies in the exceptionally high Cronbach's Alpha coefficients reported for all four constructs, ranging from .945 to .982. These reliability coefficients provide strong evidence of internal consistency and further support the suitability of the adapted instruments for future empirical investigations. The high reliability values, together with the satisfactory factor structure identified through EFA, indicate that the instruments provide stable and consistent measurements of the organizational constructs examined in this study. Collectively, the findings strengthen the empirical foundation for measuring organizational factors associated with Special Education teachers' professional well-being in Malaysia. The validated factor structures established through EFA provide an appropriate basis for subsequent Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM), enabling future studies to examine the structural relationships among Transformational Leadership, School Culture, Organizational Commitment, and Job Satisfaction using a statistically validated measurement model. This interpretation is consistent with the direction proposed in the original manuscript for subsequent research.

Conclusion

Kajian ini telah berjaya mengenal pasti struktur faktor yang kukuh dan sah bagi keempat-empat konstruk utama iaitu Kepimpinan Transformasi, Budaya Sekolah, Komitmen Guru, dan Kepuasan Guru melalui pendekatan EFA. Setiap konstruk menunjukkan nilai kebolehpercayaan yang sangat tinggi, manakala varians yang dijelaskan adalah melebihi tahap minimum yang disyorkan dalam penyelidikan sosial, membuktikan kekuatan metodologi dan kesesuaian instrumen yang digunakan. Penemuan ini turut memperkukuh teori dan dapatan kajian lepas berkaitan kesejahteraan dan keberkesanan guru pendidikan khas, khususnya dalam konteks pendidikan Malaysia.

Implications

8.1 Theoretical Implication

The findings extend the empirical understanding of organizational constructs within Special Education by demonstrating that the adapted measurement instruments retain satisfactory psychometric properties when applied to Malaysian Special Education teachers. The identification of stable factor structures supports the multidimensional conceptualisation of Job Satisfaction, Organizational Commitment, School Culture, and Transformational Leadership adopted in this study. Consequently, the validated instruments provide a sound theoretical basis for future hypothesis testing and model development using advanced multivariate analytical techniques. This implication aligns with the study's objective of validating the measurement model before examining structural relationships.

8.2 Practical Implication

From a practical perspective, the validated measurement instruments may assist educational administrators, school leaders, and researchers in assessing organizational conditions affecting Malaysian Special Education teachers. Reliable measurement of these constructs enables schools to identify organizational strengths and areas requiring improvement, particularly in relation to leadership practices, collaborative school culture, organizational commitment, and teacher job satisfaction. The findings therefore provide practical guidance for designing professional development programmes and organizational interventions that support teacher well-being and educational effectiveness.

8.3 Polisi Implications

At the policy level, the validated instruments offer an empirical resource for monitoring organizational factors associated with Special Education teachers within the Malaysian education system. The availability of contextually validated measurement tools may support evidence-informed educational planning, programme evaluation, and policy implementation related to inclusive education and teacher professional development. The findings may also contribute to future national initiatives aimed at strengthening leadership capacity, school culture, teacher commitment, and job satisfaction in Special Education settings. These implications remain consistent with the scope of the original study, which focused on instrument validation rather than policy evaluation.

Directions for Future Research

The present study focused exclusively on validating the measurement instruments through Exploratory Factor Analysis. Consequently, future research should extend this work by conducting Confirmatory Factor Analysis (CFA) to verify the measurement model identified in this study. Subsequently, Structural Equation Modelling (SEM) may be employed to examine the direct and indirect relationships among Transformational Leadership,

School Culture, Organizational Commitment, and Job Satisfaction within Malaysian Special Education schools. This recommendation reflects the progression proposed in the source manuscript from measurement validation to structural model testing.

Future investigations may also expand the scope of the study by including Special Education teachers from additional educational settings or geographical regions to further evaluate the generalisability of the validated instruments. Comparative studies involving mainstream and Special Education teachers may also provide additional insights into contextual differences in organizational behaviour and teacher well-being, provided that these extensions remain aligned with the validated measurement model established in this study.

Furthermore, longitudinal research designs may provide a deeper understanding of how organizational factors evolve over time and influence teachers' professional development and organizational commitment. Such studies would complement the present cross-sectional validation by examining temporal changes in organizational constructs while utilising the validated instruments established through this research.

Summaryx

This study successfully established the psychometric validity of four organizational constructs among Malaysian Special Education teachers through Exploratory Factor Analysis. The validated measurement instruments demonstrated satisfactory construct validity, dimensional stability, and internal consistency, thereby providing a reliable foundation for future educational leadership research. By validating these instruments within the Malaysian Special Education context, the study contributes methodological evidence that supports future investigations into organizational behaviour, teacher well-being, and educational leadership using robust measurement models. The findings therefore represent an important step toward developing comprehensive empirical models capable of informing educational research and practice in Special Education..

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