Psychometric Evaluation of the Adaptive Leadership Behaviors Among Secondary School Principals in a Selected Region of Ethiopia Based on Teachers' Perceptions

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Abstract	Article Information

The Adaptive Leadership Behaviors Scale has not yet been validated in Afan Oromo, within the secondary schools of Oromia Regional State. This study aimed to examine the psychometric soundness of the Afan Oromo adaptation of the scale and to evaluate its cultural relevance for assessing principals' adaptive leadership practices from teachers' perspectives in Ambo Town. A cross-sectional survey design was employed, and data were gathered from 251 secondary school teachers through a census sampling approach. Confirmatory factor analysis was conducted using SPSS 23.0 and AMOS. The findings revealed that the scale demonstrated strong psychometric performance, including adequate content validity (CVI = .94), acceptable and strong model fit indices (χ^2/df = 0.885, GFI = 0.922, AGFI = 0.905, CFI = 1.000, RMSEA = 0.000), solid construct validity (CR = .83–.87; AVE = .48–.52; $\sqrt{AVE}$ > r), and reliable internal consistency (α = .92). Overall, the results were a valid and reliable instrument for assessing adaptive leadership in secondary school contexts. The study therefore recommends that the Afan Oromo version of the scale can be considered a viable option for assessing the adaptive leadership behaviors of secondary school principals in the specific cultural and linguistic context of Oromia, Ethiopia.

INTRODUCTION

Committed and purposeful school principals have the capacity to navigate challenges in educational systems, balancing competing demands and aligning resources to support student learning. They not only uplift teaching and learning but also strengthen the institutional capacity of schools to adapt and succeed in diverse educational contexts (Mongon et al., 2011). The contemporary education sector requires effective leadership more than ever

to thrive in the complexities of an increasingly dynamic and volatile global environment (Techo, 2021). Recent studies have revealed a critical need for a fundamental transformation of educational leadership approaches to address challenges that significantly impact education (Striepe & Cunningham, 2021). Schools can only deliver world-class education when guided by effective, adaptive leaders who navigate uncertainty and drive

meaningful change (Busa, Yakubu, & Olabode, 2024).

To address complex, dynamic, and ill-defined organizational issues, educational leaders must be adaptable and flexible in the 21st-century workplace (Yukl & Mahsud, 2010). Over recent decades, transformational and instructional leadership have significantly influenced school leadership and improvements (Grissom et al., 2021). However, effective leadership in crisis situations necessitates distinct competencies beyond traditional approaches (Mutch, 2015). Adaptive leadership has therefore emerged as a compelling conceptual framework for guiding leaders in contexts marked by uncertainty and dynamic change. Rooted in the seminal work of Heifetz and Linsky, adaptive leadership centers on mobilizing stakeholders to confront systemic challenges, experiment with new practices, and engage in organizational learning (Heifetz et al., 2009). Contemporary studies reaffirm its value in educational settings, especially during periods of disruption, reform, or institutional stress (Eggers, 2021; Busa, Yakubu, & Olabode, 2024). Adaptive leadership is paramount in transforming deeply held beliefs, navigating uncertainty, and opening pathways for innovation (Eggers, 2021).

Within school environments, adaptive leadership encompasses a range of behaviors, such as stepping back to observe emerging patterns, sustaining attention on critical issues, empowering teachers to assume greater agency in decision-making, and elevating perspectives from less influential groups. These behaviors equip principals to address curriculum changes, accountability pressures, resource constraints, and diverse learner needs—conditions that increasingly characterize contemporary secondary education (Yukl & Mahsud, 2010; Grissom et al., 2021).

By engaging in this type of leadership approach, school principals can navigate dynamic environments and promote lasting positive changes in their schools (Nelson & Squires, 2017).

Within this framework, several core behaviors characterize adaptive leaders. "Getting on the Balcony" involves stepping back to observe patterns, relationships, and dynamics that may not be visible from within day-to-day interactions. "Regulating Distress" refers to helping staff manage the discomfort and anxiety that accompany organizational change. "Maintaining Disciplined Attention" keeps the school focused on key challenges rather than allowing avoidance of difficult issues. "Giving the Work Back to Teachers" empowers staff to generate solutions and exercise professional agency. Finally, "Protecting Voices from Below" ensures that the perspectives of marginalized or less influential members of the school community are acknowledged and integrated. When principals enact these behaviors, they are better equipped to guide their schools through shifting environments and support sustained, meaningful improvement (Nelson & Squires, 2017).

Adaptive leadership emphasizes that leaders must help people confront difficult issues, rethink routine practices, and generate innovative ways of addressing complex and uncertain conditions. Rather than offering technical solutions, adaptive leadership focuses on mobilizing individuals and groups to engage in the deeper work required for meaningful progress (Linsky,2011).

Within this framework, several guiding behaviors illustrate how adaptive leaders operate in practice (Northouse, 2019). One central behavior is "Getting on the Balcony," which requires stepping back from day-to-day activity to observe patterns, relationships, and dynamics across the broader school environment. Another is "Regulating Distress," which involves helping teachers manage the tension, anxiety, and uncertainty that naturally accompany organizational change. "Maintaining Disciplined Attention" ensures staff remain focused on the central challenges instead of drifting toward easier but less important issues. "Giving the Work Back to Teachers" encourages educators to exercise autonomy, make decisions, and participate actively in problem-solving. In addition, "Protecting Voices from Below" underscores the leader's responsibility to acknowledge and elevate the perspectives of those who may have less influence or occupy marginalized positions within the school

community. By applying these behaviors, school principals are better equipped to lead their institutions through periods of instability and foster constructive, lasting improvement (Nelson & Squires, 2017).

Statement of the problem

In Ethiopia, the educational landscape is characterized by persistent challenges in quality despite significant expansion in access and various reforms. Secondary school performance remains alarmingly low, with only a small percentage of students meeting minimum requirements for higher education (Goshu & Woldeamanuel, 2019). Hence, for Ethiopian secondary school principals, adaptive leadership behaviors are crucial for implementing successful school change and improving students' academic performance during educational crises.

However, empirical research utilizing robust, locally validated, and reliable instruments to measure adaptive leadership behaviors in Ethiopian secondary schools remains lacking. Most prior studies on adaptive leadership have been conducted in Western contexts (Campbell-Evans & Leggett, 2014; Emran et al., 2024), which may not be directly applicable to Africa due to unique regional challenges and circumstances. Bridging this geographical gap requires conducting similar studies in Africa, specifically in Ethiopia.

Therefore, translating and validating the Adaptive Leadership Behaviors Scale into Afan Oromo for use in Ethiopian secondary schools is of paramount importance. First, such a study will narrow the gap regarding the absence of any scale developed, adapted, and validated for use in the Ethiopian context in the Afan Oromo language. Second, it will provide additional evidence regarding the cross-cultural validity of adaptive leadership. Moreover, this study serves as an initial step toward developing a culturally appropriate measure of adaptive leadership behaviors for future researchers within the Ethiopian context. This instrument was specifically selected because, to the researchers' knowledge, it has not previously been tested using confirmatory factor analysis. Its usefulness in Ethiopia in general, and the Oromia Regional State in particular, has not been strongly substantiated by empirical evidence. Therefore, this study aimed to evaluate the psychometric properties of the Afan Oromo version of Northouse's Adaptive Leadership Behaviors Scale and confirm its appropriateness for use with Ethiopian secondary school principals in Oromia, based on teachers' perceptions.

Accordingly, the following research questions guided the current study in achieving its stated purpose.

Research questions

1. How can the 30-item English version of the Adaptive Leadership Behaviors Scale be translated and linguistically validated for use with Afan Oromo speakers?
2. To what extent does the Afan Oromo version of the scale demonstrate acceptable reliability and validity?
3. Does its internal factor structure align with Northouse's original theoretical model?

MATERIALS AND METHODS

Study design

A cross-sectional design was adopted for this validation research, enabling the collection, analysis, and interpretation of data from the target group at a single point in time.

Target population and sampling technique

This study was designed to examine Ambo Town Secondary School teachers, with a total teaching population of about 256 (male = 168, female = 88). Confirmatory Factor Analysis (CFA) assumptions were used to establish the appropriate number of participants. At least five individuals per observed variable (a 5:1 ratio) is required for the CFA sample size (Kyriazos, 2018). Given that larger samples generally yield more stable estimates, a ratio greater than 8:1 was taken. Accordingly, teachers who were Afan Oromo speakers and were willing to participate were invited.

Using teachers' perceptions as the primary data source provides important methodological and practical advantages. In secondary schools,

adaptive leadership is particularly critical, as principals must respond to curriculum reforms, limited resources, accountability demands, students' academic challenges, and diverse learner needs. Teachers are well-positioned to observe whether principals apply adaptive strategies in everyday school operations. Their evaluations, therefore, serve as a credible indicator of adaptive leadership practice. By grounding the measurement in Northouse's theoretical model and validating it through teachers' assessments, this study ensures that the scale captures leadership behaviors that are both conceptually sound and practically meaningful.

To ensure representativeness, 251 teachers (male = 178, female = 73) were selected using a census-based sampling approach, since the total number of teachers was manageable (Singh Masuku, 2014). However, six teachers were excluded because they were not Afan Oromo speakers. Of the 251 eligible participants, 242 (male=173, female=69) completed and returned the questionnaire.

Data collection instrument

The Afan Oromo adaptation of the Adaptive Leadership Behaviors scale (Northouse, 2019) consists of 30 items organized into six dimensions of school principals' adaptive leadership behaviors, each measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

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The initial dimension, Getting on the Balcony (5 items), reflects school principals' ability to step back from daily routines and observe the broader dynamics of the school environment. For example, when challenges arise, our principal excels at stepping back to evaluate the interpersonal dynamics at play. The second dimension, Recognition of Adaptive Challenges (5 items),

highlights principals' capacity to identify deep-rooted educational problems—such as curriculum gaps or resistance to change—and encourage open dialogue among teachers and students to address them. The third dimension, Regulating Distress (5 items), assesses principals' role in creating a safe and supportive school climate, maintaining composure during conflict, and offering emotional reassurance to staff and learners when challenges intensify. The fourth dimension, Disciplined Attention (5 items), measures principals' ability to keep the school community focused on difficult issues, such as inequities in student achievement, rather than allowing avoidance or distraction. The fifth dimension, "Giving the Work Back" (5 items), evaluates how principals enable teachers and staff to take ownership of addressing challenges and making informed choices, for instance, by supporting teachers to craft their own classroom strategies when faced with uncertainty. Finally, the sixth dimension, Protecting Leadership Voice from Blew (5 items), reflects principals' openness to contributions from marginalized groups within the school, such as students from disadvantaged backgrounds or junior staff members. A principal who values Ethiopian contextual knowledge, even when global norms dominate, exemplifies this adaptive leadership behavior in the school setting.

We adapted this scale into the Ethiopian context to overcome the language barrier so as to be easily understood and responded to by the respondents.

Procedures of data collection

Appropriate protocols were followed when translating instruments and gathering data. In accordance with Lynn's recommendation, a group of six experts evaluated the content adequacy of the scale's original English version at both the item and aggregate scale levels, employing a standardized five-point relevance metric that ranged from 1 = not relevant to 5 = highly relevant(Roy & Sahub, 2024b).

Second, following the content validity assessment, forward and backward translation of the instruments was conducted following proper

and rigorous procedures in a way that maintained clarity, wording, sentence structure, meaning, and item relevance. They were assessed, and modifications were made based on consensus among the participants (Beaton et al., 2018). Subsequently, the translated Afan Oromo version of the instrument was re-evaluated by a senior Afan Oromo language expert, a PhD-level linguist and faculty member in the Department of Afan Oromo at Ambo University, to ensure that each item was accurately translated, semantically equivalent to the original English version, and culturally appropriate without violating local norms or expressions.

Thirdly, in order to gather information, the Department of Educational Planning and Management within the Institute of Education and Behavioral Sciences at Ambo University issued an official letter of support. After potential respondents were identified, they were provided with a clear and comprehensive articulation of the study's objectives. The identified prospective participants were then approached for their voluntary involvement, and informed verbal consent was obtained. Detailed instructions were subsequently given regarding the accurate completion of the questionnaire. Following the respondents' completion of the self-administered questionnaire, the completed copies were gathered and verified for accuracy.

Lastly, pre-testing of the translated instrument was conducted with 60 Afan Oromo–speaking teachers in Toke Kutaye District in the West Shawa Zone, Oromia, following appropriate procedures. Participants were invited to offer evaluative comments regarding the clarity of the items and the content's applicability to their situation during the debriefing process. Based on their feedback, any items judged to be unclear were reviewed, evaluated, and revised by the experts, and further psychometric tests were performed.

Ethical considerations

All participants were provided the opportunity to give informed consent and were explicitly assured of confidentiality. They were also made aware of their unrestricted right to withdraw from the study at any stage and were informed that the data they supplied would be utilized solely for scholarly purposes.

Data analysis procedures

The initial phase of this research begins with checking the data accuracy on a randomly selected group of 60 participants for the pilot study and 251 for the confirmatory factor analysis. For the pilot phase, the sample size aligned with the commonly recommended range of 30–60 participants (Totton et al., 2023). The internal consistency of the instrument was assessed through Cronbach's alpha reliability. IBM SPSS 23.0 with AMOS was employed to conduct confirmatory factor analysis to examine the inter-factor relationships and evaluate the overall model fit.

RESULTS AND DISCUSSIONS

Results

From the total 251 administered questionnaires, nine were unreturned, and the final data set was formed by 242, resulting in a response rate of 96.41%.

This section begins by outlining the demographic characteristics of the study participants. It then presents the Content Validity Index, the procedures for translation and linguistic validation of the Adaptive Leadership Behaviors Scale, and the findings from the pilot study. Additionally, results from the confirmatory factor analysis are provided to address the study's research questions.

Demographic profile of the respondents

A total of 242 teachers participated in the study. As shown in Table 1, the sample comprised 173 male respondents (71.5%) and 69 female respondents (28.5%), demonstrating that the teaching workforce in the study context is largely male-dominated. Regarding age distribution, 40.5% of the respondents fell within the 36–45 age bracket, while 44.2% were in the 26–35 range. The youngest subgroup, those younger than 26, represented only 1.7% of the sample. In contrast, the oldest group, those 56 and older, had a slightly higher percentage of 2.9%.

Table 1

Demographic Characteristics of Respondents (N = 242)

Demographic Variable	Category	Frequency	Percent
Gender	Male	173	71.5
	Female	69	28.5
	Total	242	100.0
Age	< 26	4	1.7
	26–35	107	44.2
	36–45	98	40.5
	46–55	26	10.7
	56 and above	7	2.9
	Total	242	100.0
Educational Level	Diploma	1	0.4
	Degree	128	52.9
	MA/MSc	112	46.3
	Others	1	0.4
	Total	242	100.0
Marital Status	Unmarried	19	7.9
	Married	202	83.5
	Divorced	21	8.7
	Total	242	100.0
Teaching Experience (Years)	1–5	6	2.5
	6–10	43	17.8
	11–15	60	24.8
	16–20	88	36.4
	21–25	26	10.7
	26 and above	19	7.9
	Total	242	100.0

According to this pattern, the majority of teachers fall into the age range that is generally regarded as stable and experienced in the workplace.

In terms of educational attainment, 242 respondents (52.9%) held a bachelor's degree, while 46.3% possessed a master's degree (MA/MSc). Only 0.4% of respondents reported having a diploma or other types of qualifications. This suggests that the teaching staff in the sampled secondary schools are highly qualified. Marital status data revealed that the majority of respondents were married (83.5%), while 7.9% were unmarried and 8.7% were divorced. This high proportion of married teachers may reveal a generally stable workforce with long-term occupational engagement. Respondents' teaching experiences varied significantly. The majority of respondents (36.4%) had teaching experiences of 16–20 years, followed by those who had taught for 11–15 years (24.8%). Novice teachers make up a small percentage of the academic staff, as only 2.5% of the respondents had between one and five years of teaching experience. The distribution as a whole shows a population of highly experienced teachers, which could improve the caliber of instruction.

When considered collectively, the demographics of the participants show that they are a mature, experienced, and academically qualified

staff. When interpreting the results pertaining to adaptive leadership practices, these characteristics offer crucial contextual support.

Content validity index of the adaptive leadership behaviors scale

Based on expert responses, the content validity ratio (CVI) was computed for 30 items in the analysis shown in Table 2. Out of the total number of 30

items, 29 items had an I-CVI of .83 or above, meeting the acceptability guideline of over 0.8 (Shi et al., 2012). However, item number 7, which addresses value conflicts faced by teachers, had a CVI of 0.67 and did not meet the criteria. Despite this, it was retained for potential reevaluation through confirmatory Factor analysis. The original English scales were then translated into Afan Oromo for further validation.

Table 2

Content Validity Index of Adaptive Leadership Behaviors Scale Ratings on a 30-Item Scale by Six Experts

ALBS subscale	No of Items	CVI
Getting on the Balcony	5	1.0
Identification of Adaptive Challenge	4	0.96
Managing Distress	5	1.0
Maintaining Disciplined Attention	5	0.93
Giving work back to the employee	5	0.89
Protecting Voice of Leadership from Below	5	0.86
Overall ALBs Scale	29	0.94

Note: CVI=Content Validity Index, ALBS=Adaptive Leadership Behviors Scale

Translation and linguistic validation of the adaptive leadership behaviors scale (Afan Oromo version)

The initial research question addressed the process of systematically adapting and linguistically validating the original 30-item instrument developed in English for use among Afan Oromo speakers. Prior research shows that adapting measurement tools from the source language into the language of the target population enhances comprehension and response quality (Beaton et al., 2018). Additional justification for converting the instrument from its English form into Afan Oromo emerged from evidence indicating that participants understood the scale more effectively when presented in Afan Oromo. Accordingly, the instrument's transformation from English into the Afan Oromo adaptation followed methodologically established procedures recommended in the literature (Beaton et al., 2018)."

Forward translation

Research has shown that the caliber of translators is essential to preserving the instruments' conceptual and literal equivalency, appropriateness, clarity, and cross-cultural values (Hambleton, 2005). As a result, two translators who are proficient in both English and Afan Oromo were used to translate the instruments. Two separate PhD students at Ambo University studying educational leadership and policy studies completed the translation that was forwarded in this regard.

Subsequent to this, researchers conducted a collaborative review to enhance linguistic and psychometric clarity in terms of content adequacy, sentence structure, word choice, style, spacing, information organization, and instructions. A notable discrepancy was identified in the last item (item 30) between the two translators. To resolve these inconsistencies, the translators engaged in detailed discussions with the investigator, ultimately agreeing on a unified Afan Oromo version, which was prepared for the subsequent backward translation phase.

Backward translation

To guarantee conceptual equivalence rather than identical wording, it is advised to translate instruments backward. In this regard, two bilingual specialists, one a PhD holder from the English language and literature department, and another from the linguistic department who is currently a PhD candidate, both of whom are native speakers of Afan Oromo and proficient in English, performed the backward translation.

In this stage, the investigator and the translators synthesized the forward and backward translations, comparing them against the original English instruments. They evaluated the versions for grammatical integrity and conceptual equivalence. While the backward translations showed high consistency, the team conducted a detailed revision

of the phrasing and instructions to ensure linguistic accuracy. Consequently, the Afan Oromo versions were finalized for pilot testing and psychometric evaluation.

Pilot study findings

A pilot investigation is an essential preliminary step for appraising the instrument's feasibility and reliability prior to large-scale implementation (Sundram & Romli, 2023). The internal consistency estimates for the Adaptive Leadership Behaviors subscales demonstrated strong reliability, with coefficient alpha values falling between 0.79 and 0.91, as presented in Table 3. The composite scale also showed excellent internal consistency, yielding an overall alpha coefficient of 0.92.

Table 3

Reliability Outcomes from the Pilot Sample (N = 60)

Adaptive Leadership Behaviors Subscale	No of Items	Coefficient(α)
Getting on the Balcony	5	0.85
Identifying Adaptive Challenge	5	0. 81
Managing Distress	5	0.85
Maintaining Disciplined Attention	5	0.85
Giving Work Back to the People	5	0.90
Protecting Voice of Leadership from Below	5	0.79
Overall Adaptive Leadership Behaviors Scale	30	0.92

Psychometric evidence from confirmatory factor analysis

To evaluate the adequacy of the measurement model, a confirmatory factor analysis (CFA) was performed using the maximum likelihood estimation procedure on the data obtained from the main sample (n = 242). Model fit was examined using a set of widely recommended indices, including the chi-square statistic (CMIN), the chi-square to degrees-of-freedom ratio (CMIN/df), the adjusted goodness-of-fit index (AGFI), the normed fit index (NFI), the comparative fit index (CFI), and the root mean square error of

approximation (RMSEA), following established guidelines in structural equation modeling (Hair et al., 2014; Sathyanarayana & Mohanasundaram, 2024). Acceptable fit was inferred when CMIN/df values were approximately ≤ 5, AGFI, NFI, and CFI exceeded 0.90, and RMSEA values were below 0.08, consistent with conventional cut-off recommendations (Hair et al., 2014). Overall model adequacy was judged satisfactory when at least three of these indices met the required thresholds (Sathyanarayana & Mohanasundaram, 2024). All key assumptions underlying CFA were assessed and found to be acceptable. Accordingly, the second research question, which addressed the

psychometric robustness of the Afan Oromo version of the Adaptive Leadership Behaviors Scale, including model fit, construct validity, and internal consistency, was examined using these CFA procedures.

Despite the initial results of CFA of the Adaptive Leadership Behaviors Scale (Afan Oromo Version) being good, it necessitated modifications

leading to the removal of three items (AL8, AL18, and AL28) from the measurement model. AL8 was discarded due to multiple cross-loadings, AL18 due to weak factor loading and overlapping variance, and AL28 because of negative loading and high error variance. Moreover, its AGFI value was below the acceptable threshold and was a critical model not to miss.

Table 4

Result of CFA, the initial and refined Afan Oromo versions of the Adaptive Leadership Behaviors Scale (N = 242)

Fit Index	Initial Model(Item=30)	Refined Model(Item=27)
CMIN/DF	0.908	0.885
GFI	.911	.922
AGFI	.894	.905
RMR	.091	.087
NFI	.857	.871
IFI	1.017	1.020
TLI	1.020	1.023
CFI	1.000	1.000
RMSEA	.000 (.000–.010)	.000 (.000–.008)
PCLOSE	1.000	1.000
HOELTER (.05)	298	310

Note. χ^2/df: Chi-square divided by degrees of freedom
GFI: Goodness of Fit Index, AGFI: Adjusted Goodness of Fit Index, RMR: Root Mean Square Residual, CFI: Comparative Fit Index, TLI: Tucker–Lewis Index, IFI: Incremental Fit Index, PCLOSE: Probability of Close Fit, RMSEA: Root Mean Square Error of Approximation, Hoelter: sample adequacy.

The initial Adaptive Leadership Behaviors scale comprised 30 items, as indicated in Table 4. The revised Adaptive Leadership Behaviors Scale, comprising 27 items, demonstrated some improvement following the elimination of three problematic items. The chi-square analysis yielded a non-significant result ($\chi^2(335)$ = 299.621, p =.918) and a good χ^2/df ratio of 0.885, indicating an excellent model fit. Strong absolute and incremental fit indices were reported (GFI =.922, AGFI =.905, IFI = 1.020, CFI = 1.000, TLI = 1.023), CFI = 1.000, and the RMSEA was 0.000 (90% CI =.000-.008, PCLOSE = 1.000), indicating a good model fit. Furthermore, parsimony and predictive adequacy were supported (AIC =

411.352, BIC = 652.088, ECVI = 1.707), and a HOELTER critical N (.05) of 310 indicated enough sample support. Thus, the revised Adaptive Leadership Scale (Afan Oromo version), which now has 27 items, is the most appropriate fit for the data. In general, the elimination of the three problematic items improved the factor structure, increased reliability, and produced a more theoretically coherent and concise measurement model, providing a solid foundation for future structural analyses. The refined confirmatory factor analysis for the Adaptive Leadership Behaviors scale is depicted in Figure 1.
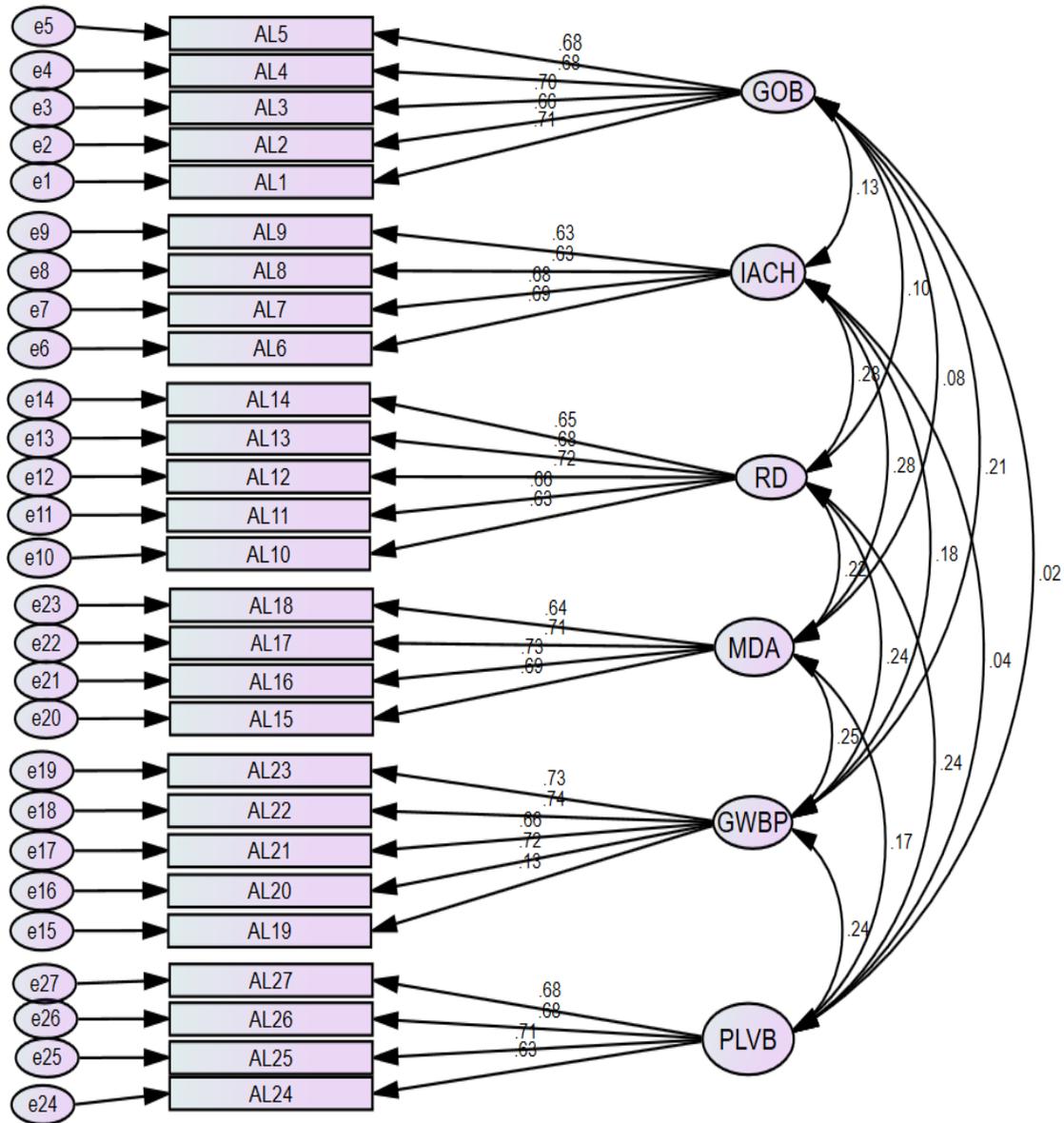
Figure1. *Refined Afan Oromo Version of the Adaptive Leadership Behaviors Scale*

Assessment of convergent and discriminant validity

Once the model demonstrated acceptable fit, additional analyses were conducted to examine the scale's convergent and discriminant validity, along with its reliability. These procedures ensured that the Adaptive Leadership Behaviors Scale accurately represented its intended constructs and demonstrated consistent measurement performance. The *CFA* results indicated clear support for both convergent and discriminant validity across all subdimensions, as depicted in Table 5. Convergent validity was demonstrated through high composite reliability coefficients, ranging from 0.83 to 0.87, and AVE values between 0.48 and 0.52. Each construct showed adequate internal consistency, as its CR value was higher than its AVE. Discriminant validity was confirmed because the square root of each construct's AVE exceeded its correlations with other factors.

Table 5

Reliability, Convergent, Discriminant Validity, and the correlation between Adaptive Leadership Behaviors Subscales-Afan Oromo Version

ALBs sub scale	CR	AVE	MSV	ASV	√AVE	1	2	3	4	5	6
1. Getting on the Balcony	.86	.50	.04	.03	.707	.707					
2. Identifying Adaptive Challenge	.83	.49	.08	.06	.700	.133	.700				
3. Regulating Distress	.85	.50	.06	.05	.707	.104	.275**	.707			
4. Maintaining Disciplined Attention	.87	.52	.05	.04	.721	.098	.255**	.208*	.721		
5. Giving the Work Back to the People	.84	.48	.05	.04	.693	.197*	.177*	.224**	.207*	.693	
6. Protecting Leadership Voice from Below	.85	.51	.05	.04	.714	.021	.037	.243**	.157	.213*	.714

Note. ALBs denotes Adaptive Leadership Behaviors; CR represents composite reliability; AVE indicates the amount of variance accounted for by the latent construct; MSV refers to the maximum shared squared variance with other constructs; ASV reflects the average shared squared variance; and √AVE corresponds to the square root of the average variance extracted. p < .05, p < .01.

Reliability of the adaptive leadership behaviors subscale – Afan Oromo version

All of the coefficients in the Afan Oromo version of the Adaptive Leadership Behaviors scale exceeded the acceptable internal consistency standard of 0.70, indicating strong reliability as revealed in Table 6. With alpha values of $\alpha = 0.82$ for Getting on the Balcony, $\alpha = 0.75$ for Identifying Adaptive Challenge, $\alpha = 0.80$ for Regulating Distress, $\alpha = 0.79$ for Maintaining Disciplined

Attention, $\alpha = 0.71$ for Getting Work Back to the People, and $\alpha = 0.77$ for Protecting Leadership Voice from Below, each scale component demonstrated strong psychometric performance. Upon analyzing the entire 27-item scale, the overall Cronbach's alpha was 0.81, indicating that the Afan Oromo-adapted scale accurately assesses the various aspects of adaptive leadership among language speakers.

Table 6

Reliability of Adaptive Leadership Behaviors Subscale (n=242)

ALBs Sub scale	Item's No	Coefficient (α)
Getting on the Balcony	5	0.82
Identifying Adaptive Challenge	4	0.75
Regulating Distress	5	0.80
Maintaining Disciplined Attention	4	0.79
Giving Work Back to the People	5	0.71
Protecting Leadership Voice from Below	4	0.77
Overall Adaptive Leadership Behaviors Scale	27	0.81

Discussion

The Adaptive Leadership Behaviors Scale (Afan Orom Version) exceeded the acceptable threshold.

with an overall CVI of 0.94 and subscale CVIs ranging from 0.864 to 1.00, demonstrating

excellent content validity (Masuwai et al., 2024). The single item with lower agreement (0.67) highlights the importance of iterative refinement, but its retention for CFA ensured that the scale remained comprehensive

Additionally, the rigorous translation and back-translation process ensured conceptual equivalence and cultural appropriateness of the Afan Oromo version. By resolving discrepancies collaboratively and prioritizing meaning over literal wording, the instrument achieved linguistic fidelity. This process is in alignment with global standards for adapting psychological instruments across cultures (Cruchinho et al., 2024), thereby enhancing its relevance for use in Ethiopian secondary schools, Oromia Regional State.

Analysis of the pilot administration of the Adaptive Leadership Behaviors Scale revealed exceptionally strong internal consistency ($\alpha = 0.920$ overall), confirming the feasibility of the Afan Oromo version before full validation. These results are consistent with prior Ethiopian adaptations of the scale in Amharic (Alene et al., 2025), reinforcing the robustness of adaptive leadership measures across linguistic contexts. The pilot test also provided practical evidence that teachers could easily understand and respond to the items, supporting its usability in real school settings.

After performing confirmatory factor analysis (CFA), the refined 27-item scale yielded a Cronbach's alpha of 0.808, a value that aligns with modern benchmarks for acceptable internal reliability, given that coefficients above 0.70 are regarded as sufficient (Liao & Wang, 2025).

The CFA further confirmed that the empirical data aligned closely with the hypothesized model, while also yielding clear evidence of convergent and discriminant validity, thus establishing the scale's psychometric integrity. The CFA outcomes revealed highly favorable model-fit statistics ($\chi^2/df = 0.885$, GFI = 0.922, AGFI = 0.905, CFI = 1.000, RMSEA = 0.000), demonstrating that the proposed six-dimensional adaptive leadership framework aligns well with the observed data (Potchana, Sanrattana, & Suwannoi, 2020).

The removal of three problematic items improved the model's clarity and strengthened construct representation. These findings align with international evidence that adaptive leadership scales require contextual refinement to achieve optimal psychometric performance (Schweizer et al., 2023).

Furthermore, the reliability and validity evaluations based on CFA revealed that every subscale yielded Cronbach's alpha coefficients between 0.713 and 0.818, all of which exceeded the minimum reliability threshold of 0.70 and demonstrated consistent measurement performance throughout the sample (Cheung et al., 2023). The average variance extracted estimates fell between 0.48 and 0.52, and the composite reliability values were high (0.83–0.87), indicating convergent validity. Because each construct was sufficiently different from the others, as indicated by the square roots of the AVE values being greater than the inter-factor correlations, discriminant validity was also confirmed (Cheung et al., 2023).

Overall, the CFA results provide solid empirical support for Northouse's six-factor framework in a non-Western, culturally different context, confirming the Afan Oromo version of the Adaptive Leadership Behaviors Scale's good psychometric performance.

CONCLUSION

The results of this study demonstrate the construct validity and reliability of the Afan Oromo adaptation of the Adaptive Leadership Behaviors Scale, establishing its reliability and construct validity for assessing six interrelated dimensions of adaptive leadership among secondary school principals. Strong model fit indices and convincing proof of both convergent and discriminant validity were obtained through confirmatory factor analysis, confirming the scale's ability to capture complex behavioral constructs in the Oromia educational setting, specifically in Ambo Town.

Recommendation

In view of these outcomes, it is recommended that future research extend the validation process across diverse linguistic and regional settings within

Ethiopia. This extension would improve the instrument's generalizability and strengthen its suitability for a range of sociocultural environments, thus promoting a more comprehensive and contextually based comprehension of the adaptive leadership approach in the educational context.

CRediT Authorship Contribution Statement

Adisu Defar Keneni: Conceptualization; Formal analysis, Data Curation, Writing - Original Draft. **Tadesse Regassa Mamo:** Supervision; Project administration, Validation.

Declaration of Competing Interest

The authors affirm that this study is free from any institutional, financial, or personal conflicts of interest.

Ethical Approval

Ethical approval was granted by the Ambo University Ethics Committee (Department of Educational Planning and Management, Institute of Education and Behavioral Studies; Ref. EdPM/05/2018; 30 January 2018 Eth.C). All participants provided verbal informed consent after full disclosure of the study's aims and procedures, in accordance with Ethical procedures.

Data Availability

The dataset generated and analyzed during the current study is available from the corresponding author upon reasonable request, in accordance with ethical and institutional data sharing protocols.

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