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Develop and validate a bifactor African leadership scale: Integrating emic and etic constructs

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Orientation: Leadership is complex, context-specific and difficult to measure because of the lack of a universal definition.

Research purpose: This study aims to develop a nuanced, valid and reliable instrument for measuring African leadership, specifically within a South African context.

Motivation for the study: Leadership is inseparable from context and should be studied accordingly. African leadership studies, particularly those using an emic (culturally grounded) approach, remain scarce.

Research approach/design and method: A quantitative research design within a positivist paradigm was employed. Four relational leadership instruments, two etic (authentic and transformational leadership) and two emic (Ubuntu and organisational leadership), were integrated. A total of 1680 participants from 28 organisations were purposively selected. An exploratory (EFA) and confirmatory factor analysis (CFA), along with bifactor analysis, were conducted to assess the dimensionality of the African Leadership Scale (ALS).

Main findings: This study suggested a bifactor model for the ALS, consisting of the African team leadership, Adverse African leadership (negative construct) and Authentic African leadership subfactors, being the best-fitting model. This model allowed each item to load onto a general leadership factor and one of three subfactors, a nuanced, multi-dimensional understanding of African leadership.

Practical/managerial implications: This study provides a valid and reliable instrument for measuring African leadership. The use of the bifactor analysis (with the traditional EFA and CFA) contributes on methodological level to future leadership research.

Contribution/value-add: This research bridges culturally embedded leadership constructs with universally recognised frameworks, enhancing the contextual relevance and theoretical robustness of the conceptualisation of leadership in Africa.

Keywords: African leadership; Afrocentric leadership; Ubuntu leadership; organisational leadership; relational leadership; transformational leadership; bifactor analysis.

Introduction

Leadership has emerged as a central determinant of organisational effectiveness in today's rapidly evolving work environments. As organisations seek leaders who can mobilise and inspire across all levels and geographical and cultural settings, leadership styles are increasingly recognised not only as drivers of performance but also as shapers of organisational culture and employee engagement (Bhana & Suknunan, 2022; Grobler & Enslin, in press; Northouse, 2021).

Leadership has been conceptualised through a wide range of theoretical lenses. Some scholars have approached it as a set of traits or behaviours, while others interpret leadership through information-processing frameworks or relational paradigms (e.g. Northouse, 2021; Yukl & Gardner, 2020).

Despite its prominence, leadership remains a complex and contested concept, with scholars noting its theoretical fragmentation and contextual variability (Eds. Antonakis & Day, 2018; Yukl & Gardner, 2020). Antonakis and Day (2018, p. 5) sum it up by arguing that leadership is both 'easy to identify in practice but difficult to define precisely', mainly because of incremental theoretical developments and conflicting empirical findings. Modern-day realities, such as globalisation, international conflict and instability (Kissinger, 2024) as well as the digital era, further complicate leadership demands, requiring a delicate balance between international and

cultural awareness, technological adoption and human-centred leadership (AlNuaimi et al., 2022; Tabrizi et al., 2019).

Background

Much of the extant leadership research is grounded in Western contexts, privileging approaches that assume universality. This is generally called an etic approach, which according to Berry (1969), is generally designed for broad applicability across cultures, assuming that a phenomenon can be understood and measured using standardised frameworks. While such frameworks provide valuable insights, they often lack contextual validity in culturally diverse settings such as South Africa (Grobler & Singh, 2018; Van der Westhuizen & Hewitt, 2021). Because of the shortcomings of the etic approach, scholars have increasingly called for research using emic research designs and methodologies, described by Pike (1967) as the quest to understand phenomena as they are experienced and expressed within specific cultural contexts, highlighting culturally embedded meanings, practices and values. This approach is supported within the leadership domain, as its application is rooted in local values, worldviews and lived experiences; all essential to better reflect the realities of a specific context and, for the purpose of this study, of African leadership (Iyioke, 2017; Punnett, 2017; Vilakati & Schurink, 2021).

African leadership

The study of African leadership aligns with Afrocentric scholarship, which accentuates communal values and relationality over individualism and hierarchy (Hoskins, 1992; Kumah-Abiwu, 2016; Van der Westhuizen & Hewitt, 2021), offering an alternative and context-specific lens through which leadership can be studied.

It is important to declare that this study primarily explores African leadership, but given the vast diversity across the continent, it is essential to clarify that the analysis is conducted from a South African perspective. Therefore, the term African leadership should be interpreted with this contextual disclaimer in mind.

South Africa's unique socio-cultural landscape is marked by a diverse population in ethnic background, language (multilingualism with 11 official languages), socio-economic status and culture, just to name some. This unique composition and evolving South African culture rooted in the Afrocentric paradigm, demands leadership models that are contextually grounded (Mbandlwa & Fagbadebo, 2020). A recent review of 131 leadership studies in Africa by Enslin and Grobler (2025) underscores the urgency of contextual research. They found that only 12% of the studies employed emic methodologies, while most relied on imported frameworks or lacked empirical grounding altogether. This gap highlights the need for more robust, locally relevant leadership research on the continent.

Leadership and context

Johns (2024) advocates for leadership research that prioritises context, whether context-sensitive, context-forward or context-specific, rather than relying on decontextualised frameworks. This shift is crucial for both academic theory and practical leadership development (Cikara et al., 2022; Johns, 2017).

Despite the contextual uniqueness of this study, it recognises the necessity of integrating Western and African leadership perspectives. Chawane (2016) argues for a coexistence of these perspectives to enrich leadership understanding rather than excluding one in favour of the other. Similarly, Myeza and April (2021) emphasise that decolonisation in leadership studies does not mean rejecting Western views entirely, but they urge African scholars to avoid unquestioning adherence to Western models of leadership. In support, Johns (2024) further asserts that scholars must determine which leadership principles are universally applicable and which require adaptation to cultural or organisational settings. Antonakis and Day (2018) reinforce this perspective, proposing that scholars can integrate overlapping leadership theories effectively if they focus on contextualised research and theory development. They argue that empirical studies must balance sensitivity to cultural differences with analytical rigour to advance leadership scholarship.

The debate about the universality or context-specific conceptualisation of leadership ultimately also applies to the measurement of leadership. Universally applied leadership instruments often fall short for use within a specific context, raising questions about their reliability and cultural relevance (Punnett, 2017). Responding to these challenges, this study integrates both emic and etic perspectives to develop a more balanced and inclusive understanding of leadership in South Africa.

This study draws on (1) two South African emic constructs (and instruments), namely organisational leadership (OL) (Enslin, 2023; Grobler & Enslin, 2022) and the Ubuntu leadership (UL) (Grobler & Powell, 2022; Powell, 2023), as well as (2) two foreign (Western) developed leadership constructs (and instruments), namely authentic leadership (Walumbwa et al., 2008) and transformational leadership (Podsakoff et al., 1996). The communality of the constructs is threefold: firstly in terms of the unit of analysis, namely the measurement of the respondents' perception of their leaders within their organisations; secondly, the relational nature of the four leadership constructs; and thirdly, on a practical level, the methodology (self-report surveys, all using the same response scale).

This dual (emic/etic) perspective supports a culturally sensitive analysis while enabling broader theoretical integration. As Johns (2024) and Antonakis and Day (2018) argue, leadership must be examined within the conditions under which it is enacted; cultural and geographic contexts are not peripheral but central to understanding leadership effectiveness.

Purpose of the study

The purpose of this study is to provide a nuanced, contextually relevant, valid and reliable instrument to measure African leadership, specifically from a South African perspective.

Contribution

By adopting an integrative emic–etic approach, this research bridges culturally embedded leadership constructs (Ubuntu and organisational leadership) with universally recognised frameworks (authentic and transformational leadership), thereby enhancing the contextual relevance and theoretical robustness of leadership assessment in Africa. On a *practical* level, this research provides a valid and reliable instrument for measuring African leadership, called the African Leadership Scale (ALS). Through this dual-framework approach, the study contributes on *academical level* to a more inclusive body of leadership theory and provides practical insights on leadership from a contextual and universal perspective. On methodological level, the use of the bifactor analysis, in conjunction with the traditional exploratory and confirmatory factor analysis (EFA and CFA), is regarded to be unique in leadership research and could assist scholars in the study of the leadership phenomenon in the future.

Research questions

This study seeks to address the following research questions:

- *How is African leadership conceptualised within the South African organisational context when examined through both emic (indigenous) and etic (universal or cross-cultural) leadership frameworks?*
- *Can African leadership be reliably and validly measured, as a unidimensional, multidimensional or bifactorial model?*

Literature review

Relational leadership paradigms and theories

A relational-oriented leadership approach emphasises the importance of positive interpersonal relationships between leaders and followers, characterised by mutual respect, trust and social exchange (Höddinghaus et al., 2024). It further prioritises people over tasks, with a focus on collective engagement, psychological well-being and shared purpose.

The dominant relational leadership constructs (the term construct being used throughout this article to avoid an irrelevant discourse about whether it is a paradigm, theory, model or a framework), grouped together by Antonakis and Day (2018), are transformational, authentic and include servant leadership. They regard the emphasis on charisma, authenticity, vision, ethics and human connection as their shared characteristics. Short descriptions of each of these leadership constructs are provided as follows.

Transformational leadership is defined as a process of motivating followers by aligning group goals with personal development, using four key mechanisms, namely charisma, inspirational motivation, intellectual stimulation and individualised consideration (Bass, 1985; Cardona, 2000). This construct emphasises collective achievement and acknowledges followers as individuals, aligning with African leadership values that promote group solidarity and individual recognition (Grobler & Singh, 2018).

Empirical studies have linked transformational leadership to numerous positive organisational outcomes, including increased motivation, engagement and organisational fit (Bakker et al., 2023; Grobler & Grobler, 2023). Additionally, Grobler and Grobler (2023) found significant relationships between transformational leadership and variables such as psychological capital, proactive work behaviour, organisational support and reduced turnover intentions.

Authentic leadership, also regarded to be relational, is grounded in self-awareness, transparency, ethical conduct and consistency between values and behaviour (Walumbwa et al., 2008; Zehndorfer, 2013). It involves recognising and leveraging followers' strengths and fostering trust-based relationships (Smith, 2020). Grobler and Powell (2018) conceptualise authentic leadership as the alignment of personal values with leader behaviour and decision-making based on objective, inclusive analysis.

Empirical findings support the positive effects of authentic leadership on individual and organisational outcomes. Grobler and Grobler (2024) found statistically significant associations between authentic leadership and outcomes such as employee engagement, organisational identification, psychological empowerment and lower turnover intention.

Ubuntu leadership, a distinctly African construct, embodies the Afrocentric philosophical ethos of humanness, emphasising respect, compassion, interconnectedness and collective well-being (Bhengu, 1996; Sindane, 2011). Msila (2022) and Powell (2023) identify UL behaviours such as fostering teamwork, encouraging shared learning, nurturing personal and professional growth and promoting ethical engagement grounded in dignity and mutual respect.

From an emic perspective, UL is not only a normative framework but also a practical, culturally embedded leadership construct. Grobler and Singh (2018) position it as a contextual expression of Afrocentric leadership that privileges human connection over authority or material gain. This is echoed by Bent-Goodley et al. (2017), who also call on Afrocentric scholars to centre the voices and lived experiences of African people in generating leadership knowledge.

Organisational leadership was studied by Grobler and Enslin (2025) from an emic perspective, where they identified emotional awareness (also a core element of authentic leadership; Walumbwa et al. [2008]), as the primary driver of effective OL. Secondary drivers include leadership style, personal characteristics, organisational culture,

communication and vision, all of which relate to interpersonal exchange and relational processes. These elements contribute to outcomes such as leader support and team dynamics, which in turn facilitate collective goal attainment. Organisational leadership thus reflects a relationally embedded approach that integrates individual, group and systemic dimensions, with the primary strategic outcome being the successful execution of organisational objectives.

In summary, *relational leadership* constructs, including the four used in this study, share a common focus on values such as trust, community, ethical conduct and mutual development. Ubuntu and OL offer a culturally grounded, context-sensitive framework that affirms the humanistic foundations of African organisational life (Bolden & Kirk, 2011; Zondo, 2022), and African leadership, as discussed next.

African leadership, as conceptualised by Toendepi and Cele (2024), is grounded in humanism, collectivism and communal responsibility. It prioritises shared vision, collaboration, respect and dignity. These are all values rooted in the Ubuntu philosophy, which views individuals as fundamentally interconnected. Similarly, Mbigi (2005) emphasises dialogue, collective experience and critical engagement as central to African leadership. These humanistic and relational principles contrast with individualistic, task-driven models often associated with Western leadership theories.

There is a clear *convergence* of broad themes across the leadership constructs included in this study. Despite originating from different cultural and theoretical backgrounds, transformational, authentic, Ubuntu, OL and collectively African models share communalities around relationality, humanism and developmental orientation. All of them suggest a common concern for the ethical, emotional and communal dimensions of leadership. It is therefore hypothesised that African leadership encompasses key elements of both emic and etic paradigms, reflecting a hybrid relational model that bridges culturally specific values with broader leadership theories.

The core element of the four leadership constructs is the emphasis on *interpersonal relationships*. Transformational leadership fosters trust and inspiration through individualised consideration (Bass, 1985), while authentic leadership builds relationships through transparency and value congruence (Walumbwa et al., 2008). Ubuntu and African leadership similarly prioritise interconnectedness, mutual respect and community cohesion (Sindane, 2011; Toendepi & Cele, 2024), aligning with servant leadership's focus on serving others and empowering followers.

These constructs further centre around *ethical behaviour* and specifically dignified treatment of individuals. Authentic leadership is further grounded in ethical decision-making and consistency between values and actions (Zehndorfer, 2013), a principle echoed in UL's emphasis on humanness and respect (Bhengu, 1996). African leadership, in turn, integrates these values into a broader communal ethic that honours shared goals over individual gain (Mbigi, 2005).

Leadership across all four constructs is further seen as a *developmental process*. Transformational leadership seeks to elevate followers through intellectual stimulation and personal recognition (Bass & Avolio, 1994). Authentic leadership promotes follower growth by acknowledging their strengths (Smith, 2020), and UL encourages personal and team development through shared learning and inclusive dialogue (Powell, 2023). This developmental focus is also central to OL, which integrates emotional awareness, team dynamics and vision to achieve strategic outcomes (Grobler & Enslin, 2025).

Emotional awareness and trust are common drivers of effective leadership. Organisational leadership identifies emotional awareness as its primary foundation (Grobler & Enslin, 2025), consistent with both authentic and transformational leadership. Ubuntu leadership similarly draws on emotional intelligence through compassion, empathy and understanding.

Cultural integration and *contextual sensitivity* are also central themes across the leadership constructs. While the etically developed constructs of transformational and authentic leadership are often framed as universal, their primary focus resonates with the culturally grounded, emic constructs of Ubuntu, organisational and ultimately African leadership. The shared elements include trust, dignity, ethical behaviour and a people-centred approach. This overlap suggests a hybrid model of leadership in the African contexts, integrating both indigenous (emic) and globally recognised (etic) perspectives to form a more context-sensitive and inclusive understanding of leadership (Bolden & Kirk, 2011; Grobler & Singh, 2018).

Research design

The study employed a cross-sectional, survey-based quantitative research design, grounded in the positivist paradigm.

Research procedure

Research context and setting

This research was initiated as part of a collaborative team-based study within a Master of Business Administration and Leadership programme. Each student researcher was responsible for collecting data from 60 employees within their respective organisations. The data were consolidated into a single dataset for comprehensive analysis. Participating organisations included a balanced representation from the public and private sectors.

Study population

The population is individuals employed in South African organisations. The sample consists of participants employed in 28 organisations identified based on availability,

willingness to participate and proximity. Sixty employees were purposively selected from each of the organisations, with the only inclusion criterion being proficiency in English.

Consequently, the final sample comprised 1680 participants. The sample is evenly distributed across the public and private sectors (with 14 organisations each), encompassing industries such as mining, defence, manufacturing, banking, construction, electricity generation, healthcare, oil and gas, retail and social services.

The racial distribution of the sample closely mirrors South Africa's labour force composition (Statistics Statistics South Africa [SA], 2022), with 79.6% African, 10.4% white, 7.4% mixed race and 2.6% Indian respondents. Gender representation was slightly male-dominant (51.6%). Most participants held tertiary qualifications (76.5%) and worked in a non-managerial capacity (62.8%). The respondents' roles were divided between core business operations (43.9%) and support functions (56.1%). The average age was 38.50 years (standard deviation [SD] = 8.73), and the average tenure was 10.77 years (SD = 8.92).

These demographics indicate that the sample is both representative and sufficiently knowledgeable to provide informed perspectives on leadership within their organisational contexts.

Data collection and measurement instruments

Data were collected using four self-report surveys, two etic and two emic, aligned with the study's integrative intent. It is important to observe that the factor composition or psychometric properties of the factors are not relevant to this study, because the items will be analysed independently from any factor structure. Information about the factor structure is provided to assist with the understanding of the overall construct.

Etic instruments

Authentic Leadership Questionnaire (ALQ) – originally developed by Walumbwa et al. (2008) – comprises 16 items across four dimensions, namely self-awareness, internalised moral perspective, balanced processing and relational transparency. For this study, the adapted version by Grobler and Grobler (2024) was used, which measures perceptions of leaders' authenticity from the followers' perspective, and not from the leader himself/herself. A typical item reads: 'The leaders in my organisation know their strengths and use them'.

The Transformational Leadership Inventory (TLI) – developed by Podsakoff et al. (1996) – includes 22 items, measuring six transformational leadership behaviours, namely articulating vision, providing a model, fostering group goals, setting high expectations, offering individualised support and intellectual stimulation. Grobler and Grobler (2023) proposed a two-factor structure focused on organisational transformation and creativity and innovation. A sample item reads: 'My leader provided me with new ways of looking at things which, used to be a puzzle for me'.

Both etic instruments demonstrated satisfactory Cronbach's alpha coefficients ($\alpha > 0.70$) according to Grobler and Grobler (2023, 2024).

Emic instruments

The UL instrument (measuring leadership in an organisational context) was developed by Powell (2023). She employed interactive qualitative analysis (IQA) to inductively explore and define the construct of Ubuntu leadership within South African organisations. Through participant-generated insights, six core elements or affinities were identified. These included: transformational focus and ability (primary driver); authenticity, ethics and accountability (secondary driver); team synergy (pivot); harmonious, inclusive leadership and culture; individual, team and organisational growth and success (outcomes).

An initial pool of 22 items was developed based on these affinities. Following a rigorous psychometric validation process, including EFA and CFA, the scale was reduced to a unidimensional 10-item instrument, exhibiting high internal consistency ($\alpha = 0.95$) and excellent fit to the unidimensional model. A representative item from the scale reads: 'My leader is compassionate towards others'. All 10 items were retained and utilised in this study.

The OL instrument was developed by Enslin (2023), also using the IQA methodology. This process identified seven key affinities informing the conceptual framework: The primary driver was the leader's emotional awareness, with secondary drivers including the leadership style, characteristics, culture, communication and vision. These drivers resulted in secondary outcomes of leader support and team dynamics, ultimately culminating in the primary outcome of delivering strategy (Grobler & Enslin, 2025).

The initial instrument consisted of 32 items representing these affinities. Subsequent EFA and CFA supported a unidimensional 19-item structure, with excellent internal reliability ($\alpha = 0.97$) and fit to the unidimensional model. The scale includes both positively and negatively worded items to reduce response bias. For example, a positive item reads: 'My leader values and cares for people' and a negative item reads 'My leader does not act with integrity'. Items 4, 9, 12, 14, 16 and 18 are negatively worded. All 19 items were included in this study to ensure full construct coverage.

Statistical analysis

The statistical analyses were conducted using IBM SPSS Statistics version 29 (IBM, 2023), supported by SPSS Amos 29 for structural equation modelling. The Bifactor Indices Calculator (Dueber, 2017) and the Percent of Uncontaminated Correlations (PUC) Calculator (Hammer, 2016) were used with the bifactor model evaluation.

Data screening

Initial data screening involved examining the dataset for missing values and response validity. Cases with missing data and unengaged responses (cases exhibiting an SD below 0.50 across items) were minimal and consequently excluded without significant risk of bias (less than 7%). The distributional properties of all variables were assessed by inspecting skewness and kurtosis values, with acceptable thresholds set at ±2.00 and ±7.00, respectively (West et al., 1995), to approximate normality and the suitability of using parametric analyses.

Correlation analysis

Pearson product-moment correlation coefficients were calculated among the four relational leadership constructs – authentic, transformational, Ubuntu and OL – to evaluate construct overlap and to inform the feasibility of integrating these into a unified African leadership measure. This step provided preliminary evidence regarding the conceptual relatedness between scales. Correlations of 0.30–0.69 and 0.70 and higher are regarded to be moderate and strong, respectively, with below 0.30 regarded as weak (Pallant, 2020).

Exploratory factor analysis

To explore the underlying factor structure combining all 67 items from the four instruments, an EFA was conducted. The item-to-respondent recommended minimum ratio is 1:20 according to Meyers et al. (2016). Sampling adequacy was further confirmed through the Kaiser–Meyer–Olkin (KMO) measure, with a critical value of > 0.70 and Bartlett's test of sphericity ($p < 0.01$) (Hair et al., 2019). An oblimin rotation was applied to allow factors to correlate, facilitating the interpretation of interrelated constructs.

Decisions on factor retention were guided by the Kaiser criterion (eigenvalues > 1), with a minimum cumulative explained variance of 50% (Hair et al., 2019). The number of factors retained was further based on the visual inspection of the scree plot and the Monte Carlo principal component analysis (PCA) for parallel analysis.

Reliability/validity assessment

Cronbach's alpha coefficients (α) were calculated to assess the internal consistency or reliability of the factors, with a critical value of $\alpha > 0.70$ (Nunnally & Bernstein, 1994). Convergent validity of the measurement items was evaluated using composite reliability (CR) and average variance extracted (AVE), with acceptable thresholds of CR > 0.70 and AVE > 0.50, respectively. Discriminant validity was assessed by comparing the AVE with the maximum shared variance (MSV) and the average shared variance (ASV). Evidence of discriminant validity was established when both MSV and ASV values were lower than the corresponding AVE for each construct (Hair et al., 2019).

Confirmatory factor analysis

Four conceptual models were tested using CFA within Amos, employing maximum likelihood estimation:

Model[a]: unidimensional (one-factor) model, positing a single overarching construct.

Model[b]: first-order model, where observed variables (items) load directly onto latent variables (first-order factors).

Model[c]: second-order model, where the first-order latent factors load on second-order latent factor.

Model[d]: bifactor model, in which a general factor alongside orthogonal subfactors account for residual variance specific to each of the latent or first-order factors.

Model fit was assessed using multiple indices, namely chi-square goodness-of-fit (χ^2, with $p < 0.05$ indicating model misfit), comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA) and standardised root mean square residual (SRMR). Following Byrne (2016), the following criteria were applied as guidelines for acceptable fit: CFI ≥ 0.90, TLI ≥ 0.95, RMSEA ≤ 0.05, SRMR ≤ 0.08 and χ^2/degrees of freedom (*df*) ratio less than 5.00, acknowledging the sensitivity of Chi-square to large sample sizes. In addition, the Akaike information criterion (AIC) was used for comparative model evaluation, with the model exhibiting the lowest AIC value considered to be of superior fit.

To explore the dimensionality of the overarching construct, a bifactor model was applied. Several indices were used to assess the strength of the general and group factors, determining whether a distinct first-order group-factor structure exists or if a unidimensional model is more appropriate (Rodriguez et al., 2016).

These indices include *Omega (ω)*, which is a model-based reliability estimate for the total factor; Omega Subscale (*ωS*), indicating the reliability for specific subfactors; Omega Hierarchical (*ωH*), which represents the proportion of systematic variance in total scores explained by the general factor; Omega Hierarchical Subscale (*ωHS*), which is an indication of the proportion of reliable variance in subfactor scores after accounting for the general factor; Factor Determinacy (FD), indicating how well estimated factor scores represent the true latent variables; Construct Replicability (H), reflecting the correlation between a factor and an optimally weighted item composite; Explained Common Variance (ECV), which represents the proportion of reliable variance attributable to the general factor; and lastly, the PUC, which is the proportion of item correlations influenced solely by the general factor.

An *ωH* value above 0.80 typically supports the use of a unidimensional model. For subfactors, *ωHS* quantifies the unique reliable variance after removing the influence of the general factor. When *ω* is high and the difference between *ω* and *ωH* is small, it suggests that the general factor accounts for most of the systematic variance, and multidimensionality resulting from content domains is minimal. Conversely, a large gap between *ω* and *ωH* indicates that multidimensionality may complicate the interpretation of the total score.

Percentage of Uncontaminated Correlations and FD serve distinct but complementary roles in evaluating model quality. Percentage of Uncontaminated Correlations help the researcher to decide if total scores are valid, with a high PUC (> 0.80) supporting unidimensionality. The FD assesses the reliability of factor score estimates, with a value > 0.90 indicating factor scores that are sufficiently reliable for further analysis (Gorsuch, 1983). It is, however, important to observe that both FD and H are influenced by the number of items defining a factor and the magnitude of their loadings. A small number of items with high loadings can inflate these indices.

Lastly, ECV, as further index used in the bifactor analysis, is a valuable tool for Structural Equation Modeling (SEM) researchers deciding how to specify their measurement models, specifically the degree of unidimensionality. An ECV > 0.70 is an indication that the general factor is strong enough and that a unidimensional model may yield unbiased estimates of the general factor loadings, even in multidimensional data (Stucky & Edelen, 2014).

Ethical considerations

Ethical approval for this study was granted by the institutional research ethics committee (No. 2022_SBL_AC_004_CA), with full adherence to the institution's ethical guidelines. Permission was obtained from participating organisations, informed consent was secured from all participants prior to data collection, and permission was granted by all parties (including the MBA and MBL students as co-researchers) to use the data for further, advanced research purposes by the primary researcher (the author of this article). This research did not receive any specific funding from public, commercial or non-profit agencies.

Results

The results are presented sequentially, starting with item screening, a correlational analysis on the original constructs, followed by EFA, CFA and the evaluation of a bifactor model.

Item screening

Item-level descriptive statistics were examined, including means, SDs, skewness and kurtosis. Item means on the 5-point Likert scale ranged from 2.63 (SD = 1.17) for OL18 (reverse-coded) to 3.44 (SD = 1.07) for Trf14. Standard deviations varied between 0.92 (AL2) and 1.23 (Trf7), indicating acceptable dispersion around the mean, as all values fell within the acceptable range (SD ≤ 2). Skewness values ranged from −1.02 (UL3) to 0.58 (OL18), while kurtosis ranged from −1.17 (TfL15) to 1.17 (AL2), all within the recommended thresholds for normality (skewness < 2.00, kurtosis < 7.00, West et al., 1995), confirming an approximately normal distribution of the data.

Correlation analysis

Initially, Pearson correlation analyses were conducted to examine relationships between the four original leadership constructs. This was deemed necessary to assess their convergence as relational leadership constructs, thus supporting the integrative strategy to be followed by this study. These results are presented in Table 1.

An examination of Table 1 reveals strong positive correlations (r > 0.70, Pallant, 2020) among all leadership constructs, providing empirical support for investigating their commonalities and overlaps, based on their hypothesised associations. This justifies the subsequent analysis aimed at exploring the feasibility of developing a unified measurement scale through EFA, CFA and bifactor modelling.

The item-to-respondent ratio of 1:24 exceeds the recommended threshold suggested by Meyers et al. (2016), supporting the adequacy of the sample size for factor analysis. Further support is provided by the KMO measure of sampling adequacy, which yielded a value of 0.98, well above the minimum acceptable level of 0.70 and Bartlett's test of sphericity, which was significant (χ^2 [2211] = 68 611, p < 0.001), indicating suitability for factor extraction.

The EFA yielded a three-factor solution, consisting of 34 items, with 11 from OL, 10 from Ubuntu and authentic leadership each and 3 from transformational leadership, explaining 57% of the total variance in *African leadership* (surpassing the 50% benchmark; Meyers et al., 2016). The number of factors retained was corroborated by Cattell's scree test, which identified a clear inflection point consistent with a three-factor model and confirmed by the PCA.

The first factor (from now on referred to as subfactor), labelled African Team Leadership, comprises 15 items (67% from the UL construct, followed by OL and transformational leadership with 27% and 6%, respectively) and reflects collaborative leadership behaviours, exemplified by the item: 'My leader encourages collaboration in achieving our goals'. The second subfactor, termed Adverse African Leadership, includes 6 negatively worded items (all OL), focused on the leadership practices to avoid in the African context such as: 'My leader does not act with integrity'. The third subfactor, Authentic African Leadership, consists of 13 items (with 77% from authentic leadership, 15% OL and 8% transformational leadership) reflecting self-awareness and genuineness, exemplified by the item: 'My leader shows that he/she understands his/her strengths and weaknesses'.

Descriptive statistics and psychometric properties of the three subfactors and the general factor, African leadership (where appropriate), are detailed in Table 2.

TABLE 1: Correlation coefficients between the relational leadership constructs.

Leadership construct	Authentic leadership	Transformational leadership	Organisational leadership	Ubuntu leadership
Authentic leadership	1	-	-	-
Transformational leadership	0.84*	1	-	-
Organisational leadership	0.78*	0.85*	1	-
Ubuntu leadership	0.79*	0.86*	0.83*	1

*, p < 0.001.

The descriptive statistics presented in Table 2 indicate that African Team Leadership (M = 3.71, SD = 0.77), Authentic African Leadership (M = 3.59, SD = 0.71) and the general African Leadership factor (M = 3.63, SD = 0.67) exhibited relatively high mean scores on the 5-point Likert scale. In contrast, Adverse African Leadership, the sole negatively worded factor, reported a lower mean score (M = 2.47, SD = 0.89) (reversed, in other words, 1 represents a negative and 5 a positive score).

Skewness and kurtosis values for the three subfactors and the overall African Leadership construct ranged from −0.79 to 0.26 and −0.61 to 0.70, respectively, suggesting approximate normality as these values fall well within the acceptable thresholds for skewness and kurtosis (West at al., 1995).

Internal consistency reliability was confirmed with α of 0.95, 0.85 and 0.91, and CR coefficients of 0.95, 0.81 and 0.92 for the respective factors, all exceeding the conventional benchmark of 0.70 (Nunnally & Bernstein, 1994).

Construct validity was supported by AVE values near or above the recommended threshold of 0.50, in conjunction with high CR values, indicating that the items adequately capture the underlying latent factors. Furthermore, discriminant validity was established, evidenced by both the MSV and ASV values being lower than the AVE on all three subfactors, confirming that they are empirically distinct (Hair et al., 2019).

The strength and direction of the linear relationship between the three African leadership subfactors, as Pearson correlation coefficients, are presented in Table 3.

A strong positive correlation was observed between African team leadership and Authentic African leadership ($r = 0.82$, $p < 0.001$). Adverse African leadership, the sole negatively worded factor, showed expectedly significant negative correlations with both African team leadership ($r = -0.51$, $p < 0.001$) and Authentic African leadership ($r = -0.43$, $p < 0.001$).

Consequently, a CFA was conducted to validate the internal structure of the scale derived from the EFA. Four competing models were evaluated: a unidimensional (one-factor) model, a first-order three-factor model, a second-order three-factor model and a bifactor model. Model fit was assessed using multiple indices, as summarised in Table 4.

The results from the CFA, specifically the evaluation of the fit of the four competing models, are discussed in Table 4 (see Figure 1). The one-factor model, in which all 34 items were constrained to load onto a single latent factor representing overall African leadership, demonstrated the poorest fit (CFI = 0.82, RMSEA = 0.10, AIC = 2931.70). A comparative analysis of the model fit indices revealed that the second-order factor model exhibited marginally superior fit (CFI = 0.93, RMSEA = 0.05, AIC = 2192.70) relative to the first-order three-factor model (CFI = 0.92, RMSEA = 0.05, AIC = 3256.00). The Chi-square difference between these two models was 650 ($\Delta\chi^2 = 2700 - 2050$) with a corresponding difference of 138 *df* (662−524), indicating a statistically significant improvement in model fit for the second-order model. This is further supported by the difference in *AIC* values (3256.00–2192.70 = 1063.30).

The bifactor model, however, provided the best overall fit (CFI = 0.95, RMSEA = 0.04, AIC = 2170.50). In this model, all 34 items were specified to load simultaneously onto a general factor, representing overarching African leadership, as well as onto three orthogonal group factors, namely African team leadership, Adverse African leadership and Authentic African leadership (see Figure 1). This model allowed for the partitioning of item variance into shared variance attributable to the general factor and unique variance explained by each specific factor (subfactor), supporting a more nuanced and multidimensional conceptualisation of African leadership.

TABLE 2: Descriptive statistics and psychometric properties of the African leadership scale.

Statistic	African team leadership	Adverse African leadership	Authentic African leadership	African leadership (Total)
M	3.71	2.47	3.59	3.63
SD	0.77	0.89	0.71	0.67
Skewness	-0.79	0.26	-0.59	0.52
Kurtosis	0.74	-0.61	0.70	0.48
α	0.95	0.85	0.91	-
CR	0.86	0.85	0.81	-
AVE	0.55	0.47	0.52	-
MSV	0.34	0.09	0.20	-
ASV	0.21	0.07	0.20	-

M, mean; SD, standard deviation; α, Cronbach's alpha coefficient; CR, composite reliability; AVE, average variance explained; MSV, maximum shared variance; ASV, average shared variance.

TABLE 3: Correlation coefficients between the African leadership subfactors.

African leadership subfactor	African team leadership	Adverse African leadership	Authentic African leadership
African team leadership	1	-	-
Adverse African leadership	-0.51*	1	-
Authentic African leadership	0.82*	-0.43*	1

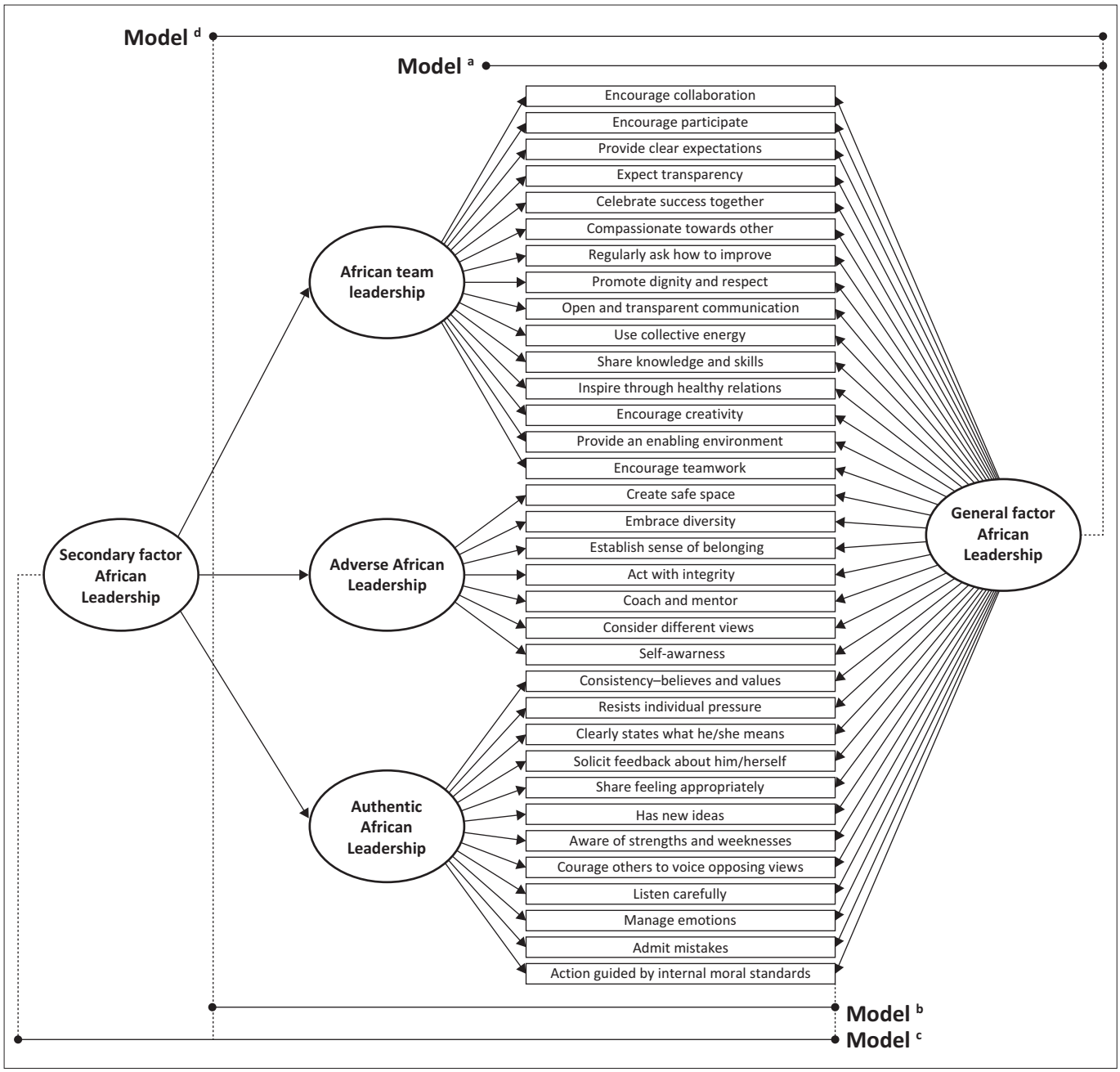
*, $p < 0.001$.

TABLE 4: Goodness-of-fit indices for four models of the structure of the African leadership scale.

Models	χ^2	*df*	CMIN/*df*	Sig.	GFI	TLI	CFI	RMSEA	SRMR	AIC
Model[a]	2840	230	12.35	< 0.001	0.75	0.81	0.82	0.01	0.09	2931.70
Model[b]	2700	662	4.08	< 0.001	0.88	0.91	0.92	0.05	0.04	3256.00
Model[c]	2050	524	3.91	< 0.001	0.90	0.93	0.93	0.05	0.03	2192.70
Model[d]	1439	491	2.93	< 0.001	0.93	0.95	0.96	0.04	0.03	2170.50

Note: Model[a], One-factor; Model[b], First-order model; Model[c], Three-factor second-order; Model[d], Bifactor.

χ^2, Chi-square; *df*, degrees of freedom; GFI, goodness-of-fit index; TLI, Tucker–Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual; AIC, Akaike's information criterion; Sig., significance.



Note: Model[a], One-factor; Model[b], First-order model; Model[c], Three-factor second-order; Model[d], bifactor.
≠ 'does not' [negative item].

FIGURE 1: Factor structure models of the of the African leadership scale. Rectangles are the observed measurements (with summarised items), and ellipses are latent variables.

The key question is whether the bifactor model provides sufficient evidence to confirm that a single-scale score adequately reflects one-dimensionality, and if it is also appropriate to report domain-specific subfactor scores. To address this, the bifactor model was evaluated using multiple indices, with results presented in Table 5.

The ω estimate for the general factor was exceptionally high at 0.97, indicating a highly reliable multidimensional composite. Subfactor scores, comprising fewer items, exhibited lower reliability, ranging from 0.85 to 0.95 (mean ωS = 0.92, SD = 0.04), suggesting that the general factor

TABLE 5: Dimensionality indices for the African leadership scale.

Indices	General factor – African leadership	Subfactors		
		African team leadership	Adverse African leadership	Authentic African leadership
ω and ωS	0.97	0.95	0.85	0.92
ωH and ωHS	0.92	0.01	0.55	0.17
Rω	0.95	0.02	0.65	0.18
H	0.97	0.36	0.74	0.56
FD	0.98	0.73	0.89	0.78
PUC	0.65	-	-	-
ECV	0.80	-	-	-

ω & ωS, omega for general factor/omega for subscales; ωH & ωHS, omegaH for general factor and omegaHS for subscales; Rω, relative omega (ωH/ω); H, construct replicability; FD, factor determinacy; PUC, percent of uncontaminated correlations; ECV, explained common variance.

(African leadership) predominantly drives the systematic variance in unit-weighted total scale scores. Variance attributed to multidimensionality from subfactors (African team leadership, Adverse African leadership and Authentic African leadership) is thus minimal. The ωH value is > 0.80, supporting unidimensionality (Reise et al., 2013). By controlling for the general factor's variance, the ωHS for subfactors averaged 0.24 (SD = 0.28), indicating that much of the reliable variance in subfactor scores stems from the general factor rather than unique group factors. Despite this, subfactor scores remain sufficiently reliable for basic research purposes but should be interpreted cautiously because of their low ωHS relative to ωS.

The general factor reported an FD value of 0.98, indicating that observed individual differences in factor scores strongly correspond to true differences on the factor. Subfactor FD values were, however, lower (0.73, 0.89 and 0.78; mean = 0.80, SD = 0.07), influenced by the number of items per subfactor (Rodriguez et al., 2016), yet still acceptable for research purposes. The H values for subfactors averaged 0.55 (SD = 0.16), further supporting the dominance of the general factor.

Finally, to assess potential bias when fitting multidimensional data to a unidimensional model, ECV and PUC were examined. The ECV value was 0.80 (> 0.70, Rodriguez et al., 2016), suggesting that the factor loadings from a unidimensional model closely approximate those from the general factor in a bifactor model, supporting unidimensionality. The PUC value was 0.65, slightly below the 0.70 threshold (Rodriguez et al., 2016), indicating that most correlations reflect the general factor with minimal bias, reinforcing the suitability of a unidimensional framework. It is, however, important to note that PUC is sensitive to the number of factors and fixed number of items, with the PUC value in this case lower because of the rather few factors (only three) and the number of items within a group-factor that are relatively large (the three subfactors contained 11.33 items on average (SD = 3.86), ranging from 6 to 15 items).

Discussion

In today's dynamic and digitally driven organisational landscape, leadership is a key factor in driving performance and long-term success. However, leadership is complex and deeply influenced by cultural and contextual factors. While global (etic) leadership models offer valuable insights, they often lack relevance in diverse settings like South Africa.

This study addresses that gap by integrating both etic (universal) and emic (culturally specific) perspectives, combining established international, relational leadership constructs (authentic and transformational leadership) with two South African constructs, namely organisational and the UL. These Afrocentric constructs emphasise relational values such as community, dignity and shared responsibility. This study highlights the shared values across relational leadership theories, such as trust, ethical conduct and mutual development, while emphasising the unique contributions of African and UL. Rooted in humanism and collectivism, African leadership contrasts with individualistic Western models by prioritising community, dignity and shared responsibility. However, despite cultural differences, universal leadership constructs such as transformational and authentic leadership converge with Ubuntu, organisational and ultimately African leadership around social, ethical and developmental principles. These constructs further stress the importance of interpersonal relationships, emotional awareness and follower growth.

The study proposes a hybrid leadership conceptualisation and measurement scale that integrates both etic (universal) and emic (culturally specific) relational leadership constructs, offering a more inclusive and context-sensitive understanding of leadership in the African (more specifically, SA) settings. This synthesis supports the idea that effective leadership transcends cultural boundaries while remaining deeply rooted in local values and practices.

By developing and validating a culturally grounded leadership scale, the study aims to offer a more inclusive, accurate and context-sensitive understanding of leadership in South Africa, one that reflects both global principles and local realities.

The *first research question* has to do with the conceptualisation of African leadership, conceptualised within the South African organisational context, by employing both emic and etic leadership frameworks. The EFA yielded a three-factor solution in African leadership, with three subfactors, namely (exact item wording is included in Appendix 1):

African Team Leadership reflects leadership that inspires, motivates and supports employees by fostering collaboration, personal growth, ethical behaviour and a shared vision for the future. Leaders lead by example, encourage creativity and build strong, positive relationships within the team.

Adverse African Leadership reflects leadership that does not create a safe workspace, disregards diversity and does not coach and mentor individuals. Leaders are unable to foster a supportive and diverse work environment and exhibit behaviours that may create a disengaged, unmotivated or toxic workplace.

Authentic African Leadership reflects a leader who is self-aware and emotionally intelligent, who is transparent and acts with integrity and moral courage. Leaders align their actions with their values, encourage open dialogue, admit mistakes and seek continuous self-improvement while fostering trust and respect within their teams.

African leadership is expressed by self-aware, emotionally intelligent and ethical leaders who demonstrate transparency,

integrity and moral courage, consistently aligning their actions with their stated and lived values. They prioritise creating a safe workplace, inspiring and motivating individuals through ongoing support, coaching and mentoring to achieve a shared vision. Emphasis is placed on fostering positive relationships built on trust, honesty, respect and embracing diversity within their teams.

All three subfactors reported acceptable psychometric properties in terms of reliability and validity, and they are highly and statistically significantly correlated.

To answer the *second research question* that focuses on the dimensionality (structural representation) of African leadership, further analysis was required. This analysis is intended to determine whether it should be conceptualised and measured as a unidimensional, multidimensional or bifactorial model.

The first step to answer this research question was to conduct a CFA. Four competing models were evaluated to determine the best structural representation of African leadership. The one-factor (or unidimensional) model, which treated all items as indicators of a single leadership construct, showed the weakest fit. A second-order factor model, with the three subfactors contributing to a higher-order African leadership factor and demonstrated improved fit over a first-order three-factor model.

The bifactor model emerged, however, as the best-fitting solution. This model allowed each item to load onto both a general leadership factor and one of three specific group factors. This structure enabled a clearer distinction between shared and unique variance, supporting a more nuanced, multidimensional understanding of African leadership.

The findings align with the study's strategy of integrating emic (e.g. Ubuntu and OL) and etic (transformational and authentic leadership) constructs to examine African leadership. The dominance of the general factor (called African leadership) reflects the shared relational and humanistic principles across these paradigms, such as trust, dignity and collective development, which resonate with Afrocentric values of interconnectedness and community (Bhengu, 1996; Toendepi & Cele, 2024). Subfactors' variance is largely driven by the general factor rather than the subfactor itself. This suggests that while the three subfactors provide supplementary insights, the total score is more robust for assessing African leadership in practice.

The bifactor model's confirmation underscores the compatibility of emic and etic constructs, supporting a hybrid leadership model that bridges global theories with culturally grounded values. On a methodological level, these results for subfactors indicate that the 'good fit' yielded through the SEM process does not equate to a quality model.

Conclusion

This study succeeds to integrate culturally specific (emic) and universal (etic) leadership constructs employing context-sensitive conceptualisation of African leadership and a validated scale to measure the construct. The findings support the coexistence of Afrocentric and Eurocentric (Western) paradigms, offering a more inclusive and accurate understanding of leadership in the African context. This aligns with Antonakis and Day (2018), Cikara et al. (2022) as well as Johns' (2017, 2024) global view that leadership should be studied through integration across settings and differentiation when localised or novel approaches are needed. Locally, this view is supported from an African perspective by Chawane (2016), who called for coexisting paradigms and Myeza and April's (2021) opinion that African epistemologies should be prioritised without dismissing universal principles.

This study confirms that a bifactor model effectively captures the structure of African leadership, with a strong general factor supported by three subfactors, namely African team, Adverse African and Authentic African leadership. While subfactors offer additional insights, the total score is more robust and practical for leadership assessment and development in organisational settings. Although subfactors may inform targeted interventions, such as enhancing team-based leadership, they should be interpreted with caution because of their strong dependence on the general factor. The inclusion of bifactor analysis (rare in the study of leadership) to finally answer the research questions is regarded to be a contribution on a methodological level.

In conclusion, this study advances the understanding of African leadership by validating a culturally grounded, psychometrically robust scale, which is regarded to be the practical contribution of this study. A further contribution, on an academic level, is the confirmation of the centrality of relational and humanistic values in African leadership, offering a framework that integrates global and local perspectives to inform both theory and practice in diverse organisational landscapes.

Future research should focus on refining subfactor content and validating the model across varied African contexts to strengthen its applicability. The results of this study could also be used to study the effect that African leadership (and to some extent the subfactors) has on organisational outcomes, for instance, organisational climate, turnover intention, employee engagement, etc.

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Competing interests

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CRediT authorship contribution

Anton Grobler: Conceptualisation, Data curation, Formal analysis, Methodology, Validation, Writing – original draft. Writing - review & editing. The author confirms that this work is entirely his own, has reviewed the article, approved the final version for submission and publication, and takes full responsibility for the integrity of its findings.

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Data availability

The data that support the findings of this study are available from the corresponding author, Anton Grobler, under conditions set out in the research ethics approval.

Disclaimer

The views and opinions expressed in this article are those of the author and are the product of professional research. They do not necessarily reflect the official policy or position of any affiliated institution, funder, agency or publisher. The author is responsible for this article's results, findings and content.

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Appendices starts on the next page →

Appendix 1

TABLE 1-A1: African leadership scale.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5
My leader				
African team leadership				
1	encourages collaboration in achieving our goals			
2	encourages us all to participate in team discussions			
3	regularly provides clear expectations of what I need to do			
4	expects transparency in our team			
5	likes us to celebrate 'wins' together			
6	is compassionate towards others			
7	regularly asks how the team can do better together			
8	promotes dignity and respect			
9	communicates openly and transparently			
10	uses collective energy of team members to achieve goals			
11	shares knowledge and skills to promote growth and development in our team			
12	inspires us by developing healthy relationships			
13	encourages creativity through shared ideas			
14	provides an enabling work environment, so we can personally grow and move forward together			
15	encourages employees to be 'team players'			
Adverse African leadership (reverse items)				
16	does not create a safe emotional workspace			
17	does not embrace diversity			
18	does not create a sense of belonging and unity amongst team members			
19	does not act with integrity			
20	does not coach and mentors me to achieve success			
21	does not consider different viewpoints with compassion and understanding			
Authentic African leadership				
22	describes accurately the way that others view his/her abilities			
23	shows consistency between his/her beliefs and actions.			
24	resists pressures on him/her to do things contrary to his/her beliefs			
25	clearly states what he/she means			
26	solicits feedback for improving his/her dealings with others			
27	shares his/her feelings appropriately			
28	has ideas that have forced me to rethink some of my own ideas 1 have never questioned before			
29	shows that he/she understands his/her strengths and weaknesses			
30	encourages others to voice opposing points of view			
31	carefully listens to alternative perspectives before reaching a conclusion			
32	manages his/her own emotions effectively			
33	admits mistakes when they occur			
34	is guided in his/her actions by internal moral standards			