



ORIGINAL

Translation and Validation of a Transformational Leadership Scale in Peruvian Public Servants

Traducción y validación una escala de Liderazgo Transformacional en servidores públicos peruanos

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ABSTRACT

Introduction: transformational leadership has been identified as an essential component for success and innovation within the public sector, especially in the digital age and in the face of global challenges. This form of leadership, which seeks to change and inspire people, has been shown to be crucial for improving organizational performance and the quality of public services. However, the application of these principles in Peru faces specific challenges, and there is a notable lack of empirical research on this phenomenon in the Peruvian public sector, particularly in the evaluation of the tools used for its measurement.

Objective: to examine the psychometric properties of the Global Transformational Leadership (GTL) scale in a sample of Peruvian public servants.

Methods: an instrumental research design was adopted, using non-probabilistic sampling. The sample included 290 Peruvian public servants ($M = 34,61$, $SD = 9,2$), with an analysis that encompassed confirmatory factor analysis (CFA) and reliability estimates.

Results: descriptive analysis results indicated a high tendency to respond positively on the scale. The CFA confirmed the proposed unidimensional structure of the scale, with acceptable fit according to various indices ($\chi^2 = 39,130$, $CFI = 0,97$, $TLI = 0,95$, $RMSEA = 0,08$, $SRMR = 0,03$), and all factor loadings were significant and greater than 0,50, indicating a strong association with the transformational leadership dimension and exceptionally high internal consistency ($\alpha = 0,94$).

Conclusions: the study confirmed that the GTL transformational leadership scale is a psychometrically robust tool and applicable to the Peruvian context. The unidimensional structure and high reliability of the scale suggest that it is suitable for measuring transformational leadership among public servants in Peru.

Keywords: Leadership; Transformational; Psychometrics; Public Servants; Peru.

RESUMEN

Introduction: el liderazgo transformacional se ha identificado como un componente esencial para el éxito y la innovación dentro del sector público, especialmente en la era digital y frente a desafíos globales. Esta forma de liderazgo, que busca cambiar e inspirar a las personas, se ha demostrado crucial para mejorar el rendimiento organizacional y la calidad de los servicios públicos. Sin embargo, la aplicación de estos principios en Perú enfrenta desafíos específicos, y existe una notable carencia de investigación empírica sobre este fenómeno en el sector público peruano, particularmente en la evaluación de las herramientas usadas para su medición.

Objetivo: este estudio tuvo como objetivo examinar las propiedades psicométricas de la escala de liderazgo transformacional Global Transformational Leadership (GTL) en una muestra de servidores públicos peruanos.

Métodos: se adoptó un diseño de investigación instrumental, utilizando un muestreo no probabilístico. La muestra incluyó 290 servidores públicos peruanos ($M=34,61$, $DS=9,2$), con un análisis que abarcó un análisis factorial confirmatorio (AFC), y estimaciones de la confiabilidad.

Resultados: los resultados del análisis descriptivo indicaron una alta tendencia a responder positivamente en la escala, El AFC confirmó la estructura unidimensional propuesta de la escala, con un ajuste aceptable según varios índices ($\chi^2 = 39,130$, $CFI = 0,97$, $TLI = 0,95$, $RMSEA = 0,08$, $SRMR = 0,03$), y todas las cargas factoriales fueron significativas y mayores a 0,50, indicando una fuerte asociación con la dimensión de liderazgo transformacional y con una consistencia interna excepcionalmente alta ($\alpha = 0,94$).

Conclusiones: el estudio confirmó que la escala de liderazgo transformacional GTL es una herramienta psicométricamente robusta y aplicable al contexto peruano. La estructura unidimensional y la alta confiabilidad de la escala sugieren que es adecuada para medir el liderazgo transformacional entre los servidores públicos en Perú.

Palabras clave: Liderazgo; Transformacional; Psicometría; Servidores Públicos; Perú.

INTRODUCTION

In the forefront of global challenges and the digital age, transformational leadership has positioned itself as a fundamental component for success and innovation within the public sector. Conceptualized initially by Burns (1978) and later developed by Longshore and Bass (1987), transformational leadership refers to a style that changes and transforms individuals. This form of leadership is distinguished by its ability to inspire change, drive innovation, and cultivate a deep-rooted commitment to organizational goals, becoming a vital tool to address the inherent complexity of 21st-century public service. The influence of this leadership style extends beyond merely motivating staff; it has been shown to significantly impact organizational performance and the quality of public services, emphasizing the importance of leaders who act as role models, promote shared visions, and intellectually stimulate their teams towards excellence in public service (Ahmad et al., 2017; Amaliah & Sawitri, 2023; Negara et al., 2022). In the public realm, transformational leadership not only focuses on outcomes but also values the well-being and professional development of employees, recognizing the need to adopt more inclusive and adaptive approaches. This is particularly relevant given the variability in leadership perception based on factors such as gender, underscoring the importance of effectively leading through digital transitions while maintaining employee engagement and adaptability (Amaliah & Sawitri, 2023; Lee & Park, 2021).

This leadership style fosters a culture of accountability, transparency, and excellence, driving organizational commitment and aligning personal goals with institutional objectives. It facilitates adaptation and innovation within the sector, enhancing both individual and collective performance and paving the way for effective succession planning, ensuring long-term sustainability of leadership and management (Ahmad et al., 2017; Virgiawan et al., 2021). The effectiveness of transformational leadership has proven crucial for the success of digital transformation, highlighting its role in improving adaptive performance in the face of the complex challenges posed by the VUCA (volatility, uncertainty, complexity, and ambiguity) environment. Additionally, it has been linked to significant improvements in environmental performance in critical areas such as hazardous waste management in public hospitals, underscoring its value in promoting sustainable practices (Dewi & Soeling, 2024; Simson Werimon et al., 2023). Despite its recognized importance, research on the application and effects of transformational leadership in the public sector is still a developing field, presenting a significant opportunity to explore how this leadership style can be effectively fostered and manifested among public servants (Vigoda-Gadot & Meiri, 2008).

Literature Review

Transformational leadership has emerged as an essential paradigm in promoting innovation, adaptability, and outstanding performance within various organizations, including the public sector (Bass & Riggio, 2006). Characterized by its ability to inspire and motivate subordinates towards lofty goals, this leadership style has proven effective in both corporate settings and the public sector, where unique challenges require distinctive approaches (Van Wart, 2013). In public services, transformational leadership becomes critically relevant due to the pressing need to respond effectively to changing societal demands, foster citizen engagement, and manage resources efficiently and ethically (Sanders, 2015; Trottier et al., 2008). The ability of these leaders to catalyze change, promote innovation, and cultivate a sense of purpose and commitment among employees is fundamental for improving public service delivery and citizen satisfaction (Papazoglou & Koutouzis, 2022;

Wright & Pandey, 2010). However, despite its recognized importance, research on the application and effects of transformational leadership in the public sector remains nascent, presenting a field full of questions about how this leadership style manifests and can be fostered among public servants (Vigoda-Gadot & Meiri, 2008).

In this context, leaders are expected not only to drive their teams towards common goals but also to promote high levels of commitment and positive change, crucial aspects in the dynamic and challenging environment of Peruvian public administration. However, the application of these principles in Peru faces specific obstacles, such as resistance to change, inflexible organizational structures, and a variable political climate. Peru has been scrutinized for issues of corruption, inefficiency, and lack of accountability, highlighting the need for leadership that inspires change and fosters a culture of integrity and efficiency to revitalize public institutions and improve service delivery (Transparency International, 2020). Despite its importance, research on transformational leadership in the Peruvian public sector has been limited, with a predominant focus on the private sector or outside Latin America (Avolio & Bass, 2004). However, specific studies in Peru have revealed how transformational leadership positively impacts knowledge management in public universities, emphasizing that an organizational culture focused on learning and collaboration is crucial for the effectiveness of this type of leadership (Gelard et al., 2014). Furthermore, it has been identified that transformational leadership is fundamental for improving performance, adaptability to changes, and fostering innovation within Peruvian organizations (Coronado Espinoza et al., 2023). In the agricultural sector of Lambayeque, transformational leadership has been observed to be predominant and especially effective, representing 90 % of the cases among agricultural entrepreneurs. This approach is considered ideal for promoting the sustainable development of the sector, driving innovation and equity (Loli & García, 2021). Additionally, it has been found that employees' perception of their supervisors as transformational leaders is directly related to greater job satisfaction, where trust in the supervisor plays a significant moderating role between transformational leadership and job satisfaction (Omar, 2011).

The importance of transformational leadership in the sphere of public administration in Peru is undeniable. However, there is a notable lack of empirical research dedicated to this topic. Specifically, there is limited attention to the evaluation of the psychometric qualities of the tools used to measure transformational leadership in this context. This research gap is concerning, as the validity and reliability of these tools are essential for correctly interpreting study results and for implementing evidence-based interventions (Amankwaa et al., 2019; Fareed et al., 2023).

Over the years, tools and scales for quantifying transformational leadership have evolved, with various versions and adaptations emerging to meet the demands of different settings and cultures. A widely recognized instrument in this field is the Multifactor Leadership Questionnaire (MLQ) by Bass and Avolio (1996), noted for its robustness in terms of validity and reliability in various contexts (Antonakis et al., 2003). Despite its validation in different cultures, including Latin America (Muenjohn & Armstrong, 2008), other relevant scales in this area include the Transformational Leadership Scale (TLS) and the Charismatic Leadership Scale (CLS) (Hollander et al., 1990), which have also proven to be reliable and valid. Within this landscape, the Global Transformational Leadership Scale (GTL) emerges as a promising tool for assessing transformational leadership. Developed by Carless et al. (2000) in Australia, the GTL consists of 7 items, addressing transformational leadership as a unidimensional construct and has demonstrated exceptional reliability ($\alpha = .93$) according to Cronbach's alpha, ensuring robust internal consistency. Using a 5-point Likert scale, the GTL was validated in a sample of subordinates who evaluated branch managers within a large financial organization. Subsequently, the GTL was validated in Portugal (van Beveren et al., 2017) in workgroups, with a significant sample that confirmed its effectiveness in measuring transformational leadership through exploratory and confirmatory factor analysis. This expansion to other cultural contexts underscores the flexibility and applicability of the GTL in diverse settings, consolidating its position as a promising tool in the study of transformational leadership.

The translation and adaptation of the scale are imperative to ensure its applicability and accuracy in specific cultural and linguistic contexts, such as its adjustment to the Peruvian context. However, to date, little attention has been paid to the validation of these scales in the context of Peruvian public servants. Therefore, the purpose of this study is to examine the psychometric properties of the transformational leadership scale in a sample of Peruvian public servants.

METHOD

Design and Participants

The research design is instrumental (Ato et al., 2013). A non-probabilistic sampling method was used for data collection. The sample size was determined using an electronic effect size calculator (Soper, 2024), which considers the number of observed and latent variables in the model, the anticipated effect size ($\lambda = 0,2$), the desired statistical significance ($\alpha = 0,05$), and the statistical power level ($1 - \beta = 0,80$), recommending a minimum sample size of 87 participants. The study included a total of 290 Peruvian public servants aged between 20 and 63 years ($M = 34,61$, $SD = 9,2$). Regarding gender, 41,4 % were women and 58,6 % were men.

The majority were single (74,1 %), and 21,7 % held a master's degree (table 1).

Characteristic	n	%	
Gender	Female	120	41,4
	Male	170	58,6
Marital Status	Married	72	24,8
	Single	215	74,1
	Widowed	3	1
Education Level	Doctorate	3	1
	Master's	63	21,7
	Technical	47	16,2
	University	177	61

Instrument

Transformational Leadership: The English version of the Global Transformational Leadership (GTL) scale developed by Carless et al. (2000) in Australia was used to evaluate the construct of transformational leadership. The scale consists of 7 items measuring a single construct of transformational leadership and demonstrates satisfactory reliability. The overall reliability, measured by Cronbach's alpha, is high ($\alpha = ,93$), indicating robust internal consistency. The GTL items use a 5-point Likert scale ranging from "rarely or never" to "very frequently or always." The Spanish adaptation of the GTL scale followed an established cultural adaptation process (Beaton et al., 2000):

1. Initially, two native Spanish-speaking bilingual translators independently translated the GTL from English to Spanish.
2. Next, two bilingual experts, unfamiliar with the original GTL, back-translated the Spanish version into English.
3. To create a preliminary Spanish version of the GTL, two administrators and two psychologists reviewed both the Spanish-translated and English back-translated versions.
4. This preliminary version was tested with a group of 15 workers to assess its comprehension and suitability in the Spanish cultural and linguistic context (see table 2).

Procedure

Contact was established with the administrators of 9 municipalities in the province of Rioja, Peru. Participants were assured that they could withdraw from the study at any time. Throughout the study, ethical standards established in the Declaration of Helsinki were followed, including the protection of privacy and confidentiality of personal information and minimizing any impact on participants' physical, mental, and social health.

Data Analysis

The analysis began with a descriptive examination of the GTL items, evaluating aspects such as mean, standard deviation, skewness (g_1), and kurtosis (g_2). Skewness and kurtosis values were considered acceptable if within the range of $\pm 1,5$ (Pérez et al., 2015). Additionally, a corrected item-total correlation analysis was applied to identify and exclude items with a correlation $r(i-tc) \leq 0,2$ (Kline, 2016).

Subsequently, a confirmatory factor analysis (CFA) was conducted to validate the unifactorial structure of the scale, using the MLR estimation method recommended for non-normally distributed data (Muthén & Muthén, 2017). Criteria for evaluating model fit included chi-square (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) with ideal values $\geq 0,95$, Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) with values $\leq 0,08$ (Kline, 2016; Schumacker & Lomax, 2016). Scale reliability was estimated using Cronbach's alpha and McDonald's omega, with values above 0,70 considered adequate (McDonald, 1999).

All statistical analyses were performed using RStudio (Allaire, 2018), with version 4.1.1 of R (R Foundation for Statistical Computing, Vienna, Austria; <http://www.R-project.org>). The "lavaan" package (Rosseel, 2012) was used for confirmatory factor analysis and structural equation modeling, while the "semTools" package (Jorgensen et al., 2022) facilitated measurement invariance analysis.

RESULTS

Descriptive Statistics

In the descriptive statistics (table 2), item "6" ($M = 4,27$) has the highest mean, indicating that participants tend to respond more positively to this specific item. Conversely, item "5" ($M = 3,88$) shows the lowest mean,

suggesting that it receives the least positive evaluations from respondents. The skewness (g_1) of the items ranges from -1,37 to -0,98, reflecting a distribution skewed towards higher scale responses, indicating negative skewness. Regarding kurtosis (g_2), the values fluctuate between 0,55 and 1,94, indicating that, although some items have kurtosis outside the ideal range of -1,5 to 1,5, the overall distribution of responses does not show excessive sharpness or flatness. The corrected item-total correlations ($r_{.cor}$) all remain above 0,70, far exceeding the acceptable threshold of 0,30, demonstrating a strong relationship of each item with the overall construct measured by the scale. Finally, the internal consistency, determined by Cronbach's alpha coefficient, is exceptionally high ($\alpha = 0,94$), underscoring the excellent reliability of the items and confirming the scale's consistency in its measurements.

Table 2. Descriptive Statistics and Reliability

Item	Spanish	English	M	SD	g_1	g_2	$r_{.cor}$	α
1	Mi líder de equipo comunica una visión clara y positiva del futuro	My team leader communicates a clear and positive vision of the future	4,2	0,96	-1,4	1,94	0,83	0,94
2	Mi líder de equipo trata al personal como individuos, los apoya y fomenta su desarrollo	My team leader treats staff as individuals, supports and encourages their development	4,2	0,92	-1,2	1,25	0,81	0,94
3	Mi líder de equipo da ánimo y reconocimiento al personal	My team leader gives encouragement and recognition to staff	4,1	1	-1,1	0,94	0,81	0,94
4	Mi líder de equipo fomenta la confianza, la implicación y la cooperación entre los miembros del equipo	My team leader fosters trust, involvement, and cooperation among team members	4,18	0,92	-1,2	1,54	0,87	0,94
5	Mi líder de equipo fomenta el pensamiento sobre los problemas de nuevas maneras y cuestiona suposiciones	My team leader encourages thinking about problems in new ways and questions assumptions	3,88	1,09	-1,1	0,84	0,71	0,94
6	Mi líder de equipo es claro sobre sus valores y prácticas que predica	My team leader is clear about his/her values and practices which he/she preaches	4,27	0,79	-1	0,55	0,82	0,94
7	Mi líder de equipo infunde orgullo y respeto en los demás y me inspira por ser altamente competente	My team leader instills pride and respect in others and inspires me by being highly competent	4,24	0,89	-1,3	1,53	0,82	0,94

Note: M = Mean, SD = Standard Deviation, g_1 = skewness, g_2 = kurtosis.

Confirmatory Factor Analysis and Reliability

The confirmatory factor analysis (CFA) was conducted hypothesizing the proposed unidimensional model. The first model demonstrated acceptable fit according to the fit indices $\chi^2 = 39,130$, $df = 13$, $p = 0,000$, CFI = 0,97, TLI = 0,95, RMSEA = 0,08 (90 % CI 0,06 - 0,11), SRMR = 0,03. The factor loadings (λ) of all items were greater than 0,50, indicating a strong association with the respective dimension. Additionally, the reliability as measured by Cronbach's alpha for the dimension was acceptable ($\alpha = ,94$).

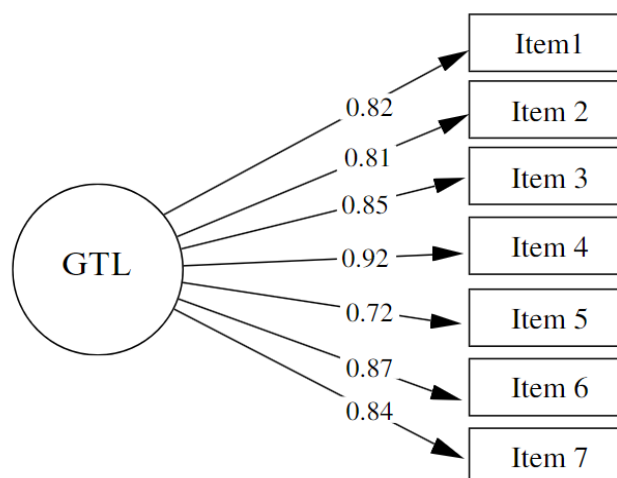


Figure 1. Factorial Model

DISCUSSION

Transformational leadership has established itself as essential for success and innovation in the public sector, particularly in facing global challenges and transitioning to the digital age. This leadership style aims to change and inspire people, emphasizing motivation, improved organizational performance, and the quality of public services. It promotes a culture of accountability, transparency, and excellence, crucial for the well-being and professional development of employees. Adaptability and effective management of digital transitions are key components, along with addressing variability in leadership perception based on factors such as gender. The application of transformational leadership principles in Peru faces specific challenges, including resistance to change and rigid organizational structures. However, there is a notable lack of empirical research on transformational leadership in the Peruvian public sector, particularly in evaluating the psychometric tools used for its measurement. The Global Transformational Leadership (GTL) Scale emerges as a promising tool with robust reliability. Nevertheless, it underscores the need to validate these scales in the Peruvian context.

Our research proposed a unidimensional model, whose fit was evaluated through CFA, yielding satisfactory goodness-of-fit indices. These results suggest an acceptable model fit. This finding aligns with the research of Beveren et al. (2017), who also reported an acceptable fit using similar goodness-of-fit indices, albeit with some specific variations in their results. Comparing with the study by Carless et al. (2000), we found similarities in considering RMSEA as a preferred fit indicator. However, our findings diverge in the magnitude of chi-square and RMSEA indices, suggesting differences in model fit that could be attributed to the specific nature of the constructs analyzed or the peculiarities of the samples studied. Additionally, factor loadings were greater than 0,50, indicating a strong association with the proposed dimension. Our findings and similar results emphasize the importance of factor loadings in representing the association between items and the construct (van Beveren et al., 2017), reinforcing the viability of our parameter estimates and the suitability of the proposed unidimensional model. This aspect is crucial for understanding the factorial structure of the phenomena studied and highlights the relevance of theoretical and empirical selection of items for the model.

The reliability obtained in our research was notably high ($\alpha = ,94$), suggesting exceptional internal consistency of the items within the evaluated dimension. This finding is particularly relevant in the field of transformational leadership, where the precision of measurement tools is crucial for understanding the underlying dynamics and practical implications of this leadership style. Comparing our research with previous studies, we found a notable similarity in the reported reliability levels. Carless et al. (2000) found a Cronbach's alpha of ,93 for their measure of transformational leadership, while Beveren et al. (2017) reported an alpha of ,96 for the Portuguese version of the Global Transformational Leadership (GTL) Scale. These comparable values reflect methodological and theoretical consistency in measuring reliability in the field of transformational leadership, highlighting the robustness of these measurement tools across different cultural contexts and samples.

Implications

The findings of this study underscore the critical importance of transformational leadership in the public sector, especially in challenging contexts like Peru. The validation of a tool like the GTL in this context not only reinforces the viability of applying transformational leadership concepts in public management but also provides a practical framework for developing and evaluating leadership competencies. The ability of transformational leaders to inspire change, drive innovation, and foster deep commitment to organizational goals is essential for adaptation and innovation within the sector, highlighting the need for training and development programs focusing on these key competencies. In terms of policy, implementing transformational leadership in the Peruvian public sector presents an opportunity to address structural problems such as corruption, inefficiency, and lack of accountability. Promoting leadership that inspires change and fosters a culture of integrity and efficiency can be a catalyst for revitalizing public institutions. This suggests that government policies and organizational strategies should prioritize the development of transformational leadership, with a particular focus on creating mechanisms that allow the evaluation and recognition of transformational leaders in public service. From a theoretical perspective, the adaptation and validation of the GTL in the Peruvian context contribute to the existing literature on transformational leadership, demonstrating its applicability beyond the cultural contexts in which it was originally developed. This enhances the theoretical understanding of transformational leadership, suggesting that while the specific manifestations of this leadership style may vary across different cultures and sectors, its fundamental principles are universally relevant. Additionally, this study highlights the importance of considering cultural and organizational peculiarities in the research and practice of transformational leadership, broadening the theoretical field towards a more global and inclusive understanding.

Limitations

A fundamental limitation of this study lies in its cross-sectional design. Future research could benefit from a longitudinal design, which would allow observing how perceptions of transformational leadership and its

impact on organizational outcomes develop or change over time. Additionally, the use of a non-probabilistic sample, though practical, introduces potential biases in participant selection. Future research should consider using probabilistic sampling techniques to ensure a more equitable and generalizable representation of the target population. The reliance on self-reports to evaluate transformational leadership also represents a limitation. While these methods are valuable for obtaining individual perceptions, they are also subject to social desirability and self-perception biases. Multi-informant methods, including evaluations from superiors, peers, and subordinates, could provide a more holistic and balanced view of transformational leadership, mitigating the inherent bias of self-reports. This study focused on a unidimensional aspect of transformational leadership. However, transformational leadership is a multifaceted construct that could benefit from a more detailed exploration of its different components. Future research could examine how each dimension of transformational leadership contributes to organizational outcomes, allowing for more specific and targeted interventions to promote effective leadership within the Peruvian public sector. Incorporating measurement invariance analysis in future studies would not only address a significant limitation of the present study but also enrich the understanding of transformational leadership across different subgroups of the public servant population, ensuring that leadership development strategies are inclusive and effective for all members of the organization.

CONCLUSION

The results indicate that the scale has good construct validity and internal reliability in this context, suggesting that it can be a useful tool for measuring transformational leadership in Peruvian public administration. The GTL emerges as a promising tool to advance this line of research, offering opportunities for developing effective leaders who can navigate the challenges of public service in the 21st century.

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