

ORIGINAL ARTICLE

Leadership styles and performance of graduate students at Universidad Nacional Mayor de San Marcos

ABSTRACT

The purpose of this paper is to analyze the relationship between leadership styles and academic performance of working students at the Universidad Nacional Mayor de San Marcos, as well as to explore possible differences according to the work sector to which they belong. For this purpose, the concepts of transformational, transactional and laissez-faire leadership proposed by different authors were used. Data collection was carried out using the well-known Multifactor Leadership Questionnaire (MLQ-5X) developed by Bruce Avolio and Bernard Bass, applied in digital format. This study is descriptive-correlational in nature, with a non-experimental, cross-sectional design. The sample included graduate students working in both the public and private sectors. Spearman's Rho and Student's T tests were used for statistical analysis. The results show that transformational leadership has a significant impact on academic performance compared to the other styles analyzed. Also, differences in leadership practices between the two sectors were identified. Finally, recommendations are proposed to improve the application of leadership and further future research.

Keywords: transformational leadership; transactional leadership; *laissez-faire*; Universidad Nacional Mayor de San Marcos.

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Submitted: 07/11/2024 - Accepted: 11/04/2024 - Published: 06/13/2025

INTRODUCTION

According to an international survey, the most common challenges faced by business leaders are engaging the board, managing resources, and interacting with stakeholders (Kumra *et al.*, 2024). This reflects that leaders are constantly interacting, although not all use the same style when relating to others. In terms of employee perceptions, the *Tendencias globales del Capital Humano* survey shows that 23% believe their leaders have the skills to adapt to changing environments, while 16% believe they are well prepared to use technology to optimize work and team performance (Deloitte, 2023). This data underscores the importance of leadership in driving results.

On a theoretical level, leadership has been studied for decades because of its importance in the development of human groups. One of the most prominent researchers of the 20th century was Lewin (1939), who identified three leadership styles: authoritarian (the leader makes decisions unilaterally), *laissez-faire* (the leader stays on the sidelines), and democratic.

Among the background information, Zanella (2022) highlighted the importance of leadership in general, which justifies the relevance of this paper. Iraizoz-Iraizoz *et al.* (2023) pointed out that certain subdimensions of transformational leadership are fundamental, which could also apply to graduate students. Torres (2020), for his part, described these subdimensions in the context of an educational institution. Previous studies have suggested a moderate relationship between transformational and transactional leadership and their respective dependent variables (Horna Sampen & Villon Reymundo, 2022; Chávez Rimache *et al.*, 2016; Ebrahimi *et al.*, 2016). Mattson *et al.* (2019) suggested that there are other leadership styles beyond those mentioned, while Shal *et al.* (2024) emphasized that transformational leadership is better suited to technological advances.

Given this scenario, it can be said that leadership can be exercised in different ways. Therefore, theoretical concepts (transformational leadership, transactional leadership, *laissez-faire* leadership, and results-based leadership) will be contrasted with the practice among graduate students at the Universidad Nacional Mayor de San Marcos.

In theory, leadership is defined as the ability to direct a group toward the achievement of common goals. There are many ways to exercise leadership, and a leadership style is understood as the set of behaviors that characterize a leader when directing, motivating, and guiding a team (Piwowar-Sulej and Iqbal, 2023).

MacGregor (1978), in his book *Leadership*, distinguished two styles: transactional and transformational. The latter is based on a mutual commitment between the leader and his followers, based on common goals and shared beliefs (Saint-Michel & Wielhorski, 2011). Transformational leadership is characterized by leaders who inspire, encourage critical thinking, shape ethical values, promote performance that exceeds expectations, and encourage innovative behaviors (Hidayat-ur-Rehman & Alsolamy, 2023). According to Morf and Bakker (2024), leaders with high prosocial motivation who are exposed to stimulating work environments tend to engage in more transformational leadership. Marcel *et al.* (2024) emphasized the personality traits of these leaders, although they acknowledged that they are not sufficient to drive digital transformation without adequate management tools. Budi Hermanto *et al.* (2024) pointed out that the average quality of work life partially mediates the relationship between transformational leadership and organizational commitment, indicating that this style needs complements to reach its full potential.

Transactional leadership, on the other hand, focuses on the relationship with followers (Arredondo & Maldonado, 2010). An example of this is rewarding followers for achieving goals. Empirical studies have shown that a leader's emotional intelligence, along with transformational and transactional styles, has a direct, meaningful, and positive relationship with individual job performance (Lee *et al.*, 2023). However, in the Peruvian public sector, incentives differ significantly from those in the private sector.

Laissez-faire leadership is characterized by the absence or passive role of authority figures (Skogstad *et al.*, 2014). This may be due to the leader's perception that employees are capable of handling challenging situations on their own (Wik Ågotnes *et al.*, 2021). In the Peruvian

public sector, each activity usually has a designated person in charge. The sub-dimensions proposed by different authors for each of these styles are detailed below.

According to the Multifactor Leadership Questionnaire (Bass & Avolio, 2023), leadership styles are classified as transformational, transactional and *laissez-faire*.

The sub-dimensions of transformational leadership are as follows:

- Intellectual Stimulation: Promotes rationality.
- Idealized Influence (Behavior): States the purpose.
- Inspirational Motivation: Has a positive outlook on the future.
- Idealized Influence (Attributed): Provides awards to the group.
- Individualized Consideration: Personalized service.

The sub-dimensions of the *laissez-faire* style are as follows:

- Passive management by exception: Intervenes when deviations occur.
- *Laissez-faire*: Avoids making decisions.

The subdimensions of transactional leadership are:

- Contingent reward: Provides rewards for achievements.
- Active exception management: Monitors and corrects.

The sub-dimensions of the outcome variable are as follows:

- Effectiveness: Achieve results.
- Satisfaction: Generates satisfaction in oneself and others.
- Extra effort: Incentivizes working a little harder.

Schmitz *et al.* (2023) point out that transformational leadership is usually analyzed based on the following sub-dimensions: sta-

ff development, employee participation in decision-making, encouragement of innovative thinking, exemplary leadership, and charisma.

Finally, it should be noted that leaders can vary their leadership style. In other words, “es probable que experimenten fluctuaciones en estas características laborales” [they are likely to experience fluctuations in these work characteristics] (Morf & Bakker, 2022, p. 3).

Transformational leadership has gained significant impact and relevance in the scientific community, as evidenced by the Scopus platform (2024), where this topic has 174 papers published so far in 2024 (until May) and a total of 2,918 papers since 1987. However, limiting the search to those that specifically mention Peru, only two scientific papers are found, both published in 2023. In contrast, transactional leadership and *laissez-faire* style have no specific publications under these titles. This highlights the novelty of this paper, both in terms of its study population and its contribution to the field of knowledge.

The research is socially relevant because its results will be evaluated by the academic community of the Universidad Nacional Mayor de San Marcos and its stakeholders. In addition, the implementation of the final proposals could lead to significant changes in various organizations. The problem, objectives and hypotheses are defined below:

Problem Statement

Is there a significant relationship between leadership styles and outcomes?

Are there significant differences between the leadership styles of those who work in the public sector and those who work in the private sector?

Purpose of the Research

- Demonstrate the significant relationship between leadership styles and results.
- Highlight the significant differences between the leadership styles of those working in the public sector and those working in the private sector.

Before each hypothesis is formulated, some recent background information is provided.

In a previous study, two versions of the MLQ questionnaire were used to analyze leadership, and both were found to have high convergent and predictive validity, as evidenced by correlations with leadership and employee job performance (Bajcar & Babiak, 2022). In examining leadership behaviors from the perspective of students, another study validated the factorial structure of the Multifactor Leadership Questionnaire (MLQ-5X), the standard instrument for assessing transformational, transactional, and *laissez-faire* leadership scales. This study revealed that transactional leadership was significantly related to leadership effectiveness, while transformational leadership provided additional unique variance in predicting such effectiveness. These findings allow for a more comprehensive understanding of leadership behavior (Wang *et al.*, 2023). The present study contributes to this body of knowledge by comparing levels of work engagement in public and private sector organizations in India. Since leadership is critical in setting the tone of an organization, the study also examines the prevailing leadership styles and their relationship with the level of work engagement.

In another previous study, individuals who held leadership positions in public and private sector companies were invited to participate. The results suggested that there were no significant differences in leadership styles between the two sectors (Mathew *et al.*, 2024).

Null hypotheses

There is no relationship between leadership styles and outcomes.

There are no significant differences between the leadership styles of those who work in the public sector and those who work in the private sector.

Alternative hypotheses

There is a significant relationship between leadership styles and results.

There are significant differences between the leadership styles of those who work in the public sector and those who work in the private sector.

This paper aims to present the theoretical premises related to different leadership styles in order to facilitate a better understanding of them. It highlights those approaches that are usually the most relevant, which contributes to deepening, from an academic perspective, the construct of leadership styles and reduce existing gaps in their study.

The students who are the subject of the analysis acquire knowledge during their master's program. This knowledge could be applied in their work environment. Team performance requires the ability to manage people in order to achieve the goals associated with their role. The practical purpose of this work is to reveal the current reality regarding the leadership styles exercised by graduate students, as well as to compare whether there are differences between those who work in the public sector and those who work in the private sector. This will allow recommendations to be made and more informed decisions to be made.

MLQ-5X, a widely recognized instrument for assessing leadership styles, was used to conduct this study. It is presented in a questionnaire format with responses based on a Likert scale and relies on self-reporting, as each participant knows best their own leadership behaviors.

The time frame of this research is limited to the year 2023. Geographically, it is limited to the University Campus of Universidad Nacional Mayor de San Marcos, while the thematic scope focuses on leadership styles.

The MLQ-5X is a licensed questionnaire. Although the study population could have been larger, this would have increased costs. In addition, the instrument consists of 45 items, which may be perceived as lengthy by some participants, leading to some reluctance to answer twice, as would be required in a longitudinal study.

The questionnaire was used as the main technique for data collection. The information was obtained using the Multifactor Leadership Questionnaire (MLQ-5X), in its self-administered form, developed by Bruce Avolio and Bernard Bass.

The data collected by the MLQ-5X were processed using SPSS statistical software, version 25. Once the information was processed, Student's t-test and Spearman's Rho correlation coefficient were applied, chosen for their suitability to the objectives set and the hypothesis formulated. Subsequently, the main statistical tables were prepared and interpreted transparently according to Galindo-Domínguez (2020). This author classifies a relationship as very highly positive within the range $1 \leq r < 0.80$; high within the range $+0.80 \leq r < +0.60$; medium within the range $+0.60 \leq r < +0.40$; low within the range $+0.40 \leq r < +0.20$, and very low within the range $+0.20 \leq r \leq 0$. In the case of negative relationships, those in the range $-1 \leq r < -0.80$ are considered very high; high, in $-0.80 \leq r < -0.60$; medium, in $-0.60 \leq r < -0.40$; low, in $-0.40 \leq r < -0.20$; and very low, in $-0.20 \leq r \leq 0$.

METHODS

The research is descriptive-correlational in nature and uses a non-experimental cross-sectional design. A correlational approach was chosen because it can determine the degree of association between two variables (Kettler, 2019). It is also descriptive because it seeks to characterize one or more variables (Aggarwal and Ranganathan, 2019), which facilitates its rigorous and transparent operationalization with special attention to individual data (West *et al.*, 2022).

The nonexperimental design does not include interventions in its structure (Delost & Nadder, 2014). This choice is justified because it allows the collection of information without manipulating variables or contexts. The cross-sectional study was chosen because the outcomes of individuals are measured at one point in time, and it is a relatively inexpensive option (Mukherjee & Roy, 2023).

Regarding the reliability of the instrument used, the Cronbach's alpha calculated with the 45 items was 79%, which can be considered a high level.

Internal validity refers to the degree to which the researcher can conclude that the manipulation of the independent variable caused a change in the dependent variable and is characteristic of experimental studies (Cook &

Rumrill, 2005). For this reason, reference to internal validity in observational research is often controversial (Li & Frank, 2022).

External validity, on the other hand, is the degree to which the results of a study can be generalized to other circumstances, such as variations in populations, settings, interventions, outcomes, or other relevant contextual factors (Jung *et al.*, 2024). It consists of two underlying concepts: generalizability and applicability. Generalizability refers to the inference from the sample to the population from which it was drawn, while applicability refers to the extrapolation of the findings to any population (Murad *et al.*, 2018). In this case, the sample used is almost the same size as the population, so the findings can be generalized without much difficulty, given the established confidence level and margin of error. In addition, the results could be applied to similar and comparable populations with minor differences.

The unit of analysis corresponds to each student in the "Forensic Auditing and Anti-Corruption" course of the Master's Degree in "Auditing with a Specialization in Government Management" and the "Comprehensive Risk Management Seminar" course of the Master's Degree in "Banking and Finance", both belonging to the School of Accounting Sciences of Universidad Nacional Mayor de San Marcos.

The population of this study consists of graduate students from the School of Accounting Sciences, specifically those enrolled in the courses mentioned above. In total, the population consists of forty-seven individuals.

The sample was determined based on this population. Through a sample, it is possible to infer parameters of the population (Lind *et al.*, 2012). Although the population is small, it was decided to use a sample to make inferences, also considering the possibility of absences at the time of data collection.

The formula for its calculation was the following:

$$n = \frac{z^2(p * q)}{z^2 + \frac{z^2(p * q)}{N}}$$

The following values were used:

With a confidence level of 99 %.

$Z = 2.58$

$N = 47$

$p = 5/47$

$q = 42/47$

$e = 0.05$

Where $n = 39.6395611$, rounded to 39.

A sample is considered small when the sample size is less than 30, and the larger the sample size, the more accurate the information obtained (Cutipa, 2023). Although the sample may seem small, it actually represents approximately 83% of the population and is therefore considered representative.

Student t-test was used because it is a parametric test that allows the comparison of means between two groups after verifying the normality of the data (Tian & Cao, 2023). In this case, normality was confirmed when processing the Likert scale using averages, which was validated with the Kolmogorov test.

On the other hand, Spearman's Rho coefficient was used because it describes the relationship between two variables without

making assumptions about their frequency distribution. This test is suitable for ordinal categorical qualitative variables (Hauke & Kossowski, 2011) and is characterized by its robustness, intuitive interpretation, and ease of computation (Zhang *et al.*, 2024).

RESULTS

This section analyzes the significant findings that enable the research objective to be achieved.

Table 1 shows that most of the respondents have less than twelve years of work experience and work mainly in the private sector. 46.2 % of the respondents are pursuing a master's degree in auditing with a specialization in public administration, while the remaining percentage are studying banking and finance. Women also make up the largest proportion of the sample.

A previous study using the MLQ-5X identified factors such as age, hierarchical level, and participation in academic organizations as influencing leadership (Zhao *et al.*, 2023), confirming the importance of sociodemographic aspects in this area.

According to Table 2, the transformational leadership style received the highest average score, followed by the transactional style and

Table 1

Sociodemographic characteristics of respondents

Characteristics			Sex	
			Male	Female
Experience	Less than 12 years old	Count	11	18
		%	28.2 %	46.2 %
	12 years old or older	Count	5	5
		%	12.8 %	12.8 %
Master's degree	Auditing with a specialization in public administration	Count	8	10
		%	20.5 %	25.6 %
	Banking and Finance	Count	8	13
		%	20.5 %	33.3 %
Sector	Public Sector	Count	8	7
		%	20.5 %	17.9 %
	Private Sector	Count	8	16
		%	20.5 %	41.0 %

Note. Prepared by the author.

Table 2*Average scores for leadership styles, outcomes, and their subdimensions*

Dimensions and Sub-dimensions	Average	Deviation
Transformational Leadership	3.9782	0.37148
Intellectual Stimulation	3.7885	0.45717
Idealized Influence (behavior)	4.1474	0.54928
Inspirational Motivation	4.3910	0.54045
Idealized Influence (attributed)	3.7628	0.59035
Individualized Consideration	3.8013	0.40628
Laissez-faire	2.0600	0.62490
Passive Management by Exception	1.8910	0.61450
Laissez-faire	2.2244	0.77118
Transactional Leadership	3.4990	0.51948
Contingent Reward	3.9551	0.53148
Active Management by Exception	3.0385	0.88396
Results	4.1913	0.53239
Effectiveness	4.1795	0.61223
Satisfaction	4.1282	0.59292
Extra Effort	4.2482	0.55535

Note. Prepared by author.

finally the *laissez-faire* style. The outcome dimension also showed a high value. Although leaders may combine styles, one style generally predominates.

Among the sub-dimensions, Idealized Influence (Behavior) and Inspirational Motivation stood out with the highest averages, while Passive Management by Exception and *Laissez-faire* had the lowest. Scores close to five indicate frequent action; low scores indicate the opposite.

In another study using the MLQ-5X, four leadership constructs were found to be predictors of leadership outcomes: idealized attribute, intellectual stimulation, individualized consideration, and contingent reward (Adunola, 2023). This shows that certain subdimensions tend to stand out more than others in the configuration of effective leadership.

For their part, Nguyen *et al.* (2023) show that all dimensions of transformational leadership (idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration) have direct and positive effects on organizational culture. Likewise, when these dimensions were crossed with the organizational performance variable,

the authors found that three of them (idealized influence, inspirational motivation, and individualized consideration) have a direct and positive impact on organizational performance, which is consistent with previous studies. However, they emphasize that no significant relationship was observed between intellectual stimulation and organizational performance, in contrast to other findings reported in the literature.

To prepare Table 3, Student t-test for independent samples was applied, using as a criterion whether the respondents belonged to the public or private sector. The results show that there are significant differences in transactional leadership between respondents from the public and private sectors, as the p-value obtained was 0.028, lower than the significance level of 0.05. Likewise, significant differences were found in idealized behavioral influence between the two sectors, with a p-value of 0.013, also less than 0.05. However, this inferential test did not find significant differences in other criteria, such as gender, work experience, or type of master's degree.

In another study using the MLQ-5X, employees from four public institutions were

Table 3
Differences between public and private sector leadership styles

Dimensions and subdimensions	Sector	Average	Dev.	T	P-value
Transformational leadership	Public	4.07	0.34372	1.228	0.227
	Privado	3.9208	0.38361		
Intellectual stimulation	Public	3.8333	0.4693	0.480	0.634
	Privado	3.7604	0.4573		
Idealized Influence (behavior)	Public	4.4167	0.43983	2.596	0.013*
	Private	3.9792	0.55127		
Inspirational Motivation	Public	4.5667	0.44788	1.640	0.110
	Private	4.2813	0.57253		
Idealized Influence (attributed)	Public	3.8	0.72703	0.307	0.760
	Private	3.7396	0.5026		
Individualized Consideration	Public	3.7333	0.37161	-0.822	0.416
	Private	3.8438	0.42868		
<i>Laissez-faire</i> leadership	Public	2.11	0.66322	0.391	0.698
	Private	2.0288	0.61219		
Management by Exception (Passive)	Public	1.8167	0.60109	-0.592	0.557
	Private	1.9375	0.63095		
<i>Laissez-faire</i>	Public	2.4	0.8441	1.128	0.266
	Private	2.1146	0.71846		
Transactional Leadership	Public	3.7267	0.58714	2.280	0.028*
	Private	3.3567	0.42553		
Contingent Reward	Public	4.0833	0.39716	1.198	0.239
	Private	3.875	0.59436		
Management by Exception (Passive)	Public	3.3667	1.09327	1.895	0.066
	Private	2.8333	0.67028		
Results	Public	4.1187	0.63132	-0.668	0.508
	Private	4.2367	0.46914		
Effectiveness	Public	4.05	0.75119	-1.045	0.303
	Private	4.2604	0.50798		
Satisfaction	Public	4.2	0.62106	0.593	0.557
	Private	4.0833	0.58359		
Extra effort	Public	4.156	0.61577	-0.816	0.420
	Private	4.3058	0.51937		

Note. *Significance Level: 0.05. The degrees of freedom are 37 for dimensions and subdimensions. Prepared by the author.

surveyed and found to have transformational leadership styles, followed by transactional styles and, to a lesser extent, passive-avoidant styles. The results revealed significant differences in leadership styles and levels of work engagement among respondents of different nationalities on several dimensions (Alluhaybi *et al.*, 2024). This work shares common characteristics with the present research.

As shown in Table 4, after performing a bivariate analysis between the variables Results

and Transformational Leadership, Spearman's correlation coefficient was applied with a value of 0.616. This indicates a high direct (positive) relationship between these variables. With a significance level of 5%, the null hypothesis was rejected because the significance obtained was 0.000, less than 0.05. Translating these figures into a theoretical formulation, it can be said that there are indications that the more transformational leadership is exercised, the better the results. The practical implication is that leaders

who adopt this style should be selected as much as possible in order to improve results within an organization.

In the bivariate analysis between results and transactional leadership, the Spearman's coefficient was 0.263, indicating a low direct relationship. However, with a significance value of 0.105 (greater than 0.05), the null hypothesis was not rejected, suggesting that this type of leadership does not significantly affect results. Therefore, it is recommended to consider changes in management such as new technologies, training, administrative tools, or workplace improvements.

Regarding the analysis between *laissez-faire* leadership and results, the Spearman coefficient was -0.302, also with a low and inverse relationship. The significance was 0.061, so the null hypothesis was not rejected. In theory, this indicates a negligible negative influence, and in practice, it indicates absent

leadership, so a more proactive leadership style is recommended.

Consistent with these results, a previous study using the MLQ-5X found that transformational leadership was positively related to teaching performance in Peruvian universities (Madrid *et al.*, 2024).

Finally, Table 5 presents the Spearman correlation analysis between the subdimensions, where 35 relationships were significant at the 5% level. Cells marked with "yes" indicate statistically significant relationships, those marked with "no" indicate no relationship, and "." corresponds to comparisons of a subdimension with itself.

At the 5% significance level, the management by exception sub-dimension has no significant relationship with any of the outcome sub-dimensions. On the other hand, the Effectiveness sub-dimension shows a moderate

Table 4
Spearman's Correlation Coefficient: Leadership Styles and Results

Spearman's Correlation	Value	Asymptotic Standard Error	Approximate T ^b	Approximate Significance
Transformational Leadership and Results	0.616	0.121	4.755	0.000 ^c
Transactional Leadership and Results	0.263	0.164	1.661	0.105 ^c
Laissez-faire and Results	-0.302	0.158	-1.929	0.061 ^c

Note. a. The null hypothesis is not accepted. b. Use of the asymptotic standard error that assumes the null hypothesis. c. It is based on a normal approximation. Prepared by author.

Table 5
Cross-correlation of Variables using Spearman's Rho

Subdimensions	1	2	3	4	5	6	7	8	9	10	11	12
1. Intellectual stimulation	.	Yes	No	Yes	No	No	No	Yes	No	Yes	No	Yes
2. Idealized Influence (Behavior)	Yes	.	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes
3. Inspirational Motivation	No	Yes	.	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
4. Idealized Influence (Attributed)	Yes	Yes	Yes	.	No	No	No	Yes	No	Yes	Yes	Yes
5. Individualized consideration	No	No	Yes	No	.	No	No	Yes	No	No	No	Yes
6. Passive management by exception	No	Yes	Yes	No	No	.	Yes	No	No	Yes	Yes	No
7. Laissez faire	No	No	No	No	No	Yes	.	Yes	No	Yes	No	No
8. Contingent reward	Yes	Yes	Yes	Yes	Yes	No	Yes	.	No	Yes	Yes	No
9. Active management by exception	No	No	No	No	No	No	No	No	.	No	No	No
10. Efficacy	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	.	Yes	Yes
11. Satisfaction	No	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	.	Yes
12. Extra effort	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	.

Note. Prepared by the author.

positive relationship with Intellectual Stimulation, Inspirational Motivation, and Attributed Idealized Influence. It also has a low positive relationship with Behavioral Idealized Influence and low negative relationships with Passive Management by Exception and *Laissez-faire*.

The Satisfaction subdimension has a low positive relationship with Behavioral Idealized Influence, a moderate positive relationship with Attributed Idealized Influence and Contingent Reward, and a high positive relationship with Inspirational Motivation. It also shows a low negative relationship with passive management by exception.

The extra effort subdimension is only related to the transformational leadership subdimensions. It has a high relationship with inspirational motivation, a moderate relationship with idealized behavioral influence and idealized attributed influence, and a low relationship with intellectual stimulation and individualized consideration.

Referring to another study using the MLQ-5X, the results show that both transformational and transactional leadership have a direct and significant effect on extra effort, effectiveness, and satisfaction, with transformational leadership having the greatest effect on these factors. In contrast, passive-avoidant leadership has negative effects (Garzón-Lasso *et al.*, 2024). These findings are somewhat similar to those observed in Table 5 of this study.

DISCUSSION

After presenting the background and results, the latter are contrasted with the theoretical review presented in the introduction and with our own observations.

For research purposes, leadership consists of several dimensions or factors. For example, Torres (2020) describes that a leader has the ability to convey a positive attitude to others, which he calls idealized influence. In addition, this type of leader is attentive and empathetic to the well-being of their followers, making them feel valued and supported, which is known as individualized consideration. Similarly, Zane-lla (2022) points out that there is a positive relationship between leadership (independent

variable) and organizational culture (dependent variable), emphasizing that leaders influence employees to promote innovation. For their part, Iraizoz-Iraizoz *et al.* (2023) affirm that motivational inspiration, intellectual stimulation and individualized consideration are key leadership competencies in clinical nursing, especially in intensive care units, where situational and transformational styles are most compatible. These findings are consistent with the present study, as they confirm that certain subdimensions of leadership stand out more than others.

There are different types of leadership, and their effects vary depending on the context. Chávez Rimache *et al.* (2016) found that transformational, transactional, and corrective leadership styles are significantly and positively related to the acceptance of organizational change. On the other hand, Horna Sampen and Villon Reymundo (2022) concluded that transformational and transactional styles have a greater impact on employee commitment. Similarly, Ebrahimi *et al.* (2016) showed that there is a relationship between transformational leadership and exploratory innovation and between transactional leadership and exploitative innovation in manufacturing companies. In other words, leadership is a critical factor for organizations. The research mentioned in this paragraph suggests a moderate relationship between transformational and transactional leadership and their respective dependent variables. The present study confirms similar findings, but only with respect to transformational leadership.

Leadership adapts to different circumstances. Mattson *et al.* (2019) presented the results of a study conducted in a paper company, highlighting that specific safety leadership contributes incrementally to the prediction of positive safety behaviors, beyond what is explained by transactional and transformational leadership. Although the latter two styles are related to the dependent variable, they do not show a very high correlation, suggesting the possible intervention of other variables in the model.

In the current context of the rise of artificial intelligence (AI), research has also been

conducted in the education sector. Findings suggest that the implementation of AI in academic settings is more likely under transformational leadership, as librarians led in this way tend to perceive AI as more useful, which influences their positive attitudes (Shal *et al.*, 2024). These researchers emphasize that perceptions of usability may vary under a *laissez-faire* leader, reflecting autonomy within the team.

To conclude this section, the results of this research largely support the theories and approaches to leadership discussed above. The main contribution is to provide empirical support for these approaches. However, some limitations are highlighted, such as the limited time available for respondents to complete the survey, as they often have to juggle work and studies. In addition, face-to-face contact with the population is lost once they complete their postgraduate studies, which makes it difficult to conduct longitudinal studies (Vullingsh and Dóci, 2020). This research is based on the assumption that respondents will answer honestly and avoid bias. Bias refers to errors that distort information and make it different from reality (Choi *et al.*, 2010). Among the most common biases are acquiescence (the tendency to answer affirmatively when in doubt), social desirability (responding in accordance with social expectations), and central or extreme response bias (Louzán Mariño, 2020). Given the impossibility of accurately reading people's minds with current technology (Hurst, 2023), these biases are inherent in self-report studies.

Internationally, there is a critical need for leadership development programs in both the public and private sectors. In India, for example, there is a need for training in human resources, procurement, finance and contract management for the public sector, and in decision-making with the government for the private sector (Gulati *et al.*, 2019).

A study conducted in the Department of Administration at Ariel University in Israel suggests that both transformational and transactional leadership have positive effects on employees' intrapreneurial behaviors, according to which 45% of the participants worked in the private sector (Klein, 2023).

In Rasht Municipality (Iran), transformational leadership was found to have a negative effect on counterproductive work behaviors and a positive effect on talent management (Akbari *et al.*, 2023).

CONCLUSIONS

This study has made important contributions to the field of leadership scholarship. First, the findings provide an understanding of transformational leadership and its significant and positive relationship with outcomes, while the *laissez-faire* style has a limited and, in some cases, negative impact on outcomes.

On the one hand, significant differences in transactional style were found between public and private sector workers. On the other hand, significant similarities in transformational and *laissez-faire* styles were observed in both sectors.

On the sub-dimension of idealized influence on behavior, significant differences were found between the public and private sectors.

All of this suggests that different leadership styles do not always produce the same results, and that each industry has its own unique characteristics.

Within the theoretical framework, constructs such as sustainable transformational leadership could be explored.

In terms of recommendations, working students will be able to identify the most appropriate leadership style to achieve the desired results. Teachers, for their part, could implement programs to strengthen these styles.

State enterprises and institutions that consult this study will be in a better position to select their employees. They could also organize workshops and exchange experiences to mutually enrich leadership practices.

For future papers, it is recommended to look more closely at transactional leadership specifically, as the results show significant differences, especially in digital contexts or other socio-demographic variables.

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Conflict of Interest

The author has no conflicts of interest to declare.

Author Contributions

Luis Alexis Fernando Cuba Rosales (lead author): conceptualization, data curation, formal analysis, fundraising, research, methodology, project management, resources, supervision, validation, visualization, writing (original draft, review, and editing).

Javier Ricardo Melgarejo Morales (co-author): research, writing (original draft).