International Journal of Innovative Research and Scientific Studies, 8(2) 2025, pages: 1321-1330

ISSN: 2617-6548

URL: www.ijirss.com

The effect of emotional intelligence on work engagement: Validation of the Emotional Intelligence Self-Instrument for Latin America

Jorge Salcedo[1], Astrid Garza[2], Franco Gandolfi[3*], Mariana Gutierrez[4], Barbara Trevino[5]

[1,2,4,5]*Universidad de Monterrey, Mexico*
[3]*California Institute of Advanced Management & Georgetown University, United States.*

Corresponding author: Franco Gandolfi (*Email: francogandolfi@hotmail.com*)

Abstract

Emotional intelligence (EI) has emerged as a relevant factor in leadership research. This quantitative study aims to validate the Emotional Intelligence Self-Instrument (EISI) through factorial analysis, assessing its effectiveness in measuring EI in Latin America. Additionally, the study examines the predictive power of the EISI by analyzing the relationship between EI in student teams and their work engagement (WE). Specifically, it investigates whether higher EI within teams enhances WE. This research employs two validated self-report instruments: the newly refined EISI, developed by Garza and Salcedo, and the Utrecht Work Engagement Scale (UWES). Through factor analysis, the EISI was streamlined from 73 to 31 items, while the UWES, a 17-item scale, measures WE. The study sample consists of 225 student team members from the University of Monterrey. Data analysis includes normality and reliability tests, correlation assessments, and standardized multiple regression. The findings reveal a moderate positive correlation between EI and WE ($r = 0.515$, $p < .001$). Furthermore, standardized multiple regression analysis indicates that EI accounts for 25% of the variance in WE ($r^2 = 0.25$, $p = 0.001$), reinforcing the hypothesis that EI significantly influences WE among student teams. These results underscore the importance of developing EI competencies to foster greater engagement within student teams. In summary, this study provides compelling evidence that EI positively correlates with WE, highlighting the need to cultivate EI skills to enhance team dynamics, performance, and overall WE.

Keywords: Emotional Intelligence, Latin America, Student Teams, Work Engagement.

DOI: 10.53894/ijirss.v8i2.5460
Funding: This study received no specific financial support.
History: Received: 16 January 2025 / **Revised:** 17 February 2025 / **Accepted:** 25 February 2025 / **Published:** 18 March 2025

Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Publisher: Innovative Research Publishing

1. Introduction

Over time, companies have evolved, requiring leaders to address increasingly complex challenges in managing, influencing, motivating, and guiding teams to achieve organizational goals. Among the most pressing challenges for leaders are developing their emotional intelligence (EI) and fostering unwavering employee work engagement (WE). Both EI and WE are essential for effectively navigating the challenges and opportunities that emerge in the workplace. Goleman [2] mentions that without EI, a person may have the best training in the world, an incisive and analytical mind, and an inexhaustible source of smart ideas; yet, they will still not become an effective leader who promotes people engagement (p.1). Thus, studying EI and WE in organizational contexts has become more critical than ever. The challenge, however, lies in the fact that many companies tend to focus more on intellectual skills than on emotional competencies [3]. Moreover, there is a critical gap in accessible and reliable self-assessment tools for accurately measuring leaders' emotional intelligence (EI). Currently, no validated instrument exists that is specifically adapted for Latin America, one that is both user-friendly and effective in providing individuals with an accurate measure of their EI. This absence underscores the urgent need for a robust, region-specific tool to bridge this gap and support leadership development.

This quantitative study aims to validate, through a factorial analysis, the Emotional Intelligence Self-Instrument (EISI), which measures EI in Latin America. Additionally, this study aims to analyze the predictability of the EISI by correlating the relationship between the EI of student teams and their work engagement (WE). The objective is to understand whether the presence of emotional intelligence in student teams positively contributes to their work engagement. Thus, the research question is:

RQ: “Is there a positive relationship between the emotional intelligence (EI) demonstrated by student teams and their level of work engagement (WE)?”

The study collected data through surveys to explore the relationship between the emotional intelligence (EI) of student teams and their perception of group members' work engagement (WE). The findings of this study have the potential to offer significant empirical insights for Latin American organizations by providing a validated, accessible, and reliable EI self-assessment instrument. Additionally, the study contributes to a deeper understanding of the positive relationship between emotional intelligence and work engagement, facilitating the development of evidence-based strategies to enhance workforce performance and well-being.

2. Literature Review

EI plays an important role in leadership behaviors. According to Goleman [4] EI is an idea that has broken paradigms and is considered one of the most influential business concepts in history (pp. 9–10). Research shows that EI is closely linked to professional advancement and organizational achievement [2, 5]. Today, emotional intelligence plays a significant role in various aspects of leadership and teamwork engagement.

2.1. Emotional Intelligence

Emotional Intelligence is increasingly positioned as a highly prominent aspect of the workplace and market environment [2]. For decades, companies believed that emotions were incompatible with rationality, leading to a shift in focus toward managing emotions in the workplace. However, emotions are not the opposite of rationality; experiencing feelings is an inherent part of human nature. Emotions influence how we feel, and how we feel directly impacts how we behave. Being rational does not mean being devoid of emotions; it means having the ability to think before acting and ensuring that emotions do not completely dictate our actions.

For Brackett and Stern [6] “everyone values Emotional Intelligence, but actually learning its components within the work is another matter entirely” (p. 26). The first to define EI were Salovey and Mayer [7] who stated that emotional intelligence involves the ability to monitor one's own emotions and feelings as well as those of others [8]. EI can be defined as the ability to understand emotions and emotional knowledge. Additionally, it is the capacity to regulate emotions to foster emotional and intellectual growth in individuals [9]. Initially, EI was perceived as "the ability to perceive emotions and the capacity to understand them appropriately and regulate them to achieve personal development" [10].

Later, the definition was updated to "a capacity to recognize the meanings of emotions and their relationships, and to reason and solve problems based on them" (Mayer, et al. [11]). Al Maalouf, et al. [12] argue that "understanding and controlling one's emotions are two characteristics of emotional intelligence" (p. 2). According to Goleman [2], the components of EI are self-awareness, self-regulation, motivation, empathy, and social skills. First, self-awareness means having a deep understanding of one’s emotions, strengths, weaknesses, needs, and drives; someone who is highly self-aware recognizes his or her feelings and knows what he or she wants and why. In the same way, the self-aware leader has the self-confidence to speak accurately and openly about his or her emotions. Second, self-regulation means having control over feelings and impulses. Third, motivation means having a passion to work for reasons that go beyond money or status. Fourth, empathy or social awareness means the ability to understand other people’s emotions. Finally, fifth, social skills or relationship management means proficiency in managing relationships and building networks (p. 4-5). Goleman [13] subsequent research suggested that motivation and self-regulation could be combined into one domain called self-management. Thus, Goleman's [13] EI model has four domains: self-awareness, self-management, social awareness, and relationship management/social skills (p. xiii).

By definition, emotional intelligence “is the ability to be self-aware and socially attuned, to choose between one's own feelings and those of others, and to use knowledge of both to keep one's own privacy” [14]. Employees who attain a high level of emotional intelligence experience significantly higher levels of organizational commitment. In accordance to Goleman, et al. [15] “high levels of emotional intelligence create climates of information sharing, trust, and healthy risk-

taking; contrary, low levels of EI create climates of fear and anxiety among employees" (p. 24). This is because senior management can confidently delegate more responsibilities to emotionally competent employees, knowing they possess advanced skills to identify and leverage these emotions effectively for mutual benefit. As a result, these employees are less stressed, which directly enhances their loyalty and engagement to the organization (Nikolaou & Tsaousis, 2002, p. 9). Furthermore, EI enables individuals to manage both their own emotions and those of others with remarkable efficacy.

2.2. Work Engagement

Work engagement is defined as an individual's investment related to focused dedication in the physical, cognitive, or emotional domains [16]. The responsibility and individual effort of each team member involved in the task are highly significant. Engaged members are more likely to stay in their jobs and exhibit positive behaviors that benefit their colleagues and organizations [17]. The outcomes of WE include increased job satisfaction, commitment, productivity, reduced employee turnover, an improved workplace environment, and motivation to deliver high-quality work [17, 18]. Employee work engagement is centered on pursuing a shared end goal that aligns with the objectives of the entire group. WE is a crucial factor due to its significant impact on organizational success and the efficiency demonstrated by each team member.

According to Schaufeli and Bakker [19], WE is a construct characterized by vigor, dedication, and absorption in one's work. Vigor reflects the readiness to invest effort in one's work, an exhibition of high levels of energy while working, and the tendency to remain resolute in the face of task difficulty or failure. Dedication refers to a strong identification with one's work and encompasses feelings of enthusiasm, inspiration, pride, and challenge. Finally, absorption refers to being fully concentrated in one's work and having difficulty detaching oneself from it.

Ravichandran, et al. [20] explored the relationship between emotional intelligence (EI) and work engagement (WE) among 119 IT employees in Chennai, India. EI was measured using the Schutte Self-Report Inventory (SSRI), a 33-item tool, while WE was assessed with the 9-item Utrecht Work Engagement Scale (UWES). However, reliance on self-report measures introduces potential bias, and the small sample size limits generalizability. Data analysis using SPSS 29.0 included Cronbach's alpha, correlation analysis, chi-square tests, ANOVA, post hoc tests, factor analysis, and regression modeling. The study found a moderate positive correlation between EI and WE ($r = .37$), suggesting that EI plays a role but is not the sole determinant of WE. Other critical factors, such as leadership, job autonomy, and organizational culture, were not explored, reducing the study's explanatory power. The study also concluded that employees are motivated by visualizing positive outcomes, recommending that managers foster engagement by encouraging this practice. However, this suggestion oversimplifies work engagement, which is shaped by multiple psychological and structural factors. Additionally, the cross-sectional design limits causal interpretations. Overall, while Ravichandran, et al. [20] contribute to the growing body of literature on EI and WE, the study's methodological limitations, moderate correlation strength, and somewhat generalized practical implications suggest the need for further research. Future studies should incorporate larger and more diverse samples, alternative measurement approaches, and longitudinal designs to provide a more robust understanding of how EI influences work engagement in different organizational contexts.

Santiago [21] conducted a study on small and medium-sized enterprises (SMEs) in Ecuador, examining the relationship between emotional intelligence (EI) and work engagement (WE). The findings indicated a strong positive correlation ($r = 0.73$), suggesting that enhanced emotional skills contribute to a positive mental state at work, ultimately improving service quality [22]. Employing a quantitative, explanatory, and correlational approach, the study identified its population using data from Ecuadorian institutions, including the National Institute of Statistics and Censuses (INEC), the Superintendency of Companies, and the Chamber of Commerce. The sample consisted of 300 employees from various economic sectors, selected through purposive sampling. EI was measured using the TMMS-24 scale [23] which assesses emotional attention, clarity, and regulation. WE was evaluated with the 17-item Utrecht Work Engagement Scale (UWES) by Schaufeli and Bakker [24] capturing vigor, dedication, and absorption. The study's robust correlation underscores the significance of EI in fostering higher engagement, highlighting its relevance for improving workplace outcomes in SMEs. Despite the study's methodological rigor, self-reported measures introduce potential bias, and the focus on SMEs restricts generalizability to larger organizations or different industries. While the study contributes valuable insights, future research should include more samples in Latin America and consider additional predictors to gain a deeper understanding of how EI influences WE across diverse organizational contexts.

H_1: There is a positive relationship between EI demonstrated by student teams and the WE they exhibit.

3. Method

This study aims to correlate the variables of emotional intelligence (EI) and work engagement (WE), using members of the student teams as the sample. This study included one independent variable (IV) (EI) and one dependent variable (DV) (WE), along with three control variables (gender, age, and team affiliation). The data collection method involved 225 surveys administered to higher education students who are members of the Student Affairs Direction team. The data collection strategy for this quantitative and non-experimental study was conducted through surveys to provide a quantitative or numerical description of a trend and the attitudes of a population throughout the study [25]. The instrumentation used to test the study's hypotheses consisted of two questionnaires: one focused on WE and the other on EI.

The instrument used to measure work engagement is the Utrecht Work Engagement Scale, UWES [26]. This instrument assessed three dimensions of WE: vigor, dedication, and absorption. The UWES has a total of 17 items [27] each of which will be evaluated by participants on a Likert scale (completely agree to completely disagree). This instrument has an acceptable internal consistency of 0.80 to 0.90 [1]. Vigor is assessed through 6 questions related to high energy levels and resilience, the willingness to exert effort, not easily becoming fatigued, and persistence in the face of difficulties [26].

Dedication is assessed with 5 questions referring to the sense or meaning of work, feeling enthusiastic and proud of one's work, and feeling inspired and challenged by one's tasks [26]. Absorption is evaluated through 6 questions referring to being happily immersed in one's work and having difficulty stopping, so time passes quickly, and one forgets what is happening around them [26].

Another instrument used in the study was a test *Emotional Intelligence Self-Instrument (EISI)*, developed by Garza and Salcedo. This self-assessment originally consisted of a series of 73 items, each of which will be evaluated by participants on a Likert scale (completely agree to completely disagree), where each statement is related to its corresponding description. These statements are designed to address situations related to emotions, as well as points of interaction between oneself and others. The 73 items are distributed across the four components of emotional intelligence: self-awareness (20 items), self-regulation (19 items), empathy (18 items), and social skills (16 items). This instrument will provide information on EI, enabling conclusions about whether EI correlates with the WE of the student teams studied.

To conduct the study and sampling, researchers determined that, according to Hair, et al. [28] between 15 and 20 observations are required for the independent variable (IV), the dependent variable (DV), and the three control variables to ensure sufficient statistical power and the generalizability of the findings. Given that this study included an IV (Emotional Intelligence), a DV (Work Engagement), and three control variables (gender, age, and team affiliation), the sample size will consist of at least 220 surveys, administered to student teams. Furthermore, Tabachnick [29] recommends that for factor analysis, a sample size between 150 and 300 cases is optimal. This will ensure the robustness and reliability of the statistical analysis conducted in the study.

Once 225 surveys were collected and the data collection period concluded, all the sample data were entered into SPSS Statistics 29.0 using codes for subsequent analysis. The procedures employed for data analysis were as follows:

1. The control variables from the survey, such as gender, age, and team affiliation, were reported.
2. After conducting convergence tests for each tool used and verifying the normality of the study data, a descriptive analysis was performed. In this analysis, the results were presented graphically in tables that detailed the corresponding frequencies and percentages.
3. A factor analysis was conducted for the Emotional Intelligence Self-Instrument (EISI) test. In this stage, the researchers used Principal Component Analysis (PCA) to identify the structure of the variable set and provide a process for data reduction. The main purpose of this stage was to reduce the number of questions from the original 73 items in the questionnaire.
4. The data obtained from the surveys were entered into SPSS version 29.0 to perform reliability analysis of the emotional intelligence and work engagement instruments. The internal consistency (Cronbach's alpha scores) of the two instruments used in the sample was reported.
5. The variables of emotional intelligence (IV) and work engagement (DV), along with the three control variables (gender, age, and group affiliation), were correlated using Spearman's correlation to identify whether there was a small, medium, or strong correlation.
6. The assumptions of normality and homogeneity of variance were met in order to address our single hypothesis. A standardized multiple regression analysis was conducted, using the data to analyze the variables of emotional intelligence and work engagement.
7. Tables were presented to indicate whether the results were statistically significant. Inferential statistics were used to verify the correlation of the findings and validate our hypothesis. A minimum acceptable significance level of alpha 0.05 (two-tailed) was established to confirm the statistical importance of the study.
8. The interpretations of the data were presented, explaining whether the results confirmed or did not confirm the hypothesis posed in the study.
9. Finally, the potential implications of the results were analyzed and discussed, both in practical terms and for future research.

4. Results

The main purposes of this quantitative study were (1) to validate a new self-instrument to measure emotional intelligence (EI) in individuals and (2) to assess whether there is a positive correlation between EI and work engagement (WE) among student teams. The research aimed to examine the two variables, with EI as the independent variable and WE as the dependent variable. Surveys were administered to student teams at the University of Monterrey, represented by a sample of 225 surveys.

This section presents the study's findings. The results of the research are presented in the following order: Descriptive Population Data, Factor Analysis of the Emotional Intelligence Scale (EISI), Normality Analysis, Reliability Analysis, Correlations, and Standardized Multiple Regression. This research required a minimum of 150 surveys, as recommended by Pallant [30]. This sample size is considered adequate and robust for conducting factor analysis and analyses involving one independent variable (IV), one dependent variable (DV), and three control variables (CV). During the study, 225 surveys were collected, which comprise the final sample, as no cases were excluded.

The sample composition included 164 women (72.89%) and 61 men (27.11%). Regarding age, 69.33% of participants (156 cases) were between 17 and 20 years old, while 29.78% (67 cases) were between 21 and 24 years old. Finally, participants aged 25 and older accounted for 0.89% (2 cases). An analysis of the teams to which the participants belong revealed the following distribution: 9.33% (21) were part of Cultural and Arts Teams, 10.22% (23) were part of Sports Management Teams, and the majority, 80.44% (181), were affiliated with Leadership Teams (student associations).

Table 1.
Control variables, gender, age, and teams (N=225).

	Variable	N	%
Gender	Women	164	27.89%
	Men	61	27.11%
Age			
	17 to 20 years	156	69.33%
	21 to 24 years	67	29.78%
	25 years and older	2	0.89%
Group belonging to			
	CELES better: Leadership center	181	80.44%
	Cultural diffusion	21	9.33%
	Sport management	23	10.22%

4.1. Factorial Analysis

Once the survey data was collected, it was imported into the Statistical Package for the Social Sciences (SPSS) version 29.0 for a rigorous Principal Component Analysis (PCA). This method was strategically employed by the researchers to uncover the underlying structure of the variable set and streamline the process of item reduction, as recommended by Hair, et al. [28]. The primary objective of this analysis was to effectively distill information from the 73 items in the emotional intelligence questionnaire, ensuring a more concise and robust measurement framework [28]. The SPSS study on the EISI questionnaire helped analyze the factor loadings of the included items. It was concluded that only 31 items would be retained in total, comprising 8 for self-awareness, 8 for self-regulation, 8 for empathy, and 7 for social skills. This resulted in a total of 31 items, compared to the initial 73 items.

Table 2.
Factorial analysis, self-knowledge items (N=225).

Factor analysis of Self-awareness	
Items	**Factor Loading**
1	7.404
2	1.788
3	1.631
4	1.138
5	0.903
6	0.778
7	0.761
8	0.681

The 20 original items in the self-awareness dimension of the EISI were subjected to a principal component analysis (PCA). The inspection of the correlation matrix revealed the presence of coefficients of 0.3 and higher. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.89, exceeding the recommended threshold of 0.6, and Bartlett's Test of Sphericity achieved statistical significance, $\chi^2 = 1981.271$, $p < 0.001$. The principal component analysis revealed the presence of four components with eigenvalues greater than 1, explaining 59.80% of the variance, respectively. However, the researchers decided to retain eight components for further investigation because these eight components accounted for a total of 75.42% of the construct's variance. Specifically, Component 1 contributed 37.0%, Component 2 contributed 8.9%, Component 3 contributed 8.1%, Component 4 contributed 5.6%, Component 5 contributed 4.5%, Component 6 contributed 3.8%, Component 7 contributed 3.8%, and Component 8 contributed 3.4%. The Kaiser-Meyer-Olkin (KMO) value should be 0.6 or higher, and Bartlett's Test of Sphericity should demonstrate a significance value of 0.05 or lower, indicating that most items loaded positively [30]. Additionally, the Cronbach's alpha for the eight selected items resulted in a value of 0.796.

Table 3.
Factorial analysis, self-regulation items (N=225).

Factor analysis of Self-regulation	
Items	**Factor Loading**
1	7.162
2	1.51
3	1.242
4	1.037
5	0.963
6	0.847
7	0.756
8	0.746

The 19 items in the self-regulation dimension of the EISI were subjected to a principal component analysis (PCA). The inspection of the correlation matrix revealed the presence of coefficients of 0.3 and higher. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.90, exceeding the recommended threshold of 0.6, and Bartlett's Test of Sphericity achieved statistical significance, $\chi^2 = 1706.761$, $p < 0.001$. The principal component analysis identified four components with eigenvalues greater than 1, explaining 57.63% of the variance, respectively. However, the researchers decided to retain eight components for further investigation because these eight components explained a total of 75.06% of the construct's variance. Specifically, Component 1 contributed 37.6%, Component 2 contributed 7.9%, Component 3 contributed 6.5%, Component 4 contributed 5.4%, Component 5 contributed 5%, Component 6 contributed 4.4%, Component 7 contributed 3.9%, and Component 8 contributed 3.9%. The Kaiser-Meyer-Olkin (KMO) value should be 0.6 or higher, and Bartlett's Test of Sphericity should show a significance value of 0.05 or lower, indicating that most items loaded positively [30]. Additionally, the Cronbach's alpha for the eight selected items was 0.794.

Table 4.
Factorial analysis, empathy items (N=225).

Factor analysis of Empathy	
Items	**Factor Loading**
1	6.437
2	1.564
3	1.094
4	1.005
5	0,888
6	0,799
7	0.753
8	0.696

The 18 items in the empathy dimension of the EISI were subjected to a principal component analysis (PCA). The inspection of the correlation matrix revealed the presence of coefficients of 0.3 and higher. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.90, exceeding the recommended threshold of 0.6, and Bartlett's Test of Sphericity achieved statistical significance, $\chi^2 = 1352.596$, $p < 0.001$. The principal component analysis identified four components with eigenvalues greater than 1, explaining 56.1% of the variance, respectively. However, the researchers decided to retain eight components for further investigation because these eight components explained a total of 73.5% of the construct's variance. Specifically, Component 1 contributed 35.7%, Component 2 contributed 8.6%, Component 3 contributed 6.0%, Component 4 contributed 5.5%, Component 5 contributed 4.9%, Component 6 contributed 4.4%, Component 7 contributed 4.1%, and Component 8 contributed 3.8%. The Kaiser-Meyer-Olkin (KMO) value should be 0.6 or higher, and Bartlett's Test of Sphericity should show a significance value of 0.05 or lower, indicating that most items loaded positively [30]. Additionally, the Cronbach's alpha for the eight selected items was 0.765.

Table 5.
Factorial analysis, social skills (N=225).

Factor analysis of social skills	
Items	**Factor Loading**
1	5.816
2	1.711
3	1.367
4	0.957
5	0.75
6	0.709
7	0.668

The 16 items in the social skills dimension of the EISI were subjected to a principal component analysis (PCA). The inspection of the correlation matrix revealed the presence of coefficients of 0.3 and higher. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.88, exceeding the recommended threshold of 0.6, and Bartlett's Test of Sphericity achieved statistical significance, $\chi^2 = 1327.651$, $p < 0.001$. The principal component analysis identified three components with eigenvalues greater than 1, explaining 55.59% of the variance, respectively. However, the researchers decided to retain seven components for further investigation because these seven components explained a total of 74.86% of the construct's variance. Specifically, Component 1 contributed 36.3%, Component 2 contributed 10.6%, Component 3 contributed 8.5%, Component 4 contributed 5.9%, Component 5 contributed 4.6%, Component 6 contributed 4.4%, and Component 7 contributed 4.1%. The Kaiser-Meyer-Olkin (KMO) value should be 0.6 or higher, and Bartlett's Test of Sphericity should show a significance value of 0.05 or lower, indicating that most items loaded positively [30]. Additionally, the Cronbach's alpha for the seven selected items was 0.785.

Table 6.
Alfa Cronbach study component (N=225).

Study component of EI Alfa Cronbach α	
Self-knowledge	0.796
Self-regulation	0.794
Empathy	0.765
Social skills	0.785

4.2. Reliability Analysis

To analyze the reliability and internal consistency of the two instruments, Cronbach's alpha was used. For the emotional intelligence variable, the EISI instrument developed by Salcedo, et al. [1] was utilized, resulting in an alpha of 0.894. Meanwhile, to measure engagement, the UWES instrument [26] was applied, yielding an alpha of 0.908. In summary, since the Cronbach's alpha (α) for both variables exceed 0.60, the reliability of both instruments is confirmed.

Table 7.
Variables of Cronbach de tests. (N=225).

Alfa Cronbach α variable study	
Emotional intelligence	0.894
Work Engagement	0.908

4.3. Normality Analysis

In this research, a normality test was conducted to evaluate the distribution of the data for each of the investigated variables. The Kolmogorov-Smirnov statistical test was applied using the SPSS software. The test results indicated that the analyzed variables do not follow a normal distribution, suggesting the use of a non-parametric test (Spearman). EI and WE showed significance levels of ($p \leq .004$ and $p \leq .001$, respectively). Therefore, the statistical and correlation analyses were performed using Spearman's method.

Table 8.
Kolmogorov-Smirnov for EI and WE (N=225).

Kolmogorov-Smirnov			
	Statistics	**Sig.**	**Interpretation**
Emotional Intelligence	0.074	0.004	Non-parametric
Work Engagement	0.098	0.001	Non-parametric

4.4. Convergence Analysis (KMO)

A statistical measure of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was conducted to assess how suitable the data are for analysis. All factor loadings demonstrated valid KMO values (KMO > 0.907). The results were as follows: Self-Awareness (KMO > 0.897), Self-Regulation (KMO > 0.904), Empathy (KMO > 0.907), and Social Skills (KMO > 0.885). These values indicate that the data are highly adequate for factor analysis. The results are shown in Table 9.

Table 9.
Convergence Analysis, Kaiser Meyer Olkin Measure of Sampling (N=225).

KMO (Kaiser Meyer Olkin Measure of Sampling	
Self-knowledge	0.0897
Self-regulation	0.904
Empathy	0.907
Social skills	0.885

4.5. Descriptive Statistics and Correlations

Based on the literature review and considering previous empirical findings, the hypothesis of this research is to determine whether there is a correlation between EI and WE within student teams. To test the study's hypothesis, a descriptive statistical analysis and bivariate correlations were conducted for the two study variables: EI and WE. A Spearman correlation analysis was performed, and the results indicated a moderate positive correlation between emotional intelligence and engagement ($r = .515$, $p < .001$). The following Table 10 presents the descriptive statistics and correlations for this study's variables.

Table 10
Correlation between EI and WE (N=225).

Descriptive correlation of variables		
	r	**Spearman p Interpretation**
Emotional intelligence	0.515	<0.001
Work Engagement		

4.6. Standardized Multiple Regression

To test the predictive capacity of the EISI instrument on the variable of work engagement, a standardized multiple regression analysis was conducted. In a quantitative study, variables are related to address research questions [25]. The current research sought to answer the following question:

RQ: "Is there a positive relationship between the EI demonstrated by student teams and their level of WE".

To evaluate the predictive capacity of the EISI instrument and determine the effect of EI on the WE demonstrated by students, a standardized multiple regression analysis was performed to define the variability among factor loadings. Emotional intelligence accounts for 25% of the variance in the work engagement variable ($R^2 = 0.25$, $p = 0.001$).

Table 11.
Standardized Multiple Regression (N=225).

Standardized multiple regression			
	r2	**%**	**P**
Emotional Intelligence	0.25	25	0.001
Work Engagement			

5. Discussion

The study's findings support the hypothesis proposed in the research, demonstrating that there is a positive correlation between EI and WE. This hypothesis was validated through a quantitative study using SPSS functions, including reliability analysis, normality analysis, convergence analysis, and factor analysis. These analyses were conducted to validate the study, highlight its significance, and reduce the number of items to a smaller set by retaining the most significant ones.

The present research incorporated two previously mentioned instruments:

1. Emotional Intelligence Self-Instrument (EISI): Emotional intelligence was measured using the EISI method, which originally contained 73 items but was reduced to 31 items after factor analysis.
2. Utrecht Work Engagement Scale (UWES): Work engagement was measured using the abbreviated version of the UWES, which consists of a 17-item scale.

A descriptive research design with a purposive non-probability sampling technique was employed. Data analysis was conducted using SPSS (Statistical Package for the Social Sciences) version 29. The study revealed a significant relationship, with a Spearman correlation coefficient value of $r = 0.51$, indicating a considerable positive relationship between the aforementioned variables. Moreover, the research findings provide further evidence supporting the positive relationship between emotional intelligence (EI) and work engagement (WE), a connection that has been consistently highlighted in prior studies. For instance, Ravichandran, et al. [20] identified a moderate positive correlation ($r = 0.37$).

More recently, Santiago [21] reported a stronger correlation between EI and WE, reporting a coefficient of $r = .73$. These findings highlight the pivotal role of EI in fostering WE, particularly in organizational settings where leaders' emotional expressions can significantly influence team dynamics. The way leaders choose to express their emotions in various situations not only affects their immediate interactions but also has a broader impact on team morale and overall engagement levels. It becomes imperative for leaders to maintain emotional control and respond thoughtfully to challenges, as inappropriate reactions may inadvertently diminish both their own engagement and that of their teams. Consequently, cultivating EI in leadership practices emerges as a key strategy for sustaining a positive and productive WE.

5.1. Concluding Thoughts

In terms of practical relevance, the findings of this study hold significant implications for leadership development initiatives aimed at enhancing WE among student teams. The identification of a positive correlation between EI and WE provides a robust empirical basis for designing targeted interventions that cultivate EI to strengthen team engagement. This research represents a meaningful contribution to the Latin American context, advancing the theoretical understanding of EI's role in student team dynamics and engagement levels. From a methodological perspective, this study establishes a quantitative framework for future research. To build on these findings, further investigation is required to explore the causal mechanisms underlying the EI-WE relationship, as well as its impact on broader team performance indicators in educational and organizational settings. Future studies should consider the moderating effects of contextual variables, such as organizational culture, leadership structures, and team composition, to refine the theoretical model. Additionally, longitudinal research is needed to assess the developmental trajectory of EI in student leaders and its subsequent effects on WE over time. Moreover, experimental studies evaluating targeted EI interventions could determine whether structured training enhances both EI competencies and WE outcomes. To ensure the validity and reliability of future research, rigorous methodologies, including validated psychometric instruments and robust analytical techniques, should be employed. Advancing empirical knowledge in this domain will contribute to a more comprehensive understanding of how EI influences WE, thereby informing evidence-based leadership development strategies.

References

[1] J. Salcedo, F. Gandolfi, and A. Garza, "Authentic leadership: A quantitative study of the effect of authentic leadership on group cohesion and work engagement in student organizations in Mexico," *Journal of Law and Sustainable Development*, vol. 12, no. 1, pp. e1989-e1989, 2024. https://doi.org/10.55908/sdgs.v12i1.1989

[2] D. Goleman, *What makes a leader? In Harvard Business Review's 10 Most Reads on Emotional Intelligence* Boston: Harvard Business Review Press, 2015.

[3] A. Garza, F. Gandolfi, and J. Salcedo, "Important aspects to consider for designing and implementing an emotional intelligence educators training program in Mexico," *Journal of Law and Sustainable Development*, vol. 12, no. 5, pp. e3599-e3599, 2024. https://doi.org/10.55908/sdgs.v12i5.3599
[4] D. Goleman, *Leadership: The power of emotional intelligence*. Barcelona: B De Books Publishing House, 2011.
[5] M. Higgs and V. Dulewicz, "Top team processes: Does 6+ 2= 10?," *Journal of Managerial Psychology*, vol. 13, no. 1/2, pp. 47-62, 1998. https://doi.org/10.1108/02683949810202261
[6] M. Brackett and R. Stern, "A brief history of emotional intelligence. Psychology Today," Retrieved: https://www.psychologytoday.com/intl/articles/202403/the-truth-about-emotional-intelligence. [Accessed 2024.
[7] P. Salovey and J. D. Mayer, "Emotional intelligence," *Imagination, Cognition and Personality*, vol. 9, no. 3, pp. 185-211, 1990. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG
[8] S. Aslan and A. Erkus, "Measurement of emotional intelligence: Validity and reliability studies of two scales," *World Applied Science Journal*, vol. 4, no. 3, pp. 430-438, 2008. https://doi.org/10.3923/jas.2008.430.438
[9] J. D. Mayer, P. Salovey, and D. R. Caruso, "Target Articles:" Emotional intelligence: Theory, findings, and implications"," *Psychological Inquiry*, vol. 15, no. 3, pp. 197-215, 2004. https://doi.org/10.1207/s15327965pli1503_02
[10] J. D. Mayer and P. Salovey, *What is emotional intelligence? In Salovey, P., and Sluyter, D. (Eds.), Emotional Development and Emotional Intelligence: Implications for Educators*. New York: Basic Books, 1997.
[11] J. D. Mayer, P. Salovey, and D. Caruso, *Competing models of emotional intelligence. In Sternberg, R. J. (Ed.), Handbook of Human Intelligence*, 2nd ed. New York: Cambridge University Press, 2000, pp. 396-420.
[12] N. J. Al Maalouf *et al.*, "The impact of emotional intelligence on the performance of employees in the Lebanese banking sector during crisis," *Journal of Law and Sustainable Development*, vol. 11, no. 9, pp. e1030-e1030, 2023. https://doi.org/10.2139/ssrn.3742199
[13] D. Goleman, *Emotional intelligence: Why it can matter more than IQ*. New York: Bantam Books, 2020.
[14] B. R. Olaleye and J. N. Lekunze, "Emotional intelligence and psychological resilience on workplace bullying and employee performance: A moderated-mediation perspective," *Journal of Law and Sustainable Development*, vol. 12, no. 1, pp. e2159-e2159, 2024.
[15] D. Goleman, R. Boyatzis, and A. McKee, *Primal leadership: The hidden driver of great performance. In Harvard Business Review's 10 Most Reads on Emotional Intelligence*. Boston: Harvard Business Review Press, 2015.
[16] W. A. Kahn, "Psychological conditions of personal engagement and disengagement at work," *Academy of Management Journal*, vol. 33, no. 4, pp. 692-724, 1990. https://doi.org/10.5465/256287
[17] C. A. Poku, J. Bayuo, V. A. Agyare, N. K. Sarkodie, and V. Bam, "Work engagement, resilience and turnover intentions among nurses: A mediation analysis," *BMC Health Services Research*, vol. 25, no. 1, p. 71, 2025. https://doi.org/10.1186/s12913-025-12242-6
[18] J. E. Hunton and C. S. Norman, "The impact of alternative telework arrangements on organizational commitment: Insights from a longitudinal field experiment (retracted)," *Journal of Information Systems*, vol. 24, no. 1, pp. 67-90, 2010. https://doi.org/10.2308/jis.2010.24.1.67
[19] W. B. Schaufeli and A. B. Bakker, "Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study," *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, vol. 25, no. 3, pp. 293-315, 2004. https://doi.org/10.1002/job.248
[20] K. Ravichandran, R. Arasu, and S. A. Kumar, "The impact of emotional intelligence on employee work engagement behavior: An empirical study," *International Journal of Business and Management*, vol. 6, no. 11, p. 157, 2011. https://doi.org/10.5539/ijbm.v6n11p157
[21] M. Santiago, "Emotional intelligence and work commitment in SMEs in Ecuador," *Administrative Sciences*, vol. 21, no. 21, pp. 116–130, 2023. https://doi.org/10.24215/23143738e116
[22] C. Liébana Presa, M. Fernández Martínez, J. C. Bermejo Higuera, M. Carabias Maza, M. Rodríguez Borrego, and M. Villacieros Durbán, "Emotional intelligence and work bond in workers at the San Camilo Center," *Gerokomos*, vol. 23, no. 2, pp. 63-68, 2012. https://doi.org/10.4321/S1134-928X2012000200004
[23] N. Extremera Pacheco and P. Fernández-Berrocal, "The role of emotional intelligence in students: Empirical evidence," *Revista Electrónica de Investigación Educativa*, vol. 6, no. 2, pp. 1-17, 2004.
[24] W. B. Schaufeli and A. B. Bakker, "Work engagement: An emerging concept in occupational health psychology," *Work & Stress*, vol. 25, no. 3, pp. 193-225, 2011. https://doi.org/10.1080/02678373.2011.587268
[25] J. W. Creswell, *Research design: Qualitative, quantitative, and mixed methods approaches*, 3rd ed. United States: SAGE Publications, 2009.
[26] W. B. Schaufeli and A. B. Bakker, *UWES-utrecht work engagement scale: Test manual*. Valencia, SPA: Unpublished Manuscript. Department of Psychology, Utrecht University, 2003.
[27] W. B. Schaufeli, M. Salanova, V. González-Romá, and A. B. Bakker, "The measurement of engagement and burnout: A two sample confirmatory factor analytic approach," *Journal of Happiness Studies*, vol. 3, no. 1, pp. 71-92, 2002. https://doi.org/10.1023/A:1015630930326
[28] J. F. Hair, W. C. Black, B. J. Babin, R. E. Anderson, and R. L. Tatham, *Multivariate data analysis: Global edition*, 7th ed. Pearson Education. https://doi.org/10.1080/00913367.2017.1281777, 2009.
[29] B. G. Tabachnick, *Experimental designs using ANOVA*. Belmont, CA: Thomson/Brooks/Cole, 2007.
[30] J. Pallant, *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. New York: Routledge, 2020.

Appendix

Emotional Intelligence Self-Instrument (EISI), developed by Salcedo, et al. [1]. This self-assessment originally consisted of a series of 73 items. This study concluded that only 31 items would be retained, comprising 8 for self-awareness, 8 for self-regulation, 8 for empathy, and 7 for social skills. This resulted in a total of 31 items

Instrument: *Emotional Intelligence Self-Instrument (EISI)*.

Responses for this section: (1) Strongly disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly agree (6)

Self-awareness (questions in Spanish for Latin America).

1. Eres capaz de nombrar tus tres principales fortalezas.
2. Eres capaz de nombrar dos áreas de oportunidad que tú tienes.
3. Sabes lo que te apasiona hacer y lo que no te gusta hacer.
4. Tienes clara tu misión de vida.
5. Haz establecido metas personales a corto y a largo plazo.
6. Conoces cuáles son tus prioridades a nivel personal.
7. Haz establecido metas profesionales a corto y a largo plazo.
8. Conoces cuáles son tus prioridades a nivel profesional.

Self-regulation (questions in Spanish for Latin America).

1. Pocas veces te dejas llevar por tus sentimientos.
2. En raras ocasiones te comportas de manera impulsiva.
3. En raras ocasiones te comportas de manera nerviosa.
4. Es raro que pierdas la calma cuando las cosas te salen mal.
5. Eres una persona que tiende a estar serena y no nerviosa.
6. Eres una persona equilibrada emocionalmente.
7. Rara vez te enfadas.
8. No tiendes a preocuparte por las cosas.

Empathy (questions in Spanish for Latin America).

1. Te es fácil identificar cómo se sienten los demás.
2. Te es fácil identificar el impacto que tienen tus acciones en otras personas.
3. Te es fácil identificar cuando los demás están ansiosos y preocupados.
4. Tiendes a mostrar empatía hacia las demás personas.
5. Te es fácil escuchar atentamente a los demás sin interrumpir.
6. Te interesa comprender a las otras personas.
7. Buscas conocer los intereses y preocupaciones de las personas cercanas a ti.
8. Eres capaz de escuchar a las personas sin criticarlas o juzgarlas.

Social skills (questions in Spanish for Latin America).

1. Te interesa relacionarte con los demás.
2. Te resulta fácil hacer nuevos amigos.
3. Te resulta fácil desenvolverte con desconocidos.
4. Te es fácil comunicar tus intereses y necesidades a otros.
5. Eres un buen negociador.
6. Se te facilita resolver conflictos entre terceras personas.
7. Haces amigos fácilmente.