



ORIGINAL

Self-Efficacy and Emotional Intelligence as Predictors of Work Engagement in Peruvian Health Personnel

Autoeficacia e inteligencia emocional como predictores del compromiso laboral en personal de salud peruano

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ABSTRACT

Background: the crucial role of nurses within the global healthcare system is undeniable, especially considering the high demand and significant stress that characterizes their professional field. From an administrative and human resource management perspective in healthcare, the importance of emotional well-being, along with emotional intelligence and self-efficacy, has emerged as a primary focus of interest in recent research, particularly highlighted in the Peruvian nursing scenario.

Objective: this study aimed to understand the relationship between self-efficacy, emotional intelligence, and work engagement among Peruvian nurses, and how these factors might influence the quality of care provided and staff retention in the healthcare sector.

Methods: a quantitative analysis was conducted, based on structured surveys that measured levels of self-efficacy, emotional intelligence, and work engagement. The participants were registered nurses in Peru, and the sample was stratified according to different regions and levels of experience.

Results: the findings confirmed a positive relationship between self-efficacy and work engagement, corroborating previous research. Furthermore, the positive association between emotional intelligence and work engagement in this professional group was validated. It was evidenced that nurses with higher emotional intelligence and self-efficacy tend to have a greater work engagement, positively affecting the quality of care and their retention in the healthcare sector.

Conclusions: emotional intelligence and self-efficacy are fundamental for the work engagement of Peruvian nurses. These factors not only impact the academic realm but also have essential practical significance in the healthcare sector. The promotion and training in these areas could be crucial to ensure quality care and the emotional well-being of nursing staff.

Keywords: Self-Efficacy; Emotional Intelligence; Work Engagement; Peruvian Nurses; Quality of Care.

RESUMEN

Antecedentes: la crucial participación de las enfermeras en el entramado del sistema sanitario global es incuestionable, especialmente considerando la elevada demanda y el significativo estrés que caracteriza su ámbito profesional. Desde una perspectiva administrativa y de gestión de recursos humanos en el sector salud, la importancia del bienestar emocional, junto con la inteligencia emocional y la autoeficacia, ha

emergido como un foco de interés primordial en la investigación reciente, destacándose particularmente en el escenario de la enfermería peruana.

Objetivo: este estudio buscó comprender la relación entre la autoeficacia, la inteligencia emocional y el compromiso laboral de las enfermeras peruanas, y cómo estos factores pueden influir en la calidad del cuidado prestado y en la retención de personal en el sector de salud.

Métodos: se realizó un análisis cuantitativo, basado en encuestas estructuradas que midieron los niveles de autoeficacia, inteligencia emocional y compromiso laboral. Las participantes fueron enfermeras registradas en Perú, y la muestra fue estratificada según diferentes regiones y niveles de experiencia.

Resultados: los hallazgos confirmaron, que indica una relación positiva entre la autoeficacia y el compromiso laboral, corroborando investigaciones anteriores. Además, se validó la, que asocia positivamente la inteligencia emocional con el compromiso laboral en este grupo profesional. Se evidenció que las enfermeras con mayor inteligencia emocional y autoeficacia tienden a tener un mayor compromiso laboral, lo que repercute positivamente en la calidad del cuidado y en su retención en el sector salud.

Conclusiones: la inteligencia emocional y la autoeficacia son fundamentales para el compromiso laboral de las enfermeras peruanas. Estos factores no solo impactan en el ámbito académico, sino que también tienen una trascendencia práctica esencial en el sector salud. La promoción y capacitación en estas áreas podrían ser cruciales para garantizar un cuidado de calidad y el bienestar emocional del personal de enfermería.

Palabras clave: Autoeficacia; Inteligencia Emocional; Compromiso Laboral; Enfermeras Peruanas; Calidad del Cuidado.

INTRODUCTION

The role of nursing in global health systems is indispensable, as they provide essential care to patients.⁽¹⁾ However, this sector faces numerous challenges, particularly in scenarios of high demand and stress, which requires proactive and strategic attention from health system administrators.⁽²⁾ In this context, the World Health Organization (WHO) has emphasized the need to safeguard the emotional and psychological health of health workers, highlighting that nursing staff is often subject to high levels of emotional stress.^(2,3)

From an administrative perspective, strengthening work engagement in nursing becomes a strategic imperative. Nurses, being the largest group of professionals in the health field and who spend a great deal of time in direct patient care, play a critical role in achieving organizational goals.^(4,5,6) It has been observed that engaged nurses not only perform their tasks more effectively but also experience positive emotions in their workplace, generating an affective bond with the organization and reducing the intention to leave the job.^(7,8,9) To foster work engagement, administrative management must ensure the presence of sufficient and appropriate work and personal resources in the workplace.^(10,11) Work resources include physical, psychological, social, and organizational aspects that enable staff to cope with job demands and promote their personal and professional development. Regarding personal resources, it is crucial to promote attributes such as optimism, resilience, self-esteem, and self-efficacy, as these significantly contribute to employee well-being and performance.^(11,12) Efforts should be made to strengthen organizational commitment, promoting nurses' identification with the values and mission of the institution, such as excellence in care and patient-centered attention. This not only has a positive impact on nurses' motivation and job satisfaction but also translates into an improvement in the quality of services provided.^(13,14)

Moreover, effective health personnel management, particularly of nurses, is crucial to ensure the provision of quality services and maintain patient safety. In this context, two key factors are identified: staff shortages and precarious working conditions, which can lead to work overload and, consequently, an increase in patient risks.^(15,16) The administration must then ensure the provision of sufficient human resources and improve working conditions to prevent these adverse situations. Nurses, due to their constant presence at the patient's side, play a vital role in patient safety.⁽¹⁷⁾ Therefore, management should promote and encourage the development of emotional intelligence in this group, as this skill has been shown to positively influence the quality of care and clinical competencies of the staff.^(18,19) On the other hand, self-efficacy, defined as the belief in one's ability to successfully perform specific tasks, is another determining factor in nurses' well-being and performance, influencing job stress, burnout, and job satisfaction.^(20,21,22) Additionally, a relationship between emotional intelligence and self-efficacy has been identified, highlighting the importance of considering both variables in the analysis of nursing staff's work engagement in Peru. From an administrative viewpoint, it is necessary to implement training and development strategies and programs that enhance the emotional intelligence and self-efficacy of nursing staff. This will not only positively impact the quality of care provided but also influence the productivity and work engagement of Peruvian nurses, thus improving the efficiency and effectiveness of the health system.^(23,24)

From an administrative perspective, the situation in the nursing sector in Peru requires strategic and focused management to address current challenges and improve the working conditions of these professionals.^(25,26) The prevalence of symptoms of professional burnout and work stress among Peruvian nurses demands the implementation of policies and programs that promote the development of emotional intelligence skills, such as self-awareness and emotional regulation, to manage stress and foster sustainable work engagement.^(27,28,29) In the diverse Peruvian context, where nurses work in a variety of settings, from urban hospitals to health centers in rural areas,⁽³⁰⁾ it is imperative that health sector administration focuses on strengthening work engagement. This will not only ensure the provision of quality services but also contribute to the well-being and satisfaction of nurses in their work environment. Although there is evidence linking self-efficacy and emotional intelligence positively with higher job satisfaction and work engagement,^(31,32,33,34) further research is needed on how these factors specifically influence Peruvian nurses. This approach will allow a more comprehensive understanding of the labor and emotional dynamics at play and will serve as a basis for designing effective administrative strategies. In this sense, it is crucial to address these issues by creating training and professional development programs that promote emotional intelligence and self-efficacy. Also, it is important to create a work environment that promotes commitment and job satisfaction, through improving working conditions, promoting a positive organizational climate, and recognizing the work of nurses. The cultural diversity and particularities of the health system in Peru represent a unique and relevant scenario for researching and developing specific interventions.⁽²⁵⁾ A committed and proactive administration, using the results of local research to formulate appropriate policies and strategies, will be key to strengthening the emotional resilience of nurses, improving their work engagement, and ultimately raising the quality of health care in the country.

Based on the literature review, we examine the following hypotheses:

1. There is a positive influence between self-efficacy and work engagement in Peruvian nurses.
2. There is a positive influence between emotional intelligence and work engagement in Peruvian nurses.

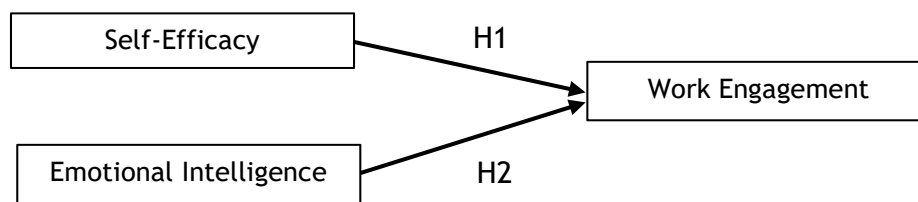


Figure 1. Theoretical Model

METHODS

Participants

In an explanatory study, we sought to understand the interactive relationships between various variables. The main purpose was to comprehend how these variables are linked and, in particular, to evaluate potential mediation effects using a Structural Equation Modeling (SEM) system.⁽³⁵⁾ To define the sample size, a non-probabilistic sampling was chosen, and the electronic tool Soper⁽³⁶⁾ was used. This tool considers the number of both observed and latent variables in the SEM, along with the anticipated effect size ($\lambda = 0,3$), the desired level of statistical significance ($\alpha = 0,05$), and the required statistical power ($1 - \beta = 0,80$). Based on these parameters, it was determined that 200 nurses needed to be included in the sample. However, a total of 352 nurses participated, with ages ranging from 19 to 65 years ($M=35,98$, $SD= 9,4$). The majority were women (86,6 %). Regarding marital status, the largest proportion were single (61,1 %). Concerning the level of education, individuals with university education predominated (47,2 %). In terms of employment status, the category with the most representatives was permanent staff (29,0 %). In the occupational group, the majority belonged to the healthcare sector (82,4 %). Lastly, regarding the region of origin, most came from the Coast (77,6 %).

Table 1. Sociodemographic Characteristics

Characteristics		n	%
Gender	Male	47	13,4
	Female	305	86,6
	Female	352	100,0
Marital Status	Cohabiting	36	10,2
	Divorced	12	3,4

	Single	215	61,1
	Widowed	3	,9
Level of Education	Postgraduate	141	40,1
	Technical	45	12,8
	University	166	47,2
Employment Status	Permanent	102	29,0
	Fixed Term	19	5,4
	Contractor	30	8,5
	Total	352	100,0
Occupational Group	Administrative	62	17,6
	Healthcare	290	82,4
	Total	352	100,0
Region	Coastal	273	77,6
	Jungle	8	2,3
	Highlands	71	20,2

Procedure

The research protocol, endorsed by the Ethics Committee of the Peruvian university under number XXXX, began by establishing contact with two hospitals and two clinics in Peru. Efficient communication with the nurses was prioritized by distributing informed consent forms through digital tools such as Google Forms, emails, and WhatsApp groups. Participants' inalienable right to withdraw from the study at any stage was emphasized, ensuring their voluntary decision and without repercussions. The study's execution strictly adhered to the guidelines of the Helsinki Declaration, ensuring the protection of participants' privacy and data confidentiality.

Measures

Self-Efficacy

The self-efficacy instrument, consisting of 10 items,⁽³⁷⁾ with a Cronbach's alpha reliability level of $\alpha = 0,84$ on a measurement scale that ranges from incorrect (1 point); barely true (2 points); somewhat true (3 points) to true (4 points). On this scale, a higher score indicates greater perceived general self-efficacy, validated in a population of 360 individuals of both sexes aged between 15 and 65 years.

Emotional Intelligence

The instrument for collecting emotional intelligence data was taken from,⁽³⁸⁾ consisting of 24 items classified on a scale from 1 (strongly disagree) to 5 (strongly agree), with reliability through Cronbach's Alpha: Emotional Attention ($\alpha = 0,88$), Emotional Clarity: $\alpha=0,89$, Emotional Repair: $\alpha=0,87$. This instrument was validated in a Peruvian population.

Work Engagement

Likewise, we considered the work engagement instrument from,⁽³⁹⁾ which consists of 9 assessment items on a Likert scale ranging from 0 (Never) to 5 (Always) with reliability of (0,84 to 0,92). This instrument was tested on a sample of 249 employees from Mexico. Principio del formulario

Data analysis

An exhaustive analysis of the theoretical model was conducted using the structural equation modeling method. For this purpose, the MLR estimator was employed, known for its robustness in situations where there are deviations from inferential normality.⁽⁴⁰⁾ To assess the model fit, several indices were considered: the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). According to the literature, reference values indicating a good fit are CFI and TLI above 0,90,⁽⁴¹⁾ RMSEA below ,080,⁽⁴²⁾ and SRMR below 0,08.⁽⁴³⁾ To ensure the reliability of the instrument used in the study, Cronbach's alpha coefficient (α) was utilized, a consolidated metric in the research field.⁽⁴⁴⁾ From a technical perspective, advanced computational tools were used: specifically, the "R" software in its version 4.1.2, complemented with the "lavaan" library version 06-10,⁽⁴⁵⁾ facilitating the execution of sophisticated structural equation analyses.

RESULTS

Preliminary Analysis

Table 2 presents the descriptive statistics and correlations for the study variables. Regarding the means,

participants scored an average of 30,23 in Self-Efficacy, 81,07 in Emotional Intelligence, and 37,2 in Work Engagement. Observing the standard deviation, Emotional Intelligence presents the highest variability among participants. The skewness indicates a slightly negative distribution for Self-Efficacy (-0,76) and Emotional Intelligence (-0,83), while Work Engagement approaches a normal distribution (0,11). Regarding correlations, it was found that Self-Efficacy is positively and significantly correlated with Emotional Intelligence ($r = ,46$, $p < ,01$) and with Work Engagement ($r = ,56$, $p < ,01$). Moreover, Emotional Intelligence also has a positive and significant correlation with Work Engagement ($r = ,43$, $p < ,01$). All alpha coefficients exceed the typical criterion of 0,70, indicating high internal consistency for the three scales.

Table 2. Descriptive Statistics, Internal Consistencies, and Correlations for the Study Variables

Variables	M	SD	A	α	1	2	3
Self-Efficacy	30,23	7,6	-0,76	0,94	-		
Emotional Intelligence	81,07	20,27	-0,83	0,97	0,46**	-	
Work Engagement	37,2	12,54	0,11	0,95	0,56**	0,43**	-

Note: M=Mean, SD=Standard Deviation, A=Skewness, α =Cronbach's Alpha. All correlations are statistically significant (**, $p < ,01$).

Theoretical Model Analysis

The analysis of the theoretical model, depicted in Figure 2, yielded results indicating a satisfactory fit of the model. Specifically, statistical indicators showed a $\chi^2 = 1958,990$, $df = 857$, $p < ,001$, along with optimal values for the Comparative Fit Index (CFI = 0,91), the Tucker-Lewis Index (TLI = 0,91), the Root Mean Square Error of Approximation (RMSEA = 0,06, with a 90 % confidence interval between 0,06 and 0,06), and the Standardized Root Mean Square Residual (SRMR = 0,06). From the perspective of the relationships between variables, it was found that self-efficacy maintains a significant positive relationship with work engagement ($B = 0,21$, $p < ,01$), supporting our Hypothesis 1. Similarly, emotional intelligence showed a positive association with work engagement ($B = 0,49$, $p < ,01$), thus corroborating Hypothesis 2. These findings underline the importance of self-efficacy and emotional intelligence in fostering work engagement.

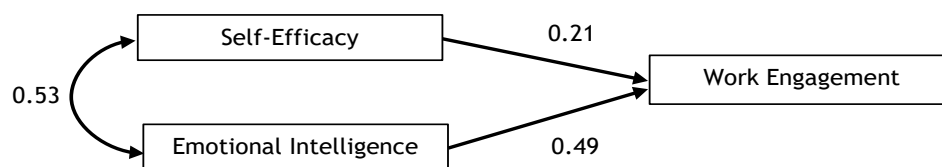


Figure 2. Results of the Explanatory Structural Model

DISCUSSION

It is imperative to recognize and address the challenges faced by nurses in the global health arena, especially in contexts of high demand and stress. The effective management of these professionals' emotional well-being is not just a matter of ethical responsibility but also a strategic imperative to enhance performance and staff retention. The work engagement of nurses is an invaluable asset for healthcare organizations. Engaged nurses not only perform their tasks more efficiently but also establish stronger ties with their workplaces, thus reducing turnover rates. This underscores the importance of investing in the development of both work and personal resources that strengthen resilience and improve nurses' ability to cope with job demands. Additionally, emotional intelligence in nursing is a critical factor that directly influences the quality of patient care. Therefore, administrative management should promote programs and training that enhance nurses' emotional skills. Concurrently, strengthening the self-efficacy of these professionals will not only help mitigate the effects of job stress but also increase their job satisfaction and commitment. In the Peruvian context, where challenges are specific and rates of burnout and work stress are high, a tailored administrative approach is necessary. The results of previous research in this field should be used to guide human resource management policies and strategies in the health sector. A better understanding of how emotional intelligence and self-efficacy impact the work engagement of nurses in Peru will allow for the development of specific interventions and training programs focused on reinforcing emotional resilience and improving working conditions.

The confirmation of Hypothesis 1, which posits a positive correlation between self-efficacy and work

engagement among Peruvian nurses, aligns with previous evidence in the field and highlights a critical point for administrative management in the health sector.^(25,32) Self-efficacy is not only a key predictor of job performance but also plays a pivotal role in how nurses approach and overcome challenges in their work environment. From an administrative perspective, these findings underscore the need to foster an environment that promotes and reinforces nurses' self-efficacy. Nurses' commitment to the institution strengthens when they feel capable and prepared to face work challenges, leading to greater efficiency and satisfaction in their performance.^(46,47,48) This is especially relevant in the Peruvian context, where the work culture in the health sector may present unique challenges but also highlights the strength and resilience characteristic of health professions in Latin America.⁽⁴⁹⁾ Implementing continuous training and education programs emerges as a key administrative strategy to strengthen the self-efficacy of nursing staff. By providing nurses with the necessary tools and skills, they are not only empowered in their daily performance but also contribute to their professional development.^(5,50) Moreover, it is crucial for management to foster an environment that provides success experiences, positive feedback, and role models. In contexts where nurses' work is recognized and valued, they are more likely to experience higher levels of self-efficacy, which directly and positively impacts their work engagement. Ultimately, investing in strengthening nurses' self-efficacy benefits not only the professionals themselves but also contributes to improving the quality of healthcare services and patient satisfaction.^(51,52,53)

The verification of Hypothesis 2, establishing a positive relationship between emotional intelligence and work engagement in Peruvian nurses, aligns with a broad base of evidence underscoring the importance of emotional intelligence in various work settings, including the health sector.^(54,55,56) From the perspective of human resource management in healthcare, these findings highlight the need to foster and develop emotional intelligence skills among nursing staff. Emotional intelligence not only contributes to the well-being and performance of healthcare professionals but also plays a crucial role in building strong work relationships and strengthening work engagement.^(57,58) Previous studies have shown that emotional intelligence influences how employees perceive organizational support, which has direct implications for their level of commitment to the institution.^(34,54,59,60) In this context, emotional intelligence acts as a valuable personal resource, providing nurses with the necessary tools to manage stress and adopt a proactive attitude towards job demands. The positive correlation identified in this study suggests that nurses with higher levels of emotional intelligence are better equipped to face the emotional challenges inherent in their profession, resulting in stronger work engagement.^(61,62) Given the emotionally demanding nature of nursing work, the ability to effectively manage emotions becomes a key factor in maintaining a high level of commitment and dedication to their work. From an administrative perspective, these results underscore the importance of implementing professional development strategies that include emotional intelligence training. This will not only benefit nurses in terms of well-being and performance but will also contribute to creating a more committed and resilient work environment, thereby strengthening the quality of healthcare service as a whole.^(63,64)

Implications

In the professional realm, particularly from an administrative perspective, an individual's ability to recognize, understand, and manage their own emotions, as well as those of others, translates into competitive advantages for organizations. Nurses, often faced with emotionally charged situations, frequently exhibit high levels of stress and professional burnout. Emotional intelligence not only serves as a buffer against these challenges but can also enhance efficiency, decision-making, and communication within multidisciplinary teams. From an administrative viewpoint, promoting the development of emotional skills could be a strategic investment. Training aimed at improving the emotional intelligence of professionals can lead to the creation of more harmonious work environments, better conflict management, and reduced staff turnover, which are critical factors in maintaining organizational stability and cohesion.

In the realm of policy formulation, empirical evidence pointing to a relationship between emotional intelligence and work engagement suggests the need to rethink training and professional development strategies. Educational institutions and healthcare organizations could benefit from policies that promote training programs focused on the emotional and social development of their employees. At the macro level, decision-makers should consider integrating emotional intelligence modules into educational curriculums, from basic training to professional and continuing education. Moreover, human resources policies should incorporate mechanisms to assess and improve emotional intelligence, recognizing its intrinsic value for job performance and employee well-being.

Theoretically, these findings challenge traditional conceptions that separate cognitive and emotional skills in job performance. Work engagement, traditionally seen as an outcome of extrinsic factors such as pay and working conditions, is now also understood to be influenced by intrinsic factors related to emotional management.

This nuanced understanding suggests the need for more integrated theoretical models that encompass both emotional and cognitive factors and recognize the interdependence of these domains in shaping work

experience. In this sense, the theory of work engagement could benefit from the integration of concepts and tools derived from emotional psychology, offering a more holistic framework for investigating and understanding the work experience as a whole.

Limitations

Despite the significant findings this study has revealed about the role of emotional intelligence in the work engagement of Peruvian nurses, it is essential to recognize and discuss its limitations. First, the cross-sectional nature of this study means that data were collected at a single point in time, which limits our ability to infer causal relationships between the studied variables. Second, the sample of this study comes from a specific group of nurses in Peru, which might limit the generalization of the results to other nurse populations or healthcare workers in different geographical or cultural contexts. Finally, this study did not address other potentially relevant variables that could influence work engagement, such as perceived organizational support, working conditions, or professional training received. It would be essential to consider these factors in future research to get a more comprehensive picture of the determinants of work engagement among nurses.

CONCLUSIONS

From a rigorous analysis and careful reflection on the results obtained in this research, it can be concluded with certainty that emotional intelligence plays a fundamental role in the level of work engagement of nurses in Peru. The validation of this relationship not only adds value to the academic field but also has significant practical implications in the health sector, an area marked by its emotional intensity and high professional demands. From the perspective of administrative management and human resources in the health sector, this study underscores the need to integrate emotional intelligence into professional development programs and talent management strategies in nursing. Recognizing emotional intelligence as a critical component in the skill set of nursing staff is an essential step in improving not only work engagement but also the quality of care provided and patient satisfaction. Strengthening the emotional capacities of nurses, through specific training and mentoring programs, can translate into greater commitment to their work, in turn generating a more positive and productive work environment. Investing in the development of these emotional skills will not only benefit nurses on an individual level but will also positively impact the efficiency and effectiveness of health services as a whole.

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