

Influence of the Teaching Vocation on the Capacity for Emotional Repair: An Econometric Study

Publication date: June 02, 2024

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Summary

The main objective of this study was to statistically analyze the relationship between teaching vocation and emotional repair capacity, applying an econometric model of simple linear regression. The research was developed through the participation of 64 teachers selected under specific criteria related to their work experience and voluntary availability, belonging to the field of secondary and higher education. To measure the variables, previously validated scales were used, which yielded high average values for both teaching vocation ($M = 8.797$) and emotional reparation ($M = 32.59$), the latter evaluated on a scale with a maximum value of 40 points. The estimation of the proposed econometric model, mathematically represented as $Y = B_0 + B_1X_1 + u$, revealed a significant positive relationship between both variables, indicating that the teaching vocation significantly influences the teacher's ability to repair their emotions ($B_1 = 1.812$; $p < 0.01$). In addition, both the intercept coefficient ($B_0 = 16.656$) and the regression coefficient were statistically significant ($p < 0.01$). The validity of the model was confirmed by various statistical tests, including the GVLMA global test ($p = 0.35353$), Rainbow ($p = 0.7272$), Durbin-Watson for autocorrelation ($DW = 1.8677$; $p = 0.1574$), Breusch-Pagan for heteroskedasticity ($p = 0.9396$) and residual normality by the Shapiro-Wilk test ($p = 0.07284$). These tests satisfactorily confirmed compliance with the assumptions of linearity, homoscedasticity, non-autocorrelation and normality in the residuals, thus guaranteeing a reliable interpretation of the results obtained. In conclusion, the findings suggest that a higher level of teaching vocation is significantly related to a greater capacity of teachers to repair negative emotions, highlighting the relevance of strengthening vocation as a strategy to improve teachers' emotional well-being.

Keywords: teaching vocation; emotional repair; mathematics teaching

Introduction

The capacity for emotional repair is an essential aspect of the psychological well-being of teachers, which is directly related to their professional performance and the quality of education they provide. Various studies agree that those teachers who have a greater ability to regulate their emotions, specifically in the dimension of emotional repair, experience lower levels of work stress, show greater resistance to daily emotional demands, and have lower rates of professional burnout (Maslach & Leiter, 2017; Peña & Rey, 2020). In this context, it is pertinent to examine how intrinsic variables, such as the teaching

vocation, can contribute significantly to strengthening this restorative capacity in the face of adverse emotional situations. Teaching vocation, understood as the degree of commitment and personal satisfaction towards the educational work, has been recognized as one of the most influential factors in emotional stability, self-efficacy and professional resilience in complex educational settings (Day & Gu, 2014; Vallejo & González, 2022).

However, despite its relevance, few studies have empirically explored this specific relationship between teaching vocation and emotional repair capacity from an econometric perspective. Previous research in Latin America has usually addressed these variables from predominantly qualitative or descriptive approaches, without providing sufficient quantitative evidence to determine the extent of this relationship with statistical precision (García & Villalobos, 2021). This limitation prevents supporting with robust data teacher training policies that could promote specific emotional skills, necessary to cope with stressful situations and maintain a healthy and sustainable teaching career. Consequently, it is essential to carry out quantitative studies that provide clear information on how vocational commitment could act as an effective tool in emotional regulation and in the strengthening of restorative skills in complex educational contexts.

In response to this problem, this study addresses the gap in the specialized literature, proposing a rigorous econometric analysis that allows empirically identifying the relationship between teaching vocation and emotional repair, based on widely accepted psychological theories and reliable statistical methods. In this way, the results obtained will be able to offer relevant evidence for institutional decision-making and the implementation of training strategies specifically aimed at enhancing the emotional capacity of teachers from the strengthening of their professional vocation. This research aims, therefore, to provide methodological and empirical elements useful for the comprehensive improvement of teacher well-being and, ultimately, to contribute to raising the standards of educational quality in Latin American school contexts.

From a theoretical perspective, the relationship between teaching vocation and emotional repair capacity is supported by models from educational psychology and socio-cognitive theory, specifically the concept of self-efficacy proposed by Bandura (1997). According to this framework, self-efficacy constitutes a fundamental belief in the personal ability to cope with complex situations, effectively regulating emotional responses. Applied to the educational context, self-efficacy influences teachers' perception of their ability to manage work-related stress, promote favorable learning environments, and maintain optimal emotional balance in the face of challenging or unexpected situations in the classroom (Vallejo & González, 2022). From this perspective, a greater teaching vocation could strengthen this self-efficacy by providing a solid motivational base that facilitates the activation of psychological resources aimed at emotional regulation, especially in stressful or emotionally demanding situations in the educational environment (Skaalvik & Skaalvik, 2018).

From another complementary theoretical perspective, Goleman (2017) argues that emotional repair is one of the central components of emotional intelligence, highlighting its importance for maintaining proper personal and professional functioning. In this line, the capacity for emotional repair implies not only recognizing and managing one's own emotions, but also recovering effectively from negative emotional experiences, an aspect that could significantly benefit from vocational commitment to teaching. Indeed, recent research indicates that teachers with a high professional vocation have a greater capacity to manage negative emotions generated by daily interaction in the classroom, which translates into lower rates of emotional exhaustion and greater job satisfaction (Valdivieso & Rodríguez, 2021; Martínez & Herrera, 2019). In this way, the academic literature clearly supports the central hypothesis of this study, arguing that teaching vocation could act as a relevant predictor factor in the emotional capacity of teachers.

Finally, although previous studies have emphasized the importance of vocational engagement for teacher well-being from mainly qualitative approaches, there is still a notable scarcity of quantitative empirical studies, particularly in Latin American contexts (García & Mendoza, 2021). The present research responds precisely to this methodological need, using rigorous econometric techniques such as simple linear regression to offer clear statistical evidence on this specific relationship. With this, the study contributes significantly to the body of knowledge on the factors that influence the emotional performance of teachers, providing solid empirical data that support the future implementation of institutional interventions aimed at strengthening the emotional and vocational well-being of teachers.

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Methodology

This study was developed using a quantitative methodology, specifically through a correlational design, using a simple linear regression to determine the statistical relationship between the teaching vocation (independent variable) and the capacity for emotional repair (dependent variable). This methodology was chosen because it allows an accurate and reliable estimation of how one variable influences another, as well as because of its suitability for rigorous empirical validation of the proposed model (Hernández, Fernández & Baptista, 2018). The mathematical representation of the econometric model used corresponds to the equation: $Y = B_0 + B_1X_1 + u$, where Y symbolizes the capacity for emotional repair, X_1 corresponds to the teaching vocation, B_0 represents the intercept, B_1 is the estimated coefficient that measures the influence of the teaching vocation on emotional capacity, and u represents the error or perturbation term that captures influences not directly specified by the model (Gujarati & Porter, 2019).

The sample studied was made up of 64 active teachers, selected through a non-probabilistic sampling of an intentional type, considering criteria such as current performance at secondary or higher educational levels and a minimum of five years of professional experience. This sample adequately represents the specific teaching population analyzed, whose universe was estimated at around 250 individuals, representing about 25% of the total potential. The selected sample size meets the recommended requirements for correlational and simple linear regression studies, ensuring statistical validity and allowing a robust interpretation of the results obtained (Soto & Vega, 2022). This precise description makes it easier to properly interpret the scope and limitations of the findings found in this study.

To collect the data, two instruments validated in previous research were used. The first scale evaluated teaching vocation using a Likert scale with scores ranging from 1 (minimum vocation) to 10 points (maximum vocation), considering factors such as professional commitment, job satisfaction, intrinsic motivation towards teaching and desire for continuity in the

educational profession. The second scale focused on specifically measuring the capacity for emotional repair, based on items aimed at assessing the teacher's ability to overcome and cope with negative emotional situations, this scale being evaluated with a maximum score of 40 points. Subsequently, the data were organized in a statistical base to facilitate their analysis using the statistical software R.

The econometric analysis was performed by applying the ordinary least squares (OLS) technique to estimate the simple linear regression model, thus determining the magnitude and significance of the relationship between teaching vocation and emotional repair capacity. The validity of the econometric model was confirmed by the application of several complementary statistical tests, including the GVLMA global test to simultaneously verify linearity, normality, functional specification and homoscedasticity ($p = 0.35353$). In addition, the Rainbow test corroborated the specific assumption of linearity ($p = 0.7272$), the Durbin-Watson test ruled out the existence of significant autocorrelation in the residuals ($DW = 1.8677$, $p = 0.1574$), and the Breusch-Pagan test confirmed the homoscedasticity of the errors ($p = 0.9396$). Finally, the normality test of the residuals ($W = 0.96578$, $p = 0.07284$) confirmed that they adequately follow a normal distribution, thus guaranteeing the statistical and methodological robustness of the study.

Results

The results obtained in the descriptive phase allowed the initial characterization of the investigated variables. In the case of teaching vocation, the average observed was 8,797 on a scale with a maximum of 10 points, indicating that the participating teachers manifested high levels of professional and vocational commitment to teaching. For the variable emotional repair capacity, a general mean of 32.59 points was obtained on a maximum scale of 40, showing a homogeneous distribution towards high and moderately high values. The variables presented minimum values of 6 and 5 respectively, and maximums of 10 and 40 points, which denotes an important variability, especially in the capacity for emotional repair. For a better visual understanding of these results, it is recommended to insert the graphs originally included in the statistical model analyzed (see Figure 1 and Figure 2).

Figure 1

Evolution of the Teaching Vocation (N=64). In original language Spanish

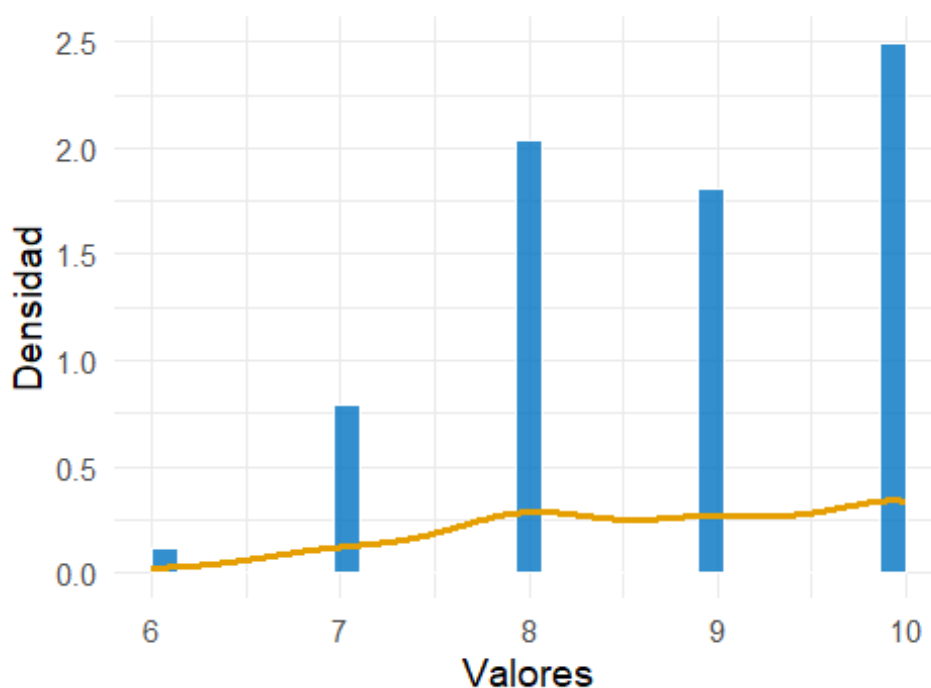
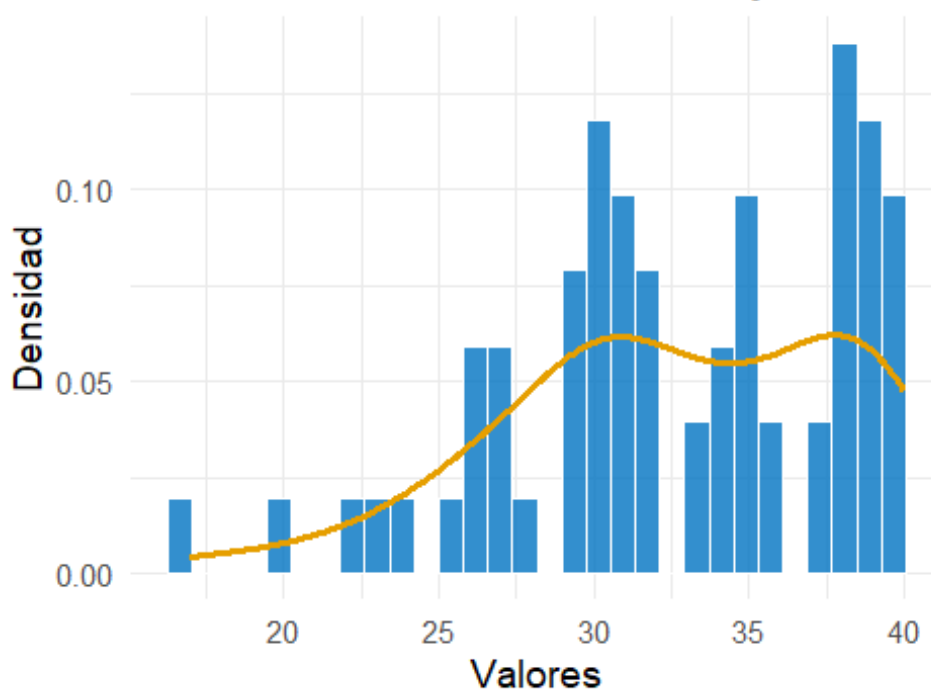


Figure 2

Evolution of the Emotional Repair Capacity (N=64). In original language Spanish



The application of the econometric model by simple linear regression allowed estimating the direct influence of the teaching vocation on the capacity for emotional repair. The model's estimated coefficient ($B_1 = 1.812$, $p < 0.01$) showed that for each unit that increases the teaching vocation, there is an average increase of 1,812 points in the capacity for emotional repair. Likewise, it was observed that the intercept ($B_0 = 16.656$, $p < 0.01$) is statistically significant, suggesting an important base level of emotional reparation even when the teaching vocation was null. The adjusted coefficient of determination (adjusted $R^2 = 0.3072$) indicated that the econometric model explains about 30.7% of the total variance observed in emotional repair capacity.

Finally, the results of the diagnostic tests confirmed the suitability of the proposed model. The GVLMA global test ($p = 0.35353$) indicated the general acceptance of the linear model assumptions. The Rainbow test for linearity was not significant ($p = 0.7272$), which confirms the fulfillment of this assumption; the Durbin-Watson test ($DW = 1.8677$, $p = 0.1574$) indicated no significant autocorrelation in the residuals; the Breusch-Pagan test ($p = 0.9396$) validated homoscedasticity, and the residue normality test ($W = 0.96578$, $p = 0.07284$) confirmed the normal distribution of residues. Together, these results statistically validate the reliability and robustness of the model, providing interpretative security in the identification and analysis of the relationship between teaching vocation and emotional repair capacity.

Discussion

The results obtained in this study allow us to empirically corroborate that the teaching vocation positively influences the capacity for emotional repair of teachers, which corresponds closely with the theoretical framework previously presented. According to Bandura's (1997) sociocognitive theory, the positive perception of one's own competencies—including the vocation for teaching—facilitates healthier emotional processes in situations of work stress, due to the strengthening of self-confidence and the positive perception of one's own ability to adequately cope with emotionally adverse situations. In this sense, the estimated coefficient of the econometric model ($B_1 = 1.812$, $p < 0.01$) theoretically reinforces the idea that a greater commitment and vocation for teaching not only improves general professional perception, but also increases the

ability to adequately cope with complex emotional situations in the workplace, thus increasing teachers' well-being and emotional stability (Skaalvik & Skaalvik, 2018; Vallejo & González, 2022).

Likewise, this study provides relevant empirical evidence to complement recent studies that have qualitatively analyzed the importance of professional vocation in the emotional stability of teachers. Vallejo and González (2022) highlight that vocational commitment facilitates the adoption of effective emotional regulation strategies, thus increasing teacher well-being and reducing the negative effects of work-related stress. These results also coincide with the research of Valdivieso and Rodríguez (2021), who emphasize that the intrinsic motivation derived from a clearly defined vocation allows teachers to more successfully manage the emotions generated by conflicts or daily difficulties in the educational process, generating emotional stability and sustained job satisfaction.

From a methodological perspective, the statistical robustness of the estimated model was evidenced by rigorous diagnostic tests (GVLMA, Rainbow, Durbin-Watson, Breusch-Pagan), which confirmed the linearity, normality, homoscedasticity and absence of autocorrelation in the residuals. These elements allow us to affirm that the results are sufficiently robust to support the interpretation of the influence identified between the variables studied. However, despite the methodological rigor of the study, it is important to consider that the proposed model explains approximately 30.7% of the observed variance, suggesting the existence of other additional factors not considered in this research, which could influence the emotional capacity of teachers. For this reason, future research should incorporate other psychological, institutional, or contextual variables, in order to broaden the comprehensive understanding of the phenomenon studied.

In summary, the results of this work provide clear and quantitative empirical evidence on the importance of strengthening the teaching vocation as a determining factor for the effective development of emotional capacity in educational contexts, suggesting specific institutional interventions in initial and continuing teacher training as a strategy to improve both the emotional well-being of teachers and the overall educational quality.

Conclusions

The present study allowed us to conclude, through the application of an econometric model of simple linear regression, that there is a significant relationship between the teaching vocation and the capacity for emotional repair. Specifically, it was determined that for each unit increase in the level of teaching vocation, the capacity for emotional repair increases on average 1,812 points, thus empirically confirming the theoretical approach that links both variables. This evidence supports Bandura's (1997) approach, according to which perceived self-efficacy, derived in this case from vocational commitment, facilitates effective emotional regulation and strengthens the ability to face and repair emotionally adverse situations in teaching practice. This finding is especially relevant, since it suggests the importance of vocational commitment not only as a motivational aspect inherent to teaching, but also as an emotional resource that enhances the psychological stability and general well-being of teachers in demanding work contexts.

From a practical point of view, the results highlight the convenience of designing and implementing training and institutional interventions focused on strengthening the teaching vocation, considering that this variable acts as a resource that enhances the capacity for emotional repair. This vocational strengthening could be carried out through specific programs that encourage teaching commitment, professional recognition, and continued institutional support, elements that, according to recent research (Vallejo & González, 2022; Vallejo & González, 2022), increase resilience in the face of adverse conditions such as work stress, interpersonal conflicts, or emotional crisis situations in complex educational contexts. In this way, it is recommended that Latin American educational institutions incorporate effective strategies aimed at teacher vocational development, understanding that such development directly influences the educational quality and emotional stability of teachers.

Finally, although the econometric model applied in this study showed a clear relationship between the variables analyzed, explaining approximately 30.7% of the observed variability, it is important to recognize certain methodological limitations that could be addressed in future research. First, the intentional selection of the sample implies limitations to generalize the results to other contexts other than the one studied, making it necessary to expand the sample with probabilistic methods

and consider multiple educational contexts. Likewise, future research could incorporate other additional variables such as contextual, socioeconomic or institutional factors that also contribute significantly to the emotional performance of the teacher, in order to deepen the comprehensive understanding of the phenomenon investigated. In this way, the present study provides relevant empirical evidence for future research and concrete actions in the educational field.

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