


Burnout, Professional Self-Efficacy, and Life Satisfaction as Predictors of Job Performance in Health Care Workers: The Mediating Role of Work Engagement

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Abstract

Background: It is essential to identify the factors that influence the work performance of health professionals working in health care facilities, especially in the context of the COVID-19 pandemic, since these factors have an impact on the quality of medical care provided to the population. **Objective:** This study aimed to analyze the mediating role of work engagement in the relationship between job burnout, professional self-efficacy, life satisfaction, and job performance in Peruvian health care workers. **Methods:** Cross-sectional explanatory study, with the voluntary participation of 508 health professionals (physicians and nurses) of both sexes (70.7% women, 29.3% men), and from different health facilities in the city of Lima. All participants were administered the Single Burnout Item questionnaire, the Professional Self-Efficacy Scale (AU-10), the Satisfaction with Life Scale (SWL), the Individual Work Performance Questionnaire (IWPQ), and the Utrecht Work Engagement Scale (UWES-9). Structural Equation Modeling (SEM) was used for data analysis. **Results:** In the SEM analysis, it was found that for the mediation model the incremental goodness-of-fit indices were significant ($\chi^2 = 2292.313$, $gl = 659$, $P < .001$, $\chi^2/gl = 2.788$). Career self-efficacy ($\beta = .557$, $P < .001$) and life satisfaction ($\beta = .289$, $P < .001$) were positive predictors of work engagement. While burnout was a negative predictor ($\beta = .878$, $P < .001$). The consistent mediation of work engagement of professional self-efficacy, life satisfaction, and burnout had a positive predictor effect on job performance ($\beta = .878$, $P < .001$). **Conclusion:** Research provides evidence that professional self-efficacy, life satisfaction, and burnout could influence job performance through work engagement.

Keywords

burnout, professional self-efficacy, life satisfaction, job performance, work engagement, health care workers

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Introduction

According to the World Health Organization (WHO), Human Resources for Health (HRH) is a set of people from different professions and occupations who work to improve the health of the population.¹ Under this concept, they have been recognized as the fundamental component for guaranteeing quality health care to the population. On the other hand, the identification of the factors that influence the work performance of health professionals in health facilities is essential.² In fact, the performance of healthcare workers is closely associated with the performance of hospitals.² Therefore, it is important to address the factors associated with work performance in health personnel and

may be limiting the progress of the development of HRH, generating a negative impact on the quality of care of the population.³

Burnout is defined as the condition of a person being physically and emotionally tired after having performed a

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difficult job for a long time.⁴ Among the main manifestations of burnout are fatigue, tiredness, prostration, lassitude, among others.⁴ Previous findings have shown that burnout not only triggers problems in the mental and physical health of workers but also has an impact on individual and organizational performance.^{5,6} A study found that burnout is a common condition among healthcare professionals, precisely among physicians and nurses, with a prevalence ranging between 40% and 60%.⁷ Healthcare workers experience high rates of job burnout.⁸⁻¹³ In fact, healthcare workers, especially those working in hospital settings, appear to be at particular risk of burnout, which in turn, can impact the quality of care and patient satisfaction.^{14,15}

Professional self-efficacy is another factor that can have a direct impact on health professionals' job performance and has an effect on both workplace and psychosocial well-being.⁹ Self-efficacy represents people's beliefs about the likelihood that they will perform a particular job and acts as a buffer against the negative impacts of job stressors.² One study found that self-efficacy was positively related to nurse performance.² Similarly, in physicians, another study found that self-efficacy was associated with a low risk of burnout.¹⁶ Healthcare professionals with high levels of self-efficacy cope more effectively with difficulties and strive to increase their productivity, satisfaction, motivation, and adaptability, which contributes to positive work outcomes.¹⁷

On the other hand, life satisfaction is an important factor that can be influenced by job responsibility, triggering a series of positive or negative results in the organization.¹⁸ Satisfied employees are more likely to be more productive and feel more attached to their workplace.¹⁹ Particularly, health care worker satisfaction influences productivity, quality, efficiency, and commitment to work and, at the same time, health care costs.²⁰ Findings from a study conducted in the general population and those working in various economic sectors found that life satisfaction is a predictor of job performance.²¹

Work engagement is a factor closely related to job performance.²² Likewise, workers with high job commitment may be willing to take on additional job roles, which reflect on job self-efficacy and performance in task accomplishment, creativity, and quality.²³ In fact, engaged employees have an energetically effective connection to the work context. Therefore, they consider their work as challenging rather than stressful and demanding. This, on the one hand, leads to increased levels of job performance.^{22,24} and on the other hand, it could favor buffering benefits against the negative effects of stressors and job burnout. In addition, work engagement is linked to life satisfaction. People who are satisfied with life generally demonstrate high organizational commitment, job, and career satisfaction, which, in turn, have a direct impact on work efficiency and performance.²⁵

Table 1. Distribution of sociodemographic variables.

Characteristics	N (%)
Age groups (years)	
20-31	95 (18.7)
32-42	233 (45.9)
43-54	120 (23.6)
55-65	60 (11.8)
Staff	
Medical	89 (17.5)
Nurse	419 (82.5)
Gender	
Female	359 (70.7)
Male	149 (29.3)
Employment status	
Outsourced	12 (2.4)
Hired	332 (65.4)
Monthly contract	25 (4.9)
Employee	139 (27.4)
Occupational group	
Assistance	380 (74.8)
Administrative	128 (25.2)

Identifying and understanding the factors associated with the job performance of healthcare professionals in healthcare facilities is very important because it will benefit both the healthcare professional as well as the patients who benefit from the quality of medical care. Therefore, the purpose of this study was to analyze the mediating role of work engagement in the relationship between job burnout, professional self-efficacy, life satisfaction, and job performance in health care workers.

Materials and Methods

Study Design and Population

A cross-sectional and explanatory study was designed considering latent variables represented by a system of structural equations.²⁶ For the sample size, the effect size was analyzed by means of the Soper electronic calculator, which considers the number of observed and latent variables in the model, the anticipated effect size ($\lambda = .3$), the desired statistical significance ($\alpha = .05$) and the level of statistical power ($1 - \beta = .95$), considering a minimum sample of 207 participants. We surveyed 508 health professionals, both doctors (17.5%) and nurses (82.5%) in the city of Lima, Peru, with an average age of 39.75 years ($SD = 10.08$). The majority were female (70.7%), contracted (65.4%), of the assistance group that participates in the processes of promotion, recovery, and rehabilitation of health through the care and well-being of the person (74.8%). In addition, those working full and part time in the first level of care health facilities of the health network of a district in the Callao area were included (Table 1).

The study was conducted during the months of October and November 2021. Participants were selected by non-probability convenience sampling, excluding those at highest risk of severe disease by COVID-19.²⁷ This is due to an approved regulation (RD N° 076-2021/GDR/DIRESA/DG) that refers to the “Health surveillance and control plan for workers at risk of exposure to COVID-19 in DIRESA CALLAO 2021,” which stipulates that health workers at very high risk of exposure to COVID-19 should not participate in meetings, training, and other activities as a protective measure.

Ethical Considerations

Prior to data collection, the personnel of the first-level health care facilities were contacted. Subsequently, the participants were informed of the objective of the study; they were also informed that their participation was voluntary; and informed consent was obtained from all participants. In addition, the privacy and confidentiality of the data collected was guaranteed. The protocol was approved by the Research Ethics Committee of the Graduate School of the Universidad Peruana Unión (Number: 2021-CE-EPG-000036) and by the Ethics and Research Committee of the Regional Health Directorate of Callao according to certificate N° 019-2021-COMITÉ DE ÉTICA/UI/DIRESACALLAO and the data collection instruments were applied considering the guidelines stipulated in the Declaration of Helsinki.

Variable Measurements

Burnout: The evaluation of job burnout was carried out considering the Burnout Unique Item (IUB) tool validated in the Peruvian population by Merino-Soto et al.²⁸ This instrument measures the degree of mental and physical exhaustion, as if the person were “burned out” by work; it consists of an instruction to guide the examinee’s response and consists of 5 descriptive categories ordered according to their descriptive magnitude on the experience of burnout. The analysis of the rating of the intensity of the response options consists of obtaining the median of the ratings and assigning them a rating from 1 (minimum perceived intensity) to 5 (maximum perceived intensity).

Professional self-efficacy: The Professional Self-Efficacy Questionnaire was used.²⁹ The AU-10 is a self-report instrument and assesses the beliefs that workers hold about their own abilities to successfully perform activities associated with their profession. It consists of 10 Likert-type items: Never=0; almost never=1; rarely=2; occasionally=3; frequently=4; very frequently=5; always=6. In a population of Peruvian workers, internal consistency was obtained using Cronbach’s alpha coefficient (.84).

Satisfaction with life: It was evaluated through the Satisfaction with Life Scale (SWLS) in its version for the

Peruvian population.³⁰ This instrument evaluates the degree of overall life satisfaction and is composed of 5 Likert-type items: strongly disagree=1; slightly disagree=2; neither agree nor disagree=3; slightly disagree=4; strongly agree=5. The internal consistency of the instrument was through a coefficient $\omega=0.90$ and $H=0.92$.

Work performance: The Individual Work Performance Questionnaire (IWPQ) was used in its Spanish version.³¹ This scale evaluates the level of job performance based on employees’ own assessment of their task performance, context, and counterproductive behaviors. The scale is composed of 13 Likert-type items: Never=1; almost never=2; sometimes=3; almost always=4; always=5. It is made up of 3 dimensions: Task Performance (Items: 1, 2, 3, 4, and 5), Counterproductive Behaviors (Items: 6, 7, 8, and 9), and Context Performance (Items: 10, 11, 12, and 13). On the other hand, the reliability of the instrument was determined by means of Cronbach’s Alpha statistic. The ordinal alpha coefficients for each of the 3 dimensions were adequate (on-task performance: $\alpha=.76$; counterproductive behaviors: $\alpha=.76$, and in-context performance: $\alpha=.72$). The total scale reached a value of .70.

Work engagement. The 9-item Utrecht Work Engagement Scale (UWES-9) was used in its version for the Peruvian population.³² The same scale is used to measure the level of work commitment. This scale is composed of 9 Likert-type items: Never=0; Almost never=1; Sometimes=2; Regularly=3; Many times=4; Always=5. It is made up of the following dimensions: vigor (Items: 1, 2, and 3), dedication (Items: 4, 5, and 6), and absorption (Items: 7, 8, and 9). The reliability of the instrument was determined by Cronbach’s alpha statistic.³³ The coefficients for the total scale ($\alpha=.85$) and each of the 3 dimensions were adequate (vigor: $\alpha=.79$; dedication: $\alpha=.82$, and absorption: $\alpha=.81$) demonstrating adequate and relevant reliability.

Statistical Analysis

Statistical analyses were performed using the R 4.1.2 program. Descriptive statistics were calculated: mean (M), standard deviation (SD), skewness ($g_1 < 3$), and kurtosis ($g_2 < 10$) according to Kline’s³⁴ criteria. The assumptions of normality and multivariate estimation of Mardia, in which values less than 5 indicate normal distribution, were verified, and a bivariate analysis was performed, verified by correlations between variables.

To test the hypotheses, structural equation modeling (SEM) was performed to evaluate the direct and mediated effects of the latent predictor variables on the outcome variables.³⁵ Kline’s³⁴ proposal was followed for statistical analysis and testing of structural equation models and the weighted least squares mean adjusted (WLSM) was used. The goodness-of-fit indices of the model were evaluated in accordance with the proposals of Rex³⁶ and Escobedo et al.³⁷

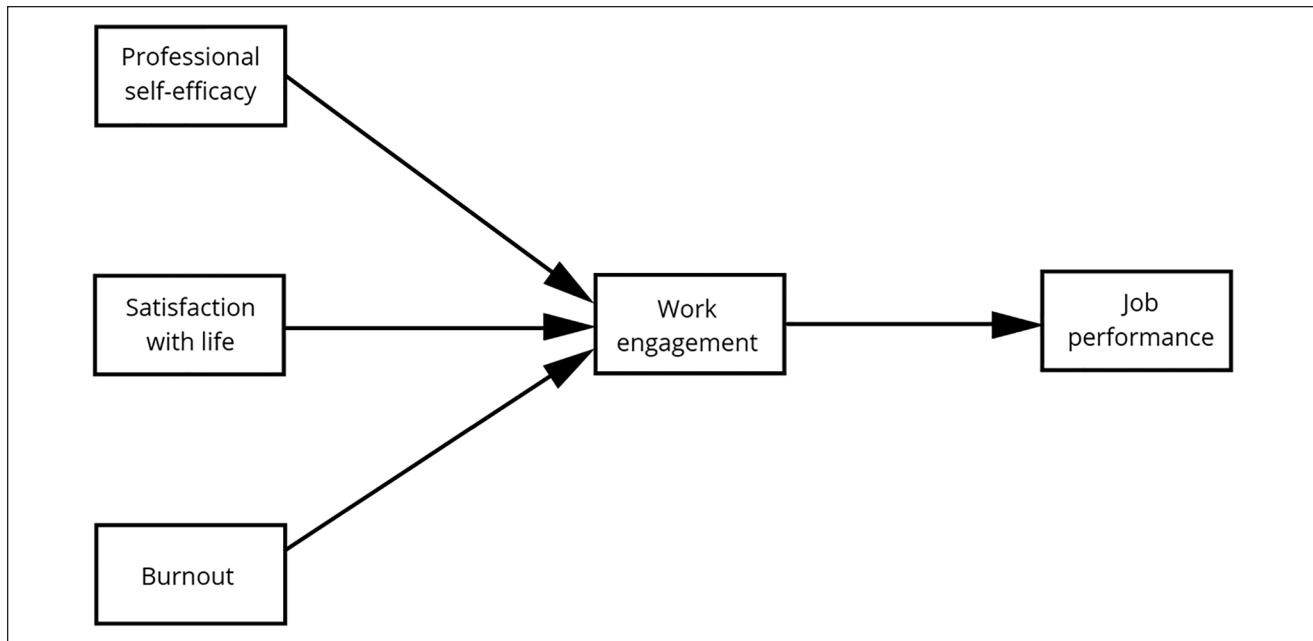


Figure 1. Proposed model.

Table 2. Descriptive Statistics and Correlation Matrix of the Study Variables.

Variable	1	2	3	4	5	Mean	SD	g^1	g^2
JoPe	-					45.82	4.83	-0.98	3.33
WoEn	.53**	-				46.18	8.11	-2.42	7.52
SaLi	.48**	.64**	-			20.97	3.76	-1.65	2.96
PrSe	.59**	.71**	.64**	-		51.25	8.63	-2.2	6.39
Burn	-.34**	-.53**	-.54**	-.55**	-	1.57	0.72	1.53	3.43

Abbreviations: JoPe, job performance (1); WoEn, work engagement (2); SaLi, satisfaction with life (3); PrSe, professional self-efficacy (4); Burn, burnout (5); SD, standard deviation. g^1 = skewness; g^2 = kurtosis.

** $P < .01$.

The comparative fit index (CFI) and Tucker-Lewis fit index (TLI) ranging between .90 and .95, respectively, would indicate an acceptable fit and values above .95 would indicate an adequate fit. Root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) indices with values between .05 and .08, respectively, would indicate an acceptable fit and values below .05 would indicate an adequate fit.

Mediation was carried out in R using the mediation function of the psych package.³⁸ According to the established guidelines, mediation is a mechanism through which a given variable accounts for the relationship between the predictor and the criterion.³⁹ That is, the variable M is mediated between an independent variable X and a dependent variable, and M is causally located between X and Y; therefore, the mediating variable M is affected by X and, in turn, M affects Y,⁴⁰ so that it accounts for the indirect effect of X on Y through M. The model proposed in Figure 1 comprises

a set of 3 parallel models with a mediator. In the first model, the independent variable is professional self-efficacy, the second model presents life satisfaction, and the third model presents burnout. Each of these models includes work engagement as a parallel mediator and the dependent variable in each model is job performance. The direct effect of each predictor variable on the criterion variable was determined using the mediator.

Results

Preliminary Analysis

Descriptive statistics and correlations of the study variables are presented in Table 2. The analyses between the variables studied yielded highly significant correlation coefficients ($P < .01$). Bivariate analysis shows that job performance correlates positively with work engagement ($r = .53$,

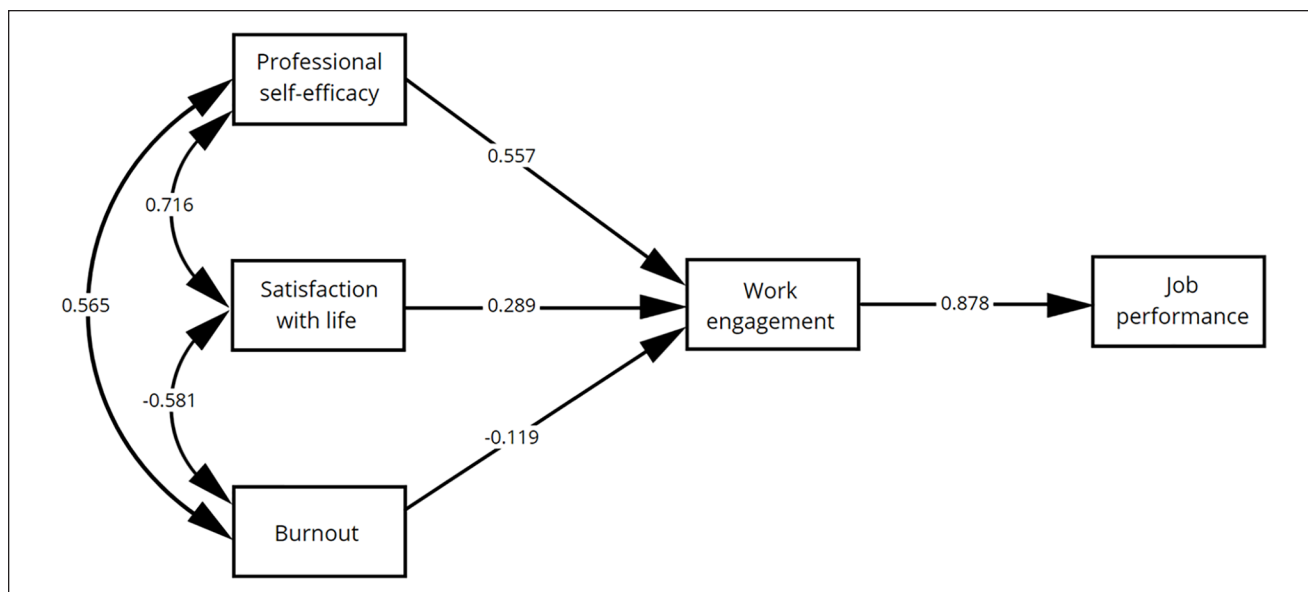


Figure 2. Predictive model of job performance, considering the variables professional self-efficacy, life satisfaction and burnout, and job commitment as a mediator.

$P < .01$), life satisfaction ($r = .48$, $P < .01$), professional self-efficacy ($r = .59$, $P < .01$), and a negative correlation with burnout ($r = -.34$, $P < .01$). Moreover, positive correlations of work engagement with life satisfaction ($r = .64$, $P < .01$), professional self-efficacy ($r = .71$, $P < .01$), and negatively with burnout ($r = -.53$, $P < .01$) were observed. Life satisfaction was positively correlated with professional self-efficacy ($r = .64$, $P < .01$) and negatively correlated with burnout ($r = -.54$, $P < .01$). Professional self-efficacy was negatively correlated with burnout ($r = -.55$, $P < .01$). These relationships provide the basis for examining the hypothesized mediation model. However, the data revealed a multivariate kurtosis, as the normalized estimate of Mardia was 35.35. Therefore, the WLSM estimator was applied, which is robust to analyze non-normal data.

Hypothesis Test

A predictive model using structural equation modeling was evaluated with the variables that presented significant correlations (Figure 2). In the SEM analysis, incremental goodness-of-fit indices⁴¹ were found to be significant for the mediation model ($\chi^2 = 2292.313$, $gl = 659$, $P < .001$, $\chi^2/gl = 2.788$) and for the comparative indices (CFI = 0.981, TLI = 0.980, RMSEA = 0.032, and SRMR = 0.056).

Specifically, career self-efficacy ($\beta = .557$, $P < .001$) and life satisfaction ($\beta = .289$, $P < .001$) were positive predictors of work engagement. Whereas burnout was a negative predictor of work engagement ($\beta = -.119$, $P < .001$). The consequent mediation by work engagement of professional

self-efficacy, life satisfaction, and burnout had a positive predictor effect on job performance ($\beta = .878$, $P < .001$).

Test of Measurement Effects

To test for measurement effects, the R package “mediation” was used and 10000 randomly calculated samples were requested.⁴² The direct relationship was examined separately by simple measurement between the predictors: professional self-efficacy ($\beta = .24$, $se = 0.03$, $t = 8.66$, $P < .001$), life satisfaction ($\beta = .31$, $se = 0.06$, $t = 5.03$, $P < .001$), burnout ($\beta = -.61$, $se = 0.30$, $t = -2.05$, $P < .001$), and that of criterion (job performance), remained significant after adding the mediator (work engagement). Likewise, multiple mediation analysis indicated that work engagement mediates the association between professional self-efficacy, life satisfaction, and burnout ($\beta = .11$, $se = 0.03$, $t = 3.55$, $P < .001$).

Discussion

Work engagement in healthcare workers has been challenged and affected by the COVID-19 pandemic.⁴³ The findings of the present study, conducted during the pandemic health emergency, support the hypothesized model that proposed that work engagement plays a mediating role in the relationship between job burnout, professional self-efficacy, life satisfaction, and job performance in health care workers. In addition, it was evidenced that professional self-efficacy was positively related to work engagement and life satisfaction, however, there was a negative relationship with burnout.

In the current study, there was evidence of a positive relationship between professional self-efficacy and work engagement. This result is consistent with previous research findings in health personnel and other professionals where high professional self-efficacy influences work engagement. In Taiwanese, Italian, and Jordanian nurses, they found that professional self-efficacy and work engagement were significantly positively correlated.¹⁰⁻¹³ These findings are also similar to those reported in other professionals where professional self-efficacy was found to be associated with work engagement.¹¹ These results could be due to the fact that respondents have higher performance and self-dedication.¹⁰ In fact, increased confidence in the professional's capabilities increases the achievement of challenges on the job and compliance with the organization's standards.⁴⁴ On the other hand, despite the concern about COVID-19 infection, job self-efficacy in healthcare personnel was little impacted.⁴⁵ Therefore, health personnel who have a level of professional self-efficacy translate as a higher level of commitment to care in hospitals.⁴⁶

Another relevant finding of this study is that work engagement is related to life satisfaction. This result is consistent with that reported in another study suggesting a significant relationship between life satisfaction and work engagement.⁴⁷ Life satisfaction is an important factor in stronger social relationships, favors better job performance, and, as a result, promotes greater work engagement.⁴⁸ Healthcare worker satisfaction impacts productivity, quality, efficiency, and work engagement.²⁰ Health professionals need a greater commitment for a better job performance, since the care of patients in various stages of the disease, emotional implications, and shift work can be physically and mentally exhausting. Therefore, adequate working hours, efficient infrastructure, equipment, and materials, as well as an increase in personnel would improve the performance of the professional and decrease risk factors such as burnout syndrome.^{49,50}

During the COVID-19 pandemic, burnout was found to be higher in physicians and nurses than in other health care workers.⁵¹⁻⁵⁴ The findings of the present study showed that burnout is negatively related to work engagement. Findings from a survey of 212 health care workers in a Norwegian hospital found that emotional exhaustion had direct effects on job attitudes (job satisfaction and organizational engagement).⁵⁵ Previous studies have documented that burnout triggers problems in the mental and physical health of workers, which, in turn, can have an impact on work engagement.^{5,6} A study examining associations between burnout and work engagement among physicians and nurses found that emotional job demands correlated with work engagement scores in physicians.⁵⁶ On the other hand, findings from a study conducted with 373 nurses in a public hospital found that overall health levels were negatively correlated with work engagement.⁵⁷ The deterioration of

health caused by burnout can lead to a negative relationship with work engagement.^{58,59} Burnout syndrome affects the health status of health care workers, impacting work commitment and patient safety.^{56,60,61} Consequently, it is imperative that organizations make interventions to prevent the deterioration of the health status of health personnel, which have been magnified by the health emergency. Burnout management should be a means for work engagement, as workers who do not have clear objectives are hesitant to complete tasks and incur less effort and less effective performance from healthcare professionals.⁶²

On the other hand, the results of the current study reported that work engagement mediated the effect of professional self-efficacy and job performance. Previous studies indicate that self-efficacy moderates the positive effects of professional commitment on job performance; in fact, self-efficacy equips staff with capabilities and resources to improve their achievements.⁶³ Likewise, others studies indicated that work engagement mediated life satisfaction and job performance.⁶⁴ Work engagement is influenced by life satisfaction and is associated with higher job performance.⁶⁵ Satisfaction with life in employees allows them to be involved with the objectives and an increase in social communication networks, thus generating a higher job performance guaranteeing a subsequent job performance.⁶⁶ On the other hand, studies show the mediation of engagement between burnout and job performance.⁶⁷ Burnout is due to inability to meet the requirements of the job, lack of resources, and imbalance of individual effort.⁶⁸

Relevance to Clinical Practice

The findings of this study have relevant implications for the clinical practice of health care workers, especially in the context of the COVID-19 pandemic. Health care facilities should be aware of the negative impact of burnout on professional self-efficacy, satisfaction with life, and job performance in health care workers, particularly physicians and nurses. The evidence provided by the current study could favor the implementation of policies and intervention strategies to prevent diseases and improve the motivation of health personnel, who provide services to patients, and the general population; considering that adequate medical care by health professionals depends on their levels of emotional and physical health, professional self-efficacy, life satisfaction, and performance. Understanding the relationship of these constructs is important for the prevention of job burnout and improved quality of patient care.

Limitations

The most relevant limitation of this study is that a subjective measure was used as an indicator of job performance. However, self-assessment of performance is also frequently

used in the literature, and we should not underestimate the importance of this variable. Another possible limitation of the study refers to the type of information analyzed, since all measurements were self-reported, which suggests a possible bias in the method. However, it is important to note that, due to the nature of the study variables, we have to measure them with self-assessment measures, as we are interested in workers' perceptions of emotional exhaustion, professional self-efficacy, and life satisfaction they feel they have. We also want to know about their perception of how much engagement they have experienced at work. No one better than themselves to report this type of information. On the other hand, there is an overrepresentation of young people (32-42 years old) and women. Finally, the cross-sectional design precludes establishing causality, so the effects should be interpreted with caution and future research should employ longitudinal designs to capture the temporal dimension of the model.

Conclusion

Work engagement plays a mediating role in the relationship between job burnout, professional self-efficacy, life satisfaction, and job performance in health care workers. It was found that professional self-efficacy was positively related to work engagement and life satisfaction, while there was a negative relationship with job burnout. Although the results should be interpreted with caution due to sampling bias, confirmation of these findings will allow the development of interventions to improve professional performance.

Declaration of Conflicting Interests

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