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Personality Dimensions and Work Stress in Nursing Professionals at the Santiago Regional School Hospital

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ABSTRACT

The activities of nursing staff demand tasks that expose them to extreme stress in the organizational environment, and work stress is one of the effects that arise from a mismatch between the individual's abilities and the demands of his or her job. The activities of nursing staff demand tasks that expose them to extreme stress in the organizational environment, and work stress is one of the effects that arise from a mismatch between the individual's abilities and the demands of his or her job. The present research seeks to evaluate the predictive effect of personality dimensions on the levels of work stress in

these professionals. The present research seeks to evaluate the predictive effect of personality dimensions on the levels of work stress in these professionals. This study was carried out from a descriptive approach, and longitudinal design represented in a growth curve model that modeled the change of stress over time; The instruments used were Maslach's Burnout Inventory measured stress levels, and Eysenck's Personality Inventory was used to measure neuroticism, extraversion, and psychoticism. The results revealed that the personality dimension in which the participants obtained the highest score was Psychoticism, as 43.2% of the participants presented high scores and 40.5% very high, while for the dimensions of extraversion and Neuroticism, the predominant scores were low and average.

INTRODUCTION

Work is one of the most important areas in people's lives since it represents a source of income necessary to survive and a reason for personal satisfaction linked to self-realization, which is why when events that are perceived as stressful occur, they usually affect both physical and mental health. Along these lines, according to Paris, "work related to health care is characterized by unique stressors, which are the result of an attitude of intense dedication to caring for the lives of others" (2015, p. 7). The activities of health personnel, especially nurses, demand tasks that expose them to extreme stress such as overwork, long working hours, exposure to high-risk diseases, and contact with people who are in constant danger of death.

Personality, as a fundamental psychological construct, is composed of dimensions such as psychoticism, where high levels indicate harshness and lack of empathy, extraversion as a tendency towards sociability, and neuroticism understood as the tendency to present emotional instability. Personality is presented as an intrinsic factor that shapes individual responses to these work challenges, so personality dimensions could be a predisposing factor to work stress, which affects both physical and mental well-being and the quality of care provided to the user. The current work scenario marked by globality and neuroticism generates conditions that cause many professionals to experience frustration and a high level of emotional tension, which leads to an increase in levels of work stress and professional burnout (Rodríguez Carbajal & Rivas Hermosilla, 2011).

Mendoza & Marqués (2020) In their research on stress and nursing work, whose objective was to determine the factors that influence the levels of work stress in nurses, they obtained as a result that the stressors found are: exhaustion, insomnia, work overload, dissatisfaction, insufficient space, among others, and these cause conflicts with the health team and trigger poor care for users.

Betancourt Delgado et al. (2021), in their study on work-related stress in ICU nursing staff during the COVID-19 pandemic, whose objective was to determine the stress level of

licensed nursing interns, found that 21% of respondents are exposed to a high level of stress, while 79% are exposed to a low level of work-related stress.

Over time, multiple studies have been carried out on the different variables that could predict a higher risk of experiencing high levels of work-related stress, however, they have ignored the role of personality dimensions as a possible predictor of this. For these reasons, this research focuses on determining the predictive effect of personality dimensions on occupational stress levels in nursing professionals, as a search for etiological factors of this condition, which would favor the development of new relevant intervention strategies.

Assessing the personality dimensions together with the stress levels of each subject contributed to deliberating whether work stress is a problem related to the personality dimensions. This study will help identify certain personality traits that may influence the way people experience and manage stress. This will help identify personality profiles associated with greater vulnerability to stress and help in the early prevention of stress, as well as the development of strategies to improve coping mechanisms in the face of stress. It will also provide valuable information on the relationship between personality and stress, which can be taken up in future research and provide data that can inform mental health policies and psychosocial intervention strategies, contributing to overall well-being.

METHOD

Design

The research was carried out from a quantitative approach through numerical measurement and statistical processing of the data. It is longitudinal and four measurements of the work-related stress variable were carried out between September 25 and October 13, 2023; to model the trajectory of work-related stress, and to determine whether personality dimensions have a predictive effect on the development of stress levels over time.

Participants

The sample consisted of 37 participants. Initially, a sample size of 117 nurses selected from the staff of the Santiago Regional School Hospital was determined; with a 95% confidence level. The sample was reduced due to the small number of personnel present during the application of the tests since only 23% of the total population is present each day. Finally, a direct, non-probabilistic sampling was carried out in which it was decided to select the areas of women's medical surgery, maternity, emergencies, and outpatient consultation; in which the nursing staff was asked for their consent and collaboration for the application of the different tests, to which only 37 subjects agreed, the general data of the sample are described in Table 1.

Table 1. Characteristics of the sample

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Sex	F	29	78.4	78.4	78.4
	M	8	21.6	21.6	100
Age	**N**	**Minimal**	**Maximum**	**Stocking**	**Deviation**
	37	23	58	39.16	10.246

Instruments

Maslach Burnout Inventory (MBI): was prepared by Cristina Maslach. It is an instrument made up of 22 items, whose objective is to assess on a seven-degree frequency scale the three symptoms or dimensions that define Burnout, such as emotional exhaustion (EA) which consists of 9 items, depersonalization (PD) consists of 5 items and low personal fulfillment at work (RPT) which consists of 8 items. The aforementioned scales are measured in ranges from 0 to 6, each item has a score that is added, obtaining an overall score within the low, medium, and high levels (Burnout). According to Cañadas de la Fuente, Lozano & Vargas (2014) in their study on the evidence of factorial validity of the Maslach Bornout inventory, it obtained coefficients in Cronbach's alpha of 0.88 for the EC dimension, 0.77 in the dimension associated with PR and 0.58 in the DP dimension, these values suggest a good internal consistency in this test.

Eysenck Personality Inventory (EPQ-R): Developed by Hans Eysenck, this instrument aims to assess three dominant dimensions of personality, Extraversion-Introversion (E) and Nuroticism-Stability (N) and Psychoticism (P), which explain most of the variation in the personality domain. Each form contains 57 items of closed answers (yes and no) the results obtained from the sum of the items will indicate the value of the aforementioned dimensions. In terms of reliability, Merino Soto (2017) found that the instrument has an internal consistency with Cronbach's alpha of 0.80.

Procedure

The research began with longitudinal monitoring that lasted 19 days, the data was collected between September and October 2023. First, the EPQ-R and the MBI were applied together, then the MBI was applied only on three more occasions. The measurements taken were obtained through the personal application of the instruments mentioned above. The 37 participants were distributed between the medical-surgical, women's surgery, emergency, and outpatient areas and were asked for their consent to answer the instruments that were filled out in physical form on the days they were working until they completed a maximum of four measurements in Maslach's Burnout inventory.

Data analysis

For data processing, a descriptive analysis was carried out with a frequency distribution, it was decided to represent the data using histograms, which allowed us to visualize the proportion of personality dimensions predominant by nursing professionals. These data were analyzed using the SPSS program.

The longitudinal growth of stress was modeled through an Unconditional Growth Curve (GCM) analysis. GCM is a statistical technique used to explore and understand the evolution of a variable over time, in this case, stress. The Growth Curve Model "consists of a model that presents patterns of change, time trends, trajectory, and variance as measured by the combination of both variables; that is, it shows the change and fluctuation in the results extracted from the samples over time, whether they increase or decrease." (Balguera & Pinedas Rios, 2020, p. 2). The intercept takes the value when the first measurement is made, i.e. the starting point, and the slope is the one that represents the average change in the results of the measurements. Therefore, it makes it possible to assess the change in stress systematically and predictably over time.

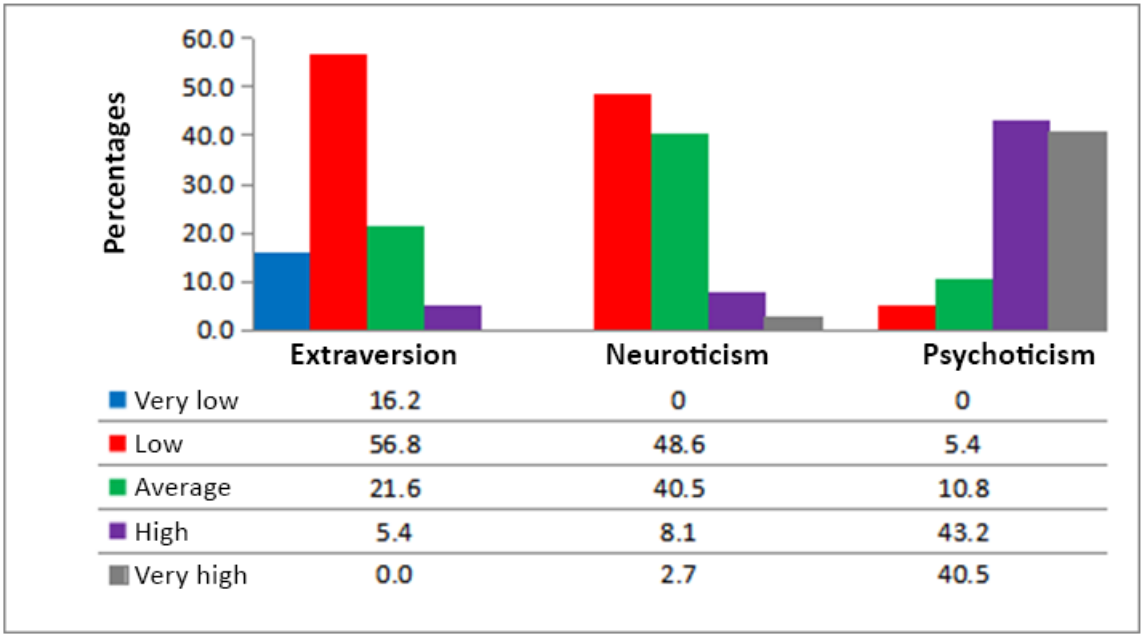
Subsequently, a conditional growth curve model was performed, where personality dimensions were included as covariates (independent variables) to establish their predictive effect on the development of stress over time. This data was processed through the Mplus8 program. The assumed significance level in all hypothesis testing cases is 0.05.

Ethical Considerations

In the study, confidentiality was maintained, the personal data of each participant was not exposed; copyright was provided when resuming works previously elaborated through bibliographic citations; the results of the research are supported by the diagnostic instruments for professional use that support these results; and evaluation instruments whose validity and reliability have been established for their application in the sample of every test.

RESULTS

To describe the dimensions of personality in the nursing professionals of the Hospital Escuela Regional Santiago, descriptive information on the levels of Extraversion, Neuroticism, and Psychoticism present in these personnel is presented. The results obtained are presented in Figure 1.



	Extraversion	Neuroticism	Psychoticism
Very low	16.2	0	0
Low	56.8	48.6	5.4
Average	21.6	40.5	10.8
High	5.4	8.1	43.2
Very high	0.0	2.7	40.5

Figure 1. Personality Dimensions

In this graph we can see that the main scores for each dimension of personality were 56.8% at a low level and 21.6% average at Extraversion, which indicates that most of them tend towards introversion; in Neuroticism, 48.6% obtained a low score and 40.5% average, so most of them have emotional stability; while in Psychoticism, 43.2% of subjects presented high levels, and 40.5% very high levels, indicating lack of empathy, harshness and little sensitivity.

On the other hand, Figure 2 describes the results of the trajectory of the averages of total stress and its dimensions along 4 measurements, where it is observed that emotional exhaustion and personal fulfillment increase over time in nursing staff. On the other hand, depersonalization is maintained at low levels.

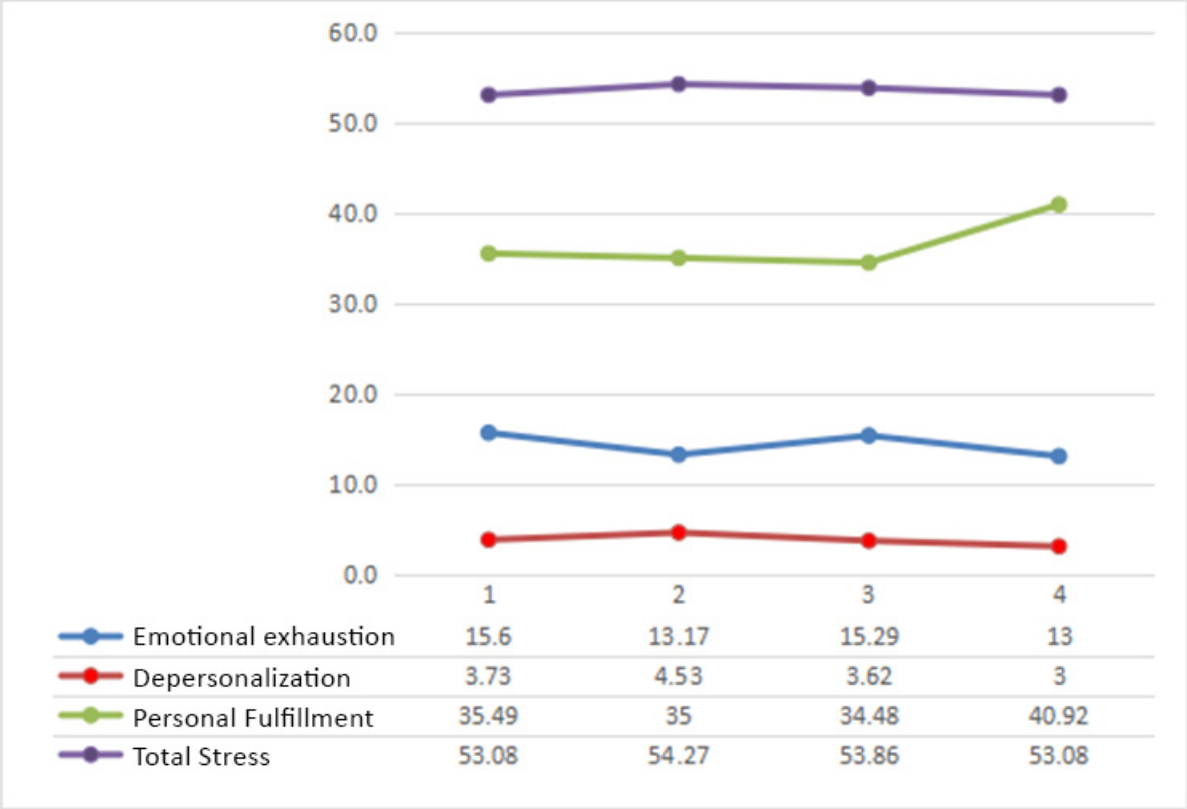


Figure 2. Dimensions of work-related stress

Subsequently, an analysis of the Growth Curve (GCM) of work stress was carried out without including predictor variables (unconditional), in Table 2 the parameters of the trajectory of work stress and each subscale of the Maslach Burnout test, emotional exhaustion, depersonalization and work fulfillment by the participants can be observed, through the latent variables of the Intercept (the mean of the first measurement) and the Slope (the arithmetic mean of the change in the following measurements).

Table 2. Trajectory of work-related stress

	Intercept				Earring			
	Stocking	Variance	E.S.	P	Stocking	Variance	E.S.	P
Total Stress	53.019	154.524	1.971	0.000	0.922	39.012	44.02	0.389
Emotional exhaustion	-3.125	44.975	9.998	0.755	6.244	2.073	13.865	0.001
Depersonalization	6.558	5.362	4.578	0.152	-0.333	-0.364	3.901	0.169
Personal Fulfillment	29.399	43.606	10.003	0.003	7.082	19.088	13.961	0.001
Slope Intercept	-74.64		22.48	0.001				

Regarding Total Stress, the intercept is at point 53.019, with a variance of 154.524 (P=0.000), this indicates that participants vary significantly in their stress levels in the first measurement. Regarding the slope (Estimate=0.922, P=0.389), it is observed that, throughout the measurement period, on average there is an increase of 0.922 points in the total stress scale, however, this increase is not statistically significant.

In the relationship of the intercept with the slope it is observed that a higher score in the intercept is related to a decrease in stress scores over time (Estimated=-74.64, P=0.001), in other words, although in general terms the level of stress remains constant longitudinally, specifically, people who started the measurement period with high levels of stress, They were the ones that decreased stress levels the most as time went on.

In the case of Emotional Exhaustion, we found that, at the beginning of the study, the sample did not show signs of emotional exhaustion (Estimate=-3.125), but on the slope, as time progressed, a statistically significant increase was observed in this dimension (Estimate=6.244, P=0.001). Regarding Depersonalization, in the slope, we observed a decrease in time (Estimate= -0.333), although this reduction did not reach statistical relevance (P=0.169). Regarding Personal Fulfillment, we found a statistically significant increase as time progressed on the slope (Estimate=7.082, P=0.001), indicating that, throughout the study, there was an increase in personal fulfillment.

On the other hand, to estimate the specific influence of personality dimensions on the trajectory of work stress during the measurement period, a conditional analysis of the growth curve was performed controlling for this predictor, the results can be seen in Table 3.

Table 3. Personality dimensions and stress development over time.

		Media	E.S.	P
Extroversion	Intercept	0.595	0.279	0.033
	Earring	-0.269	0.156	0.085
Neuroticism	Intercept	28.754	15.013	0.055
	Earring	6.741	9.003	0.454
Psychoticism	Intercept	0.322	0.252	0.202
	Earring	-0.154	0.140	0.272

In the most significant result, it is observed that when controlling for the scores in Extraversion, for each point obtained on the scale, there is an increase of 0.595 points in the intercept of work stress in the intercept, this increase is statistically significant (P=0.033). Therefore, extraversion is a predictor of increased work stress in the first measurement.

Subsequently, a conditional growth curve model of personality dimensions was performed, controlling for emotional exhaustion as a possible predictor. The results can be seen in Table 4.

Table 4. Personality dimensions and emotional exhaustion over time.

		Media	E.S.	P
Extroversion	Intercept	0.397	0.194	0.040
	Earring	-0.072	0.083	0.384
Neuroticism	Intercept	0.390	0.211	0.065
	Earring	-0.145	0.124	0.240
Psychoticism	Intercept	0.254	0.178	0.154
	Earring	-0.064	0.073	0.383

It is observed that, for each point obtained on the Extraversion scale, there is an increase of 0.397 points in the intercept of emotional exhaustion, this increase is statistically significant (P=0.040). Therefore, extraversion is a predictor of increased emotional exhaustion at the first measurement.

DISCUSSION AND CONCLUSIONS

The results revealed that the predominant levels in the personality dimensions were low and average levels in Extraversion, as well as for the dimension of neuroticism, in contrast to Psychoticism, which presented a higher percentage of subjects located in the high and very

high levels within this dimension. These findings suggest a significant diversity in personality characteristics in this group, where the general profile is of introverted, emotionally stable, and unempathetic people.

The main finding of this research is that Extraversion is evidenced as a predictor in the increase of stress in the first measurement (intercept), as well as in emotional exhaustion.

The relationship between extraversion and increased levels of stress and emotional exhaustion can be understood through various factors associated with this personality trait. Extraverted individuals, being naturally inclined toward social interaction, may be more exposed to work situations that involve constant collaboration, meetings, or presentations, generating additional pressures. In addition, actively seeking stimulation and excitement could cause them to seek out stimulating projects, but it could also increase the likelihood of facing stressful work situations. The competitive nature of some work environments can also affect extroverts as they seek to stand out and actively participate. These results are in agreement with Bonnstetter (2020) who states that extroverts begin to suffer from burnout more often when their work or personal relationships are stressed or struggling, this can occur when they are unable to meet, connect, and enjoy the company of friends, family, and co-workers.

Another noteworthy fact in the results of the stress measurements is that despite not finding high scores of work stress in general, an increase in the dimensions of emotional exhaustion and personal fulfillment can be appreciated, this may be because of the need to achieve a sense of personal fulfillment leads nurses to overexert themselves and commit to excessive workloads; That is to say, as work activities are maintained, personal fulfillment grows, but so does emotional exhaustion. So they experience a depletion of their emotional resources. These results may differ from those of Mendoza and Márquez (2020) as they stated that there is a high prevalence of work-related stress in nursing staff, which affects their work performance; However, both highlight emotional exhaustion as one of the main effects of long working hours and constant work overload, However, the low stress results may be due to the support received by co-workers, Merino (2017), considers this factor as a preventative of professional burnout, being considered good relationships, Both with colleagues and superiors, positive aspects that can decrease burnout and dissatisfaction.

During the research process, some limitations emerged, such as the lack of staff collaboration, and the difficulty in achieving the desired number of measurements; losing data for the study, and limiting the scope of the study, as it does not have a representative sample. However, this study can be very useful since the results obtained provide crucial information to understand and address the emotional health of nurses, understanding that not all professionals

have the same emotional tendencies and the variability of these over time, which can influence their well-being, their work performance and the quality of care received by the population.

This information can be used to develop emotional support and stress management programs in the work environment of nursing professionals and to make problematic personality traits more flexible, such as psychoticism. In addition, it provides a foundation for future research on how to improve the emotional health and well-being of these healthcare workers, which can have a positive impact on patient care and staff retention in the nursing field.

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