

Original article

Predicting Procrastination in Nurses: The Role of Personality Traits and Psychological Well-being

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Abstract: Objective — This study aimed to predict procrastination based on personality traits and psychological well-being among nurses in Shiraz, Iran.

Methods — The study employed a correlational approach based on descriptive analytics methodology. The statistical population included all nurses (n=163) in Iran Naja and Moslemin hospitals in Shiraz, Iran, in 2024-2025. Due to population limitations, the sample size was determined using a census method, taking into account inclusion criteria and potential exclusion from the study, resulting in a final sample of 140 nurses. Participants completed the Procrastination Scale, the NEO Personality Inventory, and the Psychological Well-Being Scale. The collected data were analyzed using Pearson correlation analysis and simultaneous regression analysis using SPSS-28.

Results — The results revealed a significant association between personality traits and nurses' procrastination ($p=0.001$). Furthermore, a significant inverse association was observed between psychological well-being and procrastination ($p=0.001$). The regression model revealed that 27.5% of the variance in nurses' procrastination was explained by personality traits, with conscientiousness and neuroticism playing the most significant roles in predicting procrastination. Furthermore, the regression model revealed that 31.3% of the variance in procrastination was explained by aspects of psychological well-being, with purpose in life, environmental mastery, and personal growth having the greatest impact on predicting procrastination.

Conclusion — Given the significant role of personality traits and psychological well-being in predicting nurses' procrastination, it is crucial for hospital managers and supervisors to consider these issues when developing continuing education and training programs for nurses. This approach could improve nurse productivity and reduce procrastination in hospitals.

Keywords: procrastination, personality traits, psychological well-being, nurses.

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Introduction

Hospital staff are more susceptible to stress and mental health problems. Suicide rates among nurses are significantly higher than average, and their life expectancy is only one year longer than that of miners [1]. Hospital work is stressful, and burnout is common among nurses; as a result, hospital care can be associated with significant strain. This not only causes distress and difficulty for nurses but also likely impacts the quality of patient care [2]. Furthermore, although no independent studies have been conducted on procrastination among hospital staff, it appears that working in a hospital environment, due to its stressful nature, as well as factors such as dissatisfaction, aversion, and delays, may contribute to task avoidance and procrastination [2, 3].

While there is no single definition of procrastination, one of the best definitions is "delaying the completion of a task without any valid reason" [4]. Kirchner-Krath, Birnstiel, and Morschheuser (2024) define procrastination as the failure to complete a task despite having the opportunity to do so [5]. Toussaint, Neal, and Barry identify two key elements in defining procrastination: first, it is a syndrome that leads to various physical and mental harm to an individual; second, an individual irrationally avoids performing a specific task or responsibility [6]. Procrastination in the workplace

has antecedents and consequences, including personality traits and the procrastination per se. Among nurses, procrastination may be associated with their personality traits [7, 8].

Costa and McCrae, using factor analysis, concluded that individual differences in personality traits can be divided into five main dimensions. *Neuroticism* (N) refers to an individual's tendency to experience anxiety, tension, self-pity, hostility, impulsivity, depression, and low self-esteem. In contrast, *extraversion* (E) refers to a person's tendency toward positivity, assertiveness, energy, and sociability. *Openness to experience* (O) reflects a tendency toward curiosity, appreciation of art, creativity, flexibility, and wisdom. *Agreeableness* (A) is associated with traits such as generosity, kindness, empathy, altruism, and trust. Finally, *conscientiousness* (C) represents a person's tendency toward order, efficiency, reliability, self-discipline, achievement orientation, logical thinking, and quietness [9]. Research has shown that anxiety and procrastination are more common in demanding jobs compared to less demanding ones. Furthermore, there is a significant relationship between certain personality traits, including psychoticism and procrastination [10].

Another factor influencing procrastination is a person's level of psychological well-being. Psychological well-being is defined as a

positive feeling and overall satisfaction with life, encompassing oneself and others across various domains, such as family, work, and more [11]. In a hospital setting, high levels of psychological well-being are crucial. Nurses with higher levels of psychological well-being are naturally more effective in interpersonal interactions, self-regulation, goal setting, work purposefulness, and self-discipline, which ultimately improves their work performance. The relationship between psychological well-being and procrastination can be explored using various theoretical approaches, such as Conservation of Resources (COR) theory and broaden-and-build theory.

In their study of work-related factors associated with turnover intention and depressive symptoms among nurses in local Japanese hospitals, Saijo, Yoshioka, and Kawanishi surveyed 1,180 nurses using questionnaires on work factors, occupational stress, and depressive symptoms. The results of the study showed that educational level, low self-confidence, dissatisfaction with family life, unsatisfactory job performance, and weak management support were among the key factors contributing to turnover intention [12]. Furthermore, work shifts, family dissatisfaction, high job demands, unsatisfactory job performance, hospital work environment, as well as limited management and coworker support, were statistically significantly associated with nurses' psychological well-being.

In their study of job stress and mental health among psychiatric hospital staff in Taiwan, conducted on a sample of 573 hospital employees using questionnaires on job stress, mental health, and work-related quality of life, Shen et al. found that 17.2% of staff reported significant stress in the past month. Job stress was associated with the work environment, age, low social support at work, and threats of assault. Measures of psychological well-being were associated with unsatisfactory performance, task delays, excessive job demands, low social support, and job stress [13]. Similarly, Khurmi (2021) demonstrated in his study that task procrastination directly correlated with stress and anxiety, while inversely correlating with psychological well-being. The study identified psychological well-being as a significant negative predictor of procrastination, suggesting that lower levels of well-being may contribute to an increased tendency to procrastinate [14].

In their study of work-related stress and cognitive impairment in nurses involved in patient safety incidents, Park & Kim found that shift rotation, ineffective management, high levels of responsibility, lack of on-the-job training, staff shortages, workplace location, and work engagement were common factors contributing to work-related stress. These factors can negatively impact both patient safety and nurses' psychological well-being [15].

This is the first study to simultaneously examine multiple psychological variables, focusing on a group of nurses in Shiraz. The findings of this study, in addition to raising awareness of the psychological factors influencing procrastination prevention and improving work performance, may contribute to the development of policies and programs aimed at more comprehensively promoting workplace mental health within the Iranian healthcare system. Therefore, the objective of this study was to investigate whether personality traits and psychological well-being predict procrastination among nurses in Shiraz.

Methods

Study design

This study utilized a method of descriptive correlational research via examining relationships between two or more variables. The predictor variables were personality traits and psychological well-being, while the criterion variable was procrastination.

Participants and sampling procedure

Due to population limitations, we used a census sampling method also known as a complete enumeration, resulting in the selection of 163 participants. After reviewing the inclusion and exclusion criteria, the final sample included 140 individuals.

Inclusion criteria involved at least three years of work experience, absence of specific physical or mental illnesses, and refusal to take psychotropic medications. Exclusion criteria included incomplete questionnaire responses, acute or specific illnesses during the study, and unwillingness to participate. Nurses were asked to complete questionnaires after visiting each department and explaining the objectives of the study. Participation was voluntary due to the nurses' job responsibilities.

According to Table 1, of the 140 nurses surveyed, the highest frequency of occurrence falls within the age group of 25-30 years (52 [37.14%]), while the lowest frequency falls within the age group of ≥43 years (20 [14.28%]). Table 2 demonstrates that the highest frequency of occurrence of work experience falls within 9-14 years range (49 [35%]), while the lowest frequency falls within the 3-8 years range (19 [13.57%]).

Table 1. Descriptive statistics of participants' age

Age group	Frequency	Percentage
25-30 years	52	37.14%
31-36 years	30	21.42%
37-42 years	38	27.14%
43 and above	20	14.28%
Total	140	100%

Table 2. Descriptive statistics of participants' work experience

Work experience	Frequency	Percentage
3-8 years	19	13.57%
9-14 years	49	35%
15-20 years	42	30%
21 years and above	30	21.42%
Total	140	100%

Table 3. Descriptive statistics of participants' education level

Educational level	Frequency	Percentage
Associate Degree	31	22.14%
Bachelor's Degree	56	40%
Master's Degree	53	37.85%
Total	140	100%

Table 4. Descriptive statistics of participants' marital status

Marital status	Frequency	Percentage
Single	95	67.85%
Married	45	32.14%
Total	140	100%

According to *Table 3*, of the 140 nurses surveyed, the highest frequency of occurrence of education level falls within the belongs to Bachelor's degree holders (56 [40%]), while the lowest frequency belongs to Associate degree holders (31 [22.14%]). *Table 4* shows that the highest frequency is associated with single people (95 individuals [67.85%]), whereas the lowest frequency corresponds to married people (45 individuals [32.14%]).

Instruments

1. Tuckman Procrastination Scale (TPS): This is a self-report instrument designed to assess respondents' procrastination tendencies. It is a 35-item questionnaire with a 5-point Likert scale response option (ranging from 'strongly disagree' to 'strongly agree'). The Tuckman Procrastination Scale measures the tendency to overtly postpone and avoid tasks and responsibilities [16].

2. Ryff Psychological Well-Being Scale: The short version of the Ryff Psychological Well-Being Scale was developed in 1989 by C.D. Ryff at the University of Wisconsin Medical School and revised in 2002. The original version of this scale contained 120 questions, and shorter versions (including 84, 54, 42, and 18 items) were later developed based on psychometric evaluations. In the present study, the reliability of this questionnaire was measured using Cronbach's alpha. The reliability coefficients for the subscales of this measure were as follows: 0.71 for positive relationships with others; 0.82 for autonomy and independence; 0.75 for environmental mastery; 0.80 for personal growth; 0.75 for purpose in life; and 0.81 for self-acceptance [17].

3. NEO Personality Inventory (NEO-PI): The NEO Five-Factor Inventory was employed to assess personality traits in this study. The NEO Personality Inventory, commonly known as the NEO, was developed by Costa & McCrae [18]. This 60-item questionnaire was designed to briefly and effectively assess five core personality traits: neuroticism (emotional instability), extraversion, openness to experience, agreeableness, and conscientiousness. Each trait consists of 12 items. Each item is rated on a 4-point Likert scale (strongly disagree = 0, disagree = 1, agree = 3, strongly agree = 4). In this questionnaire, responses to some items are reverse-scored, as shown in *Table 5*.

This questionnaire (NEO-FFI) was developed as a shortened version of the NEO PI-R. The correlation coefficients between the NEO-FFI and NEO PI-R scores in the ABLSA sample were calculated as follows: 0.92 for neuroticism, 0.90 for extraversion, 0.91 for openness to experience, 0.77 for agreeableness, and 0.87 for conscientiousness. The internal consistency of the NEO-FFI, based on Cronbach's alpha coefficients, was 0.86 for neuroticism (N),

0.77 for extraversion (E), 0.73 for openness (O), 0.68 for agreeableness (A), and 0.81 for conscientiousness (C).

Data analysis

Descriptive statistics, including mean and standard deviation, as well as inferential statistics such as Pearson correlation coefficient and simultaneous multiple regression analysis using SPSS-28 were employed to analyze the collected data.

Results

Table 6 presents the mean, standard deviation, kurtosis, and skewness of the study variables. As can be seen, the skewness and kurtosis values ranged from -2 to 2, implying the normality of the collected data. To further confirm the normality of the data, the Kolmogorov-Smirnov test was performed (*Table 7*):

- H₀: Data for variable *i* are normally distributed.
- H₁: Data for variable *i* are not normally distributed.

According to the results presented in *Table 7*, if the significance level exceeds the error threshold, the null hypothesis (H₀) is accepted. Conversely, if the significance level is less than the error threshold, the alternative hypothesis (H₁) is accepted. Since the significance level for the research variables is greater than the error threshold of 0.05, it can be concluded that all research variables follow a normal distribution.

Inferential statistics

Testing the regression assumptions for Hypothesis 1

1. Durbin-Watson test. The dimensions of personality traits may predict procrastination in nurses. This test assumes that the Durbin-Watson statistic (DW) should be between 1.5 and 2.5. In the test of Hypothesis 1, this assumption is supported (DW=1.64). In other words, based on the DW value, (1.64) and since this value is between 1.5 and 2.5, the assumption of independence of errors (lack of correlation between errors) is supported.

Table 5. The NEO Five-Factor Inventory (FFI): factors and items

Factor	Items
Emotional instability	1, 6, 11, 16, 21, 26, 31, 36, 41, 46, 51, 56
Extraversion	2, 7, 12, 17, 22, 27, 32, 37, 42, 47, 52, 57
Openness to experience	3, 8, 13, 18, 23, 28, 33, 38, 43, 48, 53, 58
Agreeableness	9, 14, 19, 24, 29, 34, 39, 44, 49, 54, 59
Conscientiousness	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60
Reverse-scored items	1, 3, 8, 9, 12, 14, 16, 18, 23, 24, 27, 29, 31, 38, 42, 46, 48, 57

Table 6. Descriptive statistics of study variables

Variable	Frequency	Mean	Standard deviation	Skewness	Kurtosis
Neuroticism	140	28.17	2.93	0.08	-0.469
Extraversion	140	38.08	3.65	-0.112	-0.844
Agreeableness	140	37.17	3.31	-0.405	-0.178
Flexibility	140	37.84	2.93	0.02	-0.608
Conscientiousness	140	43.14	2.47	-0.71	1.79
Positive relationships with others	140	13.72	4.14	-0.17	-0.043
Self-acceptance	140	13.61	4.32	0.406	0.811
Autonomy and independence	140	13.05	3.86	-0.259	1.58
Environmental mastery	140	14.05	3.41	0.271	0.04
Purpose in life	140	13.15	3.86	-0.033	-0.08
Personal growth	140	12.75	3.78	0.032	0.702
Psychological well-being (Total)	140	80.34	14.57	0.8	0.12
Procrastination	140	101.56	7.7	-0.185	-0.326

Table 7. Normality test results for research variables

Conclusion about distribution	Hypothesis confirmation	Error threshold	Significance level	Variable
Normal	H ₀ Accepted	0.05	0.13	Personality traits
Normal	H ₀ Accepted	0.05	0.41	Psychological well-being
Normal	H ₀ Accepted	0.05	0.14	Procrastination

Table 8. Correlation coefficients between personality traits and procrastination

Variable	Frequency	Degrees of freedom	r	P-value
Neuroticism	140	239	0.333	0.001
Extraversion	140	239	-0.359	0.001
Agreeableness	140	239	-0.346	0.001
Flexibility	140	239	-0.308	0.001
Conscientiousness	140	239	-0.389	0.001

Table 9. Regression of procrastination depending on personality traits

Predictor variable	B	β	t	p	R	R ²	F	p	DW
Neuroticism	0.411	0.195	2.761	0.006	0.525	0.275	13.97	0.001	1.97
Extraversion	-0.342	-0.130	-1.835	0.070					
Agreeableness	-0.208	-0.089	-1.156	0.249					
Flexibility	-0.316	-0.12	-1.658	0.099					
Conscientiousness	-0.754	-0.242	-3.509	0.001					

Table 10. Correlation coefficients between the dimensions of psychological well-being and procrastination

Variable	Frequency	Degrees of freedom	r	P-value
Positive relationships with others	140	239	-0.415	0.001
Self-acceptance	140	239	-0.294	0.001
Autonomy and independence	140	239	-0.306	0.001
Environmental mastery	140	239	-0.415	0.001
Purpose in life	140	239	-0.414	0.001
Personal growth	140	239	-0.162	0.025
Psychological well-being (Total)	140	239	-0.535	0.001

Table 11. Regression of procrastination depending on dimensions of psychological well-being

Predictor variable	B	β	T	P	R	R ²	F	P	DW
Positive relationships with others	-0.392	-0.211	-2.98	0.003	0.559	0.313	13.885	0.001	1.95
Self-acceptance	-0.140	-0.079	-1.82	0.280					
Autonomy and independence	-0.150	-0.075	-1.87	0.278					
Environmental mastery	-0.425	-0.188	-2.60	0.010					
Purpose in life	-0.432	-0.216	-3.68	0.002					

2. Multicollinearity (variance inflation factor and tolerance coefficient). This assumption implies that the independent variable is a linear function of the other independent variables. The variance inflation factor (VIF) should not exceed 10 (and, according to some sources, should be ≤5), while the tolerance coefficient should not be less than 0.1, as this would indicate a problem. After examining the values of both VIF and tolerance coefficient, it can be concluded that the assumption of multicollinearity between the independent variables (personality trait dimensions) is supported. It is worth noting that, given the correlations and interrelations between the independent variables, this assumption remains valid (correlation coefficients for personality trait dimensions are less than 0.8).

To test this hypothesis, the Pearson correlation coefficient was initially used, and the results are presented in Table 8. To test this hypothesis, correlation coefficients between personality traits and procrastination were calculated. The significance level of the relationship between personality traits and procrastination in nurses is negative and significant at the 0.01 level. Specifically, there is a significant relationship between neuroticism and procrastination ($r=0.333$, $p<0.001$), extraversion and procrastination ($r=-0.359$, $p<0.001$), agreeableness and procrastination ($r=-0.346$, $p<0.001$), flexibility and procrastination ($r=-0.308$, $p<0.001$), and conscientiousness and procrastination ($r=0.389$, $p<0.001$). Since the p-values are less than the 0.05 error level, the observed relationships are considered statistically significant.

Now that simple relationships between the independent variables (personality trait measures) and the dependent variable (procrastination) have been confirmed, multiple regression analysis is used to test the research hypothesis. The results are presented in Table 9. The F-statistic of 13.97 indicates the overall significance of the fitted regression model at the 95% confidence level. Given that the R² value for the model is 0.275, it can be stated that 27.5% of the variance in nurses' procrastination is explained by the personality trait dimensions. According to the calculated coefficients of the predictor variables and the t-test to determine the role of each personality trait dimension in predicting procrastination in nurses, it can be stated that conscientiousness ($\beta=-0.242$, $p<0.001$) and neuroticism ($\beta=0.195$, $p=0.006$), which had the highest beta values, play the most significant role in predicting procrastination in nurses. The results of the Durbin-Watson test ($DW=1.97$) fall in the range from 1.5 to 2.5, indicating the absence of autocorrelation between the model residuals. Therefore, the obtained results are reliable.

Testing the regression assumptions for Hypothesis 2

1. Durbin-Watson test. Dimensions of psychological well-being can predict procrastination in nurses. According to this hypothesis, the Durbin-Watson test predicts that the value should be between 1.5 and 2.5. When testing Hypothesis 2, this prediction is confirmed ($DW=1.64$). In other words, based on DW statistic value (1.73), and since this value is between 1.5 and 2.5, it can be concluded that the assumption of independence of errors (the absence of correlation between errors) is supported.

2. Multicollinearity (variance inflation factor and tolerance). This assumption indicates that the independent variable is a linear function of the other independent variables. Considering the VIF values, which should not exceed 10 (or even 5), and the tolerance coefficient (which should not be lower than 0.1), it can be concluded that the assumption of multicollinearity between the predictor variables is supported. It is also worth noting that, based on the correlation matrix and the relationships between the independent variables, this assumption is correct (the correlation coefficients of the psychological well-being dimensions are less than 0.8).

To test this hypothesis, the Pearson correlation coefficient was used, and the results are presented in Table 10. To test this hypothesis, the correlation coefficients between psychological well-being and procrastination were first calculated.

The significance level of the relationship between psychological well-being and procrastination in nurses is negative and statistically significant at the 0.001 level. Specifically, the associations between positive relationships with others and

procrastination ($r=-0.415$, $p<0.001$), self-acceptance and procrastination ($r=-0.294$, $p<0.001$), autonomy and procrastination ($r=-0.306$, $p<0.001$), environmental mastery and procrastination ($r=-0.415$, $p<0.001$), purpose in life and procrastination ($r=-0.414$, $p<0.001$), personal growth and procrastination ($r=-0.162$, $p=0.025$), and general well-being and procrastination ($r=-0.535$, $p<0.001$) are significant, with p -values less than 0.05. Therefore, the observed relationships are statistically significant. Now that the simple relationships between the independent variables (dimensions of psychological well-being) and the dependent variable (procrastination) have been confirmed, multiple regression analysis is used to test Hypothesis 2 of the study. The results are presented in *Tables 10 and 11*.

As shown in *Table 11*, the F -statistic (13.885) indicates the overall statistical significance of the fitted regression model at the 95% significance level. Considering the adjusted R^2 value of 0.313, it can be stated that 31.3% of the variance in procrastination among nurses is explained by the dimensions of psychological well-being. Based on the calculated coefficients for the predictor variables and the results of the t -test to determine the most influential role of each dimension of psychological well-being on procrastination, it can be concluded that purpose in life ($\beta=-0.216$, $p=0.002$), positive relationships with others ($\beta=-0.211$, $p=0.003$), and environmental mastery ($\beta=-0.188$, $p=0.010$) have the highest beta values and play the most critical role in predicting procrastination among nurses. The Durbin-Watson test results ($DW=1.95$) fall within the acceptable range of 1.5 to 2.5, indicating the absence of autocorrelation between the model errors. Therefore, the obtained results are reliable.

Discussion

The results of the study, supporting the hypothesis that personality traits can predict procrastination in nurses, revealed a statistically significant association between personality traits and their dimensions with procrastination in nurses. Conscientiousness and neuroticism played the most significant roles in predicting procrastination in nurses. These results are consistent with the studies by Sirois et al. [19], Hashemi et al. [20], Kantan & Kantan [5], Perlman-Avni & Siebenberg [21], and Steele [3].

Explaining this finding, it should be noted that, given the characteristics of procrastinators, especially in high-stress environments such as hospitals, where nurses experience significant pressure, this result was not unexpected. Procrastinators tend to have low self-esteem and, due to a fear of failure in social situations, tend to postpone tasks. Their feelings of inadequacy often lead to despair and loss of interest in tasks, which can lead to anxiety, depression, and neuroticism. Therefore, the observed relationships in this study were predictable. However, as the present study showed, neuroticism and conscientiousness were the two major personality traits in predicting procrastination in nurses. In this regard, it is important to consider that Costa & McCrae (2008), in their study presenting their five-factor model, stated that conscientious individuals set long-term goals, have the necessary skills and experience to complete tasks, maintain motivation and social control, and are able to delay gratification, deriving satisfaction from effective task completion [9]. These traits contrast with the characteristics of procrastinators, as noted by Tuckman [22] and other researchers.

On the other hand, according to Costa & McCrae (2008) [9], neurotic personalities range from extreme emotional stability to

extreme emotional instability. Their defining characteristics include anxiety, depression, guilt, low self-confidence, tension, worry, irrationality, shyness, moodiness, and heightened emotional states. These personality traits may lead nurses to procrastination under stressful hospital conditions. According to Howell & Watson (2007), procrastinators have difficulty adapting and returning to normal life when faced with emotional situations and extreme behavior [22]. Consequently, low self-esteem, self-doubt, and a sense of hopelessness in these nurses may push them to procrastination. Therefore, the present study found that neuroticism is a positive predictor of procrastination.

The direct relationship between neuroticism and procrastination can be explained by the fact that neuroticism underlies procrastination and is characterized by a tendency toward emotional and affective instability. Neurotic people exhibit traits such as anxiety, depression, anger, hopelessness, fear, sadness, panic, irritability, guilt, resentment, aggression, shyness, impulsivity, and vulnerability. Clearly, people who act impulsively and resort to aggression in response to problems are less likely to seek problem-solving strategies or use cognitive and metacognitive approaches. Such people do not rely on reason and patience in their lives and relationships; instead, they constantly strive for immediate results with minimal effort. When their desires are not achieved or when faced with conflict, they become nervous, feel hopeless, and resort to neurotic behavior.

The inverse relationship between conscientiousness and procrastination can be explained by the concept of self-responsibility, often referred to as conscientiousness, which is one of the five core personality traits. Key characteristics of conscientious people include reliability, hard work, perseverance, and organization. In contrast, people with low conscientiousness are often described as lazy, unable to set goals for success, and unable to maintain personal standards of order. Since personality traits, along with cognitive and social variables, as well as motivational processes, can influence a person's life and contribute to the development of nursing skills and abilities, procrastination conceptually represents low conscientiousness and a self-regulatory disorder. Conscientious people are able to maintain socially controlled motivation, delay gratification, and frequently engage in long-term planning, which reduces their tendency to procrastinate. From this perspective, the inverse relationship between conscientiousness and procrastination appears entirely reasonable.

The results of a study examining the hypothesis that psychological well-being may predict procrastination in nurses revealed a significant inverse relationship between psychological well-being and procrastination in nurses. Specifically, purpose in life, environmental mastery, and personal growth played the most significant roles in predicting procrastination in nurses. These results are consistent with the findings of Asfa et al. [23], Yasemi Nejad et al. [24], and Khurmi [14].

Explaining this finding, it should be noted that high psychological well-being is crucial in a hospital setting. Nurses with higher psychological well-being naturally demonstrate greater effectiveness in interpersonal relationships, self-regulation, goal setting, and self-discipline, which enhances their work performance and, ultimately, leads to a decrease in procrastination. In other words, procrastination is influenced by factors associated with individual well-being. Nurses with high levels of psychological well-being, due to their sense of purpose in

life, positive relationships with others, and adequate control over environmental mastery, are less likely to avoid tasks and experience lower levels of self-doubt. Moreover, when nurses are goal-oriented and optimistic about career advancement, they are more likely to perform their tasks effectively. Their positive relationships with patients and colleagues also prevent delays in performing their duties. As demonstrated in this study, these variables play the most significant inverse role in predicting procrastination.

The environmental mastery component allows nurses to feel in control of their work environment and perceive themselves as decision-makers. In fact, increased psychological well-being and a sense of control over their environment strengthen their belief that their efforts will not be in vain and that they can influence their circumstances. This confidence improves their productivity, increases their chances of professional success, and ultimately reduces procrastination.

Furthermore, the self-acceptance component helps people develop a positive view of their abilities. Nurses with a negative self-perception tend to lower their expectations of themselves, making them more prone to procrastination. The purpose in life component improves decision-making and encourages proactive behavior in nurses. Purposeful people are more self-sufficient and, because they experience higher levels of psychological well-being, they put more effort into achieving success in challenging situations, including in the workplace, and realize their full potential. Therefore, a clear sense of purpose in life plays a crucial role in reducing procrastination.

Conclusion

This study revealed that personality traits and psychological well-being are two important factors predicting procrastination among nurses. Specifically, neuroticism and conscientiousness, along with purpose in life, positive relationships with others, and environmental mastery, driven by psychological well-being, play the most significant role in predicting procrastination in nurses. Therefore, identifying nurses' personality traits and levels of psychological well-being allows for the prevention of procrastination in the hospital environment.

Limitations

The current study has several limitations. Assessing changes over time and understanding the causal relationships between variables was impossible due to the cross-sectional nature of the study. The use of self-report questionnaires may have introduced response bias. The use of a sample from a specific population of nurses may have affected the generalizability of the results. Future research should consider larger and more diverse samples, and employ longitudinal or experimental design.

Conflict of interest

The authors declare that they have no conflicts of interest.

Ethical approval:

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

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