Journal of Experimental and Clinical Medicine
https://dergipark.org.tr/omujecm

Research Article

J Exp Clin Med
2024; 41(3): 500-504
doi: 10.52142/omujecm.41.3.9

The effect of workplace stress and workplace bullying on life satisfaction in nurses

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Received: 22.01.2024 • **Accepted/Published Online:** 08.05.2024 • **Final Version:** 30.09.2024

Abstract

Workplace stress and workplace bullying are important problems experienced in healthcare environments. It is known that nurses experience workplace stress and workplace bullying at high rates. Our study aims to explore how workplace stress and workplace bullying impact the life satisfaction of nurses. Data were collected online from 163 nurses. Nursing Stress Scale (NSS), Negative Act Questionnaire-Revised (NAQ-R), Satisfaction with Life Scale (SWLS) were used as data collection tools. According to the results of the conducted analysis, it was observed that as NSS and NAQ-R scores increased, SWLS scores decreased, and these relationships were statistically significant. Furthermore, the NAQ-R score was identified as a significant predictor of SWLS scores. In our study, our hypothesis that workplace bullying predicts life satisfaction was confirmed; however, workplace stress was not found to be a significant predictor. According to our current information, our study is the first investigation exploring whether workplace stress and workplace bullying serve as predictors of life satisfaction. Additional investigations are required to draw more precise conclusions regarding the matter.

Keywords: workplace stress, workplace bullying, life satisfaction, nurses

1. Introduction

Workplace stress is defined as the inability to manage the overwhelming pressure experienced in modern work environments due to factors such as the challenges in establishing work-life balance, the intense competitive atmosphere, limited resources, and unpredictable economic conditions (1). The factors associated with workplace stress, which is a multifaceted biopsychosocial response, may vary depending on the nature of the occupational domains (2). Hospitals unquestionably represent work environments characterized by elevated levels of stress (3). Research indicates that nurses commonly experience workplace stressors, often associated with high workload, the severity of patients' health conditions, conflicts in relationships with physicians or colleagues, lack of social support, and factors related to workplace violence (4). A recent review has found that Australian nurses experience a moderate to high level of workplace stress (5). A study conducted with emergency department nurses, utilizing the effort-reward imbalance model to assess workplace stress, found that 83% of the nurses experienced job stress (6).

Workplace bullying, which is one of the contributing factors to occupational stress, constitutes a significant issue in healthcare settings and is reported more frequently among nurses compared to individuals in other professions (7, 8). Workplace bullying results in low job satisfaction, decreased job performance and productivity, burnout, as well as mental and physical health issues (9, 10). The recent findings from studies indicate that nurses' exposure to workplace bullying is higher than perceived, occurring on a gender-biased basis. This bullying frequently manifests through methods such as humiliation, ridicule, gossip, and social exclusion. Research indicates that being subjected to workplace bullying can result in negative physical health consequences (11, 12). As examining the literature, it is noted that verbal abuse is the most prevalent form of bullying experienced by nurses. Nevertheless, rates of physical violence and sexual harassment are unexpectedly high as well (13, 14).

Life satisfaction refers to the emotional sense of well-being attained when an individual meets their own standards and accomplishes their goals X(15). Sociodemographic and psychosocial factors, including age, gender, economic status, lifestyle, participation in leisure activities, and environmental support, are widely acknowledged to impact life satisfaction (16). Also, variables related to one's profession, such as duration of employment, work environment, professional satisfaction, job stress, and workplace bullying, have shown that linked with life satisfaction (17, 18).

It is well acknowledged that nurses, an indispensable and significant component of the healthcare sector, experience workplace stress and workplace bullying at high rates (19). There is evidence indicating the negatively effects of workplace stress and workplace bullying on life satisfaction, a concept closely associated with psychological well-being. However, this subject remains insufficiently explored within

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the nurse population (20).

In our study examining how workplace stress and workplace bullying affect the life satisfaction of nurses, we outline the following hypotheses:

1. There is a negative correlation between workplace stress and life satisfaction among nurses.
2. There is a negative correlation between workplace bullying and life satisfaction among nurses.
3. Workplace stress and workplace bullying are predictors of life satisfaction.

2. Materials and Methods

2.1. Study Participants

The study included 164 nurses currently employed in any healthcare institution.The forms were created through Google Forms (Google, California, USA) and distributed to nurses via WhatsApp and group channels. The research data were collected between 15 December 2023 and 1 January 2024.

The sample size was determined using G-Power version 3.1.9.4 software, with reference to the research conducted by Amini et al. in 2023 (21). Following their study's effect size (ρ=0.613), a minimum sample size of 28 was calculated, considering a significance level of 0.05 for Type I error and a power of 0.95. However, this calculation was made based on the basic hypothesis. It is important that the sample size is as large as possible so that the side results can be considered meaningful. Due to this fact, we aimed to reach at least 100 participants in our study, taking into account the number of people that can be reached through online groups.

2.2. Data collection tools

Nursing Stress Scale

The original scale, created by Gray-Toft and Anderson, consists of 34 items distributed across 7 factors (22). The Cronbach's α reliability coefficient for the subfactors of the original scale varied from α = .89 to α = .65, all falling within the range of 0.80. The sub-factors can be measured individually, or the total score obtained from the entire scale can be computed to evaluate the frequency of stress encountered by nurses within the workplace setting. A higher total score indicates increased levels of stress related to nurses' professional lives. Mert et al. conducted the validation and reliability assessment of the scale in a Turkish context (23).

Negative Act Questionnaire-Revised

The scale developed by Einarsen and Raknes consists of 22 items and two sub-dimensions (24). The subdimensions of personal humiliation and work-related harassment can be assessed by aggregating their frequencies to evaluate the prevalence of being a target of bullying. However, it is commonly observed in studies that assessments are often conducted based on total scores without considering the subdimensions (25). The scale demonstrated a Cronbach's alpha internal consistency reliability coefficient of .88, and a correlation of .80 was observed between scores obtained from two administrations conducted three weeks apart. Aydin conducted a validity and reliability investigation of the scale in Turkish in 2009 (26).

Satisfaction with Life Scale

The 5-point Likert-type scale devised by Diener et al. comprises five items (27). Following reliability assessments on the scale, the test-retest reliability was determined as r=.85, with item-test correlations falling between .71 and .80. There is no predefined cutoff point. A high score on the scale reflects a positive level of life satisfaction. Dagli and Baysal conducted the Turkish validation and reliability investigation of the scale (28).

2.3. Statistical Analysis:

The study's data analysis utilized IBM SPSS version 23.0. Descriptive statistics for continuous variables were provided as mean ± standard deviation (mean±sd), median, 1st quartile, 3rd quartile, minimum, and maximum values. Categorical variables were represented as numbers and percentages. The normal distribution of continuous variables was assessed using the Kolmogorov-Smirnov test. Given that the normality assumption was not satisfied, the Spearman rank correlation test was employed to examine relationships between continuous variables. The potential impact of the NAQ-R and NSS on the SWLS was investigated through multiple linear regression analysis. The assumption of the normal distribution of residuals, a requirement for the multiple linear regression model, was carried out using the Kolmogorov-Smirnov test. A scatter plot was employed to assess the linearity of the relationship between the dependent variable and independent variables. Multicollinearity among independent variables in the current multiple linear regression model was examined using the Variance Inflation Factor statistic. A significance level of $p < 0.05$ was utilized to determine statistical significance.

3. Results

According to sociodemographic and clinical data, the age of nurses ranged from 23 to 53 years, with a mean age of 31.39±9.13. Among the participants, 91.4% were female, and 71.8% were married. When examining the departments in which nurses work, it was observed that 37.4% enployed in internal units, 25.8% in surgical units, 17.2% in intensive care units, 7.4% in emergency units, and 12.3% in other units (such as blood collection, dialysis, vaccine department). Nurses' length of service varied between 1 and 49 years, with an average duration of 15.93 ± 10.18 years. Among the nurses, 29.4% had been diagnosed with chronic diseases, while 5.5% had been diagnosed with psychiatric conditions. The sociodemographic and clinical data results are presented in Table 1.

Table 1. Descriptive statistics of the participants

		n	%
Age			
	Mean±SD	37.39±9.13	
	Min-Max	23.00-53.00	
	Median (Q_1-Q_3)	37.00 (29.00-46.00)	
Gender			
	Female	149	91.4
	Male	14	8.6
Marital Status			
	Single	46	28.2
	Married	117	71.8
Employment Service			
	Emergency	12	7.4
	Surgery	42	25.8
	Internal	61	37.4
	Intensive Care	28	17.2
	Other	20	12.3
Tenure			
	Mean±SD	15.93±10.18	
	Min-Max	1.00-49.00	
	Median (Q_1-Q_3)	15.00 (6.75-25.00)	
Chronic Disease Diagnosis			
	Yes	48	29.4
	No	115	70.6
Psychiatric Disease Diagnosis			
	Yes	9	5.5
	No	154	94.5

Mean, SD: Standart Deviation, Q_1:1. quartile, Q_3:3rd quartile

The scores of the participants on the NAQ-R scale ranged from 22.0 to 110.0, with a calculated mean scale score of 36.33±15.09. Half of the participants scored 33.0 or higher on the NAQ-R. The lowest NSS score was 34.0, and the highest was 128.0, with an average score of 68.50±15.76. Half of the participants had a total NSS score of 69.0 or higher. Participants' scores on the SWLS spanned from a minimum of 5.0 to a maximum of 25.0, yielding a calculated mean scale score of 13.23±4.47. Half of the participants scored 13.0 or higher on the SWLS. The mean scores and descriptive statistics of the scales can be found in Table 2.

Table 2. Descriptive statistics for the scores of NSS, NAQ-R, and SWLS

	Mean±SD	Min-Max	Median (Q_1-Q_3)
NAQ-R	36.33±15.09	22.0-110.0	33.0 (27.0-40.0)
NSS	68.50±15.76	34.0-128.0	69.0 (59.0-77.0)
SWLS	13.23±4.47	5.0-25.0	13.0 (10.0-17.0)

Mean, SD: Standart Deviation, Q_1:1st quartile, Q_3:3rd quartile NSS: Nursing Stress Scale, NAQ-R: Negative Act Questionnaire-Revised, SWLS: Satisfaction with Life Scale.

When examining the inter-scale correlations, a negative and weak correlation was found between NAQ-R and SWLS scores (Spearman's rho = -0.260, $p < 0.001$); a positive and moderate correlation was found between NAQ-R and NSS scores (Spearman's rho = 0.570, $p < 0.001$); a negative and weak correlation was identified between NSS and SWLS scores ($r = -0.211$, $p = 0.007$), and a statistically significant relationship was determined. The data regarding inter-scale correlations are presented in Table 3.

Table 3. The levels of relationship among NAQ-R, NSS, and SWLS scores

	SWLS		NSS	
	rho	p-value	rho	p-value
NAQ-R	-0.260	**<0.001**[1]	0.570	**<0.001**[1]
NSS	-0.211	**0.007**[1]		

[1]The Spearman rank correlation test SWLS: Satisfaction with Life Scale NSS:Nursing Stres Scale NAQ-R: Negative Act Questionnaire-Revised

The study examined whether NSS and NAQ-R scores were significant predictors of SWLS score using a multiple linear regression model. The multiple linear regression model's assumption, which verifies whether the residuals follow a normal distribution, was assessed utilizing the Kolmogorov-Smirnov test. The results indicated that the residuals conform to a normal distribution (Kolmogorov-Smirnov statistic = 0.65, SD= 163, $p = 0.085$). The scatter plot, depicted in Fig. 1, examines the linearity of the connection between the dependent variable and the independent variables.

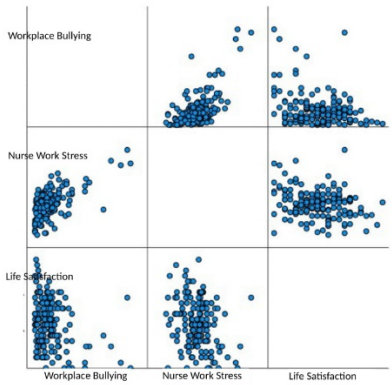

Fig.1. The scatter plot depicting the relationship between SWLS and NSS as well as NAQ-R scores

Upon examining the scatter plot provided in Fig. 1, it is observed that the assumption of linearity in the model was not violated; however, the degrees of correlation between the dependent variable and the independent variables were found to be very weak. As per the outcomes derived from the established multiple linear regression model, it was found that the NSS score was not a significant predictor of the SWLS score, while the NAQ-R score statistically significantly predicted the SWLS score. Accordingly, a one-point increase in nurses' NAQ-R scores results in a decrease of 0.076 points in their SWLS scores. In the established regression model, NSS and NAQ-R scores explained 31.2% of the variability observed in SWLS scores.

4. Discussion

In our research focusing on how workplace stress and workplace bullying affect the life satisfaction of nurses, we enrolled 164 nurses, with the majority being female. The mean age was 31.39. According to the results of the conducted analysis, it was observed that as NSS and NAQ-R scores increased, SWLS scores decreased, and these relationships were statistically significant. Furthermore, the NAQ-R score was identified as a significant predictor of SWLS scores.

In our study, the average scores of nurses on the NSS were calculated as 68.50±15.76. The literature has been reviewed in terms of studies evaluating nurse stress using the same scale. In the study conducted by Ko and Kiser-Larson with oncology nurses, the mean score for NSS was 71.35.(29) Newman collaborated with mental health nurses and found the average NSS score to be 67.70 (30). In this regard, it can be asserted that our findings are consistent with the literature. However, in our study, data were gathered from nurses working in various departments, and the relationship between the department of employment and NSS scores was not examined. This situation poses a limitation for our research.

In a research carried out with nurses from Portugal, the Depression Anxiety Stress Scale-21 was utilized, revealing a negative correlation between the stress subscale of the scale and life satisfaction (31). Another study conducted with nursing students assessed stress using the Perceived Stress Scale, and it observed a negative relationship between psychological well-being and stress level *as* well as life satisfaction (32). In our study, when investigating the correlation between stress and life satisfaction, a negative and weak correlation was found. As a result, it can be interpreted that our findings confirm the first hypothesis and align with the existing literature. In addition, the Nursing Stress Scale utilized in our study is more specific in measuring stress related to nurses' professions, thus making a meaningful contribution to the literature on job stress and life satisfaction among nurses from this perspective.

Research involving 211 physicians employed in diverse hospitals across Pakistan revealed a negative correlation between workplace bullying and life satisfaction (33). In a research conducted by Peng et al. with a sample of 493 nurses, it was found that workplace bullying has a detrimental impact on quality of life, with psychological resilience acting as a mediator in this association (34). In a study conducted with Chinese nurses, utilizing the NAQ-R to measure workplace bullying, nurses were found to have a workplace bullying score of 38.72±12.30, and the hypothesis that workplace bullying negatively affects quality of life was confirmed, with coping styles serving as mediators in this relationship (35). The average NAQ-R scores in our study (36.33±15.09) and the negative and weak correlation findings between NAQ-R and SWLS scores can be considered as results consistent with the literature Furthermore, the results confirm the second hypothesis of our study. However, there is a limited number of studies that specifically addressed life satisfaction and exposure to bullying among nurses. The overwhelming majority of current research have been conducted using scales assessing quality of life. In addition, our study didn't explore the correlation between sociodemographic and clinical data that could potentially influence the association between exposure to bullying and life satisfaction. By acknowledging these limitations, it can be argued that our study contributes to the literature. However, to achieve more precise conclusions on the matter, there is a need for studies employing different measurement tools and incorporating various variables.

Studies examining the predictors of life satisfaction have generally concluded that life standards are the most significant predictor (36, 37). Studies focusing on the life satisfaction of healthcare professionals have demonstrated that peer support, job demands, work-family stress, and working hours are strong predictors (38, 39). In our study, our hypothesis that workplace bullying predicts life satisfaction was confirmed; however, workplace stress was not found to be a significant predictor. To our understanding, our research is the first investigation exploring whether workplace stress and workplace bullying serve as predictors of life satisfaction. Additional investigations are required to draw more precise conclusions regarding the matter.

In conclusion, our study found a negative correlation between workplace stress and workplace bullying in nurses and life satisfaction. Workplace bullying emerged as a notable predictor of life satisfaction, with NSS and NAQ-R scores collectively explaining 31.2% of the variability in SWLS scores. Among the limitations of our study are the collection of data through snowball sampling and the lack of examination of correlations between sociodemographic and clinical variables with the scales. Also, the subscales of the NSS were not evaluated and only the total score was calculated. Future studies may incorporate variables such as professional satisfaction, compassion fatigue, and professional burnout, and explore factors like coping strategies, and support resources in the link between workplace stress, workplace bullying, and life satisfaction.

Conflict of interest

There is no conflict of interest between the authors.

Funding

The study has been conducted without any external funding or financial support.

Acknowledgments

We would like to thank all our participants who sincerely filled out our forms.

Authors' contributions

Concept: P.G., F.Y., Design: P.G., F.Y., Data Collection or Processing: P.G., Analysis or Interpretation: F.Y., Literature Search: P.G., Writing: P.G.

Ethical Statement

The study received ethical approval from the Ordu University Clinical Research Ethics Committee on December 8, 2023 (Application No: 311 Decision No: 2023/327).

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