



Empirical Research Investigating the Relationships Between Work Stress, Work Performance, and Mobbing (Psychological Bullying) in Health Institutions

Sağlık Kurumlarında İş Stresi, Çalışan Performansı ve Mobbing (Psikolojik Yıldrma) Arasındaki İlişkilerin İncelenmesine Yönelik Ampirik Araştırma

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ABSTRACT

Aim: This study examines the relationships between work stress, work performance, and mobbing in health institutions.

Material and Method: A questionnaire was applied to 272 individuals working in any health institution in Türkiye in 2021 based on voluntary participation with the snowball method. The web-based questionnaires were prepared online using Google Documents. They were sent to the health workers' social-based addresses together with an introductory letter. The questionnaire was applied in four main sections: demographic information (8 questions), work stress (7 questions), work performance (4 questions), and mobbing (37 questions).

Results: The study showed that 36.4% of academics, 30% of secretaries, 28.6% of security staff, 23% of technicians, 22.2% of social workers, 20% of midwives, 19.5% of physicians, and 15.4% of patient carers were exposed to mobbing. In addition, men were more subjected to mobbing than women ($p=0.010$). Statistically significant differences were determined between the occupational groups regarding work stress scale scores ($p=0.001$). The group with the highest work stress was security staff, with patient carers being the group with the lowest stress. Women also experienced significantly higher levels of work stress than men ($p=0.028$). Statistically, significant differences were also observed regarding the number of patients encountered ($p=0.035$). Work stress was found to increase in line with patient numbers. Analysis of the participants' work performance showed that such performance was very high. Significant variations were determined between work performance scale scores and the years spent working in the most recent institution ($p=0.019$). The work performance of participants who had worked for 11–15 years was lower than that of other periods, the highest work performance being observed in participants with 21–25 years of work experience.

Conclusion: In conclusion, individuals working in any health institution were found to be exposed to mobbing and to experience work stress in the working environment but exhibited good work performance. No statistically significant association was determined between mobbing and work performance or stress. At the same time, a negative correlation was observed between work performance and work stress.

Key words: health institution; work performance; mobbing; Türkiye, work stress

ÖZET

Amaç: Bu çalışmanın amacı sağlık kurumlarında iş stresi, iş performansı ve mobbing arasındaki ilişkileri incelemektir.

Materyal ve Metot: 2021 yılında Türkiye'deki herhangi bir sağlık kuruluşunda çalışan 272 bireye, gönüllü katılım ilkesine dayalı olarak, kartopu yöntemiyle anket uygulandı. Web tabanlı anketler Google Documents kullanılarak çevrimiçi olarak hazırlanmış ve tanıtım yazısı ile birlikte sağlık çalışanlarının sosyal adreslerine gönderilmiştir. Anket, demografik bilgiler (8 soru), iş stresi (7 soru), iş performansı (4 soru) ve mobbing (37 soru) olmak üzere dört ana bölümde uygulanmıştır.

Bulgular: Çalışmanın sonucuna göre, akademisyenlerin %36,4, sekreterlerin %30, güvenliklerin %28,6, teknikerlerin %23, sosyal hizmetlerin %22,2, hemşirelerin %20,2, ebelerin %20, hekimlerin %19,5, hasta bakıcıların %15,4 oranında mobbinge maruz kaldığı tespit edilmiştir. Ayrıca erkeklerin kadınlara göre daha fazla mobbinge maruz kaldıkları sonucu elde edilmiştir ($p=0,010$). Meslek grupları arasında iş stresi ölçeği puanları açısından istatistiksel olarak anlamlı farklılıklar belirlendi ($p=0,001$). İş stresinin en yüksek olduğu grup güvenlik personeli olurken, en düşük iş stresinin yaşandığı grup ise hasta bakıcıları oldu. Ayrıca kadınların iş stresinin erkeklere göre daha fazla ($p=0,028$) olduğu ve kişilerin karşılaştıkları hasta sayıları arasında ($p=0,035$) istatistiksel olarak farklılıklar bulunmuştur. Hasta sayısı arttıkça iş stresinin arttığı tespit edilmiştir. Katılımcıların iş performansları sonucuna göre katılımcılarda çalışma performansının çok yüksek olduğu tespit edilmiştir. Katılımcılara uygulanan iş performansı ölçek puanı ile katılımcıların en son çalıştıkları kurumdaki toplam çalışma yılı karşılaştırıldığında istatistiksel olarak farklılıklar bulunmuştur ($p=0,019$). Buna göre 11–15 yıl arasında çalışanların performanslarının diğer çalışma yıllarına göre düşük olduğu, 21–25 yıl arasında çalışanlarda ise performansın en yüksek olduğu tespit edilmiştir.

Sonuç: Sonuç olarak, herhangi bir sağlık kuruluşunda çalışan bireylerin çalışma ortamında mobbinge maruz kaldıkları ve iş stresi yaşadıkları ancak buna rağmen iyi iş performansı sergiledikleri belirlendi. Mobbing ile iş performansı veya iş stresi arasında istatistiksel olarak anlamlı bir ilişki saptanmazken, iş performansı ile iş stresi arasında negatif bir ilişki gözlemlendi.

Anahtar kelimeler: iş performansı, iş stresi, mobbing, Türkiye, sağlık kurumu

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Introduction

Mobbing (psychological bullying) has been described as hostile or unethical communication directed against a single individual by one or more persons¹. These behaviors assume two forms – top-down or bottom-up (hierarchical) and horizontal mobbing. Irrespective of the particular form, the outcomes of mobbing are always poor. The effects of mobbing can be seen in all stages of society (in working and societal life), and the number of studies investigating these effects is increasing rapidly². Nobody's freedom can be restricted, irrespective of which section of society they belong to.

Performance evaluation is one of the responsibilities of human resource management. Performance appraisal must not go beyond its objective. The institutions studied must determine specific methods and rules for evaluations. All factors obstructing performance evaluation during appraisals must be eliminated, and assessments must be unbiased, clear, and transparent³.

Membership in an organization is not solely limited to productivity. At the same time, individuals must establish communication, adapt to the environment, and forge links, which results in stress. Stress is defined as an occult structure that shows a high state of activation of the autonomous nervous system emerging in coordination at the emotional, cognitive, and behavioral levels⁴. Individual, societal, and organizational sources are essential regarding the causes of stress. Work stress can result in very severe consequences. These include adverse impacts on health (such as cardiovascular diseases, metabolic disorders, or depression)⁵ and can also manifest in burnout and exhaustion. Increased work stress can even result in staff losses. Various individual and organizational measures can be adopted in the face of work stress. Organizational stress will also develop due to performance evaluations in the workplace, as described above. Exposure to mobbing in the workplace will further exacerbate this stress.

In our study, a model was applied to determine the relationships between job stress, job performance, and mobbing, and the questionnaires were filled out by individuals working in a health institution. In this model, the work stress, job performance, and mobbing results of individuals in health institutions will be evaluated first. Then, the relationships between job stress, job performance, and mobbing will be revealed according to the results. Our study is based on three hypotheses. Our first hypothesis is that there is

a statistically significant and negative linear relationship between mobbing and work stress. Our second hypothesis is that there is a statistically significant and negative linear relationship between mobbing and job performance. Our third hypothesis is that there is a statistically significant and negative linear relationship between job performance and job stress.

Performance evaluation, exposure to mobbing, and work stress among health workers affect the working environment. Despite being distinct, each can result in or originate from the others. Exposure to mobbing can exacerbate work stress and affect performance. Low performance can also exacerbate work stress. All these situations manifestly impact the work sphere. Each one must, therefore, be considered individually, and its effects on workers must be noticed. In light of all these factors, the present study was intended to examine the relationships between work stress, worker performance, and mobbing among individuals working in health institutions in Türkiye.

Method

Ethical Issues

The study commenced following receipt of approval from the Niğde Ömer Halisdemir University Non-Interventional Research Ethical Committee (no. 2020/65 dated 14.01.2021). Electronic informed consent was obtained from all participants, and the research was conducted in conformity with the principles of the Declaration of Helsinki.

Procedures

Participants

In 2021, this observational, cross-sectional study was performed among health workers living in seven regions of Türkiye (Marmara, the Aegean, the Black Sea, Central Anatolia, the Mediterranean, and Southeast Anatolia). Two hundred seventy-five individuals meeting the inclusion criteria responded to the study questions. However, three participants were excluded for making the 'no' box in response to the statement, 'I am participating in this research of my own free will and consent to the information provided by me being used in scientific research.' The study sample size was 272. The snowball method employed in the research is a non-probability-based sampling method. The population in such studies cannot, therefore, be defined⁶.

Research Acceptance Criteria

Inclusion criteria were established to identify individuals suitable for inclusion in the research:

a) Willingness to take part in the study, b) Working in a health institution, and c) Having been employed in the present institution for at least six months. Being employed in an institution for at least six months is a precondition for a behavior to be regarded as mobbing¹.

Data Collection

Questionnaires were administered to collect data from individuals working in any health institution in Türkiye. The questionnaires were applied based on voluntary participation, and the 'snowball sampling' method was employed⁷. This method is mainly employed in research into sensitive subjects (such as addictions, child abuse, or rape). Such individuals are often reluctant to share their experiences, but this problem can be easily overcome using this method⁸. In addition, due to this sensitivity, no information concerning the identity of the participants of the institutions in which they worked was included in the questions posed.

The data were collected from a questionnaire created by the researchers using an online questionnaire between 01 February 2021 and 20 February 2021. The web-based questionnaires were prepared online using Google Documents. They were sent to the health workers' social-based addresses (e-mail, Whatsapp, Instagram, Facebook, etc.) with an introductory letter. Web-based consent was obtained from the individuals taking part. The questionnaire was applied in four main sections.

Section one – demographic information (eight questions): The questions in this section concerned age, marital status, education, total number of years worked in the current institution, occupation, and mean daily numbers of patients cared for.

Section two – the work stress scale (seven questions): The Work Stress Scale developed by House and Rizzo in 1972 was employed⁹. This scale was adapted into Turkish by Efeoglu in 2006, and its validity and reliability have been proved in studies in which it was used¹⁰.

Section three – work performance scale (four questions): The scales employed in the Kirkman and Rosen¹¹ study, and subsequently by Sigler and Pearson¹², were applied. The scale was adapted into

Turkish by Çöl in 2008, and its validity and reliability have been demonstrated¹³.

Section four – mobbing scale (37 questions): The Mobbing Scale in the fourth section was developed by Aiello et al.¹⁴. The scale was adapted into Turkish by Laleoglu and Özmete in 2013, and its validity and reliability were confirmed¹⁵. The test contains 37 questions. These investigate differing characteristics, meaning the scale is divided into separate sections. Five factors appear in the Mobbing Scale (relations with colleagues, 16 questions; threat and harassment, seven questions; job and career, eight questions; intervention in private life, four questions; and commitment to work, two questions)¹⁵.

A five-point Likert-type scale was employed for the work stress, mobbing, and performance questions in the rankings: 1- strongly disagree, 2- disagree, 3- undecided, 4- agree, and 5- strongly agree. Strongly disagree responses are scored 1, Disagree 2, Undecided 3, Agree 4, and Strongly Agree 5. The lowest possible score for work stress was seven, and the highest was 35. The mobbing lowest possible score was 37, and the highest was 259. The performance's lowest possible score was 4, and the highest was 20.

The Research Model

The model applied in the present study was intended to determine relationships between work stress, work performance, and mobbing using a questionnaire completed by individuals working in health institutions. The work stress, work performance, and mobbing results for the individuals working in health institutions were first evaluated in this model. Relationships between work stress, work performance, and mobbing were then investigated.

Statistical Analysis

Statistical analysis of the study data was performed on IBM Statistical Package for Social Sciences (SPSS) program version 22 software (IBM Inc., USA). The normality of distribution was examined using the Kolmogorov-Smirnov test. Cronbach Alpha, T-test, One-Way ANOVA, and chi-square tests were employed in the analysis. Data were expressed as mean \pm standard deviation. p values <0.05 were regarded as significant for all comparisons.

Results

Reliability Analyses of the Scales Employed in the Research

Cronbach's Alpha, a coefficient of internal consistency, was calculated to determine the reliability of the work stress, work performance, and mobbing scales administered in the research¹⁵. Cronbach Alpha values of 0.90 for Work Stress, 0.82 for Work Performance, and 0.97 for Mobbing were determined. These results indicated that the scales employed exhibited high validity and reliability (values $0.81 < \alpha < 1.00$ indicate high scale reliability¹⁶).

Demographic Results

Demographic data include sex, age, marital status, education, occupation, years worked in the current institution, and number of patients encountered daily. Examination of the participants' (272 individuals) responses showed that women (74.6%) outnumbered men (25.4%) and that married individuals (63.6%)

outnumbered the unmarried (36.4). Regarding education, the minor participants were those educated to the primary level (0.7%), and the highest consisted of those educated to the university level (61.8%). The youngest participant was 20, and the oldest 65, with a mean age of 35.64 ± 8.86 . Men ages were 34.99 ± 8.40 for women and 37.58 ± 9.90 for men. In terms of the 18 occupational groups identified, nurses represented 36.4% of the individuals taking part in the study, physicians 15.1%, technicians 14.3%, patient carers 4.8%, academics 4.0%, midwives 3.7%, secretaries 3.7%, social workers 3.3%, data preparation staff 2.9%, security staff 2.6%, psychologists 1.8%, administrative personnel 1.5%, engineers 1.5%, pharmacists 1.5%, embryologists 1.1%, biologists 0.7%, physiotherapists 0.4%, and computer programmers 0.4%. The shortest time worked in the most recent institution was 0.5 years, and the longest was 32 years. The mean working time in the current institution was 10.12 ± 8.55 years (Table 1).

Table 1. Statistical data concerning Demographic Features I (Participants' gender, marital, and education characteristics) and Demographic Features II (participants' ages, the total number of years worked in their current institutions, and numbers of patients encountered daily) (SD: Standard Deviation)

| | | Frequency (n) | Percentage (%) | Mean±SD | |
|-------------------------|---|----------------|----------------|------------|--------------|
| Demographic features I | Gender | Woman | 203 | 74.6 | |
| | | Male | 69 | 25.4 | |
| | Marital status | Single | 99 | 36.4 | |
| | | Married | 173 | 63.6 | |
| | Educational status | Primary school | 2 | 0.7 | |
| | | Middle school | 6 | 2.2 | |
| | | High school | 31 | 11.4 | |
| University | | 168 | 61.8 | | |
| Degree | | 34 | 12.5 | | |
| | PhD and others | 31 | 11.4 | | |
| Demographic Features II | Age | 18-24 | 26 | 9.6 | |
| | | 25-34 | 103 | 37.9 | |
| | | 35-44 | 88 | 32.4 | 35.64 ± 8.86 |
| | | 45-54 | 52 | 19.1 | |
| | | 55 and ↑ | 3 | 1.1 | |
| | Total years of employment at your current institution | 0.5-5 | 109 | 40.1 | |
| | | 6-10 | 70 | 25.7 | |
| | | 11-15 | 35 | 12.9 | 10.12±8.55 |
| | | 16-20 | 21 | 7.7 | |
| | | 21-25 | 18 | 6.6 | |
| | | 26 and ↑ | 19 | 7.0 | |
| | Number of patients you deal with daily | 0 | 92 | 33.8 | |
| | | 1-20 | 112 | 41.2 | |
| 21-40 | | 38 | 14.0 | 2.06 ±1.05 | |
| 41-60 | | 20 | 7.4 | | |
| 61 and ↑ | | 10 | 3.7 | | |
| Total | | 272 | 100 | | |

Table 2. A comparison of work stress, work performance, and mobbing scale outcomes in terms of demographic characteristics (n=272)

| | | Work Stress Scale | | | Work Performance | | | Mobbing Scale | | |
|---|---------------------------------------|-------------------|-------|--------|------------------|--------|--------|---------------|--------|--------|
| | | Mean±SD | t | p | Mean±SD | t | p | Mean±SD | t | p |
| Gender | Women | 3.22±1.03 | 2.210 | 0.028* | 4.22±0.92 | 0.502 | 0.616 | 2.08±0.10 | -2.612 | 0.010* |
| | Male | 2.91±1.05 | | | 4.15±0.95 | | | 2.49±1.48 | | |
| Marital Status | Single | 3.26±1.00 | 1.408 | 0.160 | 4.20±0.93 | -0.022 | 0.982 | 2.32±1.23 | -1.494 | 0.136 |
| | Married | 3.07±1.06 | | | 4.19±0.92 | | | 2.10±1.10 | | |
| Age Groups | 18-24 | 3.36±1.07 | 1.855 | 0.119 | 4.36±0.96 | 0.951 | 0.435 | 2.12±0.88 | 0.697 | 0.595 |
| | 25-34 | 3.23±0.99 | | | 4.06±0.91 | | | 2.23±1.27 | | |
| | 35-44 | 2.96±1.01 | | | 4.27±0.99 | | | 2.14±1.03 | | |
| | 45-54 | 3.20±1.13 | | | 4.25±0.82 | | | 2.22±1.23 | | |
| | 55 and ↑ | 2.14±0.99 | | | 4.25±0.90 | | | 1.16±0.09 | | |
| Educational Status | Primary school | 2.86±0.60 | 0.866 | 0.504 | 4.50±0.71 | 1.141 | 0.339 | 1.78±0.69 | 0.373 | 0.867 |
| | Middle School | 3.47±1.29 | | | 4.10±1.01 | | | 2.54±1.30 | | |
| | High school | 2.80±1.10 | | | 4.54±0.51 | | | 2.04±0.92 | | |
| | University | 3.17±1.04 | | | 4.13±1.01 | | | 2.20±1.15 | | |
| | Degree | 3.24±0.98 | | | 4.16±0.75 | | | 2.24±1.44 | | |
| | PhD and others | 3.13±0.97 | | | 4.29±0.89 | | | 2.05±1.01 | | |
| Occupation | Physician | 3.08±1.03 | 3.099 | 0.001* | 4.05±0.91 | 0.395 | 0.937 | 2.18±1.66 | 0.460 | 0.900 |
| | Nurse | 3.50±1.02 | | | 4.17±0.97 | | | 2.16±1.01 | | |
| | Technician | 2.98±1.06 | | | 4.31±0.89 | | | 2.27±1.19 | | |
| | Secretary and Data Preparation Worker | 2.79±1.07 | | | 4.08±1.17 | | | 2.09±1.35 | | |
| | Patient Carer | 2.63±1.05 | | | 4.38±0.83 | | | 2.11±1.07 | | |
| | Academic | 3.18±0.84 | | | 4.13±1.19 | | | 2.59±0.55 | | |
| | Midwife | 2.94±1.07 | | | 4.10±0.96 | | | 2.05±0.67 | | |
| | Social Worker | 2.74±0.72 | | | 4.33±0.53 | | | 1.94±0.50 | | |
| | Security | 3.55±1.41 | | | 4.25±0.91 | | | 2.67±1.48 | | |
| | Other | 2.65±0.65 | | | 4.36±0.61 | | | 2.01±0.93 | | |
| Total years of employment at your current institution | 0-5 | 3.02±0.89 | 0.722 | 0.608 | 4.31±0.83 | 2.763 | 0.019* | 2.03±0.96 | 2.071 | 0.069 |
| | 6-10 | 3.26±1.14 | | | 4.10±0.92 | | | 2.41±1.27 | | |
| | 11-15 | 3.06±1.04 | | | 3.76±1.20 | | | 2.18±1.28 | | |
| | 16-20 | 3.31±1.11 | | | 4.31±0.93 | | | 2.66±1.55 | | |
| | 21-25 | 3.17±1.22 | | | 4.52±0.52 | | | 2.03±1.17 | | |
| | 26 and ↑ | 3.31±1.21 | | | 4.34±0.84 | | | 1.86±0.61 | | |

*p < 0.05 statistically significant; SD: Standard Deviation

Work Stress Scale Results

Analysis showed higher exposure rates to work stress among women than men ($t=2.210$, $p=0.028$). Work Stress Scale scores varied significantly among the occupational groups ($F=3.099$, $p=0.001$). Work stress rates in the various occupations were highest in the 'others group' (administrative personnel, psychologists, pharmacists, embryologists, biologists, physiotherapists, engineers, and computer programmers), followed, in descending order, by security staff, nurses, academics, physicians, technicians, midwives, secretarial and data preparation staff, social workers, and patient carers. Since the other group comprised several occupations, the second-highest work stress level was

the highest-level group. Accordingly, security staff constituted the occupation group with the highest work stress. At the same time, patient carers represented the group with the lowest work stress. No statistically significant correlations were determined between mean Work Stress Scale scores and marital status ($t=-1.408$, $p=0.160$), age ($F=1.855$, $p=0.119$), education ($F=0.866$, $p=0.504$), or total number of years worked in the most recent institution ($F=0.722$, $p=0.608$) ($t=-1.408$, $p=0.160$) (Table 2).

Work Performance Scale Results

Statistically significant differences were observed when the participants' Work Performance Scale results were

compared regarding the time they worked in their current institution ($F=2.763$, $p=0.019$). The performances of participants who had worked for 11–15 years were lower than those of the other work experience groups, the highest performance being determined in the group with 21–25 years of work experience. The work performance of the study participants increased in line with their expertise. In contrast, no significant differences in Work Performance Scale results were observed in terms of parameters such as gender ($t=0.502$, $p=0.616$), marital status ($t=-0.022$, $p=0.982$), age ($F=0.951$, $p=0.435$), education ($F=1.141$, $p=0.339$), or occupation ($F=0.395$, $p=0.937$) (Table 2).

Mobbing Scale Results

Analysis of the Mobbing Scale scores revealed that men were more exposed to mobbing than women ($t=2.612$, $p=0.010$) (Table 2). Mobbing sub-factors were examined to the able to categorize these differences. In terms of the mobbing sub-factors (five groups), no significant gender difference was observed in the responses to the questions asked under the heading of “relationships with colleagues” ($t=-1.887$, $p=0.060$). However, significant gender differences were observed in terms of “threats and harassment” ($t=-2.459$, $p=0.015$), “work and career” ($t=-2.574$, $p=0.011$), “interference in private life” ($t=-2.061$, $p=0.040$) and “attachment to work” ($t=-1.978$, $p=0.049$). Analysis of the “threats and harassment,” “work and career,” “interference in private life,” and “attachment to work” mobbing sub-factors revealed greater exposure to mobbing among men compared to women ($p < 0.05$) (Table 3).

No significant differences were determined in mobbing scale scores regarding the participants’ occupations ($F=0.460$, $p=0.900$). Analysis showed that 36.4% of academics, 30% of secretaries, 28.6% of security staff, 23%

of technicians, 22.2% of social workers, 20.2% of nurses, 20% of midwives, 19.5% of physicians, and 15.5% of patient carers were exposed to mobbing (Table 2).

No statistically significant correlations were observed between mean Mobbing Scale scores and marital status ($t=-1.494$, $p=0.136$), age ($F=0.697$, $p=0.592$), education ($F=0.373$, $p=0.867$), or number of years worked in the most recent institution ($F=2.071$, $p=0.069$).

Number of Patients Encountered in Participants’ Current Institutions and Work Stress, Work Performance, and Mobbing Scale Results

The participants’ analysis of the number of patients encountered in health institutions showed that 92 never experienced any patients, while 200 encountered at least one. The mean number of patients located daily was 2.06 ± 1.05 (Table 1). The participants’ responses indicated significant differences between stress scale scores and the number of patients encountered ($F=2.622$, $p=0.035$). Work stress was found to increase in line with the number of patients encountered ($p < 0.05$) (Table 4). No statistically significant correlations were determined between the number of patients encountered and Work Performance Scale scores ($F=2.352$, $p=0.054$) or mobbing scale scores ($F=1.943$, $p=0.104$).

Correlations Between the Work Stress, Work Performance, and Mobbing Scales Applied

Since the study data exhibited normal distribution, correlation analysis was performed using the ‘Pearson’ method. Correlation analysis was applied to determine the relationship between the scales (Table 5). The study revealed a significant negative correlation between work stress and performance ($p < 0.05$). However, no correlation was detected between mobbing and work performance or stress ($p > 0.05$).

Table 3. A comparison of mobbing sub-factor results by gender

| Mobbing Sub-Factors | Gender | Mean \pm SD | T | p |
|---|--------|-----------------|--------|--------|
| Relations with colleagues (16 Questions) | Female | 2.09 \pm 1.14 | -1.887 | 0.060 |
| | Male | 2.43 \pm 1.58 | | |
| Threats and harassment (7 Questions) | Female | 1.60 \pm 1.07 | -2.459 | 0.015* |
| | Male | 2.02 \pm 1.65 | | |
| Work and career (8 Questions) | Female | 2.31 \pm 1.38 | -2.574 | 0.011* |
| | Male | 2.85 \pm 1.79 | | |
| Interference in private life (4 Questions)) | Female | 1.94 \pm 1.40 | -2.061 | 0.040* |
| | Male | 2.36 \pm 1.70 | | |
| Commitment to work (2 Questions) | Female | 2.97 \pm 1.91 | -1.978 | 0.049* |
| | Male | 3.49 \pm 1.75 | | |

*p <0.05 statistically significant; SD: Standard Deviation

Table 4. A statistical comparison of work stress, work performance, and mobbing scale results in terms of the number of patients encountered daily

| Scale | Number of patients encountered daily | Mean±SD | F | p |
|------------------|--------------------------------------|-----------|-------|--------|
| Work stress | 0 | 2.86±0.88 | 2.622 | 0.035* |
| | 1-20 | 3.28±1.03 | | |
| | 21-40 | 3.31±1.19 | | |
| | 41-60 | 3.28±1.11 | | |
| | 61 and ↑ | 3.11±1.37 | | |
| Work performance | 0 | 4.36±0.71 | 2.352 | 0.054 |
| | 1-20 | 4.02±1.09 | | |
| | 21-40 | 4.17±0.88 | | |
| | 41-60 | 4.25±0.79 | | |
| | 61 and ↑ | 4.65±0.61 | | |
| Mobbing | 0 | 2.29±1.96 | 1.943 | 0.104 |
| | 1-20 | 2.01±0.96 | | |
| | 21-40 | 2.55±1.57 | | |
| | 41-60 | 2.03±1.16 | | |
| | 61 and ↑ | 1.97±1.46 | | |

*p < 0.05 statistically significant; SD: Standard Deviation

Regression Analysis Results between the Work Stress, Work Performance, and Mobbing Scales

Multivariate regression analysis was applied to evaluate the responses to the questionnaire of the participants working in any health institution. Univariate analysis would have been used in the presence of only one variable. However, multivariate analysis was employed since this study included more than one variable. A regression analysis was performed between mobbing, work stress, and work performance (Table 5). The responses provided by the individuals working in health institutions revealed a 1% (0.001) significance level between mobbing and work stress and work performance. No statistically significant association was found between mobbing and work stress and work performance ($p > 0.05$).

Multivariate regression analysis was also applied to the relationship between work performance, mobbing, and work stress (Table 5). The responses provided by the individuals working in health institutions revealed a 1.9% (0.001) significance level between mobbing and work stress and work performance. The analysis showed no significant relationship between work performance and mobbing ($p = 0.789$), while a significant negative association was observed between work performance and work stress ($p = 0.025$). A powerful direct negative correlation thus emerged between work performance and work stress.

Multivariate analysis was also applied to the relationship between work stress, mobbing, and work performance (Table 5). The responses provided by the individuals working in health institutions revealed a 1.9% (0.001) significance level between mobbing and work stress and work performance. The analyses revealed no significant association between work stress and mobbing ($p = 0.729$), while a significant negative association between work stress and work performance ($p = 0.025$). A powerful direct negative correlation thus emerged between work stress and work performance.

Discussion

This study evaluated mobbing, work stress, and work performance among individuals working in any health institution in Türkiye. A comparison of the responses from the entire participant group ($n = 272$) revealed a general mean mobbing scale score of 2.18. This available mean value lay within the margins of 'I Disagree' on the seven-point Likert-type scale. In light of these findings, the participants in the study were not, as a group, exposed to significant mobbing. However, a

Table 5. Correlation and multiple regression analysis between work stress, work performance, and mobbing

| CORRELATION ANALYSIS | | | | |
|---|------------------|------------------|---------|--------|
| | Work stress | Work performance | Mobbing | |
| Work stress | 1 | -0.136* | -0.019 | |
| Work performance | -0.136* | 1 | -0.014 | |
| Mobbing | -0.019 | -0.014 | 1 | |
| MULTIPLE REGRESSION ANALYSIS | | | | |
| Independent variables | B | t | p | |
| DV: Mobbing | Work stress | -0.021 | -0.347 | 0.729 |
| IV: Work stress and work performance | Work performance | -0.016 | -0.268 | 0.789 |
| DV: Performance IV: Mobbing and work stress | Work stress | -0.137 | -2.260 | 0.025* |
| | Mobbing | -0.0136 | -0.268 | 0.789 |
| DV: Work stress IV: Mobbing and work stress | Work performance | -0.154 | -2.260 | 0.025* |
| | Mobbing | -0.019 | -0.347 | 0.729 |

DV: Dependent variable; IV: Independent variables; B: Beta; *p < 0.05 statistically significant, n=272.

detailed examination of the responses showed that health workers were exposed to mobbing. The answers given by the participants regarding occupational groups were therefore evaluated based on scores of 2.72–3.57 (Somewhat Agree) or above on the seven-point Likert-type scale. This analysis showed that 36.4% of academics, 30% of secretaries, 28.6% of security staff, 23% of technicians, 22.2% of social workers, 20.2% of nurses, 20% midwives, 19.5% of physicians, and 15.4% of midwives were exposed to mobbing.

Studies have reported that members of several occupation groups working in health institutions experience mobbing^{17,18}. Mobbing was detected in nine of the 18 occupational groups involved in the present study. Surprisingly, academics were the occupational group with the highest rate of exposure to mobbing, at 36.4%. One previous study evaluated 400 academics in 10 public universities and found that 66.8% of the participants were subjected to mobbing¹⁹. Another study observed statistically significant academic mobbing among the 135 participants assessed²⁰. As a result of the present research, this state of affairs remained the same in terms of academics working in health institutions.

A comparison of demographic characteristics showed that men were exposed to greater mobbing than women. In contrast, previous studies have reported that women are more exposed to mobbing among individuals working in health institutions than men²¹. Another study involving academics working in health institutions reported no gender difference in mobbing²². In the present study, statistical analysis revealed that men were exposed to greater mobbing than women. We think this may be due to a higher employment rate in health institutions among men. In particular, while nursing was exclusive to women at one time, the number of male nurses has increased in recent years. Studies have shown that male nurses are more exposed to physical^{23,24}, emotional, and sexual harassment and aggression²⁵ than women. We also think that questionnaires being completed online allowed male participants to respond more freely.

No significant gender difference was determined regarding the mean responses to the questions asked under the 'relationships with colleagues' subheading. However, gender was statistically significantly associated with 'threats and harassment', 'work and career', 'interference in private life', and 'attachment to work'. The mobbing sub-factors of 'threats and harassment', 'work and career', 'interference in private life', and 'attachment to work' were all greater in men than in women.

No significant association was determined between mobbing and participants' age groups, marital status, education, number of patients encountered daily, or years worked. In contrast, previous studies have reported significant associations between mobbing and age, education, marital status, years worked, and patient numbers²⁶. No significant associations were found in the present study, which we think may be related to the demographic characteristics of the study groups.

Work stress was also evaluated in addition to mobbing. A five-point Likert-type scale was employed to calculate the response scores when performing that evaluation. The general mean score for the questions in the Work Stress Scale was 3.14. According to the five-point Likert scale, that value was within the limits of 'Undecided'. This may indicate a high probability of work stress among the 272 individuals in the study. Had the mean scale score been 2.60 or lower, we would have concluded that the participants had no work stress.

Analysis revealed significant differences in Work Stress Scale scores regarding the different occupational groups. According to the results of our study, security staff was determined to be the occupation group with the highest work stress levels. Previous studies have reported higher work stress among nurses²⁷, physicians¹⁷, technicians, and auxiliary nurses²⁸. Another study found more significant work stress among physicians, administrative personnel, nurses, health technicians/technicians, and technical services staff, women, and workers in administrative units²⁹. Studies have thus shown the presence of work stress in several occupation groups working in health institutions. Our literature scan revealed that one study involving 130 individuals working as private security staff across the province of Izmir determined a work stress rate of 55%³⁰. However, a comparison between different professions was not made in this study. In comparative studies among individuals working in health institutions, no study found that the stress level of the security guard was too high.

Gender analyses in the present study revealed more significant work stress among women than men. This is consistent with previous research. Özcan et al.²⁹ investigated various occupations, including physicians, administrative personnel, nurses, health technicians/technicians, and technical services staff. Also, they found that women experienced more significant work stress. Participants' work-stress scale scores differed significantly regarding the number of patients

encountered. Work stress increased in line with patient numbers. Vahedian-Azimi et al.³¹ found that stress was not affected due to raised patient beds in the pediatric department. This indicates that there is no association between patient numbers and work stress. In another study, however, every additional patient following a determination of the standard number of patients per nurse increased the probability of burnout among working individuals by 23%³². Despite the inconsistencies among different studies, generally, a low number of health workers in proportion to patient numbers or an unexpected rise in patient numbers exacerbates work stress. Indeed, studies have shown that work stress increased due to patient numbers in health institutions following the COVID-19 pandemic^{33,34}.

No statistically significant variations in work stress were observed regarding marital status, age groups, education, or number of years worked. However, some previous studies have reported that health workers aged 30–39 experience the highest level of work stress³⁵. In the present study, however, no significant associations were determined between the sociodemographic characteristics of age, marital status, education, and stress. We think this may be due to differences in the demographic characteristics of the groups examined. Vahedian-Azimi³¹ observed no effect of education levels on work stress. This finding is consistent with the present study.

Since the present study investigated factors impacting performance, such as work stress and mobbing, performance evaluation was also conducted. The general mean score for the questions in the work performance scale was 4.20. This general mean corresponds to 'I Strongly Agree' on the five-point Likert-type scale. This means that work performance among the 272 participants was very high. A study examining the performance of nurses in telemedicine (remote diagnosis and patient treatment using telecommunication technology) also reported high performance³⁶. In contrast, Tong³⁷ reported low motivation among hospital nurses and that this, in turn, affected their performance. Another study stated that mobbing is one of the most important reasons for poor performance³⁸.

No statistically significant variations in work performance scale scores were determined in terms of demographic factors such as occupation, sex, marital status, age, education, or daily numbers of patients encountered. One study evaluating performance in a health institution reported that while sociodemographic

characteristics exhibited no effect, physical conditions did impact performance³⁹. Doubtless, the same results are not obtained from every health institution.

A significant association was determined between participants' work performance scale scores and the total years worked in the most recent institution. Workers with 11–15 years' experience exhibited lower performance than those with 21–25 years' experience. We think that performance increases in line with the number of years worked. One previous study examined a group of 3098 nurses and reported lower performance among those with a mean experience greater than 25.7 years. The authors concluded that long-term work resulted in burnout and impacted performance⁴⁰. Performance was improved in one study that employed reducing stress by providing education for nurses who had recently started working. The education sessions were reported to lower education and thus increase performance, with a negative correlation between the two⁴¹. This may also be an indicator for the present study. Performance may have increased due to increased experience as the number of years worked increased and decreased work stress.

Correlation analysis revealed a significant negative relationship between work stress and work performance, while no correlation was found between mobbing and work performance or work stress. The responses provided by the individuals working in health institutions revealed a 1.9% significance level between mobbing and work stress and work performance. Regression analysis showed no association between work performance and mobbing, while a negative effect regression relationship was observed between work performance and work stress. Duman and Akdemir⁴² reported a significant negative correlation between mobbing and worker performance. Another study reported that mobbing levels adversely impacted performance and stress⁴³. However, the present study observed no significant association between work stress or performance and mobbing. Another study on the subject was consistent with our findings. Studies of the relationships between work stress and performance have reported a negative association between them⁴¹. This is compatible with our results.

The mean responses given by the participants to the questions contained in these scales showed no association between mobbing and work stress or work performance. However, an adverse effect relationship was found between work stress and work performance.

Strengths and Limitations

This research presents several overarching strengths. The number of studies examining work performance, work stress, and mobbing together is limited in the literature. Moreover, our study may reflect the general nature of healthcare workers' work performance, work stress, and mobbing in Türkiye because it is a multicenter study involving seven regions (Marmara, the Aegean, the Black Sea, Central Anatolia, the Mediterranean, and Southeast Anatolia).

However, the study also had several limitations. It was aimed to include all healthcare professionals nationwide, but there was limited participation. Besides, only the short-term effects of work performance work stress on health workers could be determined. The long-term effects of work performance and stress on healthcare workers are unknown. Therefore, the long-term experiences of the research subjects would be a valuable avenue to explore in the future.

Acknowledgments

We thank all the health workers who participated in this study.

Authors' Contribution

The authors share the responsibility for the manuscript.

Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Conflict of Interest

The authors declare no potential conflicts of interest regarding this article.

Disclaimer

The content is solely the responsibility of the authors

Funding Information

The authors received no financial support for the research.

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