Burnout, compassion satisfaction and fatigue: Is professional quality of life linked with resilience in emergency departments?

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ABSTRACT

Background. We examined the relationship between resilience and professional quality of life (ProQoL) through specifically developed surveys and identified the correlation with sociodemographic characteristics that may affect both concepts.

Methods. The study was done among physicians working in different emergency departments. An online questionnaire with 3 parts was used. (i) 10 questions on the demographic characteristics and working conditions of the participating physicians; (ii) The 'Connor–Davidson Resilience Scale' (CDRS), a 10-item scale, which measures the psychological resilience of physicians; and (iii) The 'Professional Quality of Life Scale' (ProQoL scale) a 30-item questionnaire which measures physicians' compassion satisfaction (CS), burnout (BO) and compassion fatigue (CF). Scores for the subscales of ProQoL were categorized as follows: $\leq$22 low; 23–41 moderate; and $\geq$42 high levels.

Results. The questionnaire was completed by 290 participants (99.3%). The median age was 30 (26–37) years, and 40.7% (118) of the participants were females. For the BO subscale, the median CDRS score of participants with high BO scores (18 [15–20]) was found to be lower than the median score of participants with low and moderate BO scores (p values 0.013 and 0.009, respectively). For CS subscale, the median scores of all 3 groups were statistically different, and the highest median score belonged to the high group (29 [27–34]) ($p<0.001$ for all 3 groups). For the CF subscale, the median CDRS score for participants with high CF scores (13 [9–16]) was found to be significantly lower than the CDRS score of participants with low and moderate CF scores ($p<0.017$ and <0.032, respectively). The median CDRS score of men was significantly higher than that of women ($p<0.001$).

Conclusion. The concept of resilience is associated with BO, CS and CF, which constitute ProQoL. Physicians who have high scores for BO and CF, which are negative sub-factors of the ProQoL scale, have lower resilience; on the contrary, those who have high scores for CS, which is a positive indicator of the quality of life, have higher resilience. Female gender can be considered a risk factor for low resilience.

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INTRODUCTION

In recent years, psychological resilience has become a prominent concept in various domains of professional life, holding importance from the perspective of behavioural and medical sciences.[1,2] It is defined as the ability to withstand and effectively cope with stressful and negative situations.[3] Psychological resilience represents the personality traits that facilitate individual growth and development following a problem or traumatic event. Individuals labelled as 'resilient' demonstrate the ability to overcome challenges, transform negative memories and experiences into positive teachings and return to their initial emotional state.[4]

Recent studies indicate that the concept of resilience is a determinant of individual happiness and an independent factor in academic success.[5,6] Professional quality of life (ProQoL) is the professional counterpart to the impact exerted by work life on individuals. In the field of healthcare, it refers to the positive (compassion satisfaction [CS]) and negative (burnout [BO] and compassion fatigue [CF]) aspects of working as a professional healthcare provider.[7] Professional satisfaction can be described as the occupational fulfilment derived from assisting others and providing healthcare services in one's professional life.[8] CF can be defined as the secondary trauma resulting from dealing with an individual who has experienced trauma or distress, although the observer has not directly undergone the traumatic event.[9] BO can be summarized as feeling hopeless and inadequate due to work performance.[9] Instances where ProQoL is low, characterized by high levels of CF and BO, not only give rise to emotional symptoms such as depression and low concentration amongst healthcare professionals but also contribute to physical symptoms, including headaches and sleep disorders.[7,8,10]

Physicians working in emergency departments operate in an environment inherently characterized by high stress, where feelings of BO and CF are commonly experienced. This situation affects the ProQoL and sense of professional satisfaction amongst emergency medicine physicians, playing an important role in patient-centred care.[11]

We examined the relationship between resilience and ProQoL through specified surveys and to identify the correlation with sociodemographic characteristics that may affect both concepts.

METHODS

Study design and data collection

The study was conducted during 5–15 December 2023,

amongst physicians working in different emergency departments across Türkiye. The survey was distributed to all those who agreed to participate in the study. An online questionnaire was used to collect data (*www.docs.google.com*) that took approximately 6 minutes to complete. At the beginning of the form, the purpose of the study was explained to the participants, and informed consent was obtained from all participants. The questionnaire had 3 parts. The first part had 10 questions on the demographic characteristics and working conditions of the participating physicians, including the physician's age, gender, marital status, presence of children, duration of emergency department practice, medical title of the physician (general practitioner, resident or specialist physician or academician), the number of physicians working during a shift in the emergency department, number of patients treated daily and whether the physicians had received any training to enhance their resilience and motivation and if so, the nature of the training.

The second part consisted of the 'Connor–Davidson Resilience Scale' (CDRS), a 10-item scale using a 5-point Likert scale, which measures the psychological resilience of physicians.[12] The scale was translated into Turkish and validated by Kaya and Odaci in 2021[4] based on the original scale developed by Connor and Davidson.[12]

The third part comprised the 'Professional Quality of Life Scale (ProQoL scale)',[13] a 30-item questionnaire using a 6-point Likert scale, which measures physicians' CS, BO and CF. This scale was translated into Turkish and validated by Yesil *et al.* in 2010 based on the original scale.[14] As specified in The Concise ProQoL Manual (2010), scores for the subscales of ProQoL, namely CS, BO and CF, were categorised as follows: ≤22 low; 23–41 moderate and ≥42 high levels.[9]

Selection of participants

The study included general practitioners, residents, specialists and academicians (assistant professor, associate professor or professor) working in the emergency department. Physicians who refused to participate in the survey, those who worked in other units and were temporarily assigned to the emergency department and those who did not answer all the questions in the questionnaire were excluded from the study.

Outcome

The primary outcome of the study was to examine the relationship between psychological resilience and ProQoL amongst physicians working in the emergency department through questionnaires. The secondary outcome was to determine the relationship between both psychological resilience and ProQoL with sociodemographic and occupational characteristics.

Statistical analysis

It was done using Jamovi version 2.3.28. The Shapiro–Wilk test was used to assess whether the variables conformed to normal distribution. For descriptive statistics, categorical variables were presented as number and frequency while continuous variables were presented as mean and standard deviation for normally distributed variables and median and interquartile range for non-normally distributed variables. Chi-square test was used to compare categorical variables. For the comparison of continuous variables, Student's *t*-test was used for normally distributed variables and Kruskal–Wallis H test was used for non-normally distributed variables. The Dwass–Steel–Critchlow–Fligner test was used for *post hoc* analyses of continuous variables. The Spearman's correlation test was used to examine the correlation between two continuous variables. $p<0.05$ was considered statistically significant for all analyses.

RESULTS

The questionnaire reached a total of 292 participants. However, 2 participants declined to fill it and hence was completed by 290 participants (99.3%). The median age of the participants was 30 (26–37) years, and 40.7% (118) of the participants were females. Although 52.4% (152) of the participants were married, 36.2% (105) had children. Moreover, 30.7% (89) of the participants were general practitioners, and 40.7% (118) had 1–5 years of experience working in the emergency department. Although 90.3% of the participants (262) stated that they did not receive any training to enhance psychological resilience, 5.5% (16) reported receiving such training during residency, and another 5.5% (16) reported receiving psychological resilience training during conferences or symposiums (Table 1).

When the relationship between age and CDRS scores was examined, no significant correlation was found between both groups ($p=0.91$). Similarly, no significant correlation was found between the number of physicians working during a shift and CDRS scores ($p=0.21$).

When the relationship between gender and CDRS scores was analysed, it was found that the median score of men was 28 (24–31), and it was significantly higher than that of women ($p<0.001$). No significant difference was observed in CDRS scores with respect to marital status, presence of children, duration of emergency department practice, title and the status of receiving training to enhance psychological resilience (Table 2).

When the relationship between CDRS and ProQoL subscale scores was examined, there was a significant difference in CDRS scores between the low, moderate and high groups in all three of the subscales (CS, BO and CF) of the ProQoL scale ($p=0.003$, <0.001 and <0.001, respectively). When the BO subscale was examined, the median CDRS score of participants with high BO scores was 18 (15–20), and this was found to be lower than the median score of participants with low and moderate BO scores in the *post hoc* analyses ($p=0.013$ and 0.009, respectively). When the CS subscale was examined, the median CDRS score was 19 (15–28) for participants with low CS scores, 26 (22–29) for participants with moderate CS scores and 29 (27–34) for participants with high CS scores. In *post hoc* analyses, it was found that the median scores of all 3 groups were statistically different, and the highest median score belonged to the high group ($p<0.001$ for all 3 groups). When the CF subscale was examined, the median CDRS score was found to be 13 (9–16) for participants with high CF scores, and this value was found to be significantly lower than the CDRS score of participants with low and moderate CF scores ($p<0.017$ and <0.032, respectively; Table 3).

When the relationship between sociodemographic characteristics and the ProQoL subscales was analysed, there was a significant relationship between the BO subscale and gender ($p<0.001$). *Post hoc* analysis revealed that 22% (13) of the participants with low BO scores were females while this rate was significantly lower compared with that amongst participants with moderate and high BO scores ($p=0.006$ and <0.001, respectively). For the CS subscale, no statistically significant difference was found between the participants with low, moderate

TABLE 1. Characteristics of sociodemographics and working conditions (*n*=290)

Characteristic	*n* (%)
Median age (years) [Q1–Q3]	30 (26–37)
Gender	
Female	118 (40.7)
Male	172 (59.3)
Presence of children	
Yes	105 (36.2)
No	185 (63.8)
Working title	
Academician	21 (7.2)
Specialist physician	81 (27.9)
Resident	99 (34.1)
General practitioner	89 (30.7)
Marital status	
Single	138 (47.6)
Married	152 (52.4)
Duration of emergency department practice	
<1 year	52 (17.9)
1–5 years	118 (40.7)
6–10 years	54 (18.6)
>10 years	66 (22.8)
Number of patients treated daily	
0–499	58 (20)
500–999	65 (22.4)
1000–1500	104 (35.9)
>1500	63 (21.7)
Number of physicians in the shift	8 (5–12)
Training to increase resilience	
None	262 (90.3)
During residency	16 (5.5)
Congress/Symposium	16 (5.5)
Podcast	1 (0.3)
Social media	4 (1.4)
Written material	3 (1.0)

TABLE 2. Comparison of sociodemographic characteristics with the Connor–Davidson Resilience Scale

Characteristic	Connor–Davidson Resilience Scale	p value
Gender		
Female	25 (21–29)	<0.001*
Male	28 (24–31)	
Marital status		
Single	26 (21–29)	0.169
Married	27 (22–31)	
Presence of children		
Yes	28 (22–31)	0.092
No	26 (22–29)	
Duration of emergency department practice (years)		
<1	26 (21–29)	0.946
1–5	26 (28–30)	
6–10	26 (22–30)	
>10	28 (21–30)	
Working title		
General practitioner	26 (21–29)	0.582
Resident	27 (23–30)	
Specialist physician	26 (21–29)	
Academician	28 (21–31)	
Training to increase resilience		
Yes	28 (26–31)	0.109
No	26 (21–30)	

and high scores with respect to sociodemographic characteristics. Similar to the BO subscale, a statistically significant difference was found in gender distribution of participants with low, moderate and high CF scores (p<0.001). *Post hoc* analysis revealed that this difference was due to the difference between low and moderate groups. Although 34.1% (70) of participants with low CF scores were females, this rate was 54.9% (45) in the moderate group, which was significantly higher than the low group (p<0.001; Table 3).

DISCUSSION

In this study, when the relationship between CDRS and ProQoL scores was examined, significant differences were found for all 3 subscales (BO, CF and CS) evaluated using the ProQoL scale. Accordingly, significant differences were observed in the BO subscale between the moderate and high as well as low and high subgroups. For the compassion satisfaction and CF subscales, significant differences were observed between all subgroups. This suggests that higher resilience leads to higher occupational satisfaction and lesser feelings of BO and CF. Wong *et al*. in 2022 did a study among healthcare professionals working in the emergency department during the Covid-19 pandemic, and observed a similar relationship between resilience and ProQoL scores as in our study.[8] Resilience is not solely associated with response to traumatic or distressing events; it is also linked to the ability to transform negative experiences and feelings into positive teachings and quickly return to the initial state of well-being.[4] Therefore, an individual considered 'resilient' may experience less BO, be less exposed to secondary trauma or be less affected by it and consequently may have a less clouded sense of occupational satisfaction.

In our study, a significant relationship was revealed between gender and BO and CF subscales, whereas no significant relationship was observed between gender and the CS subscale. In addition, a significant relationship was found between gender and CDRS, with women having lower CDRS scores compared with those of men. Previous reports indicate different results regarding the relationship between gender and ProQoL and resilience. Similar to our study, female gender was associated with high BO, CF and low resilience in some studies.[14,15] In fact, the only personal characteristic of participants found to be related to negative aspects of the scale is being female in another study.[16] Although it is known that women physicians constitute almost half of the workforce in the healthcare sector today, they are still underrepresented in academic terms compared with men.[17] In a 2021 meta-analysis of academic physicians, it was revealed that women face disparities such as fewer publications, lower pay and reduced opportunities to advance to department head positions compared to their male counterparts.[18] Studies have highlighted the elevated levels of BO experienced by women due to factors including gender discrimination, bias and the deferral of personal decisions such as marriage and parenthood for social reasons.[19] Furthermore, societal expectations regarding traditional gender roles, such as caregiving and household responsibilities, serve as stressors, undermining women's control over their work-life balance and diminishing their sense of professional fulfilment and recognition. These compounding stressors contribute to BO amongst women in professional settings.[19,20]

When sociodemographic characteristics and work-related factors are evaluated, different results are reported in terms of

TABLE 3. Comparison of professional quality of life scale, CDRS and sociodemographic characteristics

Parameter	Burnout			p value
	Low[1]	Moderate[2]	High[3]	
CDRS	28 (23–32)	26 (22–29)	18 (15–20)	0.003 1–2=0.23 1–3=0.01 2–3=0.009
Median age (years) [Q1–Q3]	31 (27–38)	29 (26–36)	40 (27–43)	0.11
Gender (female)	13 (22.0)	100 (44.2)	5 (100.0)	<0.001 1–2=0.006 1–3<0.001 2–3=0.05
Marital status (single)	26 (44.1)	110 (48.7)	2 (40.0)	0.77
Presence of children (yes)	25 (42.4)	78 (34.5)	2 (40.0)	0.53
Duration of emergency department practice (years)				
<1	7 (11.9)	45 (19.9)	0 (0)	0.66
1–5	24 (40.7)	92 (40.7)	2 (40.0)	
6–10	12 (20.3)	41 (18.1)	1 (20.0)	
>10	16 (27.1)	48 (21.2)	2 (40.0)	
Number of patients treated daily				
0–499	15 (25.4)	43 (19.0)	0 (0)	0.53
500–999	11 (18.6)	52 (23.0)	2 (40.0)	
1000–1500	17 (28.8)	85 (37.6)	2 (40.0)	
>1500	16 (27.1)	46 (20.4)	1 (20.0)	
Working title				
General practitioner	13 (22.0)	74 (32.7)	2 (40.0)	0.09
Resident	21 (35.6)	78 (34.5)	0 (0)	
Specialist physician	23 (39.0)	55 (24.3)	3 (60.0)	
Academician	2 (3.4)	19 (8.4)	0 (0)	
	Compassion satisfaction			
CDRS	19 (15–28)	26 (22–29)	29 (27–34)	<0.001 1–2<0.001 1–3<0.001 2–3<0.001
Median age (years) [Q1–Q3]	30 (27–37)	29 (27–37)	30 (27–36)	0.80
Gender (female)	17 (37.8)	74 (39.2)	27 (48.2)	0.44
Marital status (single)	21 (46.7)	88 (46.6)	29 (51.8)	0.78
Presence of children (yes)	15 (33.3)	67 (35.4)	23 (41.1)	0.68
Duration of emergency department practice (years)				
<1	5 (11.1)	36 (19.0)	11 (19.6)	0.92
1–5	20 (44.4)	75 (39.7)	23 (41.1)	
6–10	10 (22.2)	34 (18.0)	10 (17.9)	
>10	10 (22.2)	44 (23.3)	12 (21.4)	
Number of patients treated daily				
0–499	10 (22.2)	31 (16.4)	17 (30.4)	0.10
500–999	13 (28.9)	44 (23.3)	8 (14.3)	
1000–1500	10 (22.2)	73 (38.6)	21 (37.5)	
>1500	12 (26.7)	41 (21.7)	10 (17.9)	
Working title				
General practitioner	10 (22.2)	60 (31.7)	19 (33.9)	0.88
Resident	18 (40.0)	62 (32.8)	19 (33.9)	
Specialist physician	13 (28.9)	53 (28.0)	15 (26.8)	
Academician	4 (8.9)	14 (7.4)	3 (5.4)	
	Compassion fatigue			
CDRS	28 (24–31)	24 (20–28)	13 (9–16)	<0.001 1–2<0.001 1–3=0.02 2–3=0.03
Median age (years) [Q1–Q3]	29 (27–35)	30 (26–38)	38 (33–39)	0.61
Gender (female)	70 (34.1)	45 (54.9)	3 (100)	<0.001 1–2<0.001 1–3=0.12 2–3=0.76

Contd.

Parameter	Burnout			p value
	Low[1]	Moderate[2]	High[3]	
Marital status (single)	96 (46.8)	40 (48.8)	2 (66.7)	0.77
Presence of children (yes)	76 (37.1)	29 (35.4)	0 (0)	0.41
Duration of emergency department practice (years)				
<1	35 (17.1)	17 (20.7)	0 (0.0)	0.54
1–5	91 (44.4)	26 (31.7)	1 (33.3)	
6–10	36 (17.6)	17 (20.7)	1 (33.3)	
>10	43 (21.0)	22 (26.8)	1 (33.3)	
Number of patients treated daily				
0–499	38 (18.5)	19 (23.2)	1 (33.3)	0.80
500–999	44 (21.5)	21 (25.6)	0 (0.0)	
1000–1500	76 (37.1)	27 (32.9)	1 (33.3)	
>1500	47 (22.9)	15 (18.3)	1 (33.3)	
Working title				
General practitioner	60 (29.3)	27 (32.9)	2 (66.7)	0.26
Resident	75 (36.6)	24 (29.3)	0 (0)	
Specialist physician	59 (28.8)	21 (25.6)	1 (33.3)	
Academician	11 (5.4)	10 (12.2)	0 (0)	

CDRS Connor-Davidson Resilience Scalep values for pairwise comparisons among the low (1), moderate (2), and high (3) groups are reported in the table.
All figures are numbers and in parenthesis are percentages unless otherwise specified

both resilience and ProQoL. While some studies identify young age, low years of experience in the emergency department and the intensity of the work area as risk factors for CF and BO,[21,22] a meta-analysis published in 2018 found no significant relationship between ProQoL and sociodemographic characteristics and work-related factors.[23] In a study by Peng *et al*. in 2022, being married was identified as a protective factor for well-being and resilience.[24] In a study conducted by Carmassi *et al*. in 2020, working role, work experience, age and marital status were determined as factors affecting psychological resilience.[25] In the study, no significant relationship was found between age, marital status, presence of children, years of experience, patient caseload, working title and the number of physicians working during a shift with ProQoL and resilience. This may be due to the fact that the studies were conducted amongst different groups of healthcare workers, in different countries, and in different periods (before and after Covid-19). The ProQoL subscales and the concept of resilience are highly complex and involve multifactorial concepts that can be influenced by several variables, ranging from societal gender perception to the perspective on professions.

Limitations

These include the small sample size and the existence of confounders that could affect the concepts of resilience and ProQoL. The presence of participants with different titles may not accurately represent the study's actual population limits. This study was conducted after the Covid-19 pandemic, a time when physicians working in emergency departments worldwide were impacted. There is an anticipated rise in CF and BO, which may continue to affect physicians' psychological resilience.

Conclusion

The resilience scores of physicians working in the emergency department and the quality of their professional lives are interrelated. Physicians who have high scores for BO and CF, which are negative sub-factors of the professional quality of life scale, have lower resilience; on the contrary, those who have high scores for CS, which is a positive indicator of the quality of life, have higher resilience. In addition, from demographic data, female gender can be considered a risk factor for low resilience. Efforts aimed at enhancing psychological resilience can contribute to improving the professional quality of life of physicians working in the emergency department.

Conflicts of interest. None declared

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