

Original Article

The Relationship between Post-traumatic Stress Symptoms and Life Satisfaction of Nursing Students

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Abstract

Background: In recent years, the ongoing pandemic and natural disasters may lead to the development of traumatic symptoms among individuals who are directly exposed to these events. The prevalence of traumatic symptoms may, in turn, negatively affect individuals' life satisfaction and quality of life.

Aim: This study was conducted to determine the relationship between posttraumatic stress symptoms and life satisfaction of nursing students.

Method: This descriptive and correlational study was conducted with 275 nursing students. "Information form" including socio-demographic characteristics, "Impact of Events Scale" to determine the level of posttraumatic stress and "Satisfaction with Life Scale" to determine the level of life satisfaction were used to collect the data. Percentage, mean standard deviation, one-way analysis of variance, t test for independent groups, simple linear regression analysis were used to evaluate the data.

Results: It was determined that 58.5% of nursing students were affected by the events they experienced, their mean life satisfaction was 13.85 ± 4.42 , and students with high posttraumatic stress level had low life satisfaction ($\beta = -0.299$, $p < 0.001$). In addition, it was determined that traumatic symptoms were mostly expressed by male students; female students, those with social support, those living with family and those with high income perception had low posttraumatic stress symptoms and high life satisfaction.

Conclusion: Nursing students were largely affected by traumatic events and this effect decreased their life satisfaction. Assessing students' post-traumatic stress levels, supporting them to cope, and organizing the curriculum in this direction are important for strong professional generations.

Keywords: Nursing student; posttraumatic stress; life satisfaction.

Introduction

From past to present, humankind has been exposed to traumatic experiences caused by natural disasters or by intentional or accidental human actions. Among human-induced traumatic events are war, torture, rape, terrorist attacks, and accidents, while in recent years, outbreaks, earthquakes, floods, avalanches, landslides, and forest fires

occurring in our country have been included among naturally occurring traumatic events (Lamoureux-Lamarche & Vasiliadis, 2017; Cam & Engin, 2021). Natural disasters, which are among the major problems of our time, directly affect individuals and society and may lead to physical, economic, social, and environmental losses. In addition, traumas experienced after natural disasters may result in lifelong mental disorders (Kukuoglu,

2018). For example, it has been reported that the loss of life and property caused by fires resulting from natural or human-induced reasons has serious traumatic consequences for society and negatively affects individuals' quality of life and living standards (Bakirci et al., 2019). Likewise, the COVID-19 pandemic, which emerged in December 2019 and has seriously threatened life worldwide, is considered one of the most significant trauma-inducing events of our time (Liu et al., 2020), and it is predicted that the psychological effects of the pandemic will be long-lasting and may occur frequently and repeatedly in the future (Bilge & Bilge, 2020; Liang et al., 2020).

It has been determined that fear and severe stress factors that arise after traumatic events may trigger post-traumatic stress symptoms and increase vulnerability to mental health problems (Coventry et al., 2020; Tunc, 2021; Brooks et al., 2022; Gowen et al., 2023). These stress symptoms may manifest as psychological reactions such as fear, intense panic, re-experiencing, hyperarousal, and avoidance of stimuli related to the traumatic event (Corapcioglu et al., 2006; Levi et al., 2021; Teke & Avsaroglu, 2021; TunC, 2021). In addition, stress symptoms affect individuals' life satisfaction, hope for the future, expectations, and overall life contentment. Life satisfaction, which is positively associated with happiness, refers to a condition that emerges from the individual's needs, life expectations, and the extent to which these are fulfilled (Diener et al., 1985; Koker, 1991; Dagli & Baysal, 2016). Traumatic events can negatively affect individuals in all age and occupational groups. Among the groups at risk of exposure to numerous traumatic situations, nurses constitute a particularly important professional group. Traumatic experiences may begin as early as the nursing students' training period (Mayer et al., 2022)

The pandemic and natural disasters that have persisted in Turkiye and worldwide over the past few years and whose effects are ongoing may lead to the development of traumatic symptoms among nursing students who are directly exposed to these events. The prevalence of traumatic symptoms may affect student nurses' life satisfaction and quality of

life (Lee, 2018), and it should not be overlooked that these symptoms may also create negative consequences in their future professional lives (Ozgur et al., 2008; Li et al., 2015; Foli, 2019). In this study, answers will be sought to the following questions: (1) what are the levels of post-traumatic stress and life satisfaction among nursing students, and (2) is there a relationship between post-traumatic stress levels and life satisfaction?

Methods

Type of the Study: The study has a descriptive and correlational design.

Population and Sample: The population of the study consisted of 560 nursing students enrolled in the nursing faculty of a state university during the 2021–2022 academic year. In calculating the sample size, the standard deviation value (SD = 16.62) of the *Impact of Event Scale (IES)* reported in the study conducted by Celik Balci et al. (2022) was taken as a reference, with a power level of 95% and a significance level of 0.05. The study was completed with 275 students aged 18 years and older who agreed to participate in the research. Participants' trauma experiences were assessed using the question "whether they had a history of trauma in the last six months" included in the questionnaires, and only those who reported having experienced trauma were included in the sample.

Data Collection and Data Collection

Instruments: The research data were collected through face-to-face interviews on the days when students had theoretical courses between May and June 2022.

Information Form: This form was developed by the researchers based on a review of the relevant literature (Akbiyik, 2020; Kardas & Tanhan, 2018; Tunc, 2021). It consists of eight questions addressing the students' grade level, age, gender, perceived income level, place of residence, presence of a physical or mental condition requiring continuous medication use, perceived social support, and history of trauma within the past six months.

Impact of Event Scale (IES): The scale, originally developed by Horowitz et al. (1979), revised by Weiss and Marmar (1997), and adapted into Turkish by Corapcioglu et al. (2006), is used to measure the level of post-

traumatic stress. The IES-R is a 22-item, 5-point Likert-type scale (“0” = Not at all, “1” = A little, “2” = Moderately, “3” = Quite a bit, “4” = Extremely) and consists of three subscales: re-experiencing, avoidance, and hyperarousal. The total score ranges from 0 to 88, with higher scores indicating higher levels of traumatic stress. The cut-off score of the scale is 24 (Corapcioglu et al., 2006), and individuals scoring above 24 are considered to be affected by the experienced event. The Cronbach’s alpha internal consistency coefficient of the scale is 0.94, while it was found to be 0.92 in the present study.

Satisfaction with Life Scale (SWLS): The Satisfaction with Life Scale, developed by Diener et al. (1985), was adapted into Turkish as a 7-point Likert scale by Koker (1991), and later converted into a 5-point Likert format by Dagli and Baysal (2016). The scale consists of five items rated on a 5-point Likert type (“1” = Strongly disagree, “2” = Slightly agree, “3” = Moderately agree, “4” = Largely agree, “5” = Completely agree). The total score ranges from 5 to 25, with higher total scores indicating higher levels of life satisfaction. The Cronbach’s alpha internal consistency coefficient of the scale was reported as 0.88, and it was found to be 0.85 in the present study.

Ethical Considerations: To conduct the study, ethical approval was obtained from the Health Sciences Scientific Research Ethics Committee of the university where the research was carried out (Decision No: 2022/196), institutional permission was obtained from the Faculty of Nursing, and written informed consent was obtained from all participating students.

Data Analysis: In the analysis of the data, percentages and mean–standard deviation values, one-way analysis of variance (ANOVA), independent samples t-test, and simple linear regression analysis were used. The obtained results were tested at a significance level of $p < 0.05$.

Results

The mean age of the students was 20.21 ± 1.70 years; 82.5% were female, 72.4% were living in dormitories or student houses, 71.3% perceived their income level as good, 90.9% did not have any physical or mental illness, and 54.9% were found to have a low

perception of social support (Table 1). It was determined that 41.5% of the students had a total score below the cut-off point of 24 on the Impact of Event Scale, whereas 58.5% scored above 24 and were affected by the events they experienced. The mean total score of the Impact of Event Scale was 29.26 ± 15.70 . The mean scores of the subscales were 10.72 ± 6.80 for re-experiencing, 11.54 ± 5.80 for avoidance, and 6.99 ± 5.13 for hyperarousal. The mean score of the Satisfaction with Life Scale was 13.85 ± 4.42 (Table 1).

The comparison of the mean scale scores according to the students’ descriptive characteristics is presented in Table 2. The mean score of the Satisfaction with Life Scale was higher among female students compared to male students. The total score of the Impact of Event Scale and the mean scores of the re-experiencing and hyperarousal subscales were higher among students living in dormitories or student houses than those living with their families, while their Satisfaction with Life Scale scores were lower. The total Impact of Event Scale scores and the mean scores of the re-experiencing and hyperarousal subscales were higher, whereas the Satisfaction with Life Scale scores were lower among students who perceived their income as balanced with or higher than expenses compared to those who perceived their income as lower than expenses. Additionally, students who reported having social support had lower total Impact of Event Scale scores and hyperarousal subscale scores, but higher Satisfaction with Life Scale scores than those who reported no social support ($p < 0.05$).

One of the main aims of this study was to examine the extent to which post-traumatic stress symptoms, as measured by the Impact of Event Scale, predict students’ life satisfaction. The results of the analysis showed that the Impact of Event Scale score significantly and negatively predicted students’ life satisfaction ($\beta = -0.299$, $p < 0.001$). As shown in Table 3, post-traumatic stress symptoms explain 89% of the variance in life satisfaction. Accordingly, it can be stated that as post-traumatic stress symptoms increase, life satisfaction decreases.

Table 1. Mean Scores of the Impact of Event Scale and the Satisfaction with Life Scale Among Students

Scales	Min	Max	Mean±SD
Impact of Event Scale	0	85	29.26±15.70
Satisfaction with Life	5	25	13.85±4.42

Mean: Mean; SD: Standard Deviation; Min: Minimum; Max: Maximum

Table 2. Comparison of the Mean Scale Scores According to the Students' Descriptive Characteristics

Descriptive Characteristics		n(%)	Impact of Event Scale	Satisfaction with Life Scale
			Mean±SD	Mean±SD
Class				
1		116 (42.2)	30.53±14.72	18.60±6.16
2		32 (11.6)	23.44±14.46	18.75±5.52
3		54 (19.6)	27.96±17.58	19.61±6.56
4		73 (26.5)	30.75±15.92	20.60±6.14
Test and Significance			F=2.085 p=0.102	F=1.704 p=0.167
Gender				
Famale		227(82.5)	28.78±15.68	19.94±5.99
Male		48 (17.5)	31.52±15.75	16.56±6.43
Test and Significance			t=-1.099 p=0.273	t=3.502 p=0.001
Living Arrangement				
Living with Family		76 (27.6)	25.59±16.71	21.55±5.90
Dormitory/ Student House		199(72.4)	30.65±15.10	18.50±6.10
Test and Significance			t=-2.414 p=0.023	t=3.733 p<0.001
Perceived Income Level				
Income lower than expenses		79 (28.7)	32.77±17.21	16.13±5.65
Income equal to or higher than expenses		196(71.3)	27.84±14.86	20.64±5.93

Test and Significance		t=2.232 p=0.027	t=-5.771 p<0.001
Presence of Physical or Mental Illness			
Yes	25 (9.1)	35.88±22.56	19.96±7.49
No	250(90.9)	28.59±14.74	19.28±6.05
Test and Significance		t=1.581 p=0.126	t=0.434 p=0.668
Social Support			
Yes	124(45.1)	26.83±15.20	20.47±6.02
No	151(54.9)	31.24±15.87	18.42±6.19
Test and Significance		t=-2.334 p=0.020	t=2.768 p=0.006

F = analysis of variance (ANOVA); t = independent samples t-test; p < 0.05; p < 0.001; p = significance level.

Table 3. Determination of the Effect of the Impact of Event on Students' Life Satisfaction: Results of Simple Linear Regression Analysis

Scales	Satisfaction with Life Scale						
	B	R ²	F	p	Beta	t	p
Impact of Event Scale	0.299	0.89	26.834	0.000	-0.299	-5.180	<0.001

p < 0.001; B = regression coefficient; Beta = standardized regression coefficient; t = t statistic value; F = F statistic value; p = significance level; R² = coefficient of determination.

Discussion

Traumas may occur due to many different causes. The relevant literature identifies disasters (Kukuoglu, 2018), fires (Bakirci et al., 2019), terrorist attacks (Aker et al., 2008), epidemics and pandemics (Fowler & Wholeben, 2020; Liang et al., 2020; Liu et al., 2020; Tomaszek & Muchacka-Cymerman, 2020; Subasi, 2021), deaths (Eroglu & Arikan, 2016; Arslan, 2019; Koskun & Tolga, 2019; Yasal & Gunusen, 2019), earthquakes (Basoglu et al., 2001; Kardas & Tanhan, 2018; Kurt & Gulbahce, 2019), and war, abuse, and violence (Lamoureux-Lamarche & Vasiliadis, 2017) among the causes of traumatic experiences.

In this study, it was found that students were affected by traumatic experiences and that their levels of traumatic stress were high. In the literature, post-traumatic stress symptoms have been observed among students as a result of the

COVID-19 pandemic, wars, and natural disasters (such as typhoons and earthquakes), and findings similar to those of the present study have been reported (Tang et al., 2018; Hall et al., 2019; Essadek & Rabeyron, 2020; Tunc, 2021; Hahm et al., 2021; Kakaje et al., 2022). The literature also indicates that university students who have experienced various traumatic events exhibit moderate to high levels of post-traumatic stress symptoms (Kurt & Gulbahce, 2019; Cetin et al., 2022).

In the study conducted by Essadek and Rabeyron (2020), which evaluated the mental health of 8,004 French students, it was determined that students experienced high levels of anxiety, depression, and distress during the COVID-19 pandemic, and that the pandemic and quarantine led to post-traumatic stress symptoms in a significant proportion of students. Chachula and Ahmad (2022) also revealed that students studying

in the field of nursing experienced more traumatic events during the COVID-19 pandemic compared to the pre-pandemic period.

Although traumatic events may constitute similar experiences for individuals in terms of sociodemographic characteristics, the levels of stress they cause may not be the same. When evaluating post-traumatic stress symptoms, factors such as the time elapsed since the trauma, whether the exposure was direct or indirect, the degree of exposure, and the assessment tools used may affect the results (Aker et al., 2008). The subjective experience of trauma may also vary from person to person (Lerias & Byrne, 2003). In a study conducted by Bastug and Aslantas (2021) with adolescent high school students, risk factors for the tendency toward post-traumatic stress symptoms were reported as female gender, low socioeconomic status, increasing age, low income level, familiarity with the affected person (e.g., physical injury, arrest, imprisonment, or death), and a helpless coping style in response to stress. While the literature generally indicates that traumatic stress symptoms are more frequently experienced among females (Aker et al., 2008; Lamoureux-Lamarche & Vasiliadis, 2017), the findings of the present study suggest that male students exhibited higher levels of traumatic stress symptoms and lower life satisfaction. This result may be explained by gender roles assigned to women and men in our culture, as well as the label of “being strong” attributed to males and the related myths, which may lead to greater attention being directed toward women and the relative neglect of men.

Life satisfaction is associated with individuals’ biopsychosocial well-being and involves the cognitive processes through which individuals make sense of their lives (Diener et al., 1985). Life satisfaction can generally be related to the ability to evaluate one’s life positively as a whole and to establish positive relationships with the social environment (Dagli & Baysal, 2016; Akbiyik, 2020). In school environments where social interactions are intense, individual differences may be observed in students’ life satisfaction. In the present study, female students were found to have higher Satisfaction with Life Scale scores than male students. Supporting this finding, several studies have reported that women have higher levels of life satisfaction than men (Akbiyik, 2020; Erus et al., 2020; Aksoy & Atilgan, 2021; Eker & Tas, 2021; Yar et al., 2022).

However, there are also studies in the literature indicating that life satisfaction does not differ by gender (Chui & Wong, 2016; Kermen et al., 2016; Lachmann et al., 2016; Yelpeze & Yakar, 2019; Ergun & Meric, 2020; Usta, 2022). This discrepancy is thought to be related, as previously mentioned, to the characteristics of the trauma and individuals’ perceptions of the situation.

Another significant finding of the present study is that nursing students who reported living with their families, having a high perception of income, and perceiving the presence of social support had lower levels of post-traumatic stress and higher levels of life satisfaction. These three factors emerge as protective factors in the development of individuals’ psychological resilience and in reducing or eliminating the negative effects of risk factors to which they are exposed (Gizir, 2007; Oz & Bahadir Yilmaz, 2009). Indeed, the literature includes studies demonstrating the positive effect of psychological resilience on life satisfaction (Akdeniz et al., 2021; Durak, 2021; Yildiz & Kahraman, 2021).

Considering the traumatic events that have occurred in Türkiye and worldwide in recent years, the relationship between university students’ post-traumatic stress levels and their life satisfaction is of great importance for raising a qualified and healthy future generation. The main research question of this study—“Do post-traumatic stress levels have an effect on life satisfaction scores?”—was answered as follows: post-traumatic stress levels significantly and negatively predict life satisfaction. In this context, it can be stated that an increase in traumatic stress symptoms among nursing students leads to a decrease in their life satisfaction, which is an expected finding. The literature indicates that low levels of psychological resilience, social–emotional learning skills, and life satisfaction among students with traumatic experiences may directly or indirectly affect their educational lives (Yildiz & Kahraman, 2021). In addition, the inability of individuals to actively use crisis coping mechanisms after a traumatic experience may delay the positive outcome of post-traumatic growth and negatively affect life satisfaction (Duman, 2019; Tomaszek & Muchacka-Cymerman, 2020).

Conclusion and Recommendations: This study concluded that nursing students have high levels of traumatic stress symptoms and that life satisfaction decreases as post-traumatic stress

symptoms increase. In addition, it was determined that male students reported higher levels of traumatic symptoms, whereas female students, those with high perceived social support, those living with their families, and those with a good perception of income had higher levels of life satisfaction. In this regard, it is recommended that students at all stages of higher education—particularly first-year students who experience numerous physical, social, psychological changes and adaptation problems—be systematically evaluated, provided with psychoeducation, and encouraged to strengthen social support-seeking and help-seeking behaviors. Furthermore, it is suggested that stress coping and psychological first aid training be incorporated into the curriculum.

What Did This Study Contribute to the Literature?

- This study is one of the rare studies demonstrating the relationship between traumatic stress symptoms and life satisfaction among nursing students, particularly showing that post-traumatic stress symptoms negatively affect life satisfaction.
- The study draws attention to the necessity of monitoring and supporting the psychosocial well-being of students in higher education.

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