

# Perceived social support as a predictor of secondary traumatic stress among firefighters: A quantitative study

İtfaiyecilerde ikincil travmatik stresin yordayıcısı olarak algılanan sosyal destek: Nicel bir araştırma

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## Abstract

The subject and purpose of this study is to determine whether social support has an effect on the secondary traumatic stress that firefighters, who are frequently exposed to traumatic incidents, may experience. The study was conducted on 497 firefighters employed by the Istanbul Metropolitan Municipality (İBB) Fire Department. For the sample, the "Convenience Sampling" method, one of the non-probability sampling methods, was used. To collect the research data, the "Sociodemographic Form," the "Secondary Traumatic Stress Scale," and the "Perceived Social Support Scale" were utilized. The questions in the sociodemographic form included age, gender, marital status, educational status, whether the respondent has children, length of professional experience (seniority), employment status, and the presence of chronic illnesses. To determine the relationships and effects between variables, the correlational survey model—a quantitative research method—was employed. Additionally, path analysis was conducted to test the predictive effect of perceived social support on secondary traumatic stress. Analyses in the study were performed using Jamovi version 2.6.24.0. The study found a positive relationship between firefighters' exposure to post-traumatic avoidance, arousal, and intrusive thoughts and social support; consequently, as social support increased, trauma-related psychological symptoms decreased. This finding underscores the need for occupational social services as a form of professional social support for firefighters. Finally, other findings related to the research were analyzed and discussed in detail, and recommendations were provided in the conclusion section.

**Keywords:** Firefighters, secondary traumatic stress, social support

## Öz

Araştırma konusu ve amacı sıklıkla travmatik vakalara maruz kalan itfaiyecilerin, yaşamlarında olası ikincil travma stresleri üzerinden sosyal desteğin etkisinin olup olmadığının tespit edilmesidir. Araştırma İstanbul Büyükşehir Belediyesi (İBB) İtfaiye Dairesi Başkanlığı bünyesinde görev yapan 497 itfaiye çalışanı üzerinden yürütülmüştür. Örneklem olarak, olasılıksız örnekleme yöntemlerinden biri olan "Uygun Örnekleme" yöntemi kullanılmıştır. Araştırmanın verilerini toplamak amacıyla "Sosyo-demografik Form", "İkincil Travmatik Stres Ölçeği" ve "Algılanan Sosyal Destek Ölçeği" kullanılmıştır. Sosyo-demografik formda yer alan sorularda yaş, cinsiyet, medeni durum, eğitim durumu, çocuk sahibi olma durumu, mesleki deneyim süresi (kıdem), çalışma şekli ve kronik hastalık varlığı gibi sorular yer almaktadır. Araştırmada değişkenler arası ilişki ve etkileri belirlemek amacıyla nicel araştırma yöntemlerinden ilişkisel tarama modeli kullanılmıştır. Ayrıca algılanan sosyal desteğin ikincil travmatik stres üzerindeki yordayıcı etkisini test etmek amacıyla yol analizi gerçekleştirilmiştir. Çalışmada analizler Jamovi 2.6.24.0 sürümü ile gerçekleştirilmiştir. Yapılan çalışmada itfaiyecilerin travma sonrası kaçınma, uyarılma ve istilacı düşüncelere maruz kalmaları ile sosyal destek arasında pozitif ilişkinin olduğu, dolayısıyla sosyal destek arttıkça travmaya bağlı ruhsal belirtilerde azalma olduğu görülmüştür. Bu durum itfaiyecilerin profesyonel sosyal destek olarak işyerinde sosyal hizmet gereksinimini ortaya çıkarmaktadır. En nihayetinde araştırma ile ilgili diğer bulgular analiz edilerek detaylı olarak tartışılmış ve sonuç kısmında önerilerde bulunulmuştur.

**Anahtar Kelimeler:** İtfaiye, ikincil travmatik stres, sosyal destek

## Introduction

“Post-Traumatic Stress Disorder” (PTSD) is an anxiety disorder caused by a highly traumatic event such as an earthquake, flood, attack, or violence (Budak, 2009). In the DSM-5, PTSD is summarized as a person’s experience of helplessness, fear, and horror in the face of a physical threat—such as serious injury or death—that they either experienced directly or witnessed. It also involves recurring distressing thoughts, the feeling of reliving the event, and intense anxiety when exposed to internal or external stimuli that remind them of the event. On the other hand, symptoms include irritability, anger outbursts, sleep disturbances, a state of confusion, feelings of guilt or blaming others, exaggerated startle responses, apathy, and negative beliefs (American Psychiatric Association, 2013). Essentially, by expanding the definition of trauma in the DSM-IV, witnessing the traumatic event and the detailed re-experiencing of the traumatic event were added beyond the direct experience of the event. Consequently, “Secondary Traumatic Stress Disorder” (STSD) is addressed within the scope of PTSD (Aydın Yeral, 2024). In PTSD, risk and protective factors such as demographic characteristics and the nature of one’s profession are decisive. For this reason, there is a significant degree of similarity between PTSD symptoms and PTSD symptoms (Varan & Demirel, 2024).

The Turkish Language Association (TDK) defines the term “itfa-ıye” as “firefighting organization” (TDK, 2023). Although the fire department has many job descriptions, it is generally defined as providing safe areas by minimizing risks caused by other hazards—such as saving lives and property and providing first aid—in the face of disasters, accidents, and all kinds of emergencies (Berkdemir, 2012). In addition to responding to human-made or natural disasters such as floods and earthquakes, firefighters also handle tasks like building collapses, explosions, traffic accidents involving entrapment, rescue operations, and administering first aid. These responsibilities expose these professionals to significant risks and contribute to

their stress levels (Zafer, 2023). Indeed, firefighters face a high risk of experiencing mental health disorders (Sofuoğlu & Cankardaş, 2022). Furthermore, the firefighting profession is a group with a high risk of trauma. This is because repeated long-term exposure to trauma, crises, and horrific events among firefighters is directly proportional to a cluster of psychological and physical reactions associated with PTSD symptoms (Regehr & Bober, 2005; Şavklı, 2021; Becker & Quartilho, 2020). Consequently, the very nature of the firefighting profession—which frequently involves life-threatening risks and witnessing traumatic events—leaves firefighters facing unpredictable, high-stress lives (Ateş & Çayalan, 2024).

Industrial social work, also known as workplace social work, is significant in this context. Industrial social work practices occupy a strategic position, encompassing various interventions aimed at addressing employees’ psychosocial needs, enhancing their well-being, and improving the current state of the industrial social work (Ateş, 2025). At the same time, industrial social workers play a role not only in serving as consultants for employees based on their demands and needs but also in developing organizational processes (Gehlenborg, 2001). Thus, from a social work perspective, the employment of social work professionals in fire departments is viewed as both a necessity and a requirement to provide effective and rapid psychosocial interventions for firefighters (Zafer, 2024). In this context, social work is of paramount importance in providing social support in industrial social work. Indeed, social support is defined not only as material, emotional, and instrumental assistance but also as informational support in maintaining an individual’s overall well-being (Abay Alyüz, 2020).

The study aims to examine the impact of secondary trauma experiences on the well-being of personnel serving in the Istanbul Fire Department, as well as to evaluate the role of perceived social support throughout the process. Furthermore, this study aims to identify the institutional and social support mechanisms needed by firefighters from a social work perspective, thereby contributing to

the development of policies to enhance their mental health.

## Method

### Research Design

In this study, the correlational survey model—a quantitative research method—was used to determine the relationships and effects between variables. Additionally, path analysis was conducted to test the predictive effect of perceived social support on secondary traumatic stress. Analyses were performed using Jamovi version 2.6.24.0.

### Population and Sample

The population of the study consists of 5,082 firefighters employed by the Istanbul Metropolitan Municipality (İBB) Fire Department (Istanbul Metropolitan Municipality Fire Department, 2026). For the study sample, the "convenience sampling" method—one of the non-probability sampling methods—was used. Using this method, data was collected from firefighters working within the organization who voluntarily agreed to participate in the study. According to sample size calculations for known (finite) populations, a minimum of 357 individuals is required to represent a population of 5,070 with a 95% confidence level and a 5% margin of error. In this study, it was found that the total of 497 firefighters ( $n=497$ ) far exceeded the minimum sample size ( $n=357$ ) required to represent the population. The fact that the sample covers approximately 10% of the population and exceeds the minimum threshold ensures the statistical power of the findings and better representation of the population.

### Data Collection Tools

A sociodemographic form, the Secondary Traumatic Stress Scale, and the Perceived Social Support Scale were used to collect data for the study. The sociodemographic questions included age, gender, marital status, educational status, whether

the respondent has children, length of professional experience (seniority), employment status, and the presence of chronic illness.

The Perceived Social Support Scale was developed by Petersen et al. (2024) and adapted into Turkish by Türk et al. (2025). Consisting of a total of 3 items, the scale is unidimensional and is rated on a 5-point Likert scale (1: Strongly Disagree – 5: Strongly Agree). The scale's Cronbach's Alpha internal consistency coefficient was reported as .89.

The Secondary Traumatic Stress Scale was developed by Bride and colleagues (2004) and adapted into Turkish by Yıldırım et al. (2018). Consisting of a total of 17 items, the scale comprises three subscales: Intrusive Thoughts (5 items), Avoidance (7 items), and Arousal (5 items). It is rated on a 5-point Likert scale, with an internal consistency coefficient of .94; for the subscale, this coefficient ranges from .83 to .89.

### Ethical Statement Regarding the Data Collection Process

This study was conducted with the approval of the Burdur Mehmet Akif Ersoy University Ethics Committee for Non-Interventional Clinical Research, as per Decision No. GO 2026/2538 from Meeting No. 2026/1 dated January 14, 2026.

### Research Objective and Hypotheses

The primary objective of this study is to determine whether social support has an effect on the secondary traumatic stress that firefighters, who are constantly exposed to traumatic incidents, are likely to experience. In this context, the hypotheses are as follows:

H1: There is a negative and significant relationship between the level of perceived social support among firefighters and the subdimensions of secondary traumatic stress (avoidance, arousal, and intrusive thoughts).

H2: Perceived social support significantly and negatively influences the avoidance subdimension of secondary traumatic stress.

H3: Perceived social support has a negative and significant effect on the arousal subdimension of secondary traumatic stress.

H4: Perceived social support has a negative and significant effect on the intrusive thoughts subdimension of secondary traumatic stress.

H5: As perceived social support increases, symptoms of secondary traumatic stress decrease.

### Validity and Reliability

In this study, the reliability and construct validity of the “Secondary Traumatic Stress Scale” and the “Perceived Social Support Scale” were examined using Confirmatory Factor Analysis. The first scale consists of three dimensions (Avoidance, Arousal, Intrusive Thoughts), while the second consists of a single dimension. The model was constructed using Jamovi version 2.3.21 and tested with the SEM module.

Cronbach’s alpha coefficient was examined to assess the reliability of the scales used in the study. Based on the findings, Cronbach’s alpha value for the Perceived Social Support Scale was determined to be .839, indicating that the scale possesses good internal consistency. When the subscales of the Secondary Trauma Scale were examined, Cronbach’s alpha coefficients were found to be .777 for the Avoidance subscale, .881 for the Arousal subscale, and .838 for the Emotional Intrusion subscale. Additionally, Cronbach’s alpha value for the total scale was found to be .904. A Cronbach’s alpha coefficient of .70 or higher indicates that the scale is reliable (Nunnally and Bernstein, 1994). Accordingly, it was concluded that the scales used in the study demonstrated high reliability at both the sub e and total levels.

When the fit indices obtained from confirmatory factor analysis (CFA) were examined, it was determined that the model for the perceived social support scale exhibited excellent fit ( $\chi^2/df=0.11$ , CFI=1.00, TLI=1.00, RMSEA=.000). When evaluating the fit indices of the model for the secondary trauma scale, the  $\chi^2/df$  value was found to be 3.31, which falls within acceptable limits. Additionally, it

was determined that the CFI (.95) and TLI (.94) values were at an acceptable level, while the RMSEA (.068) value indicated good fit. The literature indicates that a  $\chi^2/df$  value below 5 indicates acceptable fit, CFI and TLI values of .90 or higher indicate good fit, and an RMSEA value below .08 indicates acceptable fit (Hu & Bentler, 1999). Accordingly, it can be stated that the model fit for both scales is sufficient and that construct validity has been established.

**Table 1. Table of Fit Indices**

Scale	$\chi^2/df$	CFI	TLI	RMSEA	SRMR	GFI
Perceived Social Support	0.11	1.00	1.00	.000	.018	1.00
Secondary Trauma	3.31	.95	.94	.068	.050	.92

Upon examining the factors in Table 2, it is observed that the factor loadings of the items in the perceived social support scale range from .77 to .83, and these values are above acceptable thresholds.

**Table 2. Factor Loadings and Convergent Validity (AVE)**

Scale	Item	Standardized Factor Load ( $\lambda$ )	R <sup>2</sup>	AVE
<b>Perceived Social Support</b>	sg1	.77	.60	<b>.64</b>
	sg2	.83	.69	
	sg3	.80	.64	
<b>Secondary Trauma Avoidance</b>	- ik1	.42	.18	<b>.49</b>
	ik5	.64	.41	
	ik7	.75	.56	
	ik9	.80	.64	
	ik12	.76	.58	
<b>Secondary Trauma Arousal</b>	- ik4	.70	.49	<b>.62</b>
	ik8	.83	.69	
	ik11	.80	.64	
	ik15	.82	.67	
	ik16	.78	.61	
<b>Secondary Trauma – Emotional Violation</b>	ik2	.65	.42	<b>.48</b>
	ik3	.74	.55	
	ik6	.63	.40	
	ik10	.71	.50	
	ik13	.73	.53	

When examining the factor loadings for the secondary trauma scale ( ), it was determined that the

items generally had values of .60 or higher; although lower factor loadings were observed in some items, the overall structure was found to be at an acceptable level. When evaluated in terms of convergent validity, the AVE value of the Perceived Social Support Scale is above .50, indicating that convergent validity is established. In the Secondary Trauma Scale, while AVE values in some subscales are close to the .50 threshold, convergent validity can be considered sufficient due to the generally acceptable level of factor loadings. The literature indicates that factor loadings of .50 or higher are acceptable and that an AVE value above .50 is sufficient for convergent validity (Fornell & Larcker, 1981). Accordingly, it was concluded that both scales are at an acceptable level in terms of convergent validity.

### Results

Statistical data on the participants' sociodemographic characteristics are presented in Table 2. According to this, the gender distribution is highly skewed, with 98.4% being male and 1.6% female. Regarding age distribution, the highest proportion is 36.8% for the 35–39 age group, followed by 19.9% for 40–44, 16.3% for 18–24, 9.9% for 45 and older, 8.7% for the 30–34 age group, and 8.5% for the 25–29 age group. Regarding marital status, 82.5% of participants are married, 16.5% are single, and only 1% are divorced or widowed. Regarding firefighters' shift schedules, 95.4% work under a 24-hour work/48-hour rest schedule. Regarding monthly working hours, the highest percentage (92.4%) was for the "240 hours or less" option. In terms of the frequency of participation in rescue operations, 35.2% participated 11 or more times, 29.4% participated 1–5 times, 26.4% participated 6–10 times, while 9.1% never participated. The percentage of those who experienced the risk of injury/death was 43.7%, while 56.3% did not. When participants were asked whether they received professional support regarding occupational deformities in general, it was found that 83.3% did not receive such support.

**Table 3. Frequency and Percentage Distributions of Participants' Sociodemographic Characteristics**

Variable	Category	n	%
Gender	Female	8	1.6
	Male	486	98.4
Age	18–24	81	16.3
	25–29	42	8.5
	30–34	43	8.7
	35–39	183	36.8
	40–44	99	19.9
Education Level	45 and older	49	9.9
	Elementary school	0.6%	3
	Middle School	3.8%	19
	High School	14.5%	72
	College	26.2%	130
Marital status	University	47.5%	236
	Master's/Doctorate	7.4%	37
	Single	82	16.5
Marital status	Married	3.8%	82.5
	Divorced/Widowed	14.5%	1.0
	Shift schedule	24-hour work shift/48-hour rest period	26.2%
Day shift		47.5%	4.6
Monthly working hours	240 hours or less	7.4%	92.4
	Over 240 hours	35	7.0
Frequency of participation in rescue cases	Never	45	9.1
	1–5 times	146	29.4
	6–10 times	131	26.4
	11 or more	175	35.2
Risk of injury or death	Yes	217	43.7
	No	280	56.3
Obtaining a medical report	Yes	64	12.9
	No	433	87.1
Training in coping with traumatic events	Yes	116	23.3
	Partially	173	34.8
	No	169	34.0
	I would like to take it	39	7.8
Seeking professional help	Yes	83	16.7
	No	414	83.3

Table 4 presents descriptive statistics regarding the secondary trauma stress subscale and perceived social support scores. Participants' scores for avoidance ( $M = 2.19$ ,  $SD = 0.88$ ), arousal ( $M = 2.25$ ,  $SD = 0.98$ ), and intrusive thoughts ( $M = 2.21$ ,  $SD = 0.76$ ) were slightly below the mid-range on a 1–5 scale ( $\bar{x}$ ). In contrast, social support (Mean 3.55,  $SD = 1.02$ ) was at a medium-high level. The kurtosis (ranging from  $-0.38$  to  $0.93$ ) and skewness (ranging from  $-0.59$  to  $0.86$ ) values of the variables indicate that they are close to a normal distribution. Due to the sample size, the Shapiro–Wilk test was significant ( $p < .001$ ); however, considering the skewness and kurtosis values along with graphical analyses, it was determined that the use of parametric tests was appropriate.

**Table 4. Mean, Standard Error, Skewness, and Kurtosis Values for the Variables**

Variables	Mean	Standard Error	Skewness	Kurtosis
Skewness	2.19	0.88	0.78	0.04
Arousal	2.25	0.98	0.78	-0.04
Intrusive Thoughts	2.21	0.76	0.86	0.93
Social Support	3.55	1.02	-0.59	-0.38

As shown in Table 5, a Pearson correlation analysis was conducted among the variables. Strong positive correlations were found between avoidance and arousal ( $r = .883, p < .001$ ) and between avoidance and intrusive thoughts ( $r = .661, p < .001$ ), both of which are subdimensions of secondary traumatic stress.

**Table 5. Pearson Correlations Between Subdimensions of Secondary Traumatic Stress and Social Support**

Variables	Avoidance	Arousal	Intrusive Thoughts	Social Support
Avoidance	—			
Arousal	.883***	—		
Intrusive Thoughts	.661***	.740***	—	
Social Support	-.370***	-.376***	-.233***	—

Perceived social support scores, however, were found to be significantly and negatively correlated with all trauma subscales ( $r = -.370, p < .001$  for avoidance;  $r = -.376, p < .001$  for arousal;  $r = -.233, p < .001$  for intrusive thoughts). Upon examining these findings, it was determined that as social support increases, symptoms of secondary traumatic stress decrease.

The path analysis results in Table 6 indicate that perceived social support predicts all subdimensions of secondary traumatic stress in a negative and statistically significant manner ( $p < .001, p < .001$ ). According to the standardized path coefficients, the strongest predictive effect of social support was found on the arousal ( $= -.376$ ) and avoidance ( $= -.370$ ) dimensions, while it had a weaker but still significant effect on the intrusive thoughts ( $= -.233$ ) dimension.

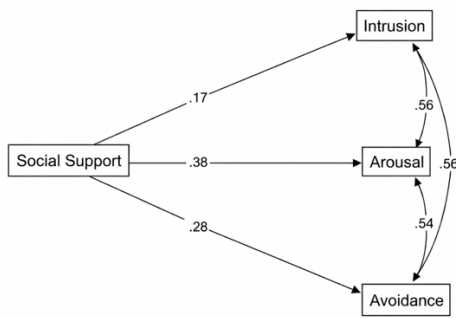
Considering the model's explanatory power (proportions of variance explained), it was determined that perceived social support explained 14.2% of the variation in arousal symptoms, 13.7% of the variation in avoidance symptoms, and 5.4% of the variation in intrusive thoughts. These path analysis results indicate that as firefighters' perceptions of social support increase, avoidance behaviors, physical arousal states, and intrusive traumatic thoughts associated with secondary trauma decrease significantly. Consequently, this scientifically demonstrates that social support plays a significant protective role against secondary trauma.

The unidirectional arrows drawn from perceived social support to the subdimensions of secondary traumatic stress (avoidance, arousal, and intrusive thoughts) indicate the significant predictive effect of social support on these dimensions when examining the path model presented in Figure 1. The values on the arrows represent the standardized path coefficients ( $\beta$ ). Additionally, the significant covariance relationships among the error terms of these subdimensions are shown in the bidirectional curved arrows between the dependent variables (avoidance, arousal, and intrusive thoughts) (respectively, .88, .66, and .74)."

**Table 6. Path Analysis Results Regarding the Predictive Effect of Perceived Social Support on Subdimensions of Secondary Traumatic Stress**

Dependent Variable	Predictor Variable	B	SH	$\beta$	t	p	95% CI	R <sup>2</sup>
Avoidance	Social Support	-0.318	0.036	-0.370	-8.87	<.001	[-0.446, 0.294]	.137
Arousal	Social Support	-0.359	0.040	-0.376	-9.06	<.001	[-0.452, 0.301]	.142
Intrusive Thoughts	Social Support	-0.172	0.032	-0.233	-5.34	<.001	[-0.316, 0.150]	.054

Note.  $N = 497$ .  $B$ : Unstandardized coefficient;  $SH$ : Standard error;  $\beta$ : Standardized coefficient;  $CI$ : Confidence interval.



**Figure 1.** Path Model of the Predictive Effect of Perceived Social Support on Subdimensions of Secondary Traumatic Stress

## Discussion

This study, conducted specifically among the Istanbul Fire Department, investigated the nature of the interaction between secondary trauma and perceptions of social support among firefighters. As noted in the literature, the nature of the profession often exposes firefighters to traumatic events that threaten human life, leaving them highly stressed (Ateş & Çayalan, 2024). The study found a significant negative relationship between perceived social support and firefighters' secondary traumatic stress symptoms, including avoidance, arousal, and intrusive thoughts; consequently, as social support increased, trauma-related psychological symptoms decreased.

Social support enables individuals to express themselves regarding traumatic experiences and share them, while also facilitating a shift in their perceptions regarding inadequate or inappropriate responses. At the same time, it helps soften the perception that the outside world is dangerous, and more importantly, social support provides protection against secondary trauma (Sungur, 1999). On the other hand, social support is viewed as beneficial social interactions with coworkers and managers industrial social work (Karasek & Theorell, 1990).

From a social work perspective, the ecological approach requires that environmental factors affecting the individual be taken into account, in contrast to the generalist approach. On the other hand,

the empowerment approach can help individuals become aware of their strengths. Therefore, all of these are important in terms of identifying and analyzing the individual's social support resources (Abay Alyüz, 2020). For this reason, social work serves as a crucial social support mechanism for firefighters in the industrial social work. Indeed, the various problems brought about by the "Industrial Revolution" have led to an increase in the problems faced by workers in the industrial social work. This situation has made a humanistic approach essential. Consequently, it has necessitated that social work professionals working in the industrial social work propose solutions at the micro, mezzo, and macro levels to address emerging industrial social work issues (Solmaz & Kutlu, 2025). Indeed, occupational social work has been defined by the National Association of Social Workers (NASW) as a specialized practice area that promotes environmental and individual adaptation and addresses individual and social needs through various methods (National Survey of Occupational Social Workers, 1987).

Although perceived social support significantly predicted all three subdimensions of secondary traumatic stress, the explanatory power for the intrusive thoughts subdimension was notably lower ( $R^2 = .054$ ) compared to arousal ( $R^2 = .142$ ) and avoidance ( $R^2 = .137$ ). This finding suggests that intrusive thoughts may be less amenable to modulation through social support alone. From a neurobiological perspective, intrusive thoughts are considered to be more closely linked to the severity of traumatic exposure, individual biological vulnerabilities, and neurological sensitization processes rather than external psychosocial resources (Brewin et al., 2010; Ehlers & Clark, 2000). Unlike avoidance behaviors and physiological arousal – which may be more responsive to interpersonal regulation – cognitive intrusions tend to persist even in the presence of strong social support networks. Therefore, within the framework of industrial social work, addressing the intrusive thoughts dimension of secondary traumatic stress may require complementary clinical interventions such as Trauma-Focused Cognitive Behavioral Therapy

(TF-CBT) or Eye Movement Desensitization and Reprocessing (EMDR), alongside organizational social support mechanisms.

Social work practices in the industrial social work provide an important resource for support efforts. Therefore, strengthening psychosocial resources is essential to reduce stress levels that may arise following any traumatic event and to intervene effectively. In this context, appropriate interventions such as individual and group therapy, psychological counseling, identifying risk factors, and determining protective factors in this regard should be implemented (Gökçe & Yılmaz, 2017). Indeed, social work in the industrial social work strong emphasis on enabling employees to obtain the assistance they need without relying on others and to become capable of resolving their own problems (Bilge and Bilge, 2023).

## Conclusions and Recommendations

This study on firefighters examined the effects of perceived social support on the negative repercussions of various occupational incidents that could be characterized as secondary trauma. In this context, the study's findings indicate that perceived social support plays a significant protective role against the negative effects of incidents to which firefighters are exposed as part of their profession.

Looking at other findings of the study, it was observed that as participants' perceptions of social support increased, the negative psychological symptoms emerging after trauma decreased accordingly. In particular, avoidance tendencies toward situations reminiscent of traumatic events and the physiological arousal associated with this state of hypervigilance emerged as the symptoms most significantly influenced by social support.

Another point is that while the effect was limited, it was determined that social support not only reduces avoidance and arousal but also diminishes "intrusive thoughts"—that is, traumatic thoughts that involuntarily enter the mind.

Overall, the research findings indicate that social support serves as a significant protective psychosocial resource for the firefighting profession,

which is constantly exposed to traumatic events. As social support increases, reductions are observed in trauma-related avoidance behavior, heightened arousal, and the involuntary intrusion of traumatic thoughts into the mind (). In this context, the following recommendations are proposed:

- Policies should be developed to establish an institutionalized social support network within fire departments.
- Firefighters frequently exposed to traumatic events should undergo psychosocial assessments at regular intervals. This would enable early intervention.
- Training on coping with stress and trauma should be provided. This can help increase firefighters' awareness and psychological resilience.
- Social support programs can be established for the families of firefighters. This is because trauma and stress can affect family life.
- It is essential to ensure the employment of social workers to address firefighters' psychosocial needs quickly and effectively.

## Declarations

**Funding:** This research received no external funding.

**Conflicts of Interest:** The authors declare no conflict of interest.

**Ethical Approval:** This study was approved by the Non-Interventional Clinical Research Ethics Committee of Burdur Mehmet Akif Ersoy University with the decision dated 14 January 2026, meeting number 2026/1, and decision number GO 2026/2538. The study was conducted in accordance with scientific research ethics and the principles of voluntary participation.

**Informed Consent:** Informed consent was obtained from all participants prior to data collection.

Participation in the study was voluntary, and participants were informed about the purpose of the research, confidentiality of the data, and their right to withdraw from the study at any stage.

**Data Availability:** The data that support the findings of this study are available from the corresponding author upon reasonable request. Due to ethical and confidentiality considerations, the dataset is not publicly available.

**Author Contributions:** Conceptualization: Author 1 (60%), Author 2 (40%); Data curation: Author 1 (0%), Author 2 (100%); Investigation/Analysis/Validation: Author 1 (100%), Author 2 (0%); Writing—original draft: Author 1 (50%), Author 2 (50%); Writing—review and editing: Author 1 (70%), Author 2 (30%).

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