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Mediating role of future fear of violence between the direct violence and witnessed violence and psychological capital: a study of doctors and nurses

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Abstract

Background Healthcare professionals, particulary doctors and nurses, experience a complex relationship between direct violence and witnessed violence in the workplace. This study investigates how direct and witnessed violence affect psychological capital through the mediating role of future violence.

Methods A cross-sectional descriptive and correlational research design was employed in this study. Data were collected from health institutions in western Türkiye, with a total of 420 doctors and nurses participating in this study. The data collection instruments included Personal Information Form, Exposure to Violence Scale, Fear of Future Violence Scale and Organizational Psychological Capital Scale. The analyze the data, regression techniques were employed to examine the direct effects of violence on psychological capital, as well as to explore the mediating role of future fear of violence in these relationships.

Results The analysis revealed a strong positive correlation between direct and witnessed workplace violence; however, future fear of violence did not significantly correlate with either. While future fear of violence was weakly but significantly associated with optimism and self-efficacy, it showed no significant relationship with resilience or hope. Direct violence showed no meaningful correlation with any psychological capital subdimension. Witnessed violence was negatively associated only with optimism. Furthermore, no mediating role of future fear of violence was found between workplace violence and psychological capital.

Conclusions This study demonstrates limited effects of direct and witnessed workplace violence on the subdimensions of psychological capital. Future fear of violence was not found to significantly mediate the relationship between experiences of violence and psychological capital. These results suggest a more complex dynamic between workplace violence and employees' psychological capital, highlighting the need for further detailed research in this area.

Keywords Direct violence, Future fear of violence, Psychological capital, Witnessed violence

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Introduction

Workplace violence is increasingly recognized as a global public health issue with serious consequences [1]. In the literature, this concept is defined as "any behaviour intended to harm an individual within an organization" [2]. The World Health Organization categorizes workplace violence into two main types: physical and psychological. Physical violence includes direct physical assaults such as hitting, slapping, kicking, and biting, whereas psychological violence encompasses verbal or behavioural acts such as threats, insults, and humiliation [3]. In this context, not only physical assaults but also behaviours based on psychological harassment and threats are considered within the scope of workplace violence [4].

The healthcare sector is among the industries with the highest risk for workplace violence. Global studies indicate that healthcare workers are frequently exposed to significant levels of violence in the workplace [5, 6]. These professionals often encounter various forms of violence, such as physical and psychological assaults, threats, and verbal abuse, while performing their duties [7]. Systematic review studies report that the prevalence of workplace violence against healthcare workers ranges from 34.1% to 78.9% [8]. Nurses, in particular, emerge as the most frequently affected occupational group worldwide, while doctors and other healthcare personnel are also at similarly high risk [9–11]. A meta-analysis conducted in China revealed that 71% of nurses had experienced workplace violence [12]. Likewise, studies conducted in Türkiye have also shown that healthcare professionals are exposed to high levels of violence. For example, the reported prevalence of violence experienced by healthcare workers in Türkiye ranges between 44% and 88% [13–15]. In another study, it was found that 44.7% of emergency doctors in Türkiye are subjected to violence each year [16]. The main perpetrators of these violent incidents are typically patients and their relatives. However, in some cases, violence is reported to be perpetrated by colleagues or supervisors of the healthcare workers [17, 18].

Emergency departments and psychiatric units are among the workplace settings where violence is most frequently encountered and where the risk is particularly concentrated. Healthcare professionals working in these units are more likely to experience violence due to factors such as high-stress patient profiles, time pressure, and communication challenges. The literature emphasizes that younger healthcare workers and those with less professional experience are at greater risk of being subjected to violence [18–21]. In addition, a significant concern is that the majority of violent incidents go unreported to the relevant authorities. Some studies indicate that reporting rates remain as low as 15% [7]. This underreporting contributes to an incomplete understanding of the true extent of workplace violence and delays the implementation of necessary preventive measures.

Workplace violence is a complex issue that significantly impairs the quality of life of healthcare workers and leads to multifaceted consequences [4]. Such experiences of violence have been associated with serious psychological and behavioural problems, including job dissatisfaction, decreased productivity, increased substance and alcohol use, low life and health satisfaction, burnout, emotional exhaustion, depression, anxiety, and suicidal ideation [23–29]. Healthcare workers who are exposed to violence may experience depletion of their physical and psychological resources, leading them to consider leaving their job or even exiting the profession entirely. This poses a serious threat not only at the individual level but also to the overall functioning of healthcare systems. Notably, nurses' tendencies to migrate to other countries have been linked to feelings of fear and insecurity stemming from workplace violence [30, 31].

Workplace violence can negatively impact employees' psychological well-being not only through direct exposure but also through witnessing such incidents. Witnessed violence refers to situations in which an individual observes physical or psychological assaults directed at a colleague or another employee, even if the violence is not aimed at themselves. These indirect experiences have been associated with psychological outcomes such as post-traumatic stress responses, anxiety disorders, burnout, and emotional detachment from work [32, 33]. Witnessing violence can lead to empathic trauma and cause individuals to perceive the organizational environment as threatening [34]. Studies have shown that both direct exposure to violence and witnessing violence increase healthcare workers' future fear of violent incidents [22, 35, 36].

Future fear of violence refers to an emotional response developed by individuals in anticipation of becoming victims of workplace violence [37]. Particularly, direct exposure to violence may generate a persistent expectation that similar events will recur, leading to destructive effects on job performance and psychological well-being [38]. According to the Conservation of Resources Theory, individuals are motivated to protect their psychological resources when faced with stressful situations. However, those who have experienced direct violence may suffer from resource depletion, making them more vulnerable to future stressors and perceived threats [39]. Witnessing violence can also evoke similar emotional reactions. Studies have shown that nurses who have indirectly experienced workplace violence report heightened fear levels after witnessing such events, which in turn negatively impacts their job performance and emotional well-being [36]. These fears weaken the perception of safety within the organization, thereby contributing to declines

in positive organizational outcomes such as psychological capital, work engagement, and productivity [39]. In this context, psychological capital emerges as a crucial resource that shapes how employees perceive and respond to violence in the workplace.

Psychological capital is an increasingly important construct in healthcare due to its impact on employee performance, job satisfaction, and organizational effectiveness [40]. Psychological capital refers to individuals' positive psychological resources, including self-efficacy, hope, optimism, and resilience [41, 42]. Research has shown that psychological capital is positively associated with favourable attitudes and behaviours such as job satisfaction, organizational commitment, and psychological well-being, and negatively associated with unfavourable outcomes such as cynicism, turnover intention, job stress, and anxiety [29, 43]. Psychological capital functions as a psychological resource that enhances individuals' coping capacity in stressful work environments and helps to mitigate negative effects such as emotional exhaustion and depression [44]. However, workplace violence, especially when experienced directly, can significantly reduce psychological capital levels. This negative impact may manifest in diminished self-efficacy, decreased hope and optimism, and weakened psychological resilience. Some studies suggest that depressive symptoms observed among healthcare professionals may arise through the reducing effect of workplace violence on psychological capital [45, 46]. While there is limited direct evidence regarding the impact of witnessed violence, the broader literature on indirect exposure indicates that witnessing violence increases fear and anxiety, weakens perceptions of safety, and contributes to the erosion of psychological capital components such as hope and optimism.

The relationship between future fear of violence and psychological capital is highly complex. This fear can weaken psychological capital components such as optimism, hope, resilience, and self-efficacy. Future fear of violence may reduce employees' optimism, leading to disengagement from work, decreased morale, and diminished job performance [47]. It can also undermine hope for a positive work environment, potentially driving individuals into a cycle of hopelessness [36]. Similarly, fear may erode psychological resilience, making it more difficult to cope with stressors and negatively affecting mental health [48]. Moreover, future fear of violence has been shown to negatively affect self-efficacy, causing employees to lose confidence in their ability to manage challenging situations, which in turn lowers job satisfaction and performance [49]. Although there is limited empirical evidence on the direct effect of future fear of violence on psychological capital, the negative impact of workplace violence and stress on psychological capital is well documented [45, 46]. In this context, future fear of violence, functioning as a source of stress and negative affect, is considered to have the potential to deplete employees' psychological resources [22, 35, 50]. On the other hand, psychological resilience, one of the core components of psychological capital, has been found to play a protective and stabilizing role by weakening the association between future fear of violence and outcomes such as burnout and depersonalization [51].

In conclusion, previous research has shown that direct exposure to workplace violence negatively impacts psychological capital [45, 46]. Similarly, it has been suggested that witnessing violent incidents in the workplace can also weaken employees' psychological resources [22]. However, the underlying mechanisms of these relationships remain insufficiently understood. At this point, fear of future violence emerges as a potential mediating variable in the relationship between both direct and witnessed violence and psychological capital. It is hypothesized that future fear of violence may play a partial or full mediating role in the relationship between exposure to workplace violence and psychological capital. Based on these assumptions, the present study aims to empirically examine the impact of direct and witnessed workplace violence on healthcare workers' perceptions of future fear of violence, the subsequent influence of future fear of violence on psychological capital levels, and ultimately, whether future fear of violence mediates the relationship between violence exposure and psychological capital. Accordingly, the hypotheses presented below have been developed (Fig. 1).

Hypothesis 1 Direct violence and witnessed violence affect future fear of violence significantly and positively.

Hypothesis 2 Future fear of violence affects psychological capital significantly and negatively.

Hypothesis 3 Direct violence and witnessed violence affects psychological capital significantly and negatively.

Hypothesis 4 Future fear of violence mediates the relationship between direct violence -witnessed violence and psychological capital.

Methods

Research design

This study employed a cross-sectional descriptive correlational design to examine the mediating role of future fear of violence in the relationship between exposure to workplace violence (both direct and witnessed) and psychological capital among doctors and nurses.

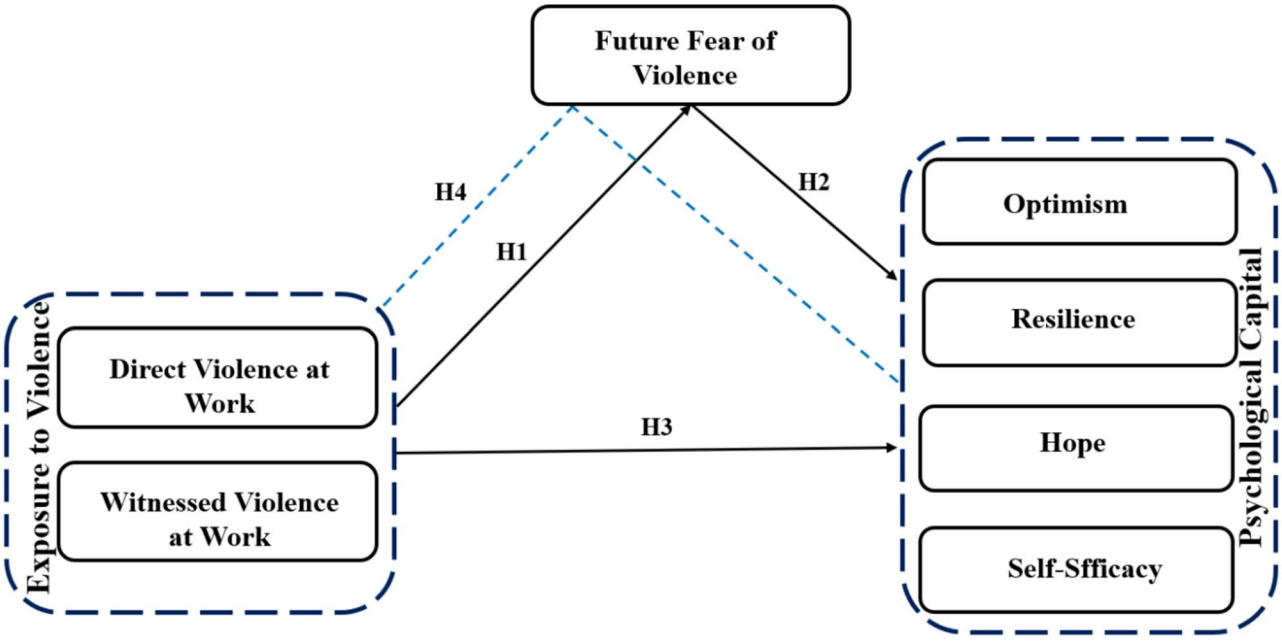

Fig. 1 Study concept model

Participants and sampling procedure

Data were collected from doctors and nurses actively working in the healthcare sector in Izmir, which is one of the largest and most socioeconomically diverse metropolitan areas in western Türkiye. Izmir was purposefully selected as the study setting due to its extensive and heterogeneous healthcare system, which includes a wide range of public hospitals, private clinics, and university-affiliated health institutions. Participants consisted of two occupational groups: doctors and nurses, who were actively employed in public and private healthcare institutions in Izmir at the time of data collection. Respondents were asked to indicate their professional title (doctor or nurse) at the beginning of the online questionnaire as part of the Personal Information Form. To help ensure data quality and professional authenticity, the survey link was shared through institutional channels. Data were collected using an online survey administered through Google Forms. Participants were recruited via institutional email groups, professional healthcare networks, and official communication channels of nursing and doctor associations in Izmir. The survey design followed standard ethical and methodological guidelines for online data collection, including provisions for anonymity, informed consent, and full response completion. To ensure data quality and completeness, all items were marked as mandatory, and submissions were only accepted when the form was fully completed. Data were collected between 29 July 2024 and 22 March 2025 using an online questionnaire.

To ensure proportional representation across professional roles, a stratified sampling method was employed based on participants' occupational titles. Stratified sampling was employed in this study to ensure balanced representation of nurses and doctors. According to 2022 data from the Turkish Statistical Institute, the province of Izmir had 13,010 doctors and 12,948 nurses, indicating a nearly equal distribution of both professions. In the current sample, 213 nurses (50.7%) and 207 doctors (49.3%) participated, closely aligning with this distribution and supporting the validity of the stratified sampling method. Following the guidelines of Sekaran and Bougie (2016), a minimum sample size of 378 was determined with a 95% confidence level and a 5% margin of error [52]. In line with the stratified sampling strategy, the sample was equally divided by profession, aiming for a 50%-50% distribution between doctors and nurses. Participants were eligible for inclusion if they were actively employed as a nurse or doctor in the province of Izmir and provided informed, voluntary consent to participate in the study. Individuals holding administrative-only roles were excluded.

Instruments

Four instruments were used in data collection: the Personal Information Form, Exposure to Violence Scale, Fear of Future Violence Scale, and Organizational Psychological Capital Scale.

The Personal Information Form, developed by the researchers to collect demographic data, included questions addressing variables such as age, gender, marital status, educational level, and length of professional experience.

The Exposure to Violence Scale, originally developed by Rogers (1994), includes two subdimensions: Direct Violence at Work (8 items; minimum = 8, maximum = 40) and Witnessed Violence at Work (5 items; minimum = 5, maximum = 25). Higher scores indicate greater frequency of exposure to violence. All items were positively worded; no reverse-coded items were included [53]. Items are rated on a 5-point Likert scale ranging from 1 (never) to 5 (four or more times). The Turkish adaptation and validation of the scale were conducted by Akbolat et al. (2021), with reported Cronbach's alpha values of 0.72 and 0.91, respectively [4]. Cronbach's alpha was 0.92 for Direct Violence and 0.86 for Witnessed Violence in this study.

The Fear of Future Violence Scale, also developed by Rogers (1994), includes 10 items, with scores ranging from 10 to 50. Higher scores indicate greater perceived risk or fear of experiencing violence in the workplace within the next year. All items were positively phrased and scored in the same direction [53]. The scale uses a 5-point Likert format (1 = strongly disagree, 5 = strongly agree). The Turkish version demonstrated strong reliability, with a Cronbach's alpha of 0.94 [4]. Cronbach's alpha was 0.98 in this study.

The Organizational Psychological Capital Scale was originally developed by Luthans et al. (2007) and later adapted into Turkish by Çetin and Basım (2012) [54, 55]. The Organizational Psychological Capital Scale contains 24 items distributed across four subdimensions: hope, resilience, optimism, and self-efficacy. Each subscale includes 6 items, scored on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), with total scores ranging from 24 to 120. Higher scores reflect higher levels of perceived psychological capital. Some negatively worded items were reverse-coded before computing the total and subscale scores. The reliability of the Turkish version is well-established, with Cronbach's alpha values for the subdimensions ranging from 0.71 to 0.82. The current study yielded Cronbach's alpha coefficients ranging from 0.79 to 0.90.

Statistical analysis

The statistical analyses of this study were conducted using SPSS version 21 and AMOS. Descriptive statistics were utilized to summarize participants' demographic characteristics and central tendencies of the study variables. Common method bias was assessed using Harman's single factor test preliminary research. We validated the mediation model utilizing structural equation modeling. Cronbach's alpha coefficients and Composite Reliability (CR) values were calculated to assess the internal consistency of the measurement scales, while Average Variance Extracted (AVE) values were used to evaluate convergent validity.

Pearson correlation analysis was employed to determine the relationships among the key variables: Direct Violence at Work, Witnessed Violence at Work, Fear of Future Violence, and the subdimensions of Organizational Psychological Capital (Optimism, Resilience, Hope, and Self-Efficacy). Confirmatory Factor Analysis (CFA) was performed using maximum likelihood estimation to assess the structural validity of the measurement model, and model fit indices such as χ^2/df, CFI, TLI, RMSEA, and SRMR were reported.

To examine the mediating role of Fear of Future Violence, mediation analyses were conducted using Hayes' (2022) PROCESS macro (Model 4), applying a bootstrapping procedure with 5,000 samples and 95% confidence intervals [56].

Results

Descriptive characteristics of the participants

Ultimately, 420 valid responses were collected, consisting of 207 doctors (49.3%) and 213 nurses (50.7%), closely reflecting the intended stratified structure. Among the participants, 62.1% were female ($n = 261$), 55.5% were single ($n = 233$), and 44% held doctoral degrees ($n = 185$). The average age was 31.85 years (SD = 7.72), and the average length of professional experience was 8.60 years (SD = 7.91).

Normality of data distribution

Normality of the data was evaluated through the analysis of skewness and kurtosis values. Following the criteria proposed by Kline (2016), skewness values falling within ± 2 and kurtosis values within ± 7 are considered indicative of acceptable normal distribution for most psychometric analyses [57]. In the current dataset, all variables met these criteria. Specifically, the skewness and kurtosis values were 1.67 and 2.28 for Direct Violence at Work, 0.59 and – 0.79 for Witnessed Violence at Work, – 0.45 and – 0.54 for Psychological Well-being, – 0.71 and 0.96 for Perceived Support, – 0.71 and 1.12 for Hope, – 0.98 and 2.09 for Self-efficacy, and – 1.88 and 3.25 for Fear of Future Violence, respectively. These findings suggest that the data distributions did not exhibit serious violations of normality, thereby supporting the use of parametric statistical procedures in subsequent analyses.

Common method bias

Considering the use of self-reported data from a single source, the study addressed the potential issue of common method bias. To evaluate this, Harman's single-factor test was performed using exploratory factor analysis in SPSS. The principle behind this method is that if a substantial portion of the total variance is explained by a single factor, common method bias may be present. In the current analysis, the first unrotated factor accounted

for only 20.98% of the total variance, which is considerably below the commonly accepted threshold of 50% [58]. These findings suggest that common method variance is unlikely to pose a significant threat to the validity of the study results.

Measurement validation

The measurement model of the study consisted of three latent constructs: workplace violence (comprising 13 items), future fear of violence (10 items), and organizational psychological capital (24 items). Confirmatory Factor Analysis (CFA) was conducted using the maximum likelihood estimation method to test the validity of the measurement structure. The standardized factor loadings ranged from 0.53 to 0.96, indicating statistically significant contributions of the items to their respective constructs.

The overall model demonstrated acceptable goodness-of-fit values: $\chi^2/df = 2.96$, $p < .001$, CFI = 0.91, TLI = 0.90, RMSEA = 0.07, and SRMR = 0.07, in accordance with the recommended criteria outlined by Hu and Bentler (1999) and Hair et al. (2016) [59, 60]. Although most items exhibited factor loadings above 0.50, five items from the organizational psychological capital scale and two items from the witnessed violence at work scale the fell below this threshold, thereby reducing the Average Variance Extracted (AVE) for the construct. These items were removed to improve model fit and validity.

Following item removal, the AVE for all constructs exceeded the recommended cutoff of 0.50, confirming convergent validity [61]. In addition, all constructs achieved composite reliability (CR) values above 0.70, further supporting internal consistency [62]. Discriminant validity was also assessed using the Fornell-Larcker criterion. The square roots of AVE for each construct were found to be greater than the inter-construct correlations, indicating sufficient discriminant validity within the model.

Reliability and correlation analysis

Table 1 presents the reliability, mean, standard deviation, and Pearson correlation analysis results of the data obtained from doctors and nurses regarding the variables of Direct Violence at Work, Witnessed Violence at Work, Fear of Future Violence, and the subdimensions of Organizational Psychological Capital (Optimism, Resilience, Hope, and Self-Efficacy).

The analysis revealed a statistically significant and strong positive correlation between Direct Violence at Work and Witnessed Violence at Work ($r = .641$, $p < .01$). However, Fear of Future Violence did not show a significant correlation with either Direct Violence at Work ($r = -.038$, $p > .05$) or Witnessed Violence at Work ($r = -.058$, $p > .05$), suggesting that past experiences or observations of violence do not necessarily translate into increased anticipatory fear in this sample.

Regarding the associations between Fear of Future Violence and the subdimensions of Psychological Capital, low but statistically significant positive correlations were observed with Optimism ($r = .126$, $p < .01$) and Self-Efficacy ($r = .183$, $p < .01$). These findings are somewhat unexpected, as fear is typically associated with negative psychological states. A possible explanation may involve coping mechanisms such as defensive optimism or overcompensation in self-perception under chronic stress. However, no significant relationships were observed between Fear of Future Violence and Resilience ($r = -.089$, $p > .05$) or Hope ($r = .085$, $p > .05$), suggesting a more selective impact of fear on psychological capital dimensions.

Direct Violence did not show statistically significant correlations with any of the Psychological Capital subdimensions, including Optimism ($r = -.070$, $p > .05$), Resilience ($r = .121$, $p > .05$), Hope ($r = -.081$, $p > .05$), or Self-Efficacy ($r = -.005$, $p > .05$). These findings imply that direct victimization, at least in this context, may not directly erode individual psychological resources.

In contrast, Witnessed Violence showed a statistically significant negative correlation with Optimism ($r = -.233$, $p < .01$), suggesting that observing violence in the workplace is associated with lower levels of positive expectations about work or the future. However, its correlations with Resilience, Hope, and Self-Efficacy were not statistically significant.

In summary, these correlation findings indicate that while some weak but meaningful relationships exist,

Table 1 Descriptive statistics, reliability coefficients, and correlation matrix for study variables ($N = 420$)

Variables	CA	CR	AVE	M	SD	1	2	3	4	5	6
1.Direct Violence at Work	0.92	0.93	0.63	1.70	0.91						
2.Witnessed Violence at Work	0.86	0.87	0.69	2.49	1.29	0.641*					
3.Fear of Future Violence	0.98	0.98	0.81	4.41	0.93	−0.038	−0.058				
4.Optimism	0.86	0.87	0.68	3.56	1.09	−0.070	−0.233**	0.126**			
5.Resilience	0.79	0.81	0.53	3.61	0.85	0.121	0.014	−0.089	0.552**		
6.Hope	0.90	0.90	0.59	4.01	0.73	−0.081	−0.062	0.085	0.461**	0.585**	
7.Self-Efficacy	0.90	0.90	0.61	4.17	0.70	−0.005	0.059	0.183**	0.204**	0.402**	0.605**

Notes: AVE = average variance extracted; CR = composite reliability; CA = Cronbach's alpha

especially between fear and specific psychological resources, the overall pattern suggests a more complex and nuanced interplay between workplace violence and psychological capital than previously assumed.

Test of hypotheses

In this study, mediation effects were analyzed using the bootstrap approach proposed by Hayes (2022), with Model 4 employed to examine mediation relationships [56]. The analysis utilized the bootstrap technique with 5,000 resamples, a 95% symmetric confidence interval, and a bias-corrected 95% confidence interval to estimate direct, and indirect effects among the variables [63].

Hypothesis 4 was tested across eight models, as summarized in Table 2.

Model 1 included Direct Violence at Work as the predictor, Fear of Future Violence as the mediator, and Optimism as the outcome. Direct Violence at Work did not significantly affect Fear of Future Violence (β = −0.0009, p = .9888), while Fear of Future Violence significantly affected Optimism (β = 0.1343, p = .0174). The direct effect of Direct Violence at Work on Optimism was significant (β = 0.1127, p = .0291). The indirect effect through Fear of Future Violence was not significant (β = −0.0001; 95% CI [−0.0185, 0.0176]).

Model 2 included Direct Violence at Work as the predictor, Fear of Future Violence as the mediator, and Resilience as the outcome. Direct Violence at Work did not significantly affect Fear of Future Violence (β = −0.0009, p = .9888), and Fear of Future Violence did not significantly affect Resilience (β = −0.0882, p = .0689). The direct effect of Direct Violence at Work on Resilience was significant (β = 0.1894, p = .0028), and the indirect effect was not significant (β = 0.0001; 95% CI [−0.0171, 0.0145]).

Model 3 included Direct Violence at Work as the predictor, Fear of Future Violence as the mediator, and Hope as the outcome. Direct Violence at Work did not significantly affect Fear of Future Violence (β = −0.0009, p = .9888), and Fear of Future Violence did not significantly affect Hope (β = 0.0816, p = .0951). The direct effect of Direct Violence at Work on Hope was not significant (β = −0.0701, p = .2694), and the indirect effect was not significant (β = −0.0001; 95% CI [−0.0175, 0.0128]).

Model 4 included Direct Violence at Work as the predictor, Fear of Future Violence as the mediator, and Self-Efficacy as the outcome. Direct Violence at Work did not significantly affect Fear of Future Violence (β = −0.0009, p = .9888), while Fear of Future Violence significantly and positively affected Self-Efficacy (β = 0.1873, p = .0001). The direct effect was not significant (β = −0.0731, p = .2429), and the indirect effect was not significant (β = −0.0002; 95% CI [−0.0297, 0.0274]).

Model 5 included Witnessed Violence at Work as the predictor, Fear of Future Violence as the mediator, and Optimism as the outcome. Witnessed Violence at Work did not significantly affect Fear of Future Violence (β = −0.0577, p = .3656), although Fear of Future Violence significantly predicted Optimism (β = 0.1127, p = .0174). The direct effect was significant (β = −0.3121, p = .0000), and the indirect effect was not significant (β = −0.0065; 95% CI [−0.0235, 0.0092]).

Model 6 included Witnessed Violence at Work as the predictor, Fear of Future Violence as the mediator, and Resilience as the outcome. Witnessed Violence at Work did not significantly affect Fear of Future Violence (β = −0.0577, p = .3656), and Fear of Future Violence marginally negatively affected Resilience (β = −0.0882, p = .0689). The direct effect was not significant (β = −0.1127, p = .0743), and the indirect effect was not significant (β = 0.0051; 95% CI [−0.0059, 0.0264]).

Model 7 included Witnessed Violence at Work as the predictor, Fear of Future Violence as the mediator, and Hope as the outcome. Witnessed Violence at Work did not significantly affect Fear of Future Violence (β = −0.0577, p = .3656), and Fear of Future Violence did not significantly affect Hope (β = 0.0816, p = .0951). The direct effect was not significant (β = −0.0124, p = .8455), and the indirect effect was not significant (β = −0.0047; 95% CI [−0.0192, 0.0084]).

Model 8 included Witnessed Violence at Work as the predictor, Fear of Future Violence as the mediator, and Self-Efficacy as the outcome. Witnessed Violence at Work did not significantly affect Fear of Future Violence (β = −0.0577, p = .3656), while Fear of Future Violence significantly and positively affected Self-Efficacy (β = 0.1873, p = .0001). The direct effect was not significant (β = 0.1169, p = .0625), and the indirect effect was not significant (β = −0.0108; 95% CI [−0.0372, 0.0156]).

In conclusion, although some total and direct effects of workplace violence on Organizational Psychological Capital dimensions were statistically significant, none of the indirect effects through Fear of Future Violence are statistically significant. These findings indicate that Fear of Future Violence does not mediate the relationship between Direct/Witnessed Violence and Psychological Capital, and therefore Hypothesis 1, 2, 3, and 4 are not supported.

Discussion

The analysis revealed the complex relationships between direct and witnessed workplace violence, future fear of violence, and the sub-dimensions of psychological capital. While the findings align with certain expectations in the existing literature, they also diverge significantly in some critical areas. This suggests the need for more in-depth and context-specific analyses regarding the individual and organizational consequences of workplace violence.

Table 2 Bootstrap analysis of direct, and indirect effects in the mediation model

Model 1	Direct Violence at Work (X), Fear of Future Violence (M), Optimism (Y)					
Effects	ß	se	*t*	*P*	LLCI	ULCI
X-M	−0.0009	0.0651	−0.0140	0.9888	−0.1290	0.1271
M-Y	0.1343	0.0556	2.3883	0.0174	0.0235	0.2422
X-Y	0.1127	0.0740	2.1899	0.0291	0.0166	0.3075
	ß	BootSE	BootLLCI	BootULCI		
Indirect Effect	−0.0001	0.0088	−0.0185	0.0176		
Model 2	Direct Violence at Work (X), Fear of Future Violence (M), Resilience (Y)					
Effects	ß	se	*t*	*P*	LLCI	ULCI
X-M	−0.0009	0.0651	−0.0140	0.9888	−0.1290	0.1271
M-Y	−0.0882	0.0446	-1.8235	0.0689	−0.1688	0.0063
X-Y	0.1894	0.0593	3.0102	0.0028	0.0619	0.2949
	ß	BootSE	BootLLCI	BootULCI		
Indirect Effect	0.0001	0.0073	−0.0171	0.0145		
Model 3	Direct Violence at Work (X), Fear of Future Violence (M), Hope (Y)					
Effects	ß	se	*t*	*P*	LLCI	ULCI
X-M	−0.0009	0.0651	−0.0140	0.9888	−0.1290	0.1271
M-Y	0.0816	0.0385	1.6727	0.0951	−0.0113	0.1402
X-Y	−0.0701	0.0513	-1.1060	0.2694	−0.1575	0.0441
	ß	BootSE	BootLLCI	BootULCI		
Indirect Effect	−0.0001	0.0072	−0.0175	0.0128		
Model 4	Direct Violence at Work (X), Fear of Future Violence (M), Self-Efficacy (Y)					
Effects	ß	se	*t*	*P*	LLCI	ULCI
X-M	−0.0009	0.0651	−0.0140	0.9888	−0.1290	0.1271
M-Y	0.1873	0.0361	3.8957	0.0001	0.0697	0.2118
X-Y	−0.0731	0.0383	0.0481	-1.1694	0.2429	−0.1507
	ß	BootSE	BootLLCI	BootULCI		
Indirect Effect	−0.0002	0.0137	−0.0297	0.0274		
Model 5	Witnessed Violence at Work (X), Fear of Future Violence (M), Optimism (Y)					
Effects	ß	Se	*t*	*P*	LLCI	ULCI
X-M	−0.0577	0.0459	−0.9057	0.3656	−0.1317	0.0486
M-Y	0.1127	0.0556	2.3883	0.0174	0.0235	0.2422
X-Y	−0.3121	0.0521	-5.0842	0.0000	−0.3676	−0.1626
	ß	BootSE	BootLLCI	BootULCI		
Indirect Effect	−0.0065	0.0080	−0.0235	0.0092		
Model 6	Witnessed Violence at Work (X), Fear of Future Violence (M), Resilience (Y)					
Effects	ß	Se	*t*	*P*	LLCI	ULCI
X-M	−0.0577	0.0459	−0.9057	0.3656	−0.1317	0.0486
M-Y	−0.0882	0.0446	-1.8235	0.0689	−0.1688	0.0063
X-Y	−0.1127	0.0418	-1.7891	0.0743	−0.1568	0.0074
	ß	BootSE	BootLLCI	BootULCI		
Indirect Effect	0.0051	0.0080	−0.0059	0.0264		
Model 7	Witnessed Violence at Work (X), Fear of Future Violence (M), Hope (Y)					
Effects	ß	Se	*t*	*P*	LLCI	ULCI
X-M	−0.0577	0.0459	−0.9057	0.3656	−0.1317	0.0486
M-Y	0.0816	0.0385	1.6727	0.0951	−0.0113	0.1402
X-Y	−0.0124	0.0361	−0.1949	0.8455	−0.0781	0.0640
	ß	BootSE	BootLLCI	BootULCI		
Indirect Effect	−0.0047	0.0067	−0.0192	0.0084		
Model 8	Witnessed Violence at Work (X), Fear of Future Violence (M), Self-Efficacy (Y)					
Effects	ß	Se	*t*	*P*	LLCI	ULCI
X-M	−0.0577	0.0459	−0.9057	0.3656	−0.1317	0.0486
M-Y	0.1873	0.0361	3.8957	0.0001	0.0697	0.2118
X-Y	0.1169	0.0339	1.8681	0.0625	−0.0033	0.1298

Table 2 (continued)

	ß	BootSE	BootLLCI	BootULCI
Indirect Effect	−0.0108	0.0130	−0.0372	0.0156

ß=Standardized coefficients; se = Standard Error; t = t-value; p = p-value; BootLLCI = Lower limit of the bootstrap confidence interval with %95; BootULCI = Upper limit of the bootstrap confidence interval with %95; Bootstrap sampling size = 5000; X = Independent variable; Y = Dependent variable; M = Mediating variable

The study revealed a statistically significant and strong positive correlation between direct violence at work and witnessed violence at work. This finding is consistent with the prevalence of violence in the healthcare sector and its potential to affect not only direct victims but also witnesses [4]. It is well-established that incidents of workplace violence impact both those who experience them firsthand and those who witness them [64]. It can be interpreted that experiencing one violent incident may increase the likelihood of witnessing others, or that the environment may be perceived as generally violent.

In this study, no significant relationship was found between future fear of violence and either direct exposure to workplace violence or witnessing workplace violence. This finding contradicts the results of previous research. For example, Pacheco et al. (2016) indicated that fear played a mediating role in the impact of workplace aggression on employee well-being. Similarly, Akbolat et al. (2021) found that both direct and witnessed violence had significant effects on future fear of violence. The inconsistency between the findings of this study and the existing literature may be explained by differences in the perception or measurement of the fear construct, the specific characteristics of the sample, or the possibility that the long-term and complex effects of workplace violence cannot be fully captured through a cross-sectional correlation analysis.

In terms of the relationships among the sub-dimensions of psychological capital, future fear of violence demonstrated a low but statistically significant positive correlation with optimism. This finding is somewhat unexpected, as fear is generally assumed to reduce levels of optimism [64]. One possible explanation is that healthcare professionals may develop "defensive optimism" as a coping strategy in high-stress environments, or that they strive to maintain a positive outlook despite adversity [44]. However, no significant correlation was found between future fear of violence and resilience. This result contrasts with previous findings in the literature, which typically identify resilience as a protective buffer against the negative effects of fear and stress [44, 51, 65]. It may suggest that, within this sample, fear is not directly mitigated by resilience, or that resilience operates through a different mechanism than expected.

In this study, direct workplace violence did not show a significant correlation with any sub-dimension of psychological capital (resilience, hope, optimism, and self-efficacy). This suggests that the perceived impact of direct violence may not be directly associated with components of psychological capital within this sample. However, witnessed workplace violence was found to have a significant negative correlation with optimism. This indicates that exposure to violence as a witness is associated with a decline in individuals' general positive outlook [4, 7]. Even in the absence of direct victimization, witnessing violent incidents appears to erode employees' psychological resources [64]. No other significant correlations were observed between witnessed violence and the remaining sub-dimensions (resilience, hope, and self-efficacy). These findings suggest that the effects of workplace violence, particularly direct violence, may not operate through straightforward pathways with psychological capital components in this specific sample and may instead be mediated by other mechanisms or latent variables. Overall, this pattern of results diverges from previous findings in the literature.

The most critical finding of the analysis is that future fear of violence does not statistically mediate the relationship between direct workplace violence or witnessed workplace violence and the sub-dimensions of psychological capital. This result does not support Hypotheses 1, 2, 3, and 4 of the study. While some total and direct effects of workplace violence on organizational psychological capital were found to be significant, none of the indirect effects through future fear of violence reached statistical significance. This finding presents a notable contradiction to the prevailing literature, especially in the context of healthcare workers. For example, Akbolat et al. (2021) reported significant effects of both direct and witnessed violence on future fear of violence, which in turn mediated turnover intention. Similarly, Pacheco et al. (2021) examined the effects of both direct and indirect violence on health and well-being through fear. Güneş et al. (2023) demonstrated a positive relationship between future fear of violence and migration intention, while Shi et al. (2025) investigated its association with burnout. As the first study in the literature to address the relationships among these variables, the present research makes an important contribution. The inconsistencies observed may be due to unique differences in the sample's perceptions of violence or coping mechanisms, or may reflect the complex and multidimensional nature of workplace violence effects, which cannot be fully explained by a single mediating variable.

Limitations

Although this study provides significant contributions by examining the relationships between direct and witnessed workplace violence, future fear of violence, and the sub-dimensions of psychological capital, it has several limitations. First, the cross-sectional design of the research restricts the ability to establish causal relationships between variables definitively. This limitation calls for cautious interpretation of the findings and highlights the need for longitudinal studies that can more accurately investigate causal links in the future. One notable limitation of the current study is the omission of sociodemographic control variables in the main statistical analyses. Although these variables were descriptively reported, they were not included as covariates in the models. This decision was aligned with the theoretical orientation of the study, which focused primarily on psychological and organizational constructs. Additionally, data were collected from healthcare professionals in a specific region of Türkiye, which limits the generalizability of the results to different geographical and cultural contexts. This underscores the importance of conducting future studies with larger and more diverse samples to capture potential regional and sectoral differences. Furthermore, the use of surveys as the data collection method may have introduced biases such as social desirability bias. Particularly in sensitive topics like violence, participants may not fully or honestly report their experiences or feelings, which could affect the accuracy of the findings. In light of these limitations, future research employing different methodologies and broader, more heterogeneous samples is recommended. Such efforts would enhance the generalizability and validity of findings and allow for a more comprehensive understanding of the relationship between workplace violence and psychological capital.

Conclusion

This study examined the effects of direct and witnessed workplace violence on the sub-dimensions of psychological capital and the mediating role of future fear of violence in these relationships. The results revealed a complex pattern, with future fear of violence failing to serve as the expected mediator. Consequently, the impact of workplace violence on psychological capital appears to involve alternative mechanisms beyond this fear construct. Additionally, witnessed violence was found to have a negative effect on optimism, indicating that even in the absence of direct victimization, exposure to violent incidents can erode employees' psychological resources. As the first study to investigate these variables concurrently, this research offers a valuable contribution to understanding the psychological resilience processes of healthcare professionals facing workplace violence. The findings underscore the need for further exploration of the multifaceted pathways through which violence influences psychological capital and employee well-being.

Implications for practice

Based on the findings of this study, it is important for future research to employ longitudinal designs to better understand the relationship between workplace violence and psychological capital. Developing more comprehensive scales that capture different dimensions of fear and violence perception will allow for a more detailed examination of mediating mechanisms. Additionally, investigating other potential factors influencing the relationship between psychological capital and workplace violence, such as social support and organizational climate, can further enrich the literature. From a practical perspective, healthcare institutions should develop support programs aimed at mitigating the negative psychological effects of witnessing workplace violence. Furthermore, expanding training and awareness initiatives focused on preventing workplace violence is crucial. Interventions designed to strengthen psychological capital, such as resilience and hope-building programs, can enhance healthcare workers' capacity to cope with workplace challenges and positively impact their overall work-life quality.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12913-025-13560-5.

Supplementary Material 1

Author contributions

The study was conceived and designed by IA and ED. Data collection was carried out by OC, HSUU, SA and CIC. Data were analyzed and interpreted by IA. Drafting and revision of the manuscript were carried out by IA and KA. All authors reviewed and approved the methodology and read and approved the final version.

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Data availability

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval

Ethical approval for the study was obtained from the Health Sciences Research Ethics Committee of Izmir University of Economics (07/03/2023, 20–214). Prior to participation, all respondents were provided with a written informed consent form at the beginning of the online survey, which clearly explained the purpose of the study, the principles of voluntary participation, and data confidentiality. This study was conducted in accordance with the Declaration of Helsinki and its later amendments.

Consent for publication

Not applicable.

Competing interests
The authors declare no competing interests.

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