

The moderating role of perceived compassion in the relationship between psychological ownership and rumination: A study on employees affected by the February 6, 2023, Kahramanmaraş earthquakes

Psikolojik sahiplenme ile ruminasyon arasındaki ilişkide algılanan merhametin düzenleyici rolü: 6 Şubat 2023 Kahramanmaraş depremlerinden etkilenen çalışanlar üzerine bir inceleme

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Abstract

Traumatic events, such as earthquakes, may heighten employees' ruminative tendencies, which can negatively impact their psychological well-being and organisational performance. This study aims to investigate the moderating role of compassion perception in the relationship between psychological ownership and rumination, and to determine whether these variables differ across various demographic characteristics. This explanatory and cross-sectional study was conducted with 382 participants, comprising public and private sector employees residing in the provinces of Kahramanmaraş, Adana, and Osmaniye, which were affected by the earthquake that occurred in Turkey on February 6, 2023. Participants were selected using purposive sampling. Data were collected using validated scales that measured psychological ownership, rumination, and compassion perception. Results revealed that compassion significantly moderated the negative relationship between psychological ownership and rumination. Furthermore, significant differences were observed in all three variables across demographic factors, including gender, age, marital status, institution type, and income level. These findings underscore the importance of cultivating compassion and ownership perceptions in post-disaster workplaces to promote psychological resilience and mitigate maladaptive thought patterns. The study contributes to disaster psychology literature and offers implications for developing employee-centred recovery strategies and support programs in organisational settings.

Keywords: Psychological Ownership, Rumination, Compassion, Earthquake, Employees

Jel Codes: M10, M14, I31

Öz

Deprem gibi travmatik olaylar, çalışanların ruminasyon eğilimlerini artırarak psikolojik iyi oluşlarını ve örgütsel performanslarını olumsuz etkileyebilir. Bu çalışma, psikolojik sahiplenme ile ruminasyon arasındaki ilişkide merhamet algısının düzenleyici rolünü incelemeyi ve bu değişkenlerin demografik özelliklere göre farklılaşıp farklılaşmadığını belirlemeyi amaçlamaktadır. Bu açıklayıcı tipteki ve kesitsel desende araştırma, 6 Şubat 2023'te Türkiye'de meydana gelen depremden etkilenen Kahramanmaraş, Adana ve Osmaniye illerinde yaşayan kamu ve özel sektör çalışanlarından oluşan 382 katılımcı üzerinde yürütülmüştür. Katılımcılar yargısal örnekleme yöntemiyle belirlenmiştir. Veriler, psikolojik sahiplenme, ruminasyon ve merhamet algısını ölçen geçerli ve güvenilir ölçekler aracılığıyla toplanmıştır. Bulgular, merhamet algısının psikolojik sahiplenme ile ruminasyon arasındaki negatif ilişkiyi anlamlı şekilde düzenlediğini ortaya koymuştur. Ayrıca, cinsiyet, yaş, medeni durum, kurum türü ve gelir düzeyi gibi demografik faktörlere göre üç değişkende de anlamlı farklılıklar bulunmuştur. Bu bulgular, afet sonrası işyerlerinde merhamet ve sahiplenme algısının güçlendirilmesinin psikolojik dayanıklılığı artırma ve olumsuz düşünce kalıplarını azaltma açısından önemli olduğunu göstermektedir. Çalışma, afet psikolojisi literatürüne katkı sunmakta ve çalışan odaklı iyileşme stratejileri ile destek programlarının geliştirilmesine yönelik uygulamalı çıkarımlar sağlamaktadır.

Anahtar Kelimeler: Psikolojik Sahiplenme, Ruminasyon, Merhamet, Deprem, Çalışanlar

JEL Kodları: M10, M14, I31

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Introduction

Türkiye is frequently exposed to major natural disasters due to its geographical location, which is characterised by high seismic risk. The Kahramanmaraş-centered earthquakes of February 6, 2023, stand out as one of the most destructive disasters in recent history, deeply affecting 11 provinces and millions of residents. Beyond physical devastation, such traumatic events have profound psychological impacts on survivors, particularly employees who must continue working amid loss, disruption, and uncertainty (Norris, Friedman, Watson, Byrne, Diaz, and Kaniasty, 2002; Galea, Nandi and Vlahov, 2005). One of the frequently observed consequences is rumination – the repetitive and involuntary focus on negative thoughts – which can significantly hinder psychological well-being and work performance (Nolen-Hoeksema, 2000).

In this context, psychological ownership, defined as the feeling of possessiveness and connection that individuals experience toward their organisation or role (Pierce, Kostova, and Dirks, 2001), may play a protective role. Employees with a high sense of ownership are more likely to display resilience and proactive coping in the aftermath of disruptive events (Avey, Avolio, Crossley, and Luthans, 2009). They tend to perceive themselves as integral to their organisation, which enhances commitment and responsibility, and may buffer the tendency to ruminate by shifting focus toward continuity and contribution (Shukla and Singh, 2015). However, not all employees respond similarly; the psychological mechanisms underlying this variation remain underexplored.

At this point, perceived compassion emerges as a potentially crucial moderator. Compassion – defined as being aware of others' suffering and having a motivation to alleviate it (Nas and Sak, 2022) – has been linked to lower levels of anxiety and greater psychological adjustment in high-stress environments (Jazaieri, 2018; Neff, 2003). In organisational settings, compassion contributes to social support, interpersonal trust, and affective commitment (Dutton, Frost, Worline, Lilius, and Kanov, 2002). The literature suggests that individuals with high compassion perception are better equipped to reframe distressing events and maintain emotional regulation (Pommier, Neff, and Tóth-Király, 2019; Goldin and Jazaieri, 2017). From a theoretical perspective, this aligns with Cognitive Appraisal Theory, which posits that individuals' emotional reactions are influenced by their evaluations of events (Lazarus and Folkman, 1984). Compassion can positively shape this appraisal process, reinforcing the protective effect of psychological ownership against ruminative tendencies.

Although previous studies have examined psychological ownership, rumination, and compassion separately (Yamasaki, Sampei, and Miyata, 2024), few have explored their interrelationships, especially in disaster contexts (Asim, Zhiying, Nadeem, Ghani, Arshad, and Yi, 2021; Nguyen, Tran, Stephan, Nguyen Van, and Anh, 2024; Ramon, Possemato, and Bergen-Cico, 2021; Yi, Wei, Xiao, Zhao, Chen, Zhai, and Song, 2023). Moreover, little is known about how these dynamics vary across demographic subgroups such as age, gender, or sector of employment, despite evidence suggesting that these factors shape psychological reactions to trauma (Bonanno, Westphal, and Mancini, 2010; Johnson and Whisman, 2013). This study aims to fill this gap by addressing the following research questions:

RQ1: Does perceived compassion moderate the relationship between psychological ownership and rumination among employees affected by a major disaster?

RQ2: Do levels of psychological ownership, perceived compassion, and rumination differ significantly based on employees' demographic characteristics (e.g., age, gender, and employment sector)?

The study focuses on employees in three provinces affected by the February 6 earthquakes: Kahramanmaraş, Adana, and Osmaniye. This research is significant for both theoretical and practical reasons. Theoretically, it contributes to the limited body of literature on post-disaster organisational psychology by integrating compassion as a contextual buffer in the ownership-rumination link. By testing this moderated relationship, the study provides a more nuanced understanding of the conditions under which psychological ownership can serve as an effective protective factor. Practically, it offers insight into how organisations can support employees' psychological recovery after disasters by fostering compassion and ownership in the workplace. The findings can inform the design of targeted human resource practices and psychological support programs for diverse employee groups in the aftermath of traumatic events.

Theoretical framework and hypotheses

Psychological ownership refers to the psychological state in which individuals feel a sense of possession and belonging toward specific objects, roles, or environments (Pierce et al., 2001). In organisational contexts, this sense of ownership can enhance individuals' motivation, responsibility, and engagement, particularly in times of uncertainty or crisis. Employees who perceive strong psychological ownership

are more likely to view themselves as integral parts of their institutions, which fosters proactive behaviour and a solution-focused mindset, especially in the aftermath of traumatic events. This dynamic can be understood through Cognitive Appraisal Theory, which suggests that individuals' emotional and behavioural responses to events are shaped by their subjective evaluations or "appraisals" of those events (Lazarus and Folkman, 1984). According to the theory, individuals may appraise a situation as a threat or an opportunity, which in turn influences their psychological reactions, including levels of stress, emotional regulation, and cognitive patterns. Cognitive appraisals may occur consciously or unconsciously and are central to how individuals cope with adversity (Guthrie Yarwood, 2022).

Within this framework, psychological ownership may function as a positive appraisal mechanism. It can help employees perceive stressful events, such as disasters, not merely as threats but also as manageable challenges. This shift in appraisal can reduce emotional distress and foster adaptive coping responses. In contrast, rumination, defined as the repetitive and passive focus on distressing thoughts, has been linked to increased anxiety, depression, and impaired problem-solving (Nolen-Hoeksema, 2000; Arnarson, Matos, Salvador, Ribeiro, De Sousa, and Craighead, 2016). Individuals who frequently ruminate tend to exhibit maladaptive coping strategies, such as avoidance or withdrawal (Yasinski, Hayes, Ready, Abel, Görg, and Kuyken, 2020). Therefore, it is reasonable to expect that individuals with high psychological ownership—who are more engaged, responsible, and emotionally invested—are less likely to engage in ruminative thinking in the face of adversity.

Hypothesis₁: *Psychological ownership negatively affects employees' ruminative thinking.*

Building upon this logic, perceived compassion may further enhance this protective effect. In organisational settings, compassion refers to the perception that others—particularly colleagues or leaders—recognise, empathise with, and respond to an individual's suffering (Dutton et al., 2002; Frost, Dutton, Worline, and Wilson, 2000). When employees perceive high levels of compassion, they are more likely to feel valued and emotionally safe, which may deepen their psychological attachment to the organisation (Dutton, Workman, and Hardin, 2014). Compassion also serves as a positive cognitive appraisal that can buffer against emotional strain, fostering a more secure and resilient mindset (Quinn, Spreitzer, and Lam, 2012). This enhanced psychological investment and perceived support can reduce the mental preoccupation with adverse events by encouraging a more constructive and accepting interpretation of workplace stressors. In this regard, compassion supports the development of adaptive coping strategies and reduces susceptibility to rumination (Neff, 2003). Thus, perceived compassion is expected to amplify the protective role of psychological ownership by reinforcing cognitive appraisals that promote emotional regulation and psychological stability.

Hypothesis₂: *Perceived compassion moderates the negative relationship between psychological ownership and employees' ruminative thinking.*

Additionally, demographic characteristics such as age, gender, education level, and professional experience are known to influence how individuals experience psychological ownership, ruminate, and perceive compassion in the workplace. For instance, older individuals or those with more work experience may develop stronger organisational bonds and feel a greater sense of responsibility toward their roles (Mayhew, Ashkanasy, Bramble, and Gardner, 2007; O'Driscoll, Pierce, and Coghlan, 2006). Gender-related socialisation processes can shape emotional expression and coping, with prior studies indicating that women may ruminate more frequently and report different levels of perceived compassion compared to men (Johnson and Whisman, 2013; Nolen-Hoeksema, Wisco, and Lyubomirsky, 2008; Rood, Roelofs, Bögels, Nolen-Hoeksema, and Schouten, 2009; López, Sanderman, Ranchor, and Schroevers, 2018). Similarly, education and institutional type may influence employees' psychological investment and social perceptions (Lee et al., 2021). Given these findings, it is essential to investigate whether employees' experiences of psychological ownership, rumination, and compassion differ according to their demographic background, particularly in high-stress contexts such as natural disasters.

Hypothesis₃: *Employees' levels of psychological ownership, rumination, and perceived compassion vary according to their demographic characteristics.*

Based on the literature review, the proposed research model for this study is presented in Figure 1.

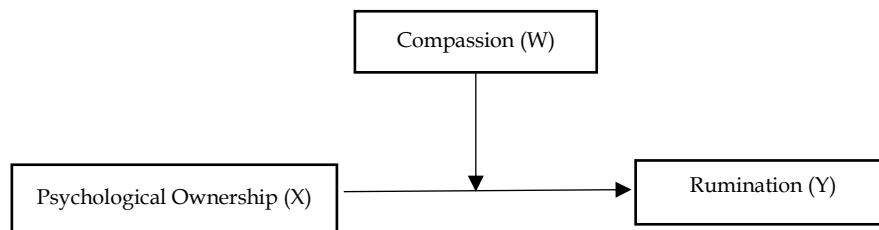


Figure 1: Research Model

The relationships between psychological ownership, rumination and compassion perception were examined in detail. This study examined the interaction and influence of these three concepts on the psychological processes of employees affected by the earthquake.

Methodology

Population and sample

This study employed an explanatory and cross-sectional design. The research population consisted of employees residing in one of the provinces affected by the February 6 Kahramanmaraş earthquakes (Kahramanmaraş, Adana and Osmaniye). Due to significant population shifts, forced migration, and institutional disruptions following the disaster, establishing a formal sampling frame was not feasible. Therefore, purposive sampling was used to select participants who (1) resided in the affected region, (2) were employed in either public or private sector institutions, and (3) voluntarily agreed to participate. The purposive sampling method was used to select individuals with specific characteristics relevant to the research problem based on the researchers' judgement (Gürbüz and Şahin, 2018). While purposive sampling was necessary given the post-disaster context, it limits the generalizability of the findings to the broader population of employees. Future research could benefit from employing more representative or random sampling techniques to enhance external validity and provide a broader perspective on psychological ownership, rumination, and perceived compassion in disaster-affected populations.

A total of 382 participants were reached through face-to-face data collection conducted between June and July 2023. Of these, 143 participants (37.4%) were employed in the public sector, including teachers, municipal staff, healthcare professionals, and administrative officers. In contrast, 239 (62.6%) were used in the private sector, primarily in retail, manufacturing, logistics, and service industries – the sampling aimed to capture a diverse cross-section of working individuals affected by the disaster. Table 1 provides detailed demographic information.

Table 1: Socio-Demographic Data (n: 382)

Socio-Demographic Characteristics		n	%
Gender	Female	147	38.5
	Male	235	61.5
Marital Status	Single	130	34
	Married	252	66
Age	25 Age and Under	63	16.5
	26-30 Age	88	23.0
	31-35 Age	87	22.8
	36-40 Age	66	17.3
	41 Age and Over	78	20.4
Education	Primary/Secondary School	18	4.7
	High School	100	26.2
	University	264	69.1
Institution	Public	143	37.4
	Private	239	62.6
Income Level	Low	36	9.4
	Middle	193	50.5
	Good	128	33.5
	High	25	6.5
Province of Residence	Adana	118	30.9
	Osmaniye	98	25.7
	Kahramanmaraş	166	43.5
Have you lost any first-degree relatives due to the earthquake?	Yes	119	31.2
	No	263	68.8
Did you receive psychological support after the earthquake?	Yes	21	5.5
	No	361	94.5

The demographic characteristics of the participants revealed that 61.5% were male, 66% were married, and 23% were between the ages of 26 and 30. In addition, 69.1% were university graduates, 62.6% were employed in private institutions, 50.5% reported a middle-income level, 43.5% resided in Kahramanmaraş, 68.8% had not lost any first-degree relatives (mother, father, spouse, or child), and 94.5% had not received psychological support following the earthquake (Table 1).

Data collection tool

In this study, psychological ownership was considered as an independent variable, rumination as a dependent variable and compassion as a moderating variable. Data were collected using a personal information form, which included questions on gender, age, marital status, and educational status, and a questionnaire comprising the following scales.

The Psychological Ownership Scale: To determine the psychological ownership levels of the participants in the research, the Psychological Ownership Scale developed by Uçar (2018) was employed. It has a 5-point Likert-type response format (1 = Strongly disagree, 5 = Strongly agree) consisting of four factors (identification/self-integration, efficacy, protective focus, and internal responsibility), and 15 statements – the scores to be obtained from the scale range between 15 and 75 points. The original scale demonstrated the following Cronbach's alpha reliability coefficients: 0.91 for identification, 0.82 for efficacy, 0.85 for protective focus, and 0.88 for internal responsibility (Uçar, 2018). In the current study, the Cronbach's alpha for the overall scale was found to be 0.92. Reliability coefficients for the factors were as follows: 0.93 for internal responsibility, 0.85 for protective focus, 0.90 for identification/self-integration, and 0.93 for efficacy. The scale does not include any reverse-coded items.

The Ruminative Reactions Scale: The Ruminative Reactions Scale, developed by Treynor et al. (2003) and adapted for use in Turkish by Erdur-Baker and Bugay (2010), was employed to assess the rumination levels of participants. The scale consists of 10 statements and is based on a 4-point Likert response format (1=Almost never, 2=Sometimes, 3=Often, 4=Almost always). The scale measures two factors: deep thinking and repetitive thinking. Total scores range from 10 to 40 points, with higher scores indicating a higher tendency for ruminative coping in response to depressive emotional states. In the scale development study, Cronbach's alpha coefficient for the overall scale was reported to be 0.85, with 0.77 for repetitive thinking and 0.75 for deep thinking (Erdur Baker and Bugay, 2010). In the current study, Cronbach's alpha for the overall scale was 0.84, and for repetitive thinking and deep thinking, it was 0.70 and 0.80, respectively. The scale does not include any reverse-coded items.

The Adult Compassion Scale, developed by Nas and Sak (2022), was used to assess participants' perceptions of compassion. The four-factor scale (*behavioural compassion, emotional compassion, cognitive compassion and motivational compassion*) consists of 20 items with a 5-point Likert-type response format (1=Never, 2=Rarely, 3=Occasionally, 4=Often, 5=Always). Scores range from 20 to 100 points, with higher scores indicating a greater level of compassion. In the original scale development, Cronbach's alpha reliability coefficients were reported as 0.90 for behavioural compassion, 0.83 for emotional compassion, 0.81 for cognitive compassion, 0.85 for motivational compassion, and 0.92 for the overall scale (Nas and Sak, 2022). In the current study, Cronbach's alpha for the overall scale was found to be 0.96, while it was 0.93 for behavioural compassion, 0.92 for emotional compassion, 0.92 for cognitive compassion, and 0.93 for motivational compassion. The scale does not include any reverse-coded items.

Data analysis

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) Version 26.0 and the PROCESS macro for SPSS (v4.0). Before hypothesis testing, the dataset was screened for missing values and outliers, and relevant assumptions were evaluated. The data were found to follow a normal distribution (Skewness= -1.076 with -0.081; Kurtosis= -0.539 with 1.265). In addition, Shapiro–Wilk tests were conducted for each variable, further supporting the assumption of normality (Tabachnick and Fidell, 2019).

Descriptive statistics and Pearson correlation coefficients were computed to explore the relationships among variables. To examine group differences across demographic characteristics, independent samples t-tests and one-way ANOVA were employed, followed by post hoc comparisons using Tukey's HSD where applicable. For the moderation analysis, Hayes' PROCESS macro (Model 1) with bootstrapping (5000 bootstrap samples) method was employed. Bootstrapped confidence intervals were used for estimating the results, and a 95% confidence interval was considered significant if it did not include zero. Statistical significance was set at $p < 0.05$.

Findings

Descriptive statistics for psychological ownership, rumination and individuals' perception of compassion are shown in Table 2.

Table 2: Descriptive Statistics (n: 382)

Variables	Min-Max	$\bar{x} \pm sd$	Skewness	Kurtosis	Cronbach Alpha	CR	AVE
Psychological Ownership	1-5	4.13±0.55	-0.696	0.883	0.924	0.96	0.62
Internal responsibility	1-5	4.36±0.58	-0.665	-0.143	0.928	0.90	0.70
Protective focus	1-5	4.15±0.73	-1.044	1.258	0.849	0.80	0.58
Identification	1-5	3.84±0.83	-1.006	1.265	0.900	0.92	0.64
Efficacy	1-5	4.15±0.67	-0.683	0.605	0.928	0.70	0.54
Compassion	1-5	4.29±0.58	-0.934	0.151	0.964	0.96	0.52
Behavioural	1-5	4.18±0.63	-0.691	-0.473	0.929	0.90	0.50
Emotional	1-5	4.33±0.72	-1.076	0.524	0.923	0.81	0.52
Cognitive	1-5	4.47±0.65	-1.051	0.088	0.916	0.75	0.50
Motivational	1-5	4.30±0.66	-0.688	-0.132	0.927	0.85	0.60
Rumination	1-4	1.96±0.45	-0.118	-0.160	0.839	0.92	0.53
Repetitive thinking	1-4	1.95±0.47	-0.126	-0.131	0.704	0.86	0.56
Deep thinking	1-4	1.97±0.52	0.081	-0.539	0.797	0.84	0.51

$\bar{x}$: Average, sd: Standard deviation, CR: Composite reliability, AVE: Average variance extracted

As shown in Table 2, the internal consistency reliability of the structures was assessed using Cronbach's alpha coefficient, composite reliability (CR) and the average variance extracted (AVE). For convergent validity, it is expected that all CR values for scales and factors exceed the corresponding AVE values (CR>AVE), with AVE values above 0.50 (AVE> 0.50) (Fornell and Larcker, 1981). In this study, convergent validity was supported by AVE values exceeding 0.50 for all scales and factors, while composite reliability was confirmed with CR values greater than 0.70.

The average psychological ownership score was 4.13±0.55. It was 4.36±0.58 for internal responsibility, 4.15±0.73 for protective focus, 3.84±0.83 for identification, and 4.15±0.67 for efficacy. The average compassion perception score was 4.29±0.58, with factor scores as follows: 4.18±0.63 for behavioural compassion, 4.33±0.72 for emotional compassion, 4.47±0.65 for cognitive compassion and 4.30±0.66 for motivational compassion. The average rumination score was 1.96±0.45, with the following factor scores: 1.95±0.47 for repetitive thinking and 1.97±0.52 for deep thinking (Table 2).

The results of the Pearson correlation analysis between psychological ownership, rumination and compassion perception are presented in Table 3.

Table 3: Pearson Correlation Analysis Results

Variables		Psychological Ownership	Rumination	Compassion
Psychological Ownership	r	1	-0.391**	0.465**
	p		0.000	0.000
Rumination	r	-0.391**	1	-0.455**
	p	0.000		0.000
Compassion	r	0.465**	-0.455**	1
	p	0.000	0.000	

**p<0.01

A significant negative correlation was found between psychological ownership and rumination ($r = -0.391$). A significant positive correlation was found between psychological ownership and compassion perception ($r = 0.465$). A significant negative correlation was found between rumination and compassion perception ($r = -0.455$) (Table 3).

The results of the analysis examining the moderating effect of perceived compassion on the relationship between psychological ownership and rumination are presented in Table 4.

Table 4: Moderating Effect Analysis Results

Variables	Coefficient (b)	Standard Error	t	p	Confidence Interval (CI)	
					Lower	Upper
Constant	1.994	0.021	91.501	0.000	1.951	2.037
Psychological Ownership (X)	-0.207	0.041	-5.040	0.000	-0.288	-0.126
Compassion (W)	-0.289	0.039	-7.392	0.000	-0.366	-0.212
Interactional Effect (X*W)	-0.209	0.058	-3.577	0.000	-0.323	-0.094
Model Summary	R= 0.521	R ² = 0.272	SE= 0.152	F= 47.130	P= 0.000	df1(3); df(2)=378
Interactional Impact (X*W)	R ² -chng= 0.024	F=12.797	df1=(1)	df(2)=378	P= 0.000	

p<0.05

According to the model summary in Table 4, the established model was significant ($F = 47.130$; $p < 0.001$), explaining 27.2% of the variance in rumination ($R^2 = 0.272$). Psychological ownership ($b = -0.207$; 95% CI $[-0.288, -0.126]$, $t = -5.040$, $p < 0.001$) and compassion perception ($b = -0.289$; 95% CI $[-0.366, -0.212]$, $t = -7.392$, $p < 0.001$) had statistically significant adverse effects on rumination, supporting H_1 . To test H_2 , which posited a moderating impact of compassion perception on the relationship between psychological ownership and rumination, the interaction term ($X*W$) was examined. The interaction was statistically significant ($b = -0.209$; 95% CI $[-0.324, -0.094]$; $t = -3.577$; $p < 0.001$), indicating the presence of a moderation effect.

However, the increase in explained variance attributable to the interaction term was relatively modest ($\Delta R^2 = 0.024$), suggesting that while compassion perception significantly moderates the relationship, its practical impact is limited. This finding implies that compassion may function not only as a direct predictor of reduced rumination but also as a contextual buffer that slightly amplifies the protective role of psychological ownership. Nonetheless, the moderation effect should be interpreted with caution due to its small effect size, and future research could explore additional moderating variables that might exert a more decisive influence in post-disaster organisational settings.

The results of the slope analysis, presented in Table 5 and Figure 2, were further examined to provide a more detailed understanding of the moderating effect.

Table 5: Moderating Effect Slope Analysis Results

Level	Compassion	Effect	Standard Error	t	p	Confidence Interval (CI)	
						Lower	Upper
Low	-0.581	-0.086	0.049	-1.727	0.084	-0.184	0.011
Medium	0.000	-0.207	0.041	-5.040	0.000	-0.288	-0.126
High	0.581	-0.328	0.056	-5.804	0.000	-0.440	-0.217

$p < 0.05$

The results of three separate regression analyses are presented, demonstrating the significance of the effects of psychological ownership on rumination at different levels of the moderating variable. These effects were examined at low (-0.581), moderate (0.000) and high (0.581) levels of compassion perception. The moderating variable was centred for this analysis, and the regression results were evaluated for each of the three levels: low value at a distance of -1 standard deviation from the centre, the moderate value (0) and the high value at a distance of +1 standard deviation from the centre (Gürbüz, 2021).

The effect of psychological ownership on rumination was not significant at low levels of perceived compassion ($b = -0.581$; $p = 0.084$). However, the effect became substantial at moderate levels of perceived compassion ($b = -0.207$; 95% CI $[-0.288, -0.126]$, $t = -5.040$, $p < 0.001$). Similarly, the effect of psychological ownership on rumination remained significant at high levels of perceived compassion ($b = -0.328$; 95% CI $[-0.440, -0.217]$, $t = -5.804$, $p < 0.001$).

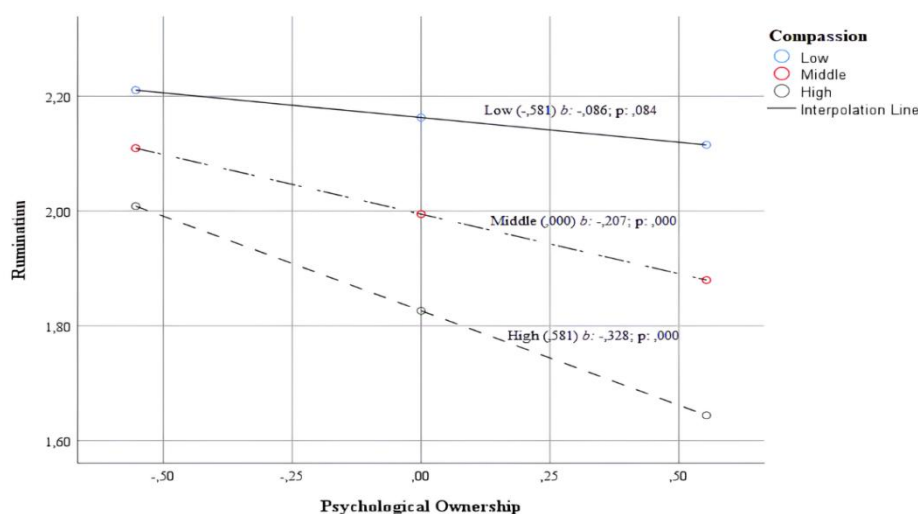


Figure 2: Graphical Representation of the Moderating Effect of Perceived Compassion

The evaluation of psychological ownership, rumination and compassion perception based on demographic variables is presented in Table 6.

Table 6: t-Test and ANOVA Results of Psychological Ownership, Rumination, and Compassion by Demographic Characteristics

Variables	n	Psychological Ownership		Rumination		Compassion	
		$\bar{x}\pm ss$	Test Value	$\bar{x}\pm ss$	Test Value	$\bar{x}\pm ss$	Test Value
Gender							
Female	147	4.01±0.53	t= -3.400	2.04±0.43	t= 2.908	4.27±0.57	t= -0.352
Male	235	4.20±0.55	p= 0.001*	1.91±0.46	p= 0.004*	4.29±0.58	p= 0.725
Marital Status							
Single	130	4.00±0.62	t= -3.279	2.09±0.45	t= 4.000	4.13±0.64	t= -3.705
Married	252	4.19±0.50	p= 0.001*	1.89±0.44	p= 0.000*	4.36±0.53	p= 0.000*
Age							
25 years and under ¹	63	3.95±0.60		2.16±0.52		4.07±0.69	
26-30 age ²	88	4.04±0.58	F= 4.329	1.96±0.47	F= 4.723	4.27±0.61	F= 3.301
31-35 age ³	87	4.18±0.52	p= 0.002*	1.91±0.37	p= 0.001*	4.32±0.44	p= 0.011*
36-40 age ⁴	66	4.13±0.51		1.94±0.42		4.33±0.51	
41 years and over ⁵	78	4.30±0.48		1.85±0.43		4.41±0.59	
Difference between groups		5>1,2		1>2,3,4,5		5>1	
Education							
Primary/secondary school ¹	18	4.30±0.59		1.97±0.61		4.18±0.83	
High School ²	100	4.26±0.51	F= 5.495	1.92±0.50	F= 0.585	4.32±0.59	F= 0.454
University ³	264	4.06±0.55	p= 0.004*	1.97±0.42	p= 0.558	4.28±0.55	p= 0.636
Difference between groups		2>3					
Institution							
Public	143	4.24±0.42	t= 3.116	1.92±0.40	t= -1.290	4.42±0.49	t= 3.559
Private	239	4.06±0.60	p= 0.002*	1.98±0.48	p= 0.198	4.20±0.61	p= 0.000*
Income							
Low ¹	36	3.84±0.90		2.17±0.48		4.20±0.66	
Middle ²	193	4.15±0.46	F= 4.130	1.91±0.47	F= 3.465	4.28±0.55	F= 0.447
Good ³	128	4.15±0.52	p= 0.007*	1.98±0.40	p= 0.016*	4.32±0.57	p= 0.719
High ⁴	25	4.28±0.54		1.91±0.47		4.27±0.64	
Difference between groups		4>1		1>2			
Province of residence							
Adana ¹	118	4.16±0.51		2.05±0.49		4.21±0.63	
Osmaniye ²	98	4.12±0.65	F= 0.273	1.90±0.44	F= 3.855	4.35±0.52	F= 1.543
Kahramanmaraş ³	166	4.11±0.51	p= 0.761	1.92±0.41	p= 0.022*	4.30±0.56	p= 0.215
Difference between groups				1>2,3			
Have you lost any first-degree relatives due to the earthquake?							
Yes	119	4.20±0.53	t= 1.816	1.92±0.47	t= -1.076	4.34±0.59	t=1.234
No	263	4.09±0.56	p= 0.070	1.98±0.44	p= 0.283	4.26±0.57	p= 0.218
Did you receive psychological support after the earthquake?							
Yes	21	4.13±0.69	t= 0.058	1.90±0.46	t= -0.556	4.21±0.80	t= -0.637
No	361	4.13±0.54	p= 0.954	1.96±0.45	p= 0.578	4.29±0.56	p= 0.525

p<0.05; T: Independent Sample T Test, F: One-Way Analysis of Variance was applied

Significant differences in psychological ownership were observed across gender, marital status, age, educational status, institution, and income level, with all comparisons reaching statistical significance (p<0.05, see Table 6 for exact values). Psychological ownership was significantly higher among males, married individuals, those aged 41 and over, primary/secondary school graduates, employees working in public institutions, and those with a higher income level. No significant differences in psychological ownership were found based on province of residence, loss of first-degree relatives, or receiving psychological support after the earthquake (p>0.05), suggesting that ownership perceptions may be more closely related to employment context and structural factors than direct trauma exposure (Table 6).

Post hoc Tukey tests revealed that participants aged 41 and above scored significantly higher than those under 25 and those in the 26–30 age group. In terms of education, high school graduates reported significantly higher ownership scores than university graduates, which may reflect a stronger need for organisational attachment among less formally educated employees in high-stress environments. Public sector employees' higher scores may be due to job security and long-term organisational ties that foster a stronger sense of belonging and responsibility. The finding that males report higher psychological ownership than females can be interpreted in light of traditional role expectations and perceived responsibility in the workplace.

Significant differences in rumination were observed across gender, marital status, age, income level, and province of residence ($p < 0.05$; see Table 6 for exact values). Rumination was significantly higher among females, singles, individuals under the age of 25, those with a low income level, and those residing in Adana. Tukey tests showed that participants aged 41 and above had significantly higher rumination scores than all younger age groups, possibly due to the increased psychological burden associated with caregiving and life responsibilities. The higher rumination levels among women are consistent with previous research linking gender and repetitive negative thinking (Nolen-Hoeksema, 2012). Additionally, residents of Adana exhibited higher rumination than those in Osmaniye and Kahramanmaraş, which may reflect regional differences in trauma exposure or support services. No significant differences were found in rumination based on educational status, institution, loss of first-degree relatives in the earthquake, and receiving psychological support after the earthquake (Table 6).

Significant differences in compassion perception were observed across marital status, age, and institution ($p < 0.05$; see Table 6 for exact values). The perception of compassion was significantly higher among married individuals, those aged 41 and over, and those employed in public institutions. The Post Hoc Tukey test for age sub-variables revealed that individuals aged 41 and over had significantly higher compassion scores compared to those under 25. The greater compassion perception among married and older individuals may stem from accumulated life experience, empathy, and social responsibility. Higher compassion in the public sector could be linked to institutional cultures that emphasise social service and care-based roles, such as education and health. No significant differences were found in compassion perception based on gender, educational status, income level, province of residence, loss of first-degree relatives in the earthquake, or receiving psychological support after the earthquake ($p > 0.05$).

Based on these findings, H_3 —which proposed that psychological ownership, rumination, and compassion perception would vary across demographic characteristics—was partially supported. While significant group differences were found for several key variables, not all demographic factors produced meaningful variation across all constructs. These results underscore the importance of considering individual and contextual variables in post-disaster psychological responses, while also acknowledging that some demographic variables (e.g., education or trauma exposure) may not play a uniform role across all psychological dimensions.

Discussion

This study examined the relationship between psychological ownership and rumination among employees in three provinces affected by the February 6 earthquakes in Türkiye, with a focus on the moderating role of perceived compassion. The findings contribute to understanding how compassion perception can shape cognitive and emotional responses in a post-disaster organisational context. Consistent with prior research, ruminative thinking—characterised by persistent and repetitive focus on negative experiences—was negatively associated with psychological ownership and compassion perception (Nolen-Hoeksema et al., 2008; Watkins, 2008). Employees reporting higher psychological ownership exhibited lower rumination, supporting the view that a strong sense of connection to one's role and organisation serves as a protective factor against maladaptive cognitive patterns (Asim et al., 2021; Madrid, Patterson, and Leiva, 2015). Similarly, perceived compassion negatively influenced rumination and modestly strengthened the ownership-rumination relationship, although the moderation effect was small ($\Delta R^2 = 0.024$), indicating the need for cautious interpretation and further investigation. Despite the psychological adversity following the disaster, participants reported relatively high levels of psychological ownership and compassion, while rumination remained low. This suggests the presence of collective resilience or an organisational buffering effect. Compassion may have fostered more accepting and supportive attitudes toward oneself and colleagues, in line with evidence that compassionate work climates reduce mental strain and enhance social connectedness (Steindl, Yiu, Baumann, and Matos, 2019; López et al., 2018). Notably, 94.5% of participants did not receive formal psychological support post-disaster, implying that resilience primarily emerged from internal or informal resources rather than structured interventions.

Demographic analyses revealed essential patterns. Psychological ownership differed by gender, age, marital status, education level, income, and institution. Older, married, and higher-income employees reported more substantial ownership, reflecting accumulated life experience, perceived responsibility, and job stability (O'Driscoll et al., 2006; Van Dyne and Pierce, 2004). Interestingly, high school graduates reported greater ownership than university graduates, contrasting with Van Dyne and Pierce (2004). This discrepancy may be explained by the context of post-disaster work environments, where less formally educated employees may rely more on organisational ties for psychological stability and a sense of purpose. Ruminative tendencies were higher among women, younger individuals, singles, and

lower-income participants, aligning with previous studies (Nolen-Hoeksema, 2012; Johnson and Whisman, 2013; De Bruijn and Antonides, 2020). Furthermore, individuals residing in Adana had higher rumination, possibly due to contextual factors such as regional aid delivery or infrastructure disruption. Compassion perception varied by marital status, age, and institution. Married and older participants demonstrated higher levels of compassion, perhaps due to their accumulated emotional experiences and social responsibilities (Lee et al., 2021). Public sector employees also scored higher, which may be attributable to service-oriented institutional roles. Unlike some prior studies, this research found no significant gender differences in compassion perception (McDonald and Kanske, 2023), suggesting that compassion may manifest more universally in the context of collective trauma.

The study provides theoretical contributions by highlighting perceived compassion as both a direct and moderating factor within the psychological ownership–rumination relationship. These findings extend Cognitive Appraisal Theory by demonstrating how employees' perceptions of supportive environments can reshape the appraisal of roles and stressors. Additionally, the study corroborates prior work emphasising compassion's protective role in cognitive-emotional regulation (Asim et al., 2021; Karabati, Ensari, and Fiorentino, 2019) while adding new evidence from a post-disaster context. The study also advances understanding by identifying specific demographic conditions under which psychological ownership and compassion are particularly protective, providing a nuanced perspective that is not widely addressed in prior literature. From a practical perspective, the findings underscore the importance of fostering psychological ownership and compassion in organisations, particularly in post-crisis recovery. Organisations can enhance employee resilience by promoting role empowerment, peer support, and purpose-driven initiatives. Structured training programs designed to cultivate compassion—such as leadership development, team coaching, or mental health workshops—may further strengthen coping capacities and reduce rumination, especially in contexts where formal psychological support is limited. Integrating these practices into organisational culture may not only mitigate negative cognitive patterns but also promote long-term well-being and collective resilience.

Conclusion

This study confirms that psychological ownership is negatively associated with rumination, and perceived compassion has a modest moderating effect on this relationship. Employees who feel empowered in carrying out their roles and are supported by a compassionate environment may better manage emotional distress in the aftermath of disasters. These findings contribute to understanding post-traumatic organisational behaviour and highlight compassion as both a psychological resource and a practical organisational tool. Organisations seeking to support employees' mental health during crises should consider strategies that strengthen psychological ownership while cultivating compassion-driven cultures, as these factors together may reduce ruminative tendencies and foster resilience and recovery across the workforce.

Several limitations should be acknowledged. First, although the study targeted earthquake-affected employees, it did not measure trauma exposure or severity directly, limiting conclusions about psychological recovery. Second, the sample was imbalanced across sectors and gender, affecting generalizability. Third, purposive sampling was used due to the post-disaster context, which, while necessary, further limits the generalizability of the findings to the broader employee population. Fourth, the cross-sectional design restricts causal interpretation. Future studies should apply longitudinal or mixed-method approaches to understand how compassion and ownership evolve. Moreover, employing more representative or random sampling techniques could enhance external validity and provide a broader perspective on psychological ownership, rumination, and perceived compassion in disaster-affected populations. Additional predictors of rumination—such as anxiety, burnout, or organisational justice—could be explored. Furthermore, experimental or intervention-based studies could assess whether compassion-enhancing practices reduce rumination and improve mental health outcomes in high-stress contexts.

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