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Prolonged grief and psychological distress among the public amidst the ongoing hostage crisis following the october 7 attack

Yoav Groweiss [a,*], Carmel Blank [b], Hili Kohavi [c], Doron Amsalem [d], Yuval Neria [d], Yossi Levi-Belz [a,e]

[a] The Lior Tsfaty Center for Suicide and Mental Pain Studies, University of Haifa, Haifa, Israel
[b] Department of Behavioral Sciences, Ruppin Academic Center, Emek Hefer, Israel
[c] College of Law and Business, Faculty of Psychology, Ramat Gan, Israel
[d] Department of Psychiatry and New York State Psychiatric Institute, Columbia University Irving Medical Center, NY, USA
[e] School of Therapy, Counseling and Human Development, University of Haifa, Haifa, Israel

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ABSTRACT

Background: The October 7, 2023, terrorist attack in Israel led to over 1,200 civilian deaths and the abduction of 251 individuals to Gaza. While prior studies have documented the psychological toll on directly affected populations, the broader emotional impact of the ongoing hostage crisis on the general public remains unclear. This study explored how public concern for the hostages relates to psychological distress and functional impairment, focusing on prolonged grief–like responses in the context of unresolved national uncertainty.

Methods: A nationally representative sample of 515 Israeli adults completed self-report questionnaires at two time points: August 2023 (pre-attack) and May 2025. Measures included anxiety, depression, PTSD symptoms, cumulative stress, emotional burnout, and daily functioning. Concern for the hostages was rated on a 4-point scale. Symptoms associated with Prolonged Grief Disorder (PGD) were measured using an adapted PG-13 scale. Multivariate analyses controlled for baseline distress and trauma exposure.

Results: Higher concern levels were significantly associated with elevated distress across all symptom domains. Approximately half of the participants (48.7%) reported elevated levels of PGD-like symptoms in relation to the hostage situation, exhibiting significantly higher psychological symptoms and lower functional well-being, including poorer sleep, reduced concentration, and diminished optimism and hope.

Conclusions: Findings indicate that the prolonged hostage crisis constitutes a collective psychological burden marked by ambiguous loss and unresolved national trauma. This form of distress affects even those without direct exposure. Mental health efforts may therefore benefit from addressing distress related not only to direct trauma and bereavement, but also to prolonged uncertainty and symbolic loss.

Introduction

On October 7, 2023, Israel experienced a large-scale terrorist attack in which approximately 1,200 civilians were killed and 251 individuals—men, women, and children—were abducted to Gaza, where they were held hostage by both Hamas and the Palestinian Islamic Jihad (Vinograd & Kershner, 2023; Levkovich et al., 2025). At the time of data collection, 48 hostages still remained in captivity, with 20 presumed alive (BBC News, 2025), their fate making the hostage crisis an ongoing and emotionally salient issue (e.g., Levkovich et al., 2025).

It is well established that the October 7 terrorist attack and the subsequent war have taken a substantial psychological toll on populations in both Gaza (e.g., Aldabbour et al., 2024; Aldabbour et al., 2025; Aqtam, 2025; Zughbur et al., 2025) and Israel (Levi-Belz et al., 2024a; Feingold et al., 2024; Groweiss et al., 2024). Elevated levels of anxiety, depression and posttraumatic symptoms have been documented among civilians who experienced direct exposure to the attack (Levi-Belz et al., 2025a), bereaved families (Levi-Belz et al., 2025b), and evacuees (Amsalem et al., 2025; Levi-Belz et al., 2025c). However, the emotional impact of the ongoing public concern surrounding the unresolved hostage crisis remains largely unknown. Clarifying this issue is essential for understanding how unresolved national trauma and

* Corresponding author.
E-mail address: yoavgro@gmail.com (Y. Groweiss).

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symbolic, indirect threats shape public mental health and societal resilience.

Despite the centrality of the hostage crisis in Israeli public discourse, empirical data on civilians' emotional responses to the ongoing captivity remain limited. Previous research has indicated that most Israelis report persistent preoccupation with the hostages' well-being, and express uncertainty regarding their eventual return (Yehene et al., 2024). Public concern has also been reflected in widespread civic engagement, including rallies, vigils, media campaigns, and visible symbols such as yellow ribbons and posters have become part of the national landscape. In this context, perceived governmental betrayal has also been associated with heightened psychological distress (Levi-Belz et al., 2024b).

Worry as a psychological construct

Worry refers to repetitive, future-oriented thoughts about uncertain and potentially negative outcomes (Sibrava & Borkovec, 2006). While normative and helpful in daily life, excessive and uncontrollable worry is associated with functional impairment (Barlow, 2002), anxiety (Casey et al., 2004; American Psychiatric Association, 2022), depression (Yook et al., 2010; Starcevic, 1995; Buck et al., 2008; Bentley et al., 2016), PTSD symptoms (Tull et al., 2011) and somatic stress symptoms (Brosschot & van der Doef, 2006). Furthermore, worry has been linked to emotional avoidance, depletion of coping resources, and burnout (Shin et al., 2014), including in contexts of prolonged national crises such as military conflicts (Elhadi et al., 2020; Tsybuliak et al., 2023). Given the high levels of public concern reported across Israel regarding the hostage crisis (Yehene et al., 2024), worry over the hostages' fate may be linked to heightened psychological vulnerability.

Prolonged grief in the context of collective trauma

Prolonged grief disorder (PGD) is defined as persistent and pervasive grief-related symptoms that last beyond culturally accepted norms (typically over 12 months in DSM-5-TR and six months in ICD-11; American Psychiatric Association, 2022; World Health Organization, 2022), and has been linked to elevated levels of anxiety, depression, PTSD, and impairments in daily functioning (Prigerson et al., 2021; American Psychiatric Association, 2022; Killikelly et al., 2025). While grief typically follows the death of a loved one, ambiguous loss, defined as loss without closure or certainty, may also elicit prolonged grief-like responses (Boss, 1999; Lundorff et al., 2017). Research has demonstrated that ambiguous loss, such as disappearance without confirmation of death, is associated with more severe PGD symptoms compared to confirmed losses (Lundorff et al., 2017). In the context of the hostage crisis, uncertainty regarding the hostages' fate, and in particular whether they are alive or not, may be associated with prolonged grief-like symptom patterns and associated psychological distress, even in the absence of direct personal loss.

The present study

The ongoing captivity of Israeli hostages following the October 7 terrorist attack constitutes a unique form of collective, ambiguous loss that continues to shape public discourse and emotional life in Israel. As reviewed above, while research has documented elevated distress among individuals directly exposed to the attack, bereaved families, and evacuees (e.g., Levi-Belz et al., 2025a; Amsalem et al., 2025), far less is known about the broader psychological toll of the hostage crisis on the general public—particularly when the loss is symbolic, unresolved, and deeply national in nature. The current study aimed to fill this gap by examining the psychological and functional correlates of public concern regarding these ongoing crises. Specifically, we focused on two key psychological constructs that may underlie this distress: **worry**, a future-oriented cognitive process, and **prolonged grief**, particularly as it may manifest in response to ambiguous or unresolved loss at the collective level.

To address these aims, we leveraged data from a prospective longitudinal study conducted on a nationally representative sample of Israeli citizens (e.g., Levi-Belz et al., 2024a, 2025a). The current analysis focuses on the most recent wave of data collection, conducted in April–May 2025, approximately 18 months after the October 7 terrorist attack, at a time in which the hostage crisis was still unresolved and national circumstances continued to evolve. All participants had previously completed baseline assessments of psychological distress in late August 2023, roughly five weeks prior to the attack. This pre-crisis dataset allowed us to statistically adjust for individual differences in pre-existing mental health, thereby enabling a more precise examination of the psychological impact associated with the ongoing hostage crisis.

Our hypotheses were:

H1: Greater concern about the fate of the hostages will be associated with higher psychological distress, including anxiety, depression, posttraumatic stress symptoms, cumulative stress, and emotional burnout—even after accounting for baseline mental health levels.

H2: Participants reporting higher levels of PGD-like symptom patterns related to the hostage situation will exhibit greater psychological distress across all measured domains (anxiety, depression, PTSD symptoms, stress, and burnout).

H3: Participants reporting higher levels of PGD-like symptom patterns will report poorer daily functioning, reduced sleep quality, concentration, optimism, inner calm, and hope for the future.

Methods

Participants and design

The final study sample consisted of 515 Israeli adults who completed both waves of data collection. Eligibility criteria required participants to be Israeli citizens residing in Israel at the time of the October 7 terrorist attack.

Data were collected at two time points. The first wave (T1) was conducted in August 2023, approximately one and a half months prior to the attack, and served as a baseline assessment of psychological distress, i.e., anxiety, depression and posttraumatic symptoms. The second wave (T2) was conducted in May 2025, approximately 18 months after the attack, during an ongoing and unresolved national crisis, while the fate of most hostages remained uncertain and the broader security situation continued to evolve. A total of 908 participants completed the baseline survey at T1, and 515 of them responded again at T2, yielding a follow-up response rate of 56.7%.

Comparative attrition analyses revealed no significant differences in key sociodemographic characteristics (age, gender, SES) or baseline symptom levels between those who completed both waves and those lost to follow-up, supporting the validity of the longitudinal sample.

Measures

Generalized Anxiety Disorder-2 (GAD-2; Kroenke et al., 2007)

Anxiety symptoms were measured using the GAD-2, a validated 2-item scale based on the GAD-7. Participants rated the frequency of symptoms such as nervousness and uncontrollable worry over the past two weeks. Internal consistency was high across both waves (T1 $\alpha = .86$; T2 $\alpha = .87$). The GAD-2 has demonstrated a strong correlation with its full-length counterpart (Kroenke et al., 2007) and is widely used as a valid screening tool in large-scale population studies.

Patient Health Questionnaire-2 (PHQ-2; Kroenke et al., 2003)

The PHQ-2 is a brief, validated depression screener assessing the two core DSM-5 symptoms of major depression: anhedonia and depressed mood. Items are rated on a 4-point Likert scale (0–3). This tool has been shown to have high sensitivity and specificity and yielded solid internal consistency in the present sample (T1 $\alpha = .82$; T2 $\alpha = .86$). The PHQ-2

scale has also demonstrated a strong correlation with its full-length counterpart (Kroenke et al., 2003).

International Trauma Questionnaire (ITQ; Cloitre et al., 2018)

Posttraumatic stress symptoms were assessed using the nine PTSD-related items of the ITQ, based on ICD-11 criteria. The scale includes six items representing re-experiencing, avoidance, and threat, rated on a 5-point Likert scale (0–4), and three additional items assessing functional impairment. The ITQ has demonstrated strong psychometric properties (Shevlin et al., 2018) and showed excellent internal consistency in this study (T1 α = .86; T2 α= .87).

Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983)

Perceived stress was assessed using the PSS, a widely used 10-item self-report scale that measures the extent to which individuals appraise situations in their lives as stressful, unpredictable, and overwhelming. Items (e.g., "In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?") are rated on a 5-point Likert scale ranging from 0 ("never") to 4 ("very often"). Mean scores are calculated by summing item responses, with higher scores indicating greater perceived stress. The PSS has demonstrated strong validity and reliability across populations and yielded high internal consistency in the current study (T2 α =.91).

Maslach Burnout Inventory – Emotional Exhaustion (MBI; Maslach & Jackson, 1981)

Emotional burnout was measured using the emotional exhaustion subscale of the MBI, consisting of 9 items assessing fatigue, emotional depletion, and reduced energy (e.g., "I feel emotionally exhausted because of my work"). Items were rated on a 5-point Likert scale from 0 ("never") to 4 ("daily"), and a mean score was computed. This subscale reflects both physical and emotional aspects of burnout and demonstrated excellent internal consistency in this study (T2 α = .91).

Functional impairment

Subjective functional status was assessed using a brief, five-item self-report scale developed for the current study, designed to capture perceived changes in day-to-day functioning relative to the pre-war period. The scale was conceptually informed by established functional and well-being measures such as the Functional Status Questionnaire (FSQ; Jette et al., 1986) and the WHOQOL-BREF (Whoqol Group, 1998) and was adapted to capture the unique impact of prolonged national trauma. Each item was rated on a 7-point Likert scale ranging from 1 ("Much worse than before the war") to 7 ("Much better than before the war"), with 4 indicating no change. Higher scores reflected improved functioning compared to pre-war status, while lower scores indicated functional decline. The five items assessed core domains of civilian life including general daily functioning, sleep quality, concentration, emotional calm, and future outlook.

Prolonged Grief – Prolonged Grief Disorder Scale (PG-13; Prigerson et al., 2009)

Prolonged grief-like symptoms were assessed using an adapted version of the PG-13 scale, a validated 13-item self-report scale originally developed to identify individuals meeting criteria for Prolonged Grief Disorder (PGD). In the present study, the items were adapted to explicitly refer to participants' emotional responses to the fate of the hostages in Gaza, rather than the death of a specific individual, in order to capture prolonged grief-like responses rather than to establish formal clinical diagnoses. For example, the item "In the past month, how often have you felt intense emotional pain, sorrow, or pangs of grief about the death?" was rephrased as: "In the past month, how often have you felt intense emotional pain, sorrow, or grief regarding the hostages in Gaza?"

Participants responded on a 5-point Likert scale (1 = not at all to 5 = several times a day/overwhelmingly), and a total symptom severity score was calculated. Following previous research (Prigerson et al., 2009), a cutoff score of ≥30 was used to identify participants reporting elevated levels of grief-related symptoms. This dichotomous variable (higher vs. lower PGD-like symptom levels) was used as a grouping variable in the analyses. Internal consistency for the adapted scale was high (T2 α = .86).

Sociodemographic and trauma-related characteristics

Participants provided background information on key sociodemographic variables, including age, gender, and socioeconomic status (SES). In addition, trauma-related exposure was assessed across three primary domains. First, direct exposure to the October 7 terrorist attack was defined as being physically present in towns or communities within the Gaza envelope during the assault. Second, bereavement was defined as the loss of a close family member or loved one who was murdered in the attack. Third, participants reported whether they had been called up for active reserve military duty during the ongoing war, and whether they served in a combat role for more than 30 consecutive days.

As part of a broader set of items assessing personal, economic, and national concerns related to the war, participants were asked to rate their level of worry about the Israeli government's handling of the hostage crisis. Responses were recorded on a 4-point Likert scale ranging from 1 ("Not at all worried") to 4 ("Very worried"). This item was analyzed as an independent variable reflecting public concern regarding an unresolved and emotionally salient national issue.

Procedures

Study participants were recruited online via Panel4All, a professional survey company that maintains a probability-based panel of approximately 100,000 Israeli respondents. The sampling procedure was quota-based, ensuring representation of the general Israeli population according to national census data on age, gender, ethnicity, and socioeconomic status. Participants received monetary compensation from the survey company for their time.

The current analyses are based on data collected at two time points. The first assessment (T1) took place approximately one month prior to the October 7 terrorist attack and served as a baseline measure of psychological distress. The second assessment (T2) was conducted about 18 months later, during the ongoing war. Anxiety, depression, PTSD symptoms and cumulative stress were assessed at both time points. Measures of grief-related (PGD-like) symptoms, emotional burnout, and daily functioning were administered only in the follow-up assessment. At both time points, participants received a link to the online questionnaire via Qualtrics. Participation was voluntary, and all respondents provided informed consent before completing the survey. Anonymity and confidentiality were assured, and participants were informed of their right to withdraw at any point. The study was approved by the ethics committee of the Ruppin Academic Center (Protocol No. 175/2023).

Data analysis

A series of multivariate analyses of covariance (MANCOVA) were conducted to examine the psychological and functional correlates of (1) levels of concern about the hostages and (2) probable Prolonged Grief Disorder-like symptoms related to the hostage situation. Each predictor was entered as a fixed independent factor in separate models. Dependent variables included five psychological distress indicators (anxiety, depression, PTSD symptoms, cumulative stress, and burnout) and six functional outcomes (daily functioning, sleep quality, concentration, optimism, inner calm, and hope for the future). Participants' baseline psychological distress levels – Anxiety, depression and PTSD symptoms, assessed at T1 (August 2023, prior to the October 7 attack), were included as covariates in all psychological models to control for pre-existing symptom severity. Additional covariates included age, gender,

socioeconomic status, and trauma-related exposure variables (direct exposure to the attack and bereavement).

Assumptions of MANCOVA—including multivariate normality, linearity, homogeneity of variance-covariance matrices (Box's M test, $p > .001$), and absence of multicollinearity—were tested and met. Where significant multivariate effects emerged, follow-up univariate ANOVAs were conducted to examine specific group differences. Pairwise comparisons were performed using the least significant difference (LSD) method. Partial eta squared (η^2) values were computed to estimate effect sizes. All analyses were conducted using SPSS version 28, with statistical significance set at $p < .05$.

Results

Participants' demographics and hostage-related concern and grief

The sample's demographics and October 7 attack-related variables are presented in Table 1. The final study sample comprised 515 participants, aged between 18 and 85 years (M = 41.02, SD = 13.79), with an approximately equal gender distribution (n = 259 women; 50.3%). Participants were asked to report their current level of concern regarding the hostage crisis, as part of a broader set of items addressing war-related worries (e.g., personal, economic, and national concerns). Responses were recorded on a 4-point Likert scale ranging from 1 ("Not at all worried") to 4 ("Very worried"). Among the participants, 7.0% were "Not at all worried," 17.5% were "Not worried," 29.9% were "Worried," and 45.6% - nearly half the sample - were "Very worried". With respect to prolonged grief related responses to the hostage situation, participants were classified based on levels of prolonged grief–like symptom patterns using the adapted PG-13 scale. Specifically, 48.7% (n = 246) reported elevated levels of PGD-like symptoms (cutoff ≥30), whereas 51.3% (n = 259) reported lower levels of such symptoms. This near-equal distribution highlights the deep emotional toll and ongoing psychological relevance of the hostage crisis within the general Israeli population.

Differences in distress levels according to levels of worry regarding the hostages

To examine the psychological implications of public concern regarding the government's handling of the hostage situation, we conducted a MANCOVA analysis. The model tested the effect of worry about the hostages (with four levels: "Not at all worried," "Not worried," "Worried," and "Very worried") on five psychological outcomes: anxiety, depression, PTSD symptoms, stress, and emotional burnout. Importantly, participants' baseline psychological distress levels, measured prior to the October 7 attack (T1), were entered into the model as a covariate to control for pre-existing mental health differences.

Multivariate analysis revealed a significant effect of worry level on the combined set of psychological outcomes [Pillai's Trace = .090, $F(15, 1497) = 3.094$, $p < .001$, $\eta^2 = .030$]. Univariate tests showed significant effects across all outcomes: anxiety [$F(3, 501) = 5.73$, $p < .001$, $\eta^2 = .033$], depression [$F(3, 501) = 6.79$, $p < .001$, $\eta^2 = .039$], PTSD symptoms [$F(3, 501) = 5.72$, $p < .001$, $\eta^2 = .033$], stress [$F(3, 501) = 10.76$, $p < .001$, $\eta^2 = .061$], and emotional burnout [$F(3, 501) = 10.03$, $p < .001$, $\eta^2 = .057$]. As shown in Table 2, post-hoc pairwise comparisons indicated that participants who reported being "very worried" about the hostages consistently exhibited higher levels of distress compared to those with lower worry levels. For instance, anxiety scores among the "very worried" group were M = 1.86 (SD = 1.79), compared to M = 0.97 (SD = 1.78) among those "not at all worried."

Differences in distress levels according to PGD-like symptom levels regarding the hostages

To evaluate the psychological consequences of prolonged grief-like responses in the context of the hostage crisis, a MANCOVA analysis was conducted comparing participants reporting higher versus lower levels of PGD-like symptoms (based on the adapted PG-13 cutoff ≥ 30). The analysis included five psychological outcomes: anxiety, depression, PTSD symptoms, cumulative stress, and burnout. Participants' baseline psychological distress levels (T1) were used as a covariate to control for pre-existing mental health differences.

Multivariate analysis revealed a significant overall effect of probable PGD-like symptom level on the combined outcomes [Pillai's Trace = .153, $F(5, 499) = 18.03$, $p < .001$, $\eta^2 = .153$]. As shown in Table 3, univariate tests revealed significant group differences across all outcomes, with participants reporting higher levels of PGD-like symptoms exhibiting substantially elevated symptom levels in all measures: anxiety [$F(1, 503) = 60.01$, $p < .001$, $\eta^2 = .107$], depression [$F(1, 503) = 69.15$, $p < .001$, $\eta^2 = .121$], PTSD symptoms [$F(1, 503) = 56.94$, $p < .001$, $\eta^2 = .102$], stress [$F(1, 503) = 43.67$, $p < .001$, $\eta^2 = .080$], and emotional burnout [$F(1, 503) = 71.68$, $p < .001$, $\eta^2 = .125$]. For instance, their mean anxiety level was M = 2.10 (SD = 1.71), compared to M = 1.03 (SD = 1.40) among participants reporting lower levels of such symptoms.

Differences in daily functional impairments according to PGD-like symptom levels regarding the hostages

To further explore the functional impact of Prolonged Grief Disorder (PGD) in the context of the ongoing hostage crisis, a MANCOVA analysis was conducted comparing participants reporting higher versus lower levels of PGD-like symptoms (based on the adapted PG-13 cutoff ≥ 30). The model included six self-reported functional outcomes: daily functioning, sleep quality, concentration ability, optimism, inner calm, and future hope.

Multivariate analysis revealed a significant overall effect of PGD-like symptom level on functional outcomes [Pillai's Trace = .041, $F(6, 465) = 3.303$, $p = .003$, $\eta^2 = .041$]. As shown in Table 4, univariate analyses demonstrated that participants reporting higher levels of PGD-like symptoms consistently reported significantly poorer functioning across all domains: daily functioning [$F(1, 470) = 10.74$, $p = .001$, $\eta^2 = .022$], sleep quality [$F(1, 470) = 12.95$, $p < .001$, $\eta^2 = .027$], concentration [$F(1, 470) = 12.35$, $p < .001$, $\eta^2 = .026$], optimism [$F(1, 470) = 14.27$, $p < .001$, $\eta^2 = .029$], inner calm [$F(1, 470) = 16.69$, $p < .001$, $\eta^2 = .034$], and future hope [$F(1, 470) = 14.63$, $p < .001$, $\eta^2 = .030$].

Table 1
Descriptive Characteristics of the Sample (*N*=515).

Sociodemographic Variables		*M(sd)*	*N (%)*
Age (years)		41.02 (13.79)	
Education (years of schooling)		14.10 (1.91)	
SES[1]		2.53 (1.19)	
Gender	Female		259 (50.3%)
	Male		256 (49.7%)
Marital Status	Married		341 (66.2%)
	Single/divorced/widowed		174 (33.8%)
Immigration	No		454 (88.1%)
	Yes		61 (11.9%)

Note. 1 by self-reported income on a scale of 1-5. 3 is the average salary (approx. US$3300 per month in Israel).

Table 2
Differences in distress levels according to levels of worry regarding the hostages (*N*=515).

Measure	Levels of worry				F	p	η^2 (Partial)
	Not at all worried	**Not worried**	**Worried**	**Very worried**			
	M (SD)	M (SD)	M (SD)	M (SD)			
Anxiety	0.97 (1.78)	1.34 (1.52)	1.34 (1.35)	1.86 (1.79)	5.73	<001	0.043
Depression	0.86 (1.42)	1.43 (1.62)	1.54 (1.51)	1.98 (1.72)	6.79	<001	0.04
PTSD Symptoms	4.11 (5.76)	5.83 (5.22)	6.60 (5.21)	7.68 (5.86)	5.72	<001	0.03
Stress	2.18 (0.92)	2.32 (0.88)	2.52 (0.86)	2.83 (0.94)	10.76	<001	0.06
Emotional Burnout	1.60 (0.85)	1.81 (0.77)	1.85 (0.82)	2.22 (0.95)	10.03	<001	0.06

Table 3
Differences in distress levels according to PGD-like symptom levels regarding the hostages (*N*=515).

Measure	**Lower levels of PGD-like symptoms**	**Higher levels of PGD-like symptoms**	F	p	η^2 (Partial)
	M (SD)	M (SD)			
Anxiety	1.03 (1.40)	2.10 (1.71)	60.01	<001	0.11
Depression	1.12 (1.39)	2.26 (1.70)	69.15	<001	0.12
PTSD Symptoms	5.04 (5.04)	8.63 (5.65)	56.94	<001	0.10
Stress	2.34 (0.89)	2.87 (0.90)	43.67	<001	0.08
Emotional Burnout	1.69 (0.76)	2.32 (0.92)	71.68	<001	0.13

Table 4
Differences in functional levels according to PGD-like symptom levels regarding the hostages (*N*=515).

Daily Functional impairment measure	**Lower levels of PGD-like symptoms**	**Higher levels of PGD-like symptoms**	F	p	η^2 (Partial)
	M (SD)	M (SD)			
Daily functioning	3.83 (0.94)	3.48 (1.36)	10.74	.001	0.02
Sleep quality	3.68 (1.06)	3.27 (1.42)	12.95	<.001	0.03
Concentration ability	3.75 (1.04)	3.35 (1.41)	12.35	<.001	0.03
Level of optimism	3.74 (1.38)	3.23 (1.57)	14.27	<.001	0.03
Inner calm	3.56 (1.28)	3.06 (1.39)	16.69	<.001	0.04
Hope for the future	3.74 (1.48)	3.19 (1.64)	14.63	<.001	0.03

Discussion

This study aimed to explore the psychological and functional correlates of the ongoing hostage crisis in Israel, within the broader context of the prolonged and emotionally charged aftermath of the October 7 attack and the subsequent war. Using data from a nationwide prospective study designed to capture mental health dynamics following the attack (see details at Levi-Belz et al., 2025), we explored how varying levels of worry regarding the fate of hostages held in Gaza were associated with symptoms of anxiety, depression, posttraumatic stress, stress, emotional burnout, and daily functioning impairment beyond baseline levels of distress measured one and a half months before the attack (T1). Importantly, data collection took place while the hostage crisis remained unresolved, and the national security situation continued to evolve. Accordingly, the present findings reflect associations between concern for the hostages and psychological distress, rather than causal relationships. By integrating both symptom-related and functional outcomes, this investigation may offer a comprehensive view of the public mental health burden associated with prolonged uncertainty surrounding the national hostage crisis in Israel.

Our findings highlight substantial psychological and functional challenges associated with elevated concern for the hostages' situation. Participants who reported higher levels of concern for the hostages' fate also reported significantly higher levels of psychological distress, including elevated anxiety, depression, PTSD symptoms, cumulative stress, and emotional burnout. These results are consistent with prior research demonstrating strong links between worry and mental health difficulties (Bentley et al., 2016; Casey et al., 2004; Gana et al., 2001; Tull et al., 2011; Yook et al., 2010). In addition, participants reporting PGD-like symptom patterns in relation to the ambiguous and unresolved nature of the hostage situation exhibited significantly higher levels of anxiety, depression, PTSD symptoms, cumulative stress, and emotional burnout as well as higher levels of daily functioning impairment compared to those reporting lower levels of such symptoms.

These results align with existing literature on the detrimental impact of prolonged grief-like symptoms on mental health (e.g., Prigerson et al., 2021; Neria et al., 2004; Neria et al., 2007), thus supporting our hypothesis regarding the public's ongoing concern for the hostages as being associated with grief-related or PGD-like symptom patterns. Additionally, the findings regarding daily functioning impairment among participants reporting higher levels of grief-related symptoms in relation to the hostage situation highlight the far-reaching impact of prolonged and unresolved grief. These effects extend beyond emotional suffering to substantial disruptions in basic life functioning and may persist months after the initial traumatic events (Kristensen et al., 2015; Nielsen et al., 2020).

It is important to note most participants in this study, if not all, did not personally know any of the hostages who remain in captivity in Gaza. Accordingly, their concern was not rooted in direct relational loss, but rather in broader social and national identification processes. Such concern may be continually shaped and intensified by extensive media coverage, public discourse, and the unresolved nature of the crisis (Yehene et al., 2024). The present findings therefore suggest that the psychological distress observed in this study may reflect grief-like responses to symbolic and collective loss, rather than to personal bereavement. These responses may be associated with feelings of uncertainty, perceived moral responsibility, and a sense of helplessness in the face of an unresolved national crisis (Hirschberger, 2018). This phenomenon is likely amplified by continuous media exposure and ongoing governmental inaction, which together reinforce the perception of collective abandonment (Yehene et al., 2024) and moral injury of betrayal (Levi-Belz et al., 2024b; Litz and Walker, 2025). Importantly, these interpretations should be viewed as theoretical considerations rather than definitive explanations, as individual experiences of the hostage crisis likely varied across the population.

In general, our findings provide empirical support for the view that the hostage crisis may be understood as a form of *collective ambiguous loss* (Boss, 2004) embedded within a broader traumatic national context

(Hirschberger, 2018; Yehene et al., 2024). Such loss is characterized by uncertainty, inability to mourn, lack of closure, persistent reminders of absence (Boss, 2004; Yehene et al., 2024). Importantly, the present study highlights how ongoing and unresolved national crises may be associated with elevated distress across diverse segments of the population. These findings align with Yehene et al. (2024), who identified the hostage situation as a particularly salient example of ambiguous loss in the Israeli context. Taken together, these findings underscore the urgent need to recognize ambiguous loss not merely as an individual phenomenon but as a collective psychological burden such as in the hostages' situation in Israel, one that shapes public mental health, challenges societal resilience, and demands context-sensitive therapeutic and policy responses during prolonged national crises. Yet it is important to acknowledge that individual emotional responses to such events are likely to vary.

Several limitations warrant consideration when interpreting the study findings. First, the reliance on self-report measures introduces the possibility of response biases, including recall inaccuracies and social desirability effects. In addition, depression and anxiety were assessed using brief screening instruments, which are well-validated for population-level research but do not provide comprehensive clinical diagnoses. A related important limitation concerns the adapted use of the PG-13 scale (Prigerson et al., 2009) which was modified to capture grief-related symptom patterns associated with the uncertainty and lack of closure surrounding the hostage crisis - namely, the absence of certainty and closure - rather than bereavement following the death of a loved one. Future studies should further clarify the conceptual and clinical boundaries between ambiguous loss and prolonged grief, particularly in contexts where no definitive or finite loss has occurred (see also Manevich et al., 2023). Second, although baseline levels of psychological distress were accounted for (T1), several potentially influential variables were not assessed, including indirect trauma exposure, ongoing security-related stressors, engagement in psychological treatment, and social support characteristics. Given the wide range and complexity of such exposures during the ongoing war, it was not feasible to comprehensively assess all possible forms of indirect trauma. Finally, the relatively modest follow-up response rate may reflect emotional burden, ongoing security concerns, and survey fatigue during a prolonged national crisis. Although baseline distress was controlled for, selective attrition may have influenced the representativeness of the final sample. Future studies should examine potential moderators such as demographic and cultural factors, previous trauma exposure, and individual coping strategies in order to refine the understanding of how grief-related and distress responses to prolonged national crises may vary across populations. Finally, the study's focus on the Israeli context, with its unique sociopolitical and cultural dimensions, may limit the generalizability of findings to other populations experiencing collective trauma.

Conclusions and implications

This study provides novel insight into the psychological and functional correlates of an unresolved national hostage crisis, suggesting that it exemplifies a unique form of collective trauma. Our findings demonstrate that higher levels of concern for the hostages were associated with elevated levels of anxiety, depression, PTSD symptoms, cumulative stress, and emotional burnout, as well as poorer daily functioning. Furthermore, prolonged uncertainty regarding the hostages' fate was associated with grief-related or PGD-like symptom patterns, including emotional distress and functional impairment. These findings should be interpreted as reflecting symptom patterns rather than formal clinical diagnoses of PGD. By framing the public's reaction as a collective grief response, rooted not only in the death of loved ones but also in a diminished sense of trust in leaders perceived as failing to protect their people (Levi-Belz et al, 2024b), this study underscores the complex layers of psychological distress in the context of ongoing national trauma.

These findings underscore the importance of broadening conceptualizations of psychological distress in the context of national trauma. Alongside direct exposure (Levi-Belz et al., 2025b) and the personal loss of loved ones during the October 7 attack and ensuing war (Levi-Belz et al., 2025c), many individuals appear to be affected by the ongoing and at-the-time unresolved hostage crisis. Prolonged uncertainty regarding the hostages' fate may be associated with emotional distress and functional difficulties, even among those without direct exposure. From a clinical perspective, these results suggest that mental health professionals may also need to consider distress associated with prolonged uncertainty, symbolic loss, and ambiguous outcomes. Interventions addressing grief-related distress and ambiguous loss may therefore be relevant for individuals affected by such prolonged national crises.

Beyond individual-level implications, the findings highlight the broader psychosocial impact of unresolved collective events. Ongoing uncertainty and perceived lack of resolution may contribute to sustained distress across different segments of the population, underscoring the importance of clear communication, emotional acknowledgment, and societal containment during prolonged national crises. In this context, leadership must not only act, but also be seen to act - with visibility, empathy, and clarity. Recognizing the public's emotional burden and validating grief is not a symbolic gesture but a vital component of national resilience. When leaders acknowledge suffering, communicate transparently, and demonstrate genuine commitment to resolving the crisis, they restore a sense of containment and reforge the frayed social contract. Our study suggests that such visibility and moral responsiveness are not merely political necessities but mental health imperatives. The failure to address this dimension risks deepening public disillusionment and eroding psychological cohesion. As such, healing from this ongoing trauma requires not only therapeutic intervention but also trustworthy, responsive leadership that signals: We see your pain, and we are doing everything in our power to end it.

Data sharing

The data supporting the findings of this study are available from the.

CRediT authorship contribution statement

Yoav Groweiss: Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Conceptualization. **Carmel Blank:** Writing – review & editing, Methodology, Conceptualization. **Hili Kohavi:** Writing – review & editing, Conceptualization. **Doron Amsalem:** Writing – review & editing, Methodology. **Yuval Neria:** Writing – review & editing, Supervision. **Yossi Levi-Belz:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Conceptualization.

Declaration of competing interest

Not applicable.

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