Current Psychology (2025) 44:10886–10898
https://doi.org/10.1007/s12144-025-07921-w

Collective stressful events and individual future orientation: a systematic review

Maria Chiara Basilici[1] · Chiara Remondi[2] · Annalaura Nocentini[1] · Maria Gerbino[2] · Concetta Pastorelli[2] · Ersilia Menesini[1]

Accepted: 30 April 2025 / Published online: 14 May 2025
© The Author(s) 2025

Abstract
Future orientation is a core human feature shaping people's behavior and development. It is associated with mental health and well-being, especially under stressful situations. With increasing emphasis on the impact of several collective stressful events (e.g., terrorist attacks, wars, pandemics, natural disasters, climate change, and economic crisis) on people's mental health, research has focused on individual future orientation over the last two decades. However, literature on the relationship between collective stressful events and individual future orientation is limited and inconclusive. The present study aimed to conduct a systematic review to (1) analyze the relationship between collective stressful events and individual future orientation and to (2) synthesize the evidence for factors that may impact this association (i.e., the type of event, the study design, and the operationalization of the future orientation's construct). Following PRISMA guidelines, a systematic review was conducted on Scopus, Web of Science, Psycinfo and Pubmed databases up to October 2024; 1,551 articles were identified and 17 were selected. Most analyses ($n=17$, 70.83%) found a negative relationship between the collective stressful events and individual future orientation, while a small percentage ($n=6$, 25%) found no significant relationship. Notably, the only analysis that specifically examined the relationship between climate change and a generalized pattern of future time perspective found a positive relationship. Furthermore, the study design and the operationalization of the future orientation construct appear to affect the relationship between collective stressful events and individual future orientation.

Keywords Future orientation · Collective stressful events · Systematic review · Operationalization of the construct

Introduction

Future orientation (FO)

FO refers to the image individuals perceive about their future, as consciously envisioned and personally reported (Seginer, 2009). It is a multifaceted human trait that supports adaptation across life domains, especially during life transitions (e.g., future education, career, marriage; Poletti et al., 2023), and under stress and adversity (e.g., Masten et al., 2006).

According to Seginer (2009), FO includes three components: motivational, cognitive, and behavioral. The motivational component involves three elements: value, or the importance and relevance individuals attribute to a prospective domain; expectancy, or individuals' confidence in the realization of their domain-specific aspirations, goals and plans; and internal control, or the extent to which individuals believe they have or lack power over the achievement of

✉ Maria Chiara Basilici
mariachiara.basilici@unifi.it

Chiara Remondi
chiara.remondi@uniroma1.it

Annalaura Nocentini
annalaura.nocentini@unifi.it

Maria Gerbino
maria.gerbino@uniroma1.it

Concetta Pastorelli
concetta.pastorelli@uniroma1.it

Ersilia Menesini
ersilia.menesini@unifi.it

[1] Department of Education, Languages, Intercultures, Literatures and Psychology, University of Florence, Florence, Italy

[2] Department of Psychology, Sapienza University of Rome, Rome, Italy

their goals. The cognitive component includes two dimensions: hopes and fears. Given that future events can be either positive or negative, cognitive representation refers to how individuals relate to the future in terms of approaching and/or avoiding it. The behavioral component includes two key elements: commitment to an option through a decision-making process, and exploration of future options through advice and information from others.

Previous literature has shown that individuals with higher FO exhibit clearer goals, enhanced planning skills, and stronger abilities to cope with future challenges. Indeed, FO has been associated with improved well-being (e.g., Zhang et al., 2013), academic performance (Adelabu, 2008), reduced risk-taking behaviors (Robbins & Bryan, 2004) and a lower incidence of drug and alcohol abuse (e.g., Cui et al., 2020). According to the Social Cognitive Theory (Bandura, 1997), beliefs about the future, such as optimism and increased efficacy in achieving goals, act as a psychological resource, especially during adversity.

Collective stressful events (CSE) and individual FO

Over the past few decades, major CSE (e.g., terrorist attacks, wars, pandemics, natural disasters, climate change, and economic crises) have significantly impacted people's lives worldwide. Between 2000 and 2022, Europe faced 7,732 terrorist attacks. In 2022, there were 59 ongoing wars and conflicts in the world, with the Russia-Ukraine war emerging as one of the most prominent in recent European history. This last conflict began immediately after the onset of the COVID-19 pandemic, described as "the biggest health emergency of our generation" (Jetten et al., 2020, p. 7). Furthermore, the frequency of catastrophic meteorological events (e.g., earthquakes, hurricanes, floods, etc.) has increased, contributing to rising population stress. Additionally, there is a growing awareness that climate change and global warming pose a real threat to humanity. Finally, the 2008 socio-economic and financial crisis further shattered expectations of continuous economic growth, leading to widespread stress and rising poverty (Poletti et al., 2023). These epochal circumstances highlighted the inherent unpredictability and uncertainty of the future, raising concerns about whether CSE might shape individual's – especially youths' – future outlook (e.g., Holman & Grisham, 2020). Despite FO is crucial for people's well-being (e.g., Zhang et al., 2013), its link to adaptation under extreme stress remains underexplored, with existing studies being inconsistent.

On the one hand, some research has suggested a negative relationship between CSE and individual FO, as CSE may severely limit or impair FO (e.g., Yagil & Cohen, 2022). Indeed, such events often cause a state of trauma, which includes the experience of a shortened future and expresses pessimism about one's own future (American Psychiatric Association, 1994). Such traumatic events are a violation of fundamental beliefs about the self and the world, including the idea that the world is safe, orderly, and meaningful. This is why CSE are so distressing and upsetting, even to those who were not present at the time of the event (e.g., Grandien et al., 2005).

On the other hand, other studies showed that CSE can also lead to personal growth (e.g., Helgeson et al., 2006) and strengthen social beliefs, relationships, and support systems. These factors may contribute to an increase in FO or buffer the negative effects of CSE on FO (e.g., Sutton & Winnard, 2007). Indeed, under stressful and traumatic conditions, people often leverage their capacities for social support, organization, and communication to counteract the effects of the disaster. These processes can improve psychosocial well-being, foster stronger positive relationships, reduce negative emotional states, and reinforce positive social beliefs and values (e.g., Gasparre et al., 2010). However, to date, the relationship between CSE and individual FO remains understudied.

Additional factors impacting the relationship between CSE and individual FO

Given the variability in previous findings, it is plausible that additional factors may influence the relationship between CSE and individual FO.

First, studies have considered various types of events, each with distinct characteristics (duration, predictability, physical and psychological consequences, etc.), which likely shape individuals' stress experiences in unique ways. Yet, the specific role of event type in the relationship between CSE and individual FO remains unexplored.

Second, cross-sectional research only examines the relationship between CSE and individual FO at a single point in time, without accounting for changes over time. In contrast, longitudinal studies can reveal the impact of events on FO over time, even years later (e.g., Holman & Silver, 2005). Consequently, study design may significantly influence the relationship between CSE and individual FO.

Third, although Seginer's model (2008) offers a comprehensive framework for understanding FO, most studies focus either on FO as a global or on one or two of its components. The former approach uses generalized scales (e.g., Zimbardo & Boyd, 2008), while the latter often neglects important dimensions (e.g., Massey et al., 2008), potentially limiting insights. For example, Kolesovs (2013) found different results depending on whether FO was analyzed as a whole or by specific components (i.e., cognitive component) in the context of socioeconomic crisis.

This lack of consistency in conceptualizing FO may also explain the varied terminology found in the literature to describe FO (e.g., future-oriented thinking; Ceccon & Moscardino, 2022; future thoughts; Cole et al., 2023). Some studies frame FO as part of a broader time perspective (i.e., future time perspective), categorizing individuals by temporal focus - past, present and future (Zimbardo & Boyd, 2008). Because future time perspective overlaps with FO (i.e., in links to conscientiousness, planning, and consideration of future consequences, better academic performance and attitudes towards career planning; Adelabu, 2008; Zimbardo & Boyd, 2008), it's sometimes used as a proxy (e.g., Çıplak, 2022). Overall, the operationalization of the FO construct is crucial when investigating the relationship between CSE and individual FO.

The present study

To date, the literature on the relationship between CSE and FO remains fragmented and underdeveloped. Existing studies present conflicting results: while some indicate a negative association between CSE and FO (e.g., Yagil & Cohen, 2022), others propose that certain stressful experiences may positively influence FO (e.g., Sutton & Winnard, 2007). Additionally, few studies have investigated potential variables that intervene in this relationship. To date, no systematic review has synthesized the existing research or examined these influencing factors in detail. This lack of clarity highlights the need for a comprehensive review to consolidate current knowledge and deepen understanding of this important topic.

Therefore, the purposes of the current study were twofold: (1) to analyze the relationship between CSE and individual FO and (2) to synthesize evidence for factors that may impact this association. Specifically, the study aimed to investigate how variables such as the type of event, the study design (cross-sectional vs. longitudinal), and the operationalization of the FO construct (generalized vs. specific domains) influence the relationship between CSE and individual FO.

Method

The present review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 checklist and guidelines (see Table 3 of Supplementary Materials for checklist; Page et al., 2021). This review has not been subject to pre-registration.

Identification

A comprehensive search of the electronic databases PsycInfo (EBSCO), PubMed (NCIB), Web of Science (Clarivate), and Scopus (Elsevier) was conducted on October 9th, 2024. The search was limited to peer-reviewed journal articles, with no restrictions on publication date.

The search strategy included combinations of the title, abstract, or keywords. The keywords were grouped into two main clusters: the 1st cluster regarding CSE (keywords: pandem*, natural disast*, climate chang*, climate cris*, economic cris*, earthquak*, war, hurrycan*, attack*, terror*); the 2nd cluster regarding FO (keywords: future-oriented thinking, future orient*, future consciousness, future time perspect*, future though*). The standardized search formulas were consistently applied across all databases. The search protocol is available from the authors upon request.

Screening

All records were imported into the Zotero software, where duplicates were identified and removed using both automated and manual processes. For this stage, the following hierarchical inclusion criteria were established, without excluding grey literature: (1) quantitative empirical research only; (2) paper referring only to CSE and FO; (3) papers written in English, or Italian. Exclusion criteria were: (1) qualitative research (e.g., systematic reviews, qualitative analyses); (2) papers including additional variables beyond CSE and FO; (3) papers not written in English or Italian. The screening based on title, abstract, and keywords was carried out independently by the first two authors of this paper.

Eligibility

The full text of each paper was downloaded and rated. Inclusion criteria required that analyses directly examined the relationship between CSE and FO. Exclusion criteria encompassed analyses in which FO served as a predictor and/or in which the relationship between CSE and FO was impacted by additional variables.

Quality assessment

The methodological quality of the included articles was assessed according to the *Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields* (*QualSyst*; Kmet et al., 2004). It is a 14-item tool designed to assess methodological rigor and potential bias in quantitative studies with various study designs. As the present review did not involve interventions, three

criteria were deemed inapplicable to its design – specifically, random allocation, blinding of investigators, and blinding of subjects – and were excluded from the checklist. Therefore, the quality assessment focused on the following items: study questions, study design, subject selection method, subject characteristics, outcome and exposure measures, sample size, description of analyses, variance estimate for the main results, confounding analyses, result descriptions, and conclusions. Each item was scored from 0 to 2 to indicate whether the criterion was not met (0), partially met (1), or fully met (2). Scores were summed and converted into a percentage by dividing the total by the maximum possible score (22). The final quality rating was categorized as follows: excellent (> 80%), good (70–79%), adequate (55–69%), and low (< 55%; Castellucci et al., 2020). Quality assessment was carried out independently by two reviewers. Any disagreements were discussed and resolved through consensus.

Data extraction

In accordance with the study's objectives, data were systematically extracted from the eligible studies, including: (1) identification details (i.e., author, year of publication, research area, sample characteristics); (2) type of analysis and main findings related to the relationship between CSE and FO; (3) event type, study design and operationalization of FO. Data extraction was conducted independently by two authors, with a second reviewer subsequently verifying the process to ensure eligibility, completeness, and accuracy. Initially, three articles were randomly chosen for individual coding by the two authors. Any discrepancies identified during this preliminary coding phase were resolved through joint review and consensus, with minor adjustments made to the final data extraction. Subsequently, each author independently extracted data from eight additional randomly selected articles, and the accuracy of the extracted information was cross-checked and validated by both authors.

Data synthesis

The studies included in this review displayed heterogeneity, particularly concerning the different CSE considered. Given this variability and the primary objectives of this study, a systematic review was considered more appropriate than a meta-analysis (Charrois, 2015). Following an initial overview of all included studies, the data were analyzed based on outcomes concerning the relationship between CSE and individual FO (see Table 1), along with key characteristics of each analysis, such as the type of event, study design, and operationalization of the FO construct (see Table 2).

Results

A total of 1,551 articles were included in the final review, with 801 in Scopus, 470 in Web of Science, 136 in PsychInfo, and 144 in PubMed. Of these, 772 duplicates were eliminated, and 779 were evaluated based on title and abstract. The inter-rater agreement on the acceptance/rejection criteria was computed on a subsample of 55 papers (7% of records included at this stage), yielding an agreement rate of 95% (k = 0.86). Any disagreements were resolved through discussion until a consensus was reached. At the end of this phase, 56 papers were selected and reviewed for the eligibility phase, but 39 did not meet the inclusion criteria. As the majority of the selected articles (n = 15) were rated as excellent in the quality assessment, with one rated as good and another as adequate, all studies were included in the data analysis. A detailed report of the quality assessment results is provided in the Supplementary Materials (Table 4).

Finally, 17 articles were selected for this systematic review. Figure 1 displays a PRISMA flow diagram showing the article selection process for the review.

General characteristics of included articles

The included articles were quantitative studies published in peer-reviewed journals between 2005 and 2024. The majority of these studies were conducted in Europe (i.e., Germany, Sweden, Switzerland, Italy, and Lithuania; n = 7, 41.18%), followed by the Middle East (i.e., Israel, Turkey, and Jerusalem; n = 4, 23.53%), North America (n = 3, 17.65%), and Asia (n = 2, 11.76%). Only one study was cross-cultural (5.88%). Regarding sample characteristics, a total of six articles (35.3%) focused on both young adults and adults, four (23.53%) on adolescents, one (5.88%) on young adults, and one (5.88%) on adults. The remaining articles addressed a broader age range, including adults and elders (n = 1, 5.88%), young adults, adults, and elders (n = 1, 5.88%), adolescents, young adults, and adults (n = 1, 5.88%), adolescents, young adults, adults, and elders (n = 1, 5.88%). Finally, one article (5.88%) focused on minorities, specifically asylum seekers. Sample sizes ranged from 42 to 3,805. Participants' mean age ranged from 15.45 to 70.73 years.

Analysis of the relationship between CSE and individual FO

Since some articles presented multiple analyses of the relationship between CSE and individual FO, all 24 analyses from the 17 articles included in this systematic review were examined. Analyses were performed using bivariate

Table 1 Summary of the main findings on the relationship between CSE and individual FO

Reference	Individual Future Orientation (FO)	Collective Stressful Event (CSE)	Type of analysis	Main findings		Relationship between CSE and individual FO
1. Allemand et al. (2021).	Future Time Perspective – Remaining opportunities	Worry about COVID-19 pandemic	Correlation	High levels of worry about COVID-19 were negatively related to Future Time Perspective - remaining opportunities	$r = -.13$; $p < .05$	Negative
	Future Time Perspective – Remaining times	Worry about COVID-19 pandemic	Correlation	High levels of worry about COVID-19 were negatively related to Future Time Perspective - remaining times	$r = -.15$; $p < .05$	Negative
2. Ben-Zur and Almog (2013).	Hope for the future	War exposure	Correlation	No significant correlation between war exposure and Hope for the Future	$r = .09$	No significant
	Fear for the future	War exposure	Correlation	Positive correlation between war exposure and Fear for the Future[1]	$r = .18$; $p < .05$	Negative
	Risk-taking behavior	War exposure	Correlation	Positive correlation between war exposure and risk taking[1]	$r = .20$; $p < .05$	Negative
3. Ceccon and Moscardino (2022).	Future Orientation		T-test	Decrease of future orientation from the pre- to the lockdown phase	$t(41) = -4.20$; $p < .001$; $d = 0.65$	Negative
4. Çıplak (2022).	Future Time Perspective	Awareness about Climate Change	Correlation	Positive correlation between climate change awareness and future time perspective	$r = .20$; $p < .001$;	Positive
5. Cole et al. (2023).	Spontaneous future thoughs – emotional valence	Infection rates	Correlation	Negative correlation between valence thoughts and infection rate	$r = -.13$; $p < .001$;	Negative
	Spontaneous future thoughs – emotional valence	Mortality rates	Correlation	Negative correlation between valence thoughts and mortality rate	$r = -.09$; $p < .001$;	Negative
6. Holman and Silver (2005).	Future Time Perspective		STATA's Generalized Estimated Equation (GEE)	Decrease significantly of future time perspective over three years following the 9/11 attacks	$b = -0.05$; $p < .001$;	Negative
7. Hytman et al. (2023).	Future Time Perspective		T-test (comparing scores at the beginning and during the pandemic)	Levels of Future Time Perspective decreased over time while the impact of COVID-19 increased over time	$t(103) = 2.27$; $p < .05$	Negative
8. Kolesovs (2013).	Future Time Perspective		Anova (comparison of two cohorts)	No significant differences between the two cohorts in their Future Time Perspective	$F(1) = 1.40$; $p = .237$	No significant
	Future Orientation		Logistic regression	Significant differences between the two cohorts. Specifically, the 2010 cohort's hopes were lower than those of the 2004 cohort	$B = -0.50$, $OR = 0.61$, $p < .001$;	Negative
9. Lenzo et al. (2023).	Future Orientation	Fear of COVID-19 pandemic	Correlation	No significant correlation among the fear of COVID-19 pandemic and future orientation	$r = -.05$	No significant
10. Rogers et al. (2024).	Future Orientation		Logistic regression	The levels of future orientation in the post-COVID-19 data collection (first cohort) was lower compared to levels in the pre-COVID-19 data collection (second cohort)	$b = -0.086$, $SE = 0.026$, $p < .001$	Negative
11. Rupprecht et al. (2022).	Future Time Perspective – Remanining opportunities		Latent Change Score	The change of future time opportunity between the first and second peak of the pandemic was non significant	$B = -0.07$	No significant

Table 1 (continued)

Reference	Individual Future Orientation (FO)	Collective Stressful Event (CSE)	Type of analysis	Main findings		Relationship between CSE and individual FO
	Future Time Perspective – Future Time Extension		Latent Change Score	Future Time Extension decreased between the first and second peak of the pandemic	$B = -0.07$; $p < .05$	Negative
	Future Time Perspective – Future Time Constraint and Limitation		Latent Change Score	Future Time Constraint increased between the first and second peak of the pandemic[2]	$B = 0.11$; $p < .01$	Negative
12. Servidio et al. (2022).	Future Orientation	Anxiety	Correlation	Negative correlation between future orientation and anxiety	$r = -.028$; $p < .0001$;	Negative
13. Solomon and Lavi (2005).	Future Orientation	Exposure to war	Correlation	No significant correlation between objective measure of war exposure and future orientation	$r = -.096$ (Group 1) $r = -.046$ (Group 2)	No significant
14. Västfjäll et al. (2008).	Future Time Perspective		T-test	Future Time Perspective was more limited in the tsunami-remind condition than in the control condition	$t(103) = 2.92$; $p < .001$	Negative
15. Wu et al. (2021).	Future Time Perspective	Risk perception of the pandemic	Correlation	No significant relation between Future Time Perspective and Risk Perception	$r = .03$	No significant
16.Yagil and Cohen (2022).	Future Orientation	Financial uncertainty	Correlation	Future Orientation was negatively correlated with financial uncertaintly at T3	$r = -.12$; $p < .01$;	Negative
17. Zong et al. (2022).	Future Time Perspective	Perceived impact of the COVID-19 pandemic	Correlation	Negative correlation between Future Time Perspective and perceived impact of COVID-19 pandemic	$r = -.07$; $p < .01$;	Negative

[1]The positive correlation implies a negative relationship since the component of future orientation analyzed has a negative connotation

correlations, ANOVAs, *t*-tests, logistic regression, generalized estimating equations, and latent change score models.

Overall, 17 analyses (70.83%) found a negative relationship between CSE and individual FO, while six (25%) found no significant relationship, and one (4.17%) found a positive one.

Regarding the negative relationship between CSE and individual FO, most analyses were carried out on the COVID-19 pandemic ($n = 11$, 64.7%), followed by war ($n = 2$, 11.77%) and economic crisis ($n = 2$, 11.77%). Finally, one study (5.88%) examined a terrorist attack and one study (5.88%) a tsunami. In terms of study design, most findings were cross-sectional ($n = 12$, 70.59%), while the remaining were longitudinal ($n = 5$, 29.41%). When examining the operationalization of the construct of FO, most studies ($n = 10$, 58.82%) examined a specific domain of the construct, while the other studies investigated FO using a generalized pattern ($n = 7$, 41.18%), of which four (23.53%) used a generalized pattern of FO and three (17.65%) of future time perspective.

Of the studies reporting no significant relationship between CSE and individual FO, half of them ($n = 3$, 50%) focused on the COVID-19 pandemic, two (33.33%) on war and only one (16.66%) on the economic crisis. In terms of study design, one study out of 6 (16.66%) was longitudinal and five (83.33%) were cross-sectional. Finally, two studies (33.33%) examined FO using a generalized pattern of FO, two (33.33%) used a generalized pattern of future time perspective, and the remaining two (33.33%) focused on a domain-specific construct.

Only one study showed a positive relationship between CSE and individual FO, and it was also the sole study in this systematic review to specifically address climate change. It used a cross-sectional design and a generalized pattern of future time perspective.

All data on the analysis on the relationship between CSE and individual FO and additional details on effect size can be found in Table 1.

Analysis of additional variables impacting the relationship between CSE and individual FO

Examining event type as a factor influencing the relationship between CSE and individual FO, most analyses ($n = 14$, 58.3%) investigated the relationship between the COVID-19 pandemic and individual FO, followed by war ($n = 4$,

Table 2 Summary of additional factors impacting the relationship between CSE and individual FO

Reference	Type of event	Study design	Individual FO's operationalization	Relationship between CSE and individual FO
1. Allemand et al. (2021).	COVID-19 pandemic	C-S	Domain-specific	Negative
	COVID-19 pandemic		Domain-specific	Negative
2. Ben-Zur and Almog (2013).	Second Lebanese War	C-S	Domain-specific	No significant
	Second Lebanese War		Domain-specific	Negative
	Second Lebanese War		Domain-specific	Negative
3. Ceccon and Moscardino (2022).	COVID-19 pandemic	C-S	Generalized pattern of Future Orientation	Negative
4. Çıplak (2022).	Climate Change	C-S	Generalized pattern of Future Time Perspective	Positive
5. Cole et al. (2023).	COVID-19 pandemic	C-S	Domain-specific	Negative
	COVID-19 pandemic		Domain-specific	Negative
6. Holman and Silver (2005).	September 11, terroristic attack	L	Generalized pattern of Future Time Perspective	Negative
7. Hytman et al. (2023).	COVID-19 pandemic	L	Generalized pattern of Future Time Perspective	Negative
8. Kolesovs, A. (2013).	Economic Crisis (Lithuania, 2008)	C-S	Generalized pattern of Future Time Perspective	No significant
	Economic Crisis (Lithuania, 2008)		Domain-specific	Negative
9. Lenzo et al. (2023).	COVID-19 pandemic	C-S	Generalized pattern of Future Orientation	No significant
10. Rogers et al. (2024).	COVID-19 pandemic	C-S	Generalized pattern of Future Orientation	Negative
11. Rupprecht et al. (2022).	COVID-19 pandemic	L	Domain-specific	No significant
	COVID-19 pandemic		Domain-specific	Negative
	COVID-19 pandemic		Domain-specific	Negative
12. Servidio et al. (2022).	COVID-19 pandemic	C-S	Generalized pattern of Future Orientation	Negative
13. Solomon and Lavi (2005).	Intifada among Israel and Palestine	C-S	Generalized pattern of Future Orientation	No significant
14. Västfjäll et al. (2008).	2004 East Asian Tsunami	C-S	Generalized pattern of Future Time Perspective	Negative
15. Wu et al. (2021).	COVID-19 pandemic	C-S	Generalized pattern of Future Time Perspective	No significant
16. Yagil and Cohen (2022).	Financial uncertainty	L	Generalized pattern of Future Orientation	Negative
17. Zong et al. (2022).	COVID-19 pandemic	C-S	Generalized pattern of Future Time Perspective	Negative

C-S cross-sectional, *L* Longitudinal, *FO* future orientation, *CSE* collective stressful event

16.67%), economic crisis (n = 3, 12.5%), tsunami disaster (n = 1, 4.17%), terrorist attack (n = 1, 4.17%), and climate change (n = 1, 4.17%). Among studies focusing on the COVID-19 pandemic, the majority (n = 11, 78.57%) identified a negative relationship between CSE and individual FO, with the remaining studies (n = 3, 21.43%) reported non-significant results. For analyses related to war, half (n = 2, 50%) found a negative relationship with individual FO, and the other half (n = 2, 50%) found no significant relationship. In the context of economic crises, two studies (66.6%) reported a negative relationship between the event and individual FO, while one study (33.33%) found no significant association. Both studies on tsunami disaster (n = 1, 100%) and the terrorist attack (n = 1, 100%) reported a negative relationship with individual FO. Conversely, the single analysis focusing on climate change showed a positive relationship with individual FO (n = 1, 100%). Overall, with the exception of climate change, the results do not consistently show a significant influence of event types on the relationship between CSE and individual FO. This may be due to the limited number of analyses on the topic. Interestingly, no research was found that investigated the relationship

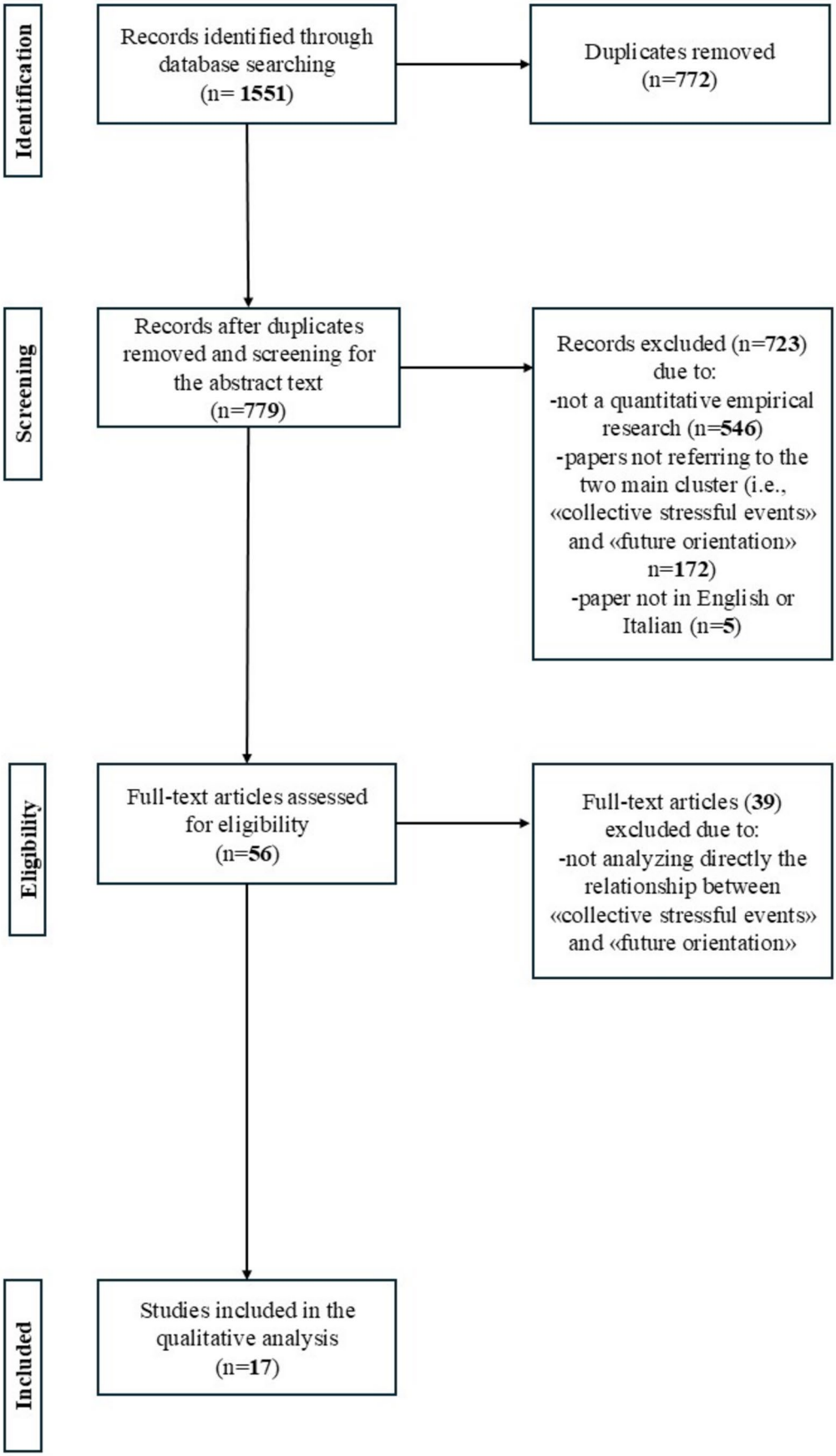
Identification
Records identified through database searching (n= 1551)
Duplicates removed (n=772)
Screening
Records after duplicates removed and screening for the abstract text (n=779)
Records excluded (n=723) due to:
-not a quantitative empirical research (n=546)
-papers not referring to the two main cluster (i.e., «collective stressful events» and «future orientation» n=172)
-paper not in English or Italian (n=5)
Eligibility
Full-text articles assessed for eligibility (n=56)
Full-text articles (39) excluded due to:
-not analyzing directly the relationship between «collective stressful events» and «future orientation»
Included
Studies included in the qualitative analysis (n=17)

Fig. 1 Flowchart of study identification, screening, eligibility, and inclusion

between earthquakes and individual FO, despite including this event as a keyword used in the search process.

Regarding study design, 18 (75%) analyses were cross-sectional and six (25%) were longitudinal. Of the cross-sectional analyses, 12 (66.67%) identified a negative relationship between CSE and individual FO, five (27.78%) found no significant relationship, and only one study (5.55%) reported a positive relationship. In contrast, among the longitudinal studies, five (83.33%) reported a negative relationship between CSE and individual FO, while one study (16.66%) found no significant relationship. Overall, most longitudinal studies found a negative relationship between CSE and individual FO, while cross-sectional studies yielded more varied results.

When examining the operationalization of the FO construct, six analyses (25%) investigated individual FO using a generalized pattern of the construct, seven analyses (29.17%) employed a generalized pattern of the future time perspective, and 11 analyses (45.83%) focused on specific domains of the construct. Among the analyses that used a generalized pattern of the construct, four (66.67%) identified a negative relationship between CSE and individual FO, while two (33.33%) found no significant relationship. Of the studies that applied a generalized pattern of future time perspective, four (57.14%) reported a negative relationship between CSE and individual FO, two (28.57%) found no significant relationship, and one (14.29%) a positive relationship. In contrast, nine analyses (81.82%) that utilized a domain-specific approach to examine the individual FO construct reported a negative relationship with CSE, while two (18.18%) found no significant relationship. These findings suggest a trend in the operationalization of the FO construct: nearly all analyses using a domain-specific approach found a negative relationship between CSE and individual FO, whereas analyses employed a generalized pattern of the construct yielded more varied results.

A summary of additional factors impacting the relationship between CSE and individual FO is presented in Table 2.

Discussion

The present study aimed to analyze the relationship between CSE and individual FO and to synthesize evidence for factors that may impact this association. Specifically, it examined how variables such as the type of event, the study design (cross-sectional vs. longitudinal), and the operationalization of the FO' construct (generalized vs. specific domains) influence the relationship between CSE and individual FO. To the best of our knowledge, no systematic review has yet consolidated the research on the relationship between CSE and individual FO, nor has the impact of potential factors influencing this relationship been thoroughly explored.

General characteristics of included articles

Overall, 17 papers were identified, encompassing 24 analyses on the relationship between CSE and individual FO. This highlights that, despite the rising prevalence of CSE and the central role of FO in individual development, this topic remains underexplored. Additionally, most studies focused on community samples of adolescents, adults, and older adults with only one article (Ceccon & Moscardino, 2022) including minority groups, specifically asylum seekers. This points to two key gaps in scientific literature. First, despite FO is vital to developmental processes across the lifespan (Poletti et al., 2023), its link to CSE during childhood is largely overlooked. Second, aside from Ceccon & Moscardino's study (2022), research rarely address minority or vulnerable groups, who are more exposed to life stressors. Given that FO can promote posttraumatic growth and enhance mental health outcomes (e.g., Zhang et al., 2013), the lack of research on its role in these populations represents a critical gap.

The relationship between CSE and individual FO

The findings of this systematic review help bridge the gap in the literature concerning the unclear relationship between CSE and individual FO. Specifically, most analyses revealed a negative relationship between CSE and individual FO. This prevailing trend suggests that the presence of a CSE may hinder or compromise individual FO (e.g., Yagil & Cohen, 2022). This may be due to the trauma collectively experienced because of these events, the breakdown of community cohesion, and the disruption of fundamental beliefs about the predictability and goodness of the world (e.g., Grandien et al., 2005). These factors can undermine the FO of individuals who experience CSE both directly and indirectly (e.g., Västfjäll et al., 2008). These findings underscore the significant impact of CSE on FO, regardless of the event type and its characteristics, and highlight the critical need for interventions that foster FO and buffer its decline in the face of CSE.

A small percentage of analyses showed a non-significant relationship between CSE and individual FO, possibly due to the influence of protective factors. For instance, strengthening positive relationships can reinforce positive social beliefs and values (e.g., Gasparre et al., 2010), potentially mitigating the negative effects of CSE on FO. This was evident during the COVID-19 pandemic, where social support helped offset the adverse effects of self-isolation and social

distancing— both identified as among the most detrimental aspects of the pandemic (e.g., Jetten et al., 2020). However, due to the limited number and heterogeneity of studies in this area, further investigation was not feasible. Future research should explore buffering factors in more depth.

Only one study investigating the relationship between climate change and individual FO (Çıplak, 2022) found a positive relationship. While replication is needed, prior literature suggests two opposing dynamics. On the one hand, climate change poses significant threats to human health and psychological well-being (e.g., McMichael & Lindgren, 2011). On the other hand, some research (e.g., Evensen et al., 2018) suggests that concern about climate change may be limited due to its abstract nature and perceived scope, leading individuals to question the necessity of personal action. Indeed, people often do not perceive climate change as an immediate threat capable of significantly affecting their lives and their plans. Additionally, in Çıplak's study (2022), climate change was assessed using the Awareness Scale of University Students about Climate Change (ASUSCC; Deniz et al., 2021). This scale consists of four subscales measuring students' awareness of the impact of climate events on the natural and social environment, international organizations and agreements related to these events, the causes of the events, and the relationship between climate change and energy consumption. A high score on this scale indicates a comprehensive understanding of climate change. In this context, Zimbardo and Boyd (2008) found that heightened awareness and a problem-solving focus are associated with a stronger future time perspective. Similarly, Ojala (2015) noted that individuals' awareness of climate change tends to increase alongside their FO. Overall, the differing perspectives on the perceived threat of climate change and the specific awareness measures used in this study suggest that various mechanisms may influence the relationship between climate change and individual FO. However, these findings should be interpreted with caution, as only one study on this topic is available.

The role of additional variables impacting the relationship between CSE and individual FO

The present systematic review also address the literature gap concerning factors that influence the relationship between CSE and individual FO. In particular, the study design and the operationalization of the FO construct appear to play a crucial role.

Regarding study design, longitudinal analyses predominantly found a negative relationship between the two variables, whereas cross-sectional studies yield more inconsistent findings. These discrepancies suggest that the timing of data collection may significantly shape the relationship between CSE and individual FO. The consistent findings in longitudinal research point to the enduring impact of CSE on FO, underscoring the need for timely interventions to mitigate long-term effects.

In terms of the operationalization of the FO construct, studies adopted varying approaches. Many focused on specific domains within the construct, primarily emphasizing the cognitive and motivational aspects of Seginer's (2008) model. The prevailing trend suggests that analyses concentrating on specific FO domains highlighted a negative relationship between CSE and individual FO. Conversely, studies that analyzed FO through a general pattern of both FO and FTP, yielded mixed and often contrasting results. This variation raises concerns about the method used to examine the relationship between CSE and FO. Specifically, they suggest that the scales designed to measure FO in a generalized pattern may not adequately capture all the construct's models, while a domain-specific focus might neglect some critical aspects of FO. Future research should therefore adopt more comprehensive methods that account for the full complexity of the FO construct. Nevertheless, given the limited number of studies included, these findings should be interpreted with caution.

As for the type of events analyzed, most analyses in this systematic review focused on the COVID-19 pandemic. Most findings indicated a negative relationship between the COVID-19 pandemic and individual FO, with approximately 20% of the studies reporting non-significant results. Factors such as the rapid spread of the virus, high mortality and infection rates, and the psychological impact on the population (e.g., Jetten et al., 2020) likely contribute to the negative relationship between the COVID-19 pandemic and individual FO. However, the limited number of studies reporting non-significant relationships, combined with high variability in factors like the time periods considered and government-imposed restrictions, and reliance on cross-sectional designs limit the generalizability of findings. Other event types (i.e., war, economic crises, tsunamis, and terrorist attacks) were underrepresented, making it difficult to draw broader conclusions.

Conclusions

Overall, the present systematic review showed a lack of research on the relationship among CSE and individual FO, particularly during specific life stages (i.e., childhood), minority groups, and various types of CSE. Most studies found a negative relationship between CSE and individual FO, underscoring the pervasive and far-reaching impact of these events. A small percentage of studies reporting a non-significant relationship pointed to the potential buffering factors, which warrant further investigation. Interestingly,

only one study examining the effects of climate change found a positive relationship with FO, suggesting that different mechanisms may underline this specific type of event. Finally, this review stresses the importance of considering study design and the operationalization of the FO construct in future research, as these factors may impact the relationship between CSE and individual FO.

Limitations and strengths

In summary, several shortcomings constrain the interpretability of our findings. First, our systematic review was limited to publications in Italian and English, potentially overlooking relevant studies in other languages. Second, the paucity of research on this topic limits the depth of discussion and interpretation of the results. Further research is needed, particularly involving underrepresented populations (i.e., children and vulnerable groups).

Another limitation concerns the broad categorization of diverse events under the general label of CSE. While we considered multiple factors in the analysis, the small number of studies prevented a separate examination of each event type. Additionally, substantial heterogeneity among studies precluded a meta-analysis; however, future research should pursue this as the field grows.

Finally, the current systematic review did not account for some factors that could impact the relationship between CSE and individual FO, such as social support (e.g., Banerjee et al., 2020) and the degree of exposure to CSE (e.g., Adebäck et al., 2018), or the interaction of FO with dispositional traits (e.g., Parrello et al., 2024). These factors warrant exploration in future research.

Despite these limitations, this review is the first to systematically address the relationship between CSE and individual FO. It offers an updated synthesis of current findings, highlighting key considerations in research design and FO construct. Based on our findings, it is strongly recommended that future interventions aim to strengthen FO and buffer the negative effects of CSE.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s12144-025-07921-w.

Funding Open access funding provided by Università degli Studi di Firenze within the CRUI-CARE Agreement.
The research was funded by the Italian Ministry of Education, University and Research- National PRIN PRNN grant 2022 [n. P2022 AXYP8 "YOU-FUTURE: YOUth's FUTURE Orientation in Time of Social Change" (period: 30.11.2023 to 30.11.2025)].

Data availability This study does not involve the use of specific data, as it is based on a review of existing literature.

Declarations

Ethical approval This is a systematic review of existing literature. This study is in accordance with the ethical standards of our institution and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent This study does not involve the use of specific data of human participants, as it is based on a review of existing literature.

Conflict of interest The authors of this paper declare that they have no conflicts of interest related to this research. This research was conducted in an unbiased manner, and the authors have no financial, personal, or professional affiliations that could be perceived as influencing the research, analysis, or interpretation of the results presented in this article.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Asterisks indicate studies that were included in the systematic review

Adebäck, P., Schulman, A., & Nilsson, D. (2018). Children exposed to a natural disaster: Psychological consequences eight years after 2004 tsunami. *Nordic Journal of Psychiatry*, *72*(1), 75–81. https://doi.org/10.1080/08039488.2017.1382569

Adelabu, D. H. (2008). Future time perspective, hope, and ethnic identity among African American adolescents. *Urban Education*, *43*, 347–360. https://doi.org/10.1177/0042085907311806

*Allemand, M., Olaru, G., & Hill, P. L. (2021). Gratitude and future time perspective during the COVID-19 pandemic: Effects of age and virus worry. *The Journal of Positive Psychology*, *17*(6), 819–831. https://doi.org/10.1080/17439760.2021.1975156

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). American Psychiatric Association.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

Banerjee, S., Burkholder, G., Sana, B., & Szirony, G. M. (2020). Social isolation as a predictor for mortality: Implications for COVID-19 prognosis. *MedRxiv*. https://doi.org/10.1101/2020.04.15.20066548

*Ben-Zur, H., & Almog, N. (2013). Post-traumatic symptoms and future orientation among Israeli adolescents two years after the second Lebanese war: The effects of war exposure, threat and coping appraisals. *Journal of Child & Adolescent Trauma*, *6*(3), 187–200. https://doi.org/10.1080/19361521.2013.807324

Castellucci, H. I., Bravo, G., Arezes, P. M., & Lavallière, M. (2020). Are interventions effective at improving driving in older drivers? A systematic review. *BMC Geriatrics*, *20*, 125. https://doi.org/10.1186/s12877-020-01512-z

*Ceccon, C., & Moscardino, U. (2022). Impact of COVID-19 and lockdown on mental health and future orientation among young adult asylum seekers in Italy: A mixed-methods study. *Transcultural Psychiatry*, *59*(6), 782–796. https://doi.org/10.1177/13634615221098306

*Çıplak, E. (2022). The mediating role of the future time perspective in the relationship between global climate change awareness and hope for the prevention of climate change. *South African Journal of Psychology*, *52*(4), 498–509. https://doi.org/10.1177/00812463221129362

Charrois, T. L. (2015). Systematic reviews: What do you need to know to get started? *The Canadian Journal of Hospital Pharmacy*, *68*(2), 144. https://doi.org/10.4212/cjhp.v68i2.1440

*Cole, S. N., Markostamou, I., Watson, L. A., Barzykowski, K., Ergen, İ., Taylor, A., & Öner, S. (2023). Spontaneous past and future thinking about the COVID-19 pandemic across 14 countries: Effects of individual and country-level COVID-19 impact indicators. *Journal of Applied Research in Memory and Cognition*, *12*(4), 502–512. https://doi.org/10.1037/mac0000071

Cui, Z., Oshri, A., Liu, S., & Wang, X. (2020). Child maltreatment and resilience: The promotive and protective role of future orientation. *Journal of Youth and Adolescence*, *49*(10), 2075–2089. https://doi.org/10.1007/s10964-020-01227-9

Deniz, M., İnel, Y., & Sezer, A. (2021). Awareness scale of university students about global climate change. *International Journal of Geography Education*, *43*, 252–264. https://doi.org/10.32003/ige.818561

Evensen, D., Demski, C., Becker, S., & Pidgeon, N. (2018). The relationship between justice and acceptance of energy transition costs in the UK. *Applied Energy*, *222*, 451–459. https://doi.org/10.1016/j.apenergy.2018.03.165

Gasparre, A., Bosco, S., & Bellelli, G. (2010). Cognitive and social consequences of participation in social rites: Collective coping, social support, and post-traumatic growth in the victims of Guatemala genocide. *International Journal of Social Psychology*, *25*(1), 35–46. https://doi.org/10.1174/021347410790193513

Grandien, C., Nord, L., & Strömbäck, J. (2005). *Efter Flodvågskatastrofen (after the tsunami disaster)*. Stockholm.

Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, *74*(5), 797–816. https://doi.org/10.1037/0022-006X.74.5.797

Holman, E. A., & Grisham, E. L. (2020). When time falls apart: The public health implications of distorted time perception in the age of COVID-19. *Psychological Trauma: Theory Research Practice and Policy*, *12*(S1), S. https://doi.org/10.1037/tra0000756

*Holman, E. A., & Silver, R. C. (2005). Future-oriented thinking and adjustment in a nationwide longitudinal study following the September 11th terrorist attacks. *Motivation and Emotion*, *29*(4), 385–406. https://doi.org/10.1007/s11031-006-9018-9

*Hytman, L., Hemming, M., Newman, T., & Newton, N. J. (2023). Future time perspective and psychological well-being for older Canadian women during the COVID-19 pandemic. *Journal of Adult Development*, *30*(4), 393–403. https://doi.org/10.1007/s10804-023-09445-8

Jetten, J., Reicher, S. D., Haslam, S. A., & Cruwys, T. (2020). *Together apart: The psychology of COVID-19*. Sage.

Kmet, L. M., Lee, R. C., & Cook, L. S. (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields*. Alberta Heritage Foundation for Medical Research.

*Kolesovs, A. (2013). Domain-specific and general future orientation of high school students in Latvia under socioeconomic changes. *Tarptautinis Psichologijos Žurnalas: Biopsichosocialinis Požiūris*, (12), 71–83. https://doi.org/10.7220/1941-7233.12.4

*Lenzo, V., Sardella, A., Grazia, V., Corsano, P., Quattropani, M. C., Franceschini, C., & Musetti, A. (2023). Fear of COVID-19 and future orientation: Different profiles in dealing with the pandemic and associations with loneliness and posttraumatic growth. *Psychological Trauma: Theory Research Practice and Policy*, *15*(3), 458. https://doi.org/10.1037/tra0001319

Massey, E. K., Gebhardt, W. A., & Garnefski, N. (2008). Adolescent goal content and pursuit: A review of the literature from the past 16 years. *Developmental Review*, *28*(4), 421–460. https://doi.org/10.1016/j.dr.2008.03.002

Masten, A. S., Obradović, J., & Burt, K. B. (2006). Resilience in Emerging Adulthood: Developmental perspectives on continuity and transformation. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 173–190). American Psychological Association. https://doi.org/10.1037/11381-007

McMichael, A. J., & Lindgren, E. (2011). Climate change: Present and future risks to health, and necessary responses. *Journal of Internal Medicine*, *2*(70), 401–413. https://doi.org/10.1111/j.1365-2796.2011.02415.x

Ojala, M. (2015). Hope in the face of climate change: Associations with environmental engagement and student perceptions of teachers' emotion communication style and future orientation. *The Journal of Environmental Education*, *46*(3), 133–148. https://doi.org/10.1080/00958964.2015.1021662

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T., Mulrow, C., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *British Medical Journal*. https://doi.org/10.1136/bmj.n71

Parrello, S., Postiglione, J., Sica, L. S., De Rosa, B., Parola, A., Regnoli, G. M., Fenizia, E., & Sommantico, M. (2024). Italian university students' future time perspective and well-being during the COVID-19 pandemic. *Frontiers in Psychology*, *15*, 1404952. https://doi.org/10.3389/fpsyg.2024.1404952

Poletti, M., Preti, A., & Raballo, A. (2023). From economic crisis and climate change through COVID-19 pandemic to Ukraine war: A cumulative hit-wave on adolescent future thinking and mental well-being. *European Child & Adolescent Psychiatry*, *32*, 1815–1816. https://doi.org/10.1007/s00787-022-01984-x

Robbins, R. N., & Bryan, A. (2004). Relationships between future orientation, impulsive sensation seeking, and risk behavior among adjudicated adolescents. *Journal of Adolescent Research*, *19*(4), 428–445. https://doi.org/10.1177/0743558403258860

*Rogers, E. M., Melde, C., Williams, J., Heinze, J., & McGarrell, E. (2024). Adolescent mental health and resilience before and during the COVID-19 pandemic. *Journal of Adolescent Health*, *75*(1), 43–50. https://doi.org/10.1016/j.jadohealth.2024.02.023

*Rupprecht, F. S., Martin, K., Kamin, S. T., & Lang, F. R. (2022). COVID-19 and perceiving finitude: Associations with future time perspective, death anxiety, and ideal life expectancy. *Psychology and Aging*, *37*(2), 260–271. https://doi.org/10.1037/pag0000661

Seginer, R. (2008). Future orientation in times of threat and challenge: How resilient adolescents construct their future. *International Journal of Behavioral Development, 32*(4), 272–282. https://doi.org/10.1177/0165025408090970

Seginer, R. (2009). *Future orientation: Developmental and ecological perspectives*. Springer Science & Business Media.

*Servidio, R., Abbate, S., Costabile, C., A., & Boca, S. (2022). Future orientation and symptoms of anxiety and depression in Italian university students during the COVID-19 pandemic: The role

of resilience and the perceived threat of COVID-19. *Healthcare*, *10*(6), 974. https://doi.org/10.3390/healthcare10060974

*Solomon, Z., & Lavi, T. (2005). Israeli youth in the second intifada: PTSD and future orientation. *Journal of the American Academy of Child & Adolescent Psychiatry*, *44*(11), 1167–1175. https://doi.org/10.1097/01.chi.0000161650.97643.e1

Sutton, R. M., & Winnard, E. J. (2007). Looking ahead through lenses of justice: The relevance of just-world beliefs to intentions and confidence in the future. *British Journal of Social Psychology*, *46*(3), 649–666. https://doi.org/10.1348/014466606X166220

*Västfjäll, D., Peters, E., & Slovic, P. (2008). Affect, risk perception and future optimism after the tsunami disaster. *Judgment and Decision Making*, *3*(1), 64–72. https://doi.org/10.1017/S1930297500000176

*Wu, L., Li, X., & Lyu, H. (2021). The relationship between the duration of attention to pandemic news and depression during the outbreak of coronavirus disease 2019: The roles of risk perception and future time perspective. *Frontiers in Psychology*, *12*, 564284. https://doi.org/10.3389/fpsyg.2021.564284

*Yagil, D., & Cohen, M. (2022). Financial uncertainty and anxiety during the COVID-19 pandemic. *European Journal of Health Psychology*. https://doi.org/10.1027/2512-8442/a000119

Zhang, J. W., Howell, R. T., & Stolarski, M. (2013). Comparing three methods to measure a balanced time perspective: The relationship between a balanced time perspective and subjective well-being. *Journal of Happiness Studies*, *14*(1), 169–184. https://doi.org/10.1007/s10902-012-9322-x

Zimbardo, P., & Boyd, J. (2008). *The time paradox: The new psychology of time that will change your life*. Simon and Schuster.

*Zong, M., Dong, D., Yang, Z., et al. (2022). Role of time perspectives and self-control on well-being and ill-being during the COVID-19 pandemic: A multiple mediation model. *BMC Psychology*, *10*, 238. https://doi.org/10.1186/s40359-022-00933-2

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.