
The traumatic experience of Emilia-Romagna flood and its impact on Assumptions about the world, Time perspective, Eudaimonic well-being and gender

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✎ **ABSTRACT.** Lo studio ha approfondito l'impatto psicologico dell'alluvione della Romagna sulle persone dei territori coinvolti attraverso tre prospettive teoriche: la Teoria sulle Assunzioni sul Mondo, la Prospettiva Temporale, il Benessere Psicologico-eudaimonico. Hanno partecipato 131 soggetti delle zone alluvionate della Romagna. Emergono correlazioni positive tra le Assunzioni sul Mondo e la Prospettiva Temporale, e differenze significative per il genere ed il tipo di danno ricevuto. Le donne con danni sul lavoro autonomo appaiono meno fiduciose di poter controllare la situazione e presentano una maggiore percezione di casualità degli eventi accaduti.

✎ **SUMMARY.** The study focused on the psychological impact of Romagna flood on people of the affected areas through three theoretical perspectives adopted: the Theory of World Assumptions; the Time Perspective and the Psychological-Eudaimonic Well-being. Evaluate these three dimensions in relation to whether or not they have experienced concrete personal and/or professional -work related harm, gender, school education, age. Significant differences were hypothesized between those who had experienced their types of harm compared to those who had not, even though they lived in the same area. 131 subjects from Romagna flooded areas participated in the study. The following questionnaires were submitted to the online Google Forms platform: Questionnaire on Assumptions on World; Zimbardo Inventory on Time perspective, PWB Questionnaire. Positive correlations were found between Assumptions about the World and Time perspective: Past negative, Present fatalistic and Future negative were negatively associated with Assumptions on the World, with the exception of the belief Randomness of events, with positive association. Psychological-Eudaimonic well-being appears positively associated with all Assumptions on World, with the exception of Randomness of events, where the relationship is negative. Significant differences emerge for gender and type of harm suffered. Self-employed women appear less confident in their ability to control the situation and exhibit a greater perception of Randomness in events. Gender differences also appear in Time perspective for work-related harm, with women exhibiting a more negative, pessimistic view of the future than men, along with a more fatalistic perception of their present. The study confirmed the negative impact of flood on the population. Particular attention is required for psychological support interventions to the population and for the greater vulnerability of female workforce in the face of loss of self-employed instruments.

Keywords: World assumptions; Flood; Time perspective; Eudaimonic well-being; Trauma; Emilia Romagna

INTRODUCTION

In May 2023 two floods, fifteen days apart, hit the Italian region Emilia-Romagna causing deaths and serious damage to homes, work activities and local infrastructure. In the Romagna area 23 watercourses overflowed at the same time: hundreds of houses were flooded, many companies lost the resources with which to carry on their businesses. Life in the entire Romagna area was disrupted by the flood, which caused the destruction of railways, bridges, roads and generated landslides in the hilly area. The daily life of all the inhabitants of Romagna was suddenly turned upside down.

The gravity of the situation, the human and concrete losses can define this series of events as an authentic collective trauma. The personal experience lived by several of these inhabitants of damages and loss caused by the flood both at home and at work aggravated the traumatic experience of them.

A traumatic event of this magnitude can have profound impact not only on concrete life, but also on the psychological dimensions such as the cognitive representation of the world, the way to perceive the present, the planning for the future and the well-being, with potential effects not only in the present, but also, and perhaps more important, in the long run.

Traumatic events and Assumptions about world

The term *trauma* derives from the classical Greek and indicates a wound, a psychic laceration. Modern psychology defines a traumatic event as “a strongly negative event that generates a real emotional and biographical fracture in the individual and/or in the community, such as to undermine the sense of stability, security, identity and physical and psychological continuity of the person or persons who find themselves facing it (APA, 2013; Ursano, Mc Coughy & Fullerton, 1994).

A fundamental distinction that is commonly made, but which in contemporary society, thanks to technological progress, tends to become blurred and increasingly difficult, is between disasters from nature (natural disaster), such as an earthquake, a flood, a tornado, and disasters caused by humans (man-made disaster; Weisaeth, 1994) as this distinction translates into a very different collective

representation of the event, and gives rise to equally different emotional and behavioral reactions. As stated Weisaeth, “manmade disasters are said to be more traumatic because of their unfamiliarity, unpredictability, uncontrollability and culpability” (p. 76). A flood, typically a natural disaster, can be understood as not completely natural, but with the unintentional compliance of humans, due to the lack of care and maintenance of the territory on a hydrogeological level (Da Deppo, 2016). This blended causal attribution can have relevant impact on the cognitive and emotional reactions to the flood, increasing the probability to experience emotions such as anger, indignation, and other emotions that pertain to the inner experience of losses caused by humans, and not by only nature itself. For this reason, a natural disaster, in our contemporary, technological society, can lead people to consider the event as nature-made but with the lack of compliance by man for preventive measures, with consequent emotional and cognitive responses.

The sociocognitive approach on traumatic events recognizes the relevance of cognitive schemas of individuals about the world and themselves. Parkes (1975) firstly introduced the term *assumptive world* to refer to a “strongly held set of Assumptions about the world and self which is confidently maintained and used as a means of recognizing, planning and acting [...] these Assumptions are learned and confirmed by the experience of many years” (p. 132). Another relevant theory is the world models elaborated by Bowlby within his perspective on human attachment (1988).

Within these models, Janoff-Bulman’s (1989, 1992) theory of *shattered Assumptions* has been one of the most accepted and utilized models for deepening the psychological impact of traumatic events upon victims. The theory hypothesizes that traumatic events produce changes in the victim’s thoughts and beliefs. According to the social cognition perspective, individuals hold certain Assumptions or schemas regarding the world and self, which are stable and generally positive (Epstein, 1985). A traumatic event presents information that is incompatible with these existing schemas (Horowitz, 1975).

Janoff-Bulman postulated several Assumptions that most individuals have about themselves and the world around them. For J-Bulman these Assumptions are rooted in early experiences, and also in later life experience. Primarily, there are three broad fundamental assumptions; the world is benevolent, the world is meaningful, and the self is worthy (Janoff-Bulman, 1992, p. 6). Each of the three

core Assumptions in the assumptive world can be broken down into sub-category assumptions. She postulated eight primary assumptions: benevolence of the world; benevolence of people; Justice; Controllability; Randomness; Self-controllability; Luck; Self-worth. These Assumptions are seriously challenged after a traumatic event, both individual or collective.

The world as a benevolent place can be broken down to mean that the world is a safe environment (compared to seeing the world as a hostile, malevolent one) and others are decent and caring individuals, which parallels how we would tend to view ourselves (Janoff-Bulman, 1992). The world as a meaningful place involves the individual concepts that there is a reason for everything that happens to a person as well as bad things happen only to dishonest people (the notion that the 'world is a just place to live in'; Janoff-Bulman, 1992). An additional part of the assumption of the world being meaningful is the concept that the world is not a random place. If there is mostly Randomness in the world, then there can be no underlying meaning behind the events that may befall us (e.g. a traumatic event) (Janoff-Bulman, 1992). The assumption of Self-worth is how we, as individuals, see ourselves as kind, moral, capable and deserving of good things to happen as a reward for our abilities. It is hypothesized that these three core world Assumptions are not directly challenged, but instead they change gradually during life and the accumulation of experience. A traumatic event, on the contrary, can suddenly disrupt these assumptions, setting into motion dramatic changes about one's self, the world and the other persons, this can lead to negative outcomes such as cynicism and depression. Juxtaposed to these minor challenges, the nature of a traumatic event calls into question the basic core Assumptions of meaningfulness, benevolence, and Self-worth. The onslaught of contradictions to the assumptive world can shatter the framework of how the individual perceives the world around them as well as their views of the self (Janoff-Bulman, 1992). A study conducted by J-Bulman (1992) on 338 undergraduates highlighted that those students who experienced serious negative events (such as death of a parent, rape, fire that destroyed their home, incest) defined as victims, differ from the non-victims for several Assumptions about world (Self-worth and Benevolence of world). Gender emerged as a relevant factor: male victims believed in chance more than their female non victim counterparts. The study reveals that also even years after the negative event the victims show a higher level of depression than non-victims, males

fared worse than female victims, confirming the crucial role of long-term processes that are set in motion after a traumatic event and the relevance of these (shattered) schemata.

This hypothesis has been supported by various studies revealing that victims of several traumatic events express more negative world Assumptions than non-victims (Dekel, Solomon, Elklit & Ginzburg, 2004; Janoff-Bulman, 1989; Solomon, Iancu & Yano, 1997).

Several studies conducted on victims of floods examined the role of structural variables such as gender and age, the level of damage reported, and psychological variables connected to quality of life after this event and in a life-span perspective.

Chen and Liu (2015) investigated, through a longitudinal research design, the percentage of people invested by the flood in Hunan, China, and the predictors of this adverse outcome. Flood victims who had higher disaster stressors (e.g. loss of income) and lower social support were most likely to have a worse PTSD prognosis. Nygaard and Heir (2012) in a longitudinal study conducted on Norwegian victims of the tsunami occurred in Indonesia during the year 2004 confirmed that after two years from the event the Assumptions on world change in a worse way for the Controllability, the predictable world, the just world and the invulnerability. On the other hand, the participants reported a strengthening of their Assumptions of life as meaningful and being a valuable human, highlighting a possible post-traumatic Personal growth. In the study of Nygaard and Heir (2012) perceived changes in world Assumptions were marginally related to later post-traumatic stress symptoms but significantly related to later quality of life. There were some differences in associations between world Assumptions and the two outcomes reported. Whereas reported negative perceived changes in the assumption 'the world is just' were related to worse outcomes in both quality of life and post-traumatic stress symptoms, only quality of life was related to perceived changes in 'life is meaningful' and the 'feeling that I am a valuable human' (Self-worth).

Bokszczanin (2007) examined the predictors of post-traumatic stress disorders in a sample of adolescents and young people 28 months after the 1997 flood in Poland. Gender resulted a significant predictor of post-traumatic stress disorder: females were more at risk than males for developing it in the long run. Rodrigues-Munoz and colleagues (Rodriguez-Munoz, Moreno-Jimenez, Sanz Veergel & Garrosa, 2010) found, in a study on victims of

workplace bullying, that women show more post-traumatic symptoms and more negative beliefs about world than men.

The disruption of the Assumptions about world could be, for these reasons, relevant predictors of negative psychological outcomes in the long run. Firstly, since they will be rebuilt with more negative perspectives on people and causal inferences for events that could occur in the future; than, for their potential influence on the way people perceive and represent their Time perspective. A traumatic event indeed that in turn back the Assumptions on world can impact also the elaboration of it, the past remembering, the way of living in the present and especially the way to represent the future.

Time perspective and the impact of traumatic events

Traumatic events, due to their nature of unpredictability, uncontrollability and negativity, have a strong impact on human temporality (Sword, Sword, Bruskill & Zimbardo, 2014; Zimbardo, Sword & Sword, 2012). In particular, Time perspective, defined as the partition of the biographical time flow into past, present and future times with the aim of assigning order and coherence to events (Zimbardo & Boyd, 1999) can be impacted by traumatic events, individual or collective ones. The Time perspective originally was elaborated as composed by five dimensions: Past positive (a positive view of the past, that is considered as bearer of values, positive relationships and positive models of human relationships); Past negative (a vision of the past as a time with negative events not yet elaborated, the presence of painful experiences); Present fatalistic (a vision of the present as a time outside of any personal control); Present hedonistic (living in the present savoring the experiences coming from friends, but also taking risks for the desire of sensation seeking); Future positive (the presence of Life projects, and the possession of resources and strategies for accomplishing them). Carelli and colleagues (Carelli, Wiberg & Wiberg, 2011) recognized that the lack of two dimensions of future create an unbalanced time organization; for this reason, Future negative (the envisioning of a threatening, anxious, boring future) was added as a new dimension, symmetrical to Future positive.

Individual differences in Time perspective orientation influence our actions across a variety of life domains, such as health behaviours (Daugherty & Brase, 2010); risk taking

(Jochemczyk, Pietrzak, Buczkowski, Stolarski & Markiewicz, 2017; Zambianchi, Ricci Bitti & Gremigni, 2010); romantic relationships (Stolarski & Matthews, 2016) or aggression, psychological well-being and social well-being and also, in old age, wisdom (Zambianchi, 2016; 2020).

A traumatic event, indeed, if not processed, can become something that cannot be placed in the past, thus compromising not its denial, but its location in a temporal zone distinct from the present and the future. This failure to deliver the event to the past can bring with it the risk of pervasively influencing the present through intrusive memories, avoidance of experiences that concretely or symbolically remind us of it, difficulty concentrating, negative vision of the future.

Holman and colleagues (Holman, Michael Jonaes, Garfin & Silver, 2023) studied the time distortion and or disintegration of time (having no future; disruption of daily routine) during the traumatic event of Covid-19 pandemic, founding a profound impact of this collective trauma on temporality, where people felt to have not a future, with women reporting more time disintegration than men. Considering the centrality of the future time for Life projects and well-being (Lewin, 1943; Sword et al., 2015) the absence of future planning and projects can be seen as a very negative outcome of this trauma.

Tufan and Bayraktar (2020) conducted a study on Cyprus adult people which have lost their parents during the conflict between the Greek and Turkish Cyprus population (1963-1974) and confronting them with people who didn't lose parents for the Time perspective and PTSD symptoms. They found that PTSD was transmitted to children by the survivors and also the Time perspective configuration. Moreover, Past negative and Present fatalistic, two problematic time dimensions, were associated with the presence of PTSD symptoms, suggesting the authors that traumatic events can disrupt the Time perspective schemata and also, perhaps, the Assumptions on world as described by J-Bulman model.

Reconnecting these studies on Time perspective to the shattered world Assumptions model by J-Bulman, we could hypothesize that Time perspective may be in relation with these Assumptions about the world. As stated by Bulman about the early constructions of them and also recognizing their temporal qualities (e.g. believing in the Controllability of the events can directly lead to the question of the fatalistic or viceversa under control view of the present; fortune can

be related to the past events; those who experienced Lucky situations for job, for relationships, they can strengthen a positive view of personal life; Randomness of events can be related to a negative envisioning of the future, without any personal proactive action for shaping it in a desired manner).

We can then hypothesize that past experiences, positive or negative, contribute to the early construction of these core assumptions, which are in turn strengthened or shattered by the subsequent events people are faced with, including trauma.

But, as other research demonstrated, the traumatic events can give life to psychological processes that lead, during time, to a positive re-evaluation of life dimensions or values, or to an authentic post-traumatic growth, that can be seen as a facet of resilience.

Growing through trauma: The presence of life projects and personal growth as hallmarks of resilience

Positive psychology recognizes that mental health and well-being are not related to the mere absence of maladjustment, but, instead, to the presence of a sufficient life-quality, to the presence of positive emotions, to the presence of purpose in life, a sense of openness to experiences and Personal growth through life (Ryff, 2014; Ryff & Singer, 2008).

Recently, researchers are increasing attention to protective factors that decrease the likelihood of distress and pathological outcomes in trauma survivors (e.g., hardiness, social support: King, King, Fairbank, Keane & Adams, 1998; sense of coherence: Frommberger et al., 1999; hope: Crowson, Frueh & Snyder, 2001; Irving, Telfer & Blake, 1997; Long et al., 2015). Among these, the psychological Eudaimonic well-being can be, for its focus on development and growth in personality and maturation (Ryff, 2023) a relevant index of protection against adverse outcomes following a traumatic event.

Literature on resilience and post-traumatic growth has found indeed that some trauma survivors not only report negative outcomes, but also report positive outcomes such as enhanced social relationships and a renewed sense of meaning in life (Matheson, Asokumar & Anisman, 2020; Tedeschi & Calhoun, 2004; Tedeschi, Cann, Taku, Senol-

Durak & Calhoun, 2017; Tedeschi, Park & Calhoun, 1998).

Post-traumatic growth (PTG), the hypothesis that people can undergo positive psychological changes as a result of adversity, has been a key topic of research by psychologists over the last 25 years (Brady & Jayawickreme, 2023; Infurna & Jayawickreme, 2019), but with difficulty in finding common criteria and definition of what we can understand and define as growth itself. Several authors (Boals, 2023; Frazier et al., 2009) indeed show greater caution or even skepticism about the post-traumatic growth as a common experience after a traumatic event, hypothesizing, on the contrary, this kind of outcome be very rare in the population.

The PTGI conceptualizes growth in terms of five categories or life domains: new possibilities, relating to others, personal strength, appreciation of life, and spiritual growth (Brady & Jayawickreme, 2023; Tedeschi & Calhoun, 1996; Tedeschi et al., 2017). Peterson and Seligman (2004) elaborated a model on positive human qualities, defined as the 'virtues and strength model'. These dimensions are not at the opposite side of suffering, but instead they can be present despite the adverse situations and promote, in the long run, a better psychological and psycho-social adjustment. Among these strengths are purpose (the presence of projects in life), Self-control, open-mindedness (near the concept of Personal growth) and fairness (near the J-Bulman's concept of Justice). The studies on human well-being elaborated by positive psychology identified different components of well-being, that are interrelated (see the concept of human flourishing; Keyes, 2007), but distinct, with specific features.

One of the major distinctions is between hedonic well-being (the presence of high level of life satisfaction and positive emotional tone (Ryan & Deci, 2001) and Eudaimonic well-being, related instead of the human tension toward realization of self (Ryff, 1989).

Ryff (1989; Ryff & Singer, 2008; 2023), referring to the Greek philosopher Aristotle, defined well-being in a Eudaimonic key as the development of talents and potential of the individual for the benefit of society, conceptualizing it in a model composed of six dimensions: self-acceptance (accepting the positive and negative qualities of oneself); positive relationships with others (the presence of stable relationships based on mutual trust); autonomy (knowing how to decide on the basis of one's own value scheme and knowing how to resist social pressure to comply); environmental mastery (knowing how to identify the resources suitable for one's development and knowing how to move forward; purpose in

life (the presence of future plans); Personal growth (feeling of growing as a person at any life-stage). Several studies have been able to confirm the relevance of Eudaimonic well-being throughout life, its protective capacity against stress (Ryff, 2014) in old age, for positive mental health (Ryff, 2023), its relationship with future-oriented temporality (Zambianchi, 2021), with creativity of daily problem solving in young people (Zambianchi, 2019). The Eudaimonic perspective on psychological, individual well-being, emerges as a growing factor not only for positive mental health but also for biological state (Ryff, 2014; 2023). Ryff highlighted the role exerted by eudaimonia on positive mental health also during the Covid-19 pandemic, being the Eudaimonic well-being recognized as a factor of growing interest for the studies on positive outcomes after a traumatic event, both individual and collective (Allen et al., 2014; Kashdan, Uswatte & Julian, 2006). Scignaro, Bianchi and Brunelli (2015) highlighted the role of Eudaimonic well-being in promoting mental health in a group of cancer patients. Moreno, Dooley and Bower (2018) in a study on breast cancer survivors confirmed the role of Eudaimonic well-being, defined as meaning and purpose in life for the post-traumatic growth after the diagnosis. Martinez-Zelaya and colleagues (Martinez-Zelaya, Bilbao Ramirez & Paez Rovira, 2022) found that negative events are weakly associated with Ryff's Eudaimonic well-being, while Cho and Park (2013) highlighted that the Eudaimonic dimensions Personal growth can be improved by negative events, learning about one's capacity and personal strengths Li and colleagues (Li, Luo, Yan & Liang, 2023) evidenced, in a study on Chinese young adults with childhood adversities, that the Eudaimonic well-being was positively associated with post-traumatic stress disorder, making the authors hypothesize this positive association between Eudaimonic well-being and PTSD symptoms may be a manifestation of post-traumatic growth.

The presence of Life projects can be considered as an element of resilience as critical events generally reduce hope in the future and reduce motivation to develop projects. As highlighted in studies on temporality (Holman et al., 2023), the experience of a traumatic event can upset everyday life, leading to a readjustment of future prospects and life plans. For this reason, the ability to keep a life plan open despite a traumatic event can be considered not only a protective factor but also an indicator of resilience (Nugent, Sumner & Amstadter, 2014). At the same time, another dimension considered central in the Eudaimonic perspective, Personal

growth, can be an important index, or criteria, of personal development capacity through the processing of a traumatic event.

Referring to the above mentioned studies, we can hypothesize that the experience of flood can undermine the level of psychological Eudaimonic well-being, but also that some people can experience Personal growth through this traumatic event, thinking in depth to the meaning of the experience, and remain open to positive evolution and projects in life.

Objectives

The study had three fundamental objectives.

- The first objective of the study pertained to the exploration and description of the sample in relation to the following three factors: Assumptions on world, Time perspective and Eudaimonic psychological well-being; (O1).
- A second objective concerned the evaluation of the associations between the Assumptions about world, Time perspective and Eudaimonic-psychological well-being and its covariations with age; (O2).
- A third objective concerned the evaluation of the effects of personal and/or work damages received on Assumptions on world, Time perspective and Eudaimonic psychological well-being. structural variables gender, and school education have been also explored for their effects on Time perspective, Assumptions about world and Eudaimonic-psychological well-being in their interaction with having had or not damages due to the flood; (O3).

Hypotheses

On the basis of the above-mentioned objectives, after examining the characteristics of the sample with respect to the three factors (O1) and their associations with participants' age (O2), the study tested the following hypotheses.

- Evaluate the correlations among the Assumptions about the world, the Time perspective and the Eudaimonic well-being. Significant correlations are expected between these three factors (H1).
- Regarding the second objective (O2), correlations between age, treated as a continuous variable, and the three factors - Assumptions on the world, Time perspective,

and Eudaimonic well-being -were examined. Significant residual correlations were expected among the three factors themselves, as well as between age and each of these factors (H2).

Although there are no studies on the specific relationships between Time perspective and Assumptions on world, on the bases of the literature on t.p. and traumatic events (Tuftan & Bayraltat, 2020) it was hypothesized that Past negative is negatively correlated with the following Assumptions about world: Justice, personal control over events, benevolence of people and benevolence of the world. Past positive is expected to correlate positively with the following Assumptions about the world: Justice, Luck, benevolence of the persons and of the world; Present fatalistic is expected to correlate negatively with Benevolence of persons and of the world, with Controllability of events, with Self-control, as Assumptions about world. Future positive is expected to correlate positively with Benevolence of persons and of the world, with Justice, with Self-worth as Assumptions about world. Future negative is expected to correlate negatively with the following Assumptions about the world: Justice, with Benevolence of persons and of the world, with Self-worth, with Controllability of event. On the basis of the literature (e.g. Li et al., 2023; Ryff, 2023), Eudaimonic well-being is expected to correlate positively with all the positive Assumptions about world, and negatively with the assumption Randomness of events. Eudaimonic well-being is also expected to correlate positively with Past positive, Present hedonistic and Future positive; on the contrary, it is expected to correlate negatively with Past negative, Present fatalistic and Future negative. On the basis of previous literature (e.g. Ryff, 2014; Ryff & Singer, 2008; Zambianchi, Ronnlund & Carelli, 2019) it was hypothesized that as age increases, level of Personal growth decreases; Present hedonistic decreases as age increases.

- Explore the differences on these above mentioned variables on whether or not there were damages on personal properties such as furniture, car, living home and on professional instruments such as PC, equipment for business/company, shops, agriculture. These two different type of damages has been explored separately. Differences for structural variables: age, gender and school education and their interaction effects have also been explored. It was expected, on the basis of previous literature (Dekel

et al., 2004; J-Bulman, 1992) that those who had damages at personal and at professional level show lower level of positive Time perspective dimensions (Past positive, Future positive) but higher level of negative temporal dimensions (Past negative, Present fatalistic, Future negative). It was also expected lower levels of positive Assumptions on world (Justice, Benevolence of persons and of world, Controllability of events) than those who did not experience loss and damage (H3).

METHOD

Sample

131 subjects (M age 50.62, $SD = 14.87$; range: 19-84, 41 males and 90 females, with 8 missing data; 6 with Middle school diploma; 60 with High school diploma, 65 with degree) participated in the study. Of these, 56 (43%) reported having had damages to personal things (e.g. home, furniture, car) due to the flood; 29 (22 %) reported having had work damages (e.g. PC, shop equipment) due to the flood.

They were recruited through personal acquaintances, messages through a local journal (Corriere di Romagna), Commerce associations, University, Municipalities of Romagna. The institutions, the local journal and the University that participated in the study uploaded the link of the self-report instruments in their websites, explaining the main objects of the study and its anonymity, in compliance with the privacy law that guarantees the anonymity of data.

Procedures

Research started in June 2023, exactly one month after the flood, using Google Forms Platform. Through a specific link it was possible to open the online module with the self-report questionnaires. Before filling then in, on the head string that precedes the questionnaires, the study was briefly presented, its objectives described and the anonymity of the response. The study was conducted through recruitment online only, due to the overwhelming difficulties in reaching people in flooded areas (e.g. bridges and roads blocked or damaged, mud and slime in the houses). Furthermore, it was specified that only people residing in the flooded areas of Emilia-Romagna (Union

Municipality of the Bassaromagna, Union of Municipality of the Romagna Faentina, city of Ravenna, cities Forlì-Cesena and surroundings areas) could participate in the study. Subsequently, after having read these informations included in the head string of the online questionnaire, immediately after opening the link, the participants could continue and fill out the questionnaires. The application required the participation of adults only. The Google Moduli Platform remained active until August 31, 2023.

Instruments

The participants filled in the following self-report questionnaires:

- The *Worlds Assumptions Scale* (J-Bulmann, 1992). This questionnaire is composed by 32 items and 8 sub-components: Justice (e.g. of item: “People will experience good fortune if they themselves are good”, $\alpha = .70$); Benevolence of persons (e.g. of item: “Human nature is basically good”, $\alpha = .71$); Benevolence of the world (e.g. of item: “There is more good than evil in the world”, $\alpha = .86$); Controllability (e.g. of item: “If people took preventive actions, most misfortune could be avoided”, $\alpha = .73$); Luck (e.g. of item: “I am basically a Lucky person”, $\alpha = .84$); Randomness (e.g. of item: “The course of our lives is largely determined by chance”, $\alpha = .66$); Self-worth (e.g. of item: “I am very satisfied with the kind of person I am”, $\alpha = .84$); Self-control (e.g. of item: “I usually behave in ways that are likely to maximize good results for me”, $\alpha = .58$). The evaluation scale was a five-points Likert scale (1 = not true at all; 5 = completely true).
- The *Time perspective Inventory – Short form* (Klicperova, Luvavska & Lukavsky, 2015). This questionnaire, that represents a short form of the S-ZITPI (Carelli et al., 2011) is composed by 18 items and six time dimensions (three items for each component of the scale): Past negative (e.g. of item: “I think about the good things that I have missed out on in my life”, $\alpha = .78$); Past positive (e.g. of item: “Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories”, $\alpha = .75$); Present fatalistic (e.g. of item: “Since whatever will be will be, it doesn’t really matter what I do”, $\alpha = .62$); Present hedonistic (e.g. of item: “It is important to put excitement in my life”, $\alpha = .76$); Future positive (e.g. of item: “I complete projects on time by making steady progress”, $\alpha = .61$); Future negative (e.g. of item: “To think about my future make me sad”, $\alpha = .73$). The evaluation scale was a five-points Likert scale (1 = very false; 5 = very true).
- The *Psychological Well-being Questionnaire (PWB)* (Ruini, Ottolini, Rafanelli, Ryff & Fava, 2003; Ryff & Keyes, 1995). It has been chosen, for the present study, two components among the six of which it is composed: Personal growth (the individual’s perception of being a growing and expanding person, e.g. of item: “I think it is important to have new experiences that challenge how you think about yourself and the world”, $\alpha = .80$) and Life projects (have a clear comprehension of life purpose, a sense of directedness and intentionality, e.g. of item “Some people wonder aimlessly through life, but I am not one of them”, $\alpha = .77$). The evaluation scale was a six-points Likert scale (1 = very much in disagree; 6 = very much agree).

Statistical plan

The statistical analyses were run in three steps. In the first step, for the description of the sample, means, standard deviations, skewness and kurtosis of the variables assumption about world, Time perspective and Eudaimonic well-being were calculated.

After, as second step, having these three variables a normal, Gaussian shape, Pearson’s correlation matrices had been run in order to evaluate the associations between the study factors Assumptions on the world, Time perspective and Eudaimonic well-being. Age as continuous structural variables has also been explored in relation to these three study variables through correlational analysis.

In the third step a set of general linear models were run for evaluating the differences for grouping variables gender, level of school education and their interaction with having had or not personal damages and professional damages due to the flood on world assumptions, Time perspective and Eudaimonic well-being. The two structural variables about flood damages have been posed as dichotomous variables (yes personal damages; no personal damages; yes professional damages; no professional damages). General linear model was chosen due to the possibility to test the interaction of the structural variables on the dependent variable, resulting in a more detailed model of explanation. One of the main purposes of the study was indeed to verify the changing

in Assumptions about the world, Time perspective and Eudaimonic well-being due to the flood experience on people that experienced damages confronted with those who did not have this experience (damages on personal things and damages on professional things). The internal consistency reliability (Cronbach Alpha) was obtained for all dimensions of shattered Assumptions about the *World Scale*, *Time perspective Inventory* and *Psychological Eudaimonic Well-being Questionnaire (PWB)*.

All the statistical analyses were performed through the STATISTICA 7.0 program (licensed StatSoft).

RESULTS

Characteristics of the sample for the study variables Assumptions on world, Time perspective, Eudaimonic well-being

The whole sample of participants show higher scores on Past positive and Future positive, compared to negative time dimensions such as Past negative and Future negative. For the Assumptions about the world, stands out the very low score of Justice. Purpose in life and Personal growth show medium-high scores (see Table 1).

Table 1 – Characteristics of the sample for study variables

Variables	Mean	SD	Min	Max	Skewness	Curtosis
Past negative	3.13	.99	1.00	5.00	-.12	-.80
Past positive	3.64	.81	1.00	5.00	-.59	.45
Present fatalistic	2.31	.81	1.00	5.00	.58	.25
Present hedonistic	2.82	.95	1.00	4.66	-.17	-.68
Future positive	3.89	.66	2.00	5.00	-.58	.46
Future negative	2.39	.90	1.00	4.66	.27	-.74
Justice	2.10	.64	1.00	4.00	.47	.08
Benevolence of persons	3.14	.59	1.00	4.50	-.71	.89
Benevolence of world	2.70	.74	1.00	5.00	.07	.57
Randomness	2.73	.68	1.00	4.66	.46	.30
Controllability	2.56	.64	1.00	4.50	.28	.45
Luck	2.88	.70	1.00	5.00	.23	.48
Self-control	3.12	.53	2.00	4.50	.45	-.01
Self-worth	3.84	.67	1.50	5.00	-.52	.31
PWB life projects	4.27	.75	1.90	5.60	-.63	.18
PWB personal growth	4.76	.71	2.70	6.00	-.65	.14

Correlations between world Assumptions and Time perspective

The majority of world Assumptions appears to be negatively correlated with Past negative, Present fatalistic and Future negative. Justice, Luck and Self-worth are positively correlated with Past positive. Luck is the only assumption that highlights a significant and positive correlation with Present hedonistic. Controllability of events, Benevolence of world, Self-control and Self-worth appear to be positively correlated with Future positive (see Table 2).

Correlations between Assumptions about the world and Eudaimonic well-being

All the world assumption, with the exception of Randomness, appears to be positively and significantly correlated with Life projects. Personal growth is positively correlated with Benevolence of persons, Controllability, Benevolence of world, Luck and Self-worth. It appears to be negatively correlated with Randomness (see Table 3).

Table 2 – Zero order correlations between Assumptions about the world and Time perspective

Variables	Justice	Benevolence persons	Randomness	Controllability	Benevolence world	Luck	Self-control	Self-worth
Past negative	-.12	-.33***	.30***	-.24**	-.38***	-.28**	-.15+	-.53***
Past positive	.18*	.15+	-.03	.10	.16+	.31**	.12	.23*
Present fatalistic	-.16+	-.32***	.60***	-.18*	-.27**	-.20*	-.13	-.43***
Present hedonistic	.03	-.12	.20*	-.07	-.04	.04	.10	-.12
Future negative	-.13	-.46***	.45***	-.18*	-.48***	-.26**	-.25**	-.72***
Future positive	.03	.13	-.16+	.20*	.24**	.10	.32***	.47***

+ $p < .06$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3 – Zero order correlations between dimensions of Eudaimonic well-being and Assumptions about the world

Variables	Justice	Benevolence persons	Randomness	Controllability	Benevolence world	Luck	Self-control	Self-worth
Life projects	.18*	.40***	-.33***	.22**	.44***	.44***	.38***	.71***
Personal growth	.15+	.42***	-.32***	.19*	.44***	.19*	.17+	.50***

+ $p = .08$; * $p < .05$; ** $p < .01$; *** $p < .001$

Correlations between Time perspective and Eudaimonic well-being

Life projects appear to be positively correlated with Past positive, Present hedonistic and Future positive, while it shows negative correlations with Present fatalistic and Future negative.

Personal growth shows positive correlations with Past positive, Present hedonistic and Future positive, negative correlations with Past negative, Present fatalistic, Future negative (see Table 4).

Correlations between age and study variables Assumptions about world, Time perspective and Eudaimonic well-being

Age shows positive correlation with the assumption Benevolence of persons. Negative correlations has been found between age, Present hedonistic and the assumption Luck (see Table 5).

School education effects on Assumptions about the world, Time perspective and Eudaimonic well-being

For school education the only effect has been found on Life projects ($F_{(2,126)} = 2.94; p < .05$). middle school diploma: $M = 4.30$ ($SD = .57$)^{1 2}; high school diploma: $M = 4.07$ ($SD = .84$)¹; degree: $M = 4.45$ ($SD = .64$)²; Tukey test $p > .01$; Unequal N HSD $p > .01$.

Consider that ¹ = Cohen's delta = .3; ² = Cohen's delta = .6.

GLM models: The effects of grouping variables gender and school education on the Assumptions about the world, Time perspective and Eudaimonic well-being

Assumption on world Justice

Justice evidences a difference for damages on professional activities in interaction with gender ($F_{(1,124)} = 5.01; p < .05$). Men with theses damages show a higher level of Justice than men without them; on the contrary, women with damages for work show lower level of Justice than women without them. Men with damages: $M = 2.52$ ($SD = .67$)^{1 2}; men without damages: $M = 1.99$ ($SD = .62$)¹. Women with damages: $M = 2.00$ ($SD = .69$)²; women without damages for work: $M = 2.10$ (.60) (see Table 6).

Consider that ¹ = Cohen's delta = .8; ² = Cohen's delta = .7.

Assumption on world Controllability of events

Controllability of events highlights a significant difference both at general level, and in interaction with gender for work damages due to flood.

Men as whole sample show higher level of control upon the events than women (men $M = 2.80$, $SD = .63$; women $M = 2.45$, $SD = .61$). $F_{(1,124)} = 10.77; p < .001$; Tukey test $p > .01$; Unequal N HSD $p > .01$; T-test: T-value 2.92; $df = 127; p > .01$; F-ratio variance 1.06; Cohen's delta = .6.

Table 4 – Zero order correlations between dimensions of Eudaimonic well-being and Time perspective

Variables	Past negative	Past positive	Present fatalistic	Present hedonistic	Future positive	Future negative
Life projects	-.32***	.31***	-.45***	.04	.30***	-.72***
Personal growth	-.44***	.18*	-.34***	.07	.45***	-.55***

* $p < .05$; *** $p < .001$

Men with damages on work structures show higher level of Controllability upon events than those without damages. Men with damages $M = 3.13$ ($SD = .61$)¹; men without damages $M = 2.67$ ($SD = .60$)¹. Women with work damages $M = 2.41$ ($SD = .72$); women without damages $M = 2.46$ ($SD = .59$). $F_{(1,124)} = 3.37$; $p = .06$ (see Table 7).

Consider that ¹ = Cohen's delta = .7.

Assumption on world Randomness

Randomness of events also show differences for work damages in interaction with gender. $F_{(1,124)} = 3.79$; $p < .05$. Men without damages show lower level of Randomness than men with work damages. Men with damages $M = 2.75$ ($SD = .78$)¹; men without damages $M = 2.94$ ($SD = .56$). Women with work damages $M = 3.11$ ($SD = .67$)¹; women without them $M = 2.77$ ($SD = .56$) (see Table 8).

Consider that ¹ = Cohen's delta = -.4.

Assumption on world Self-worth

Self-worth shows differences both for work damages, approaching significance ($F_{(1,123)} = 2.97$; $p < .08$) and personal damages ($F_{(1,123)} = 6.55$; $p < .01$) due to flood.

For work damages men with damages show higher level of Self-worth than those without it. Men with damages $M = 4.06$ ($SD = .72$)¹; men without them $M = 3.78$ ($SD = .69$). Women with work damages $M = 3.60$ ($SD = .71$)¹; women without them $M = 3.88$ ($SD = .64$) (see Table 9).

Consider that ¹ = Cohen's delta = .6.

For personal damages there is a significant difference on Self-worth for the whole sample, without gender distinction ($F_{(1,123)} = 6.55$; $p < .01$). People without personal damages $M = 3.74$ ($SD = .64$); people with damages $M = 3.97$ ($SD = .69$). Tukey test $p > .05$; Unequal N HSD $p > .06$; T -test: T -value = -1.98; F ratio variance = 1.14; Cohen's delta = .3.

Time perspective: Present fatalistic

Present fatalistic shows approaching significance differences for work damages in interaction with gender ($F_{(1,124)} = 3.09$; $p < .08$). Men with damages $M = 2.09$ ($SD = 1.01$); men without them $M = 2.26$ ($SD = .87$). Women with damages $M = 2.58$ ($SD = .81$); women without them $M = 2.25$ ($SD = .84$). Cohen's delta = -.3 (see Table 10).

Time perspective: Future negative

Future negative highlights significant differences for work damages in interaction with gender ($F_{(1,125)} = 6.03$;

$p < .01$). Men with damages $M = 2.00$ ($SD = 1.03$)¹; men without them $M = 2.44$ ($SD = .84$)¹. Women with damages $M = 2.84$ ($SD = .98$)²; women without them $M = 2.32$ ($SD = .85$)² (see Table 11).

Consider that ¹ = Cohen's delta = .4; ² = Cohen's delta = .5.

No differences for personal damages have been found on Future negative ($p = .15$), Future positive ($p = .48$), Present hedonistic ($p = .79$), Present fatalistic ($p = .16$), Past negative ($p = .15$), Past positive ($p = .30$).

For Eudaimonic well-being no differences emerged for gender, personal and work damages and in the interaction with gender differences on both the dimensions.

DISCUSSION

For the description of the group of participants in the study on the three variables taken into consideration, it shows, starting with Assumptions about world, that they believe quite a bit in the benevolence of people but less in the benevolence of the world. The score on Justice, however, appears to be very low: in fact, these people do not believe that virtuous behaviours will bring those who adopt them rewards or in any case recognition of the positive values they embody, demonstrating a reduced perception of Justice in the society in which they live. The perception of being able to control events appears to be of a medium-low level, while the belief in the Randomness of what happens is a little higher. The Time perspective appears oriented towards a positive vision of the future, with average scores on both the Past positive and the Past negative. There remain Life projects, the score of which appears to be medium, while the feeling of growing as a person seems to be higher.

The correlations that emerged in the study show how Assumptions about the world are linked to the Time perspective, an aspect that seems to suggest the hypothesis of the contribution both of early life experiences and more recent events to its genesis. The Past negative, which includes in the perspective of Zimbardo and colleagues even unprocessed traumatic events, significantly interacts almost with all the Assumptions about the world, as hypothesized (H1), deteriorating the representation of reality and compromising the person's well-being. The Past positive shows an association with Justice: having had positive relational experiences, in different areas of social life, may have favored the construction of a vision of social reality as

Table 5 – Correlations between age, Assumptions on world, Time perspective, Eudaimonic well-being

Variables	Past negative	Past positive	Pres. hedon.	Pres. fatal.	Future posit.	Future negat.	Justice persons world	Benev. persons world	Randomness	Controllability	Luck	Self-control	Self-worth	Life project	Personal growth	
Age	-.16+	-.07	-.026**	.08	.14	.2	.03	.21*	.05	-.04	.05	-.23**	-.13	.12	-.01	.05

+ $p < .06$; * $p < .05$; ** $p < .01$

Table 6 – Justice as dependent variable

Variables	Beta	St. error of Beta	df	p	t
Gender	.146	.10	1	.154	1.43
Damages for work	.135	.09	1	.137	1.49
Gender *damages for work ^(a)	.238	.10	1	.05	2.25

Legenda. ^(a) = range-test Neuman-Keuls, $p > .05$; *df* = degree of freedom

Table 7 – Controllability as dependent variable

Variables	Beta	St. error of Beta	df	p	t
Gender ^(a)	.335	.09	1	.001	3.39
Damages for work	.129	.08	1	.14	1.45
Gender *damages for work ^(a1)	.192	.10	1	.06	1.87

Legenda. ^(a) = Tukey post-hoc test, $p > .01$; ^(a1) = range-test Neuman-Keuls, $p > .01$; *df* = degree of freedom.

Table 8 – Randomness as dependent variable

Variables	Beta	St. error of Beta	df	p	t
Gender	-.209	.10	1	.05	-2.06
Damages for work	.04	.08	1	.63	.47
Gender *damages for work ^(a)	-.231	.10	1	.05	-2.10

Legenda. ^(a) = range-test Neuman-Keuls, $p > .01$; *df* = degree of freedom.

Table 9 – Self-worth as dependent variable

Variables	Beta	St. error of Beta	df	p	t
Gender	.123	.10	1	.23	1.20
Damages for work	.001	.09	1	.98	.01
Gender *damages for work ^(a)	.194	.10	1	.06	1.84

Legenda. ^(a) = range-test Neuman-Keuls, $p = .13$; *df* = degree of freedom.

Table 10 – Present fatalistic as dependent variable

Variables	Beta	St. error of Beta	df	p	t
Gender	-.109	.19	1	.28	-1.06
Damages for work	.01	.08	1	.87	.15
Gender *damages for work ^(a)	-.180	.10	1	.09	-1.69

Legenda. ^(a) = range-test Neuman-Keuls, $p = .20$; *df* = degree of freedom.

Table 11 – Future negative as dependent variable

Variables	Beta	St. error of Beta	df	p	t
Gender	-.186	.10	1	.06	-1.86
Damages for work	.01	.09	1	.86	.17
Gender * damages for work ^(a)	-.255	.10	1	.01	-2.48

Legenda. ^(a) = range-test Neuman-Keuls, $p > .01$; *df* = degree of freedom.

marked by a Justice that is expressed in the distribution of recognition and valorization to ethically correct behaviours. As highlighted a study by Rubini and colleagues (2013), the notion and experience of Justice develops first in family relationships, through the relationship between parents and siblings, and in particular of parents towards siblings. In the same way, the perception of a present far from personal control (and this can happen in the case of collective traumatic events such as the flood that devastated Romagna) appears to be linked to negative representations of the world, where Randomness disorientates people and is less the feeling of being able to count on others and in society in general, opening the way to the risk of closing in on oneself and depression, confirming the posed hypothesis H1. The future, in its positive dimension of building projects and actions, also appears strongly linked to Assumptions about the world, as posed; on the contrary, the breaking of Assumptions about the world due to traumatic events threatens the future prospective of recovery and of rebuilding a life after the trauma, as hypothesized. In this case, as predicted by the model developed by J-Bulmann, the crisis in Assumptions about the world brings with it the loss of hope in a better future, and the risk of a much more pessimistic and gloomy reconstruction of the reality of life, with the risk of arriving at a cynicism and a fatalistic vision that block any positive development of the person. Psychological-Eudaimonic well-being appears to be positively correlated with all positive

Assumptions about the world, and in particular with the benevolence of people, benevolence of the world, and Self-worth; negatively by perceiving events as random, without any intelligibility, confirming the hypothesis. The ability to plan towards the future and the feeling of growth as people requires a constructive vision of oneself, of others and of the forces that govern society, the Eudaimonic dimension of well-being being strongly anchored to the tension of self-realization within society (Ryff & Singer, 2008).

Age has significant associations with Assumptions benevolence of people, as already emerged from the studies of J-Bulman (1992): older people perceive and believe the people in general are benevolent whereas young people believe it much less. This data, that confirms the hypothesis H2, can be interpreted both as the presence of more numerous life experiences which have led to a deeper and broader overall look than people with less experience behind them, but also as the possible intervention of a rose-colored glasses which distorts reality in more positive sense, in line with studies on the prevalence of positive emotions in older people compared to other ages of life (Carstensen, Shavit & Barnes, 2020). At the same time, the belief of Luck as casual force that shapes the life-path decreases as age increases: it may be that the accumulation of experience leads to the comprehension of multiplicity of factors behind the outcomes in personal life. Some age-related effects are also observed on the Time perspective, already observed in previous studies (Zambianchi et al., 2019), such

as the decrease in the hedonistic present with increasing age. The Past negative also reduces, with advancing age. The lack of effects of schooling on the factors examined (with the exception of a weak effect on life plans) can be explained by the presence, in the entire sample of participants, of qualifications requiring a minimum of eight years of schooling, in any case a fairly high cultural threshold.

Interactions effects of gender and damages due to the flood on Assumptions about world, Time perspective and Eudaimonic-psychological well-being emerged perhaps as among the most interesting results of the study. Indeed, the presence of damages due to the flood seems to be very relevant for the Assumptions on the world, and also for Time perspective, as proposed in hypothesis H3. People who had professional damages or personal damages due to the flood possess higher level of Self-worth compared with people without damages, as hypothesized (H3). This data could be interpreted, perhaps, as a psychological defense against the sense of loss and of deprivation, a defense for the protection of self-esteem. An important and unexpected data is represented by the differences emerged between men and women on world Assumptions and having had or not having had damages due to the flood at work. The flood has in fact hit companies, shops, agricultural crops, causing in several cases the complete loss of equipment, and extensive damage to buildings, compromising the possibility of continuing the activity, and for this reason also leading to the prospect of unemployment, or in any case huge expenses to be able to restart the job. The assumption about the random distribution of events (Randomness) is an important factor of well-being and proactivity. The lack of intelligibility in events, the perception that there is no order, no recognizable meaning in what happens produces negative effects not only on an emotional level, but also on a planning level. The flood event therefore seems to have a differentiated impact on men and women, and this difference emerges in relation to damage to their livelihoods (work). In the case of trauma due to the flood, men who have had damage to their work equipment present a lesser vision of the Randomness of what happens (flood as a product not of meteorological chance but as a product of human negligence on the territory?); the opposite appears to be for women: those who indicated damage to their work equipment perceive a greater Randomness in the events compared to women who did not experience damage. Women seem to be affected to a greater extent than men, if we consider the potential negative effects that an accentuated perception

of Randomness can have in the long term. The fatalistic vision of reality in fact reduces the perception of its Controllability, in turn reducing the action aimed at modifying non-positive situations (Rotter, 1966). This possible negative configuration is supported by the correlation that emerged in the study between the Present fatalistic and the Randomness of events. It therefore seems that having experienced the flood event with damage to work equipment has an impact on women in particular, risking increasing a vision of reality as subject to chance and therefore on which nothing can be done. In men, however, a vision of reality seems to prevail which is strengthened by attributing critical events not to chance, but rather to traceable and precise causes.

One of the Assumptions about world that received a very low score in this study, as above highlighted in the description of the sample, is the belief in the existence of distributive Justice, that is, believing that rewards and punishments are not distributed randomly among people, but according to a logic of merit or demerit (J-Bulmann, 1992; Rawls, 1971). Despite the low score in itself, this belief appears to be influenced by gender, with opposite outcomes in relation to work-related harm. Men who have suffered damage believe that Justice, if the right behaviour is produced, will make its effects felt with concrete interventions aimed at repairing this damage. On the contrary, the women harmed for their work believe that there cannot be a Justice that will act on the basis of virtuous behaviour or in any case such as to make them worthy of interventions aimed at restoring a broken Justice (the flood as an event that destroys people, objects and what is essential to their working and emotional life). A much more pessimistic and disheartened vision than their male colleagues, which could have important consequences in the future. Perhaps the female world is still today (in our Italian society) more fragile or at greater risk than men in the event of loss of the equipment for work such as in the case of autonomous work. Perhaps self-employed women may be at risk of failure to recover due to adverse family conditions (being the sole caregivers of elderly people and/or young children; Rosina & Impicciatore, 2023). Unlike the male entrepreneurial world, which enjoys greater time and autonomy, essential for recovery in dramatic cases such as the loss of work equipment due to a flood. On the other hand, control over events, an assumption that recalls proactivity as a coping style to actively modify difficult situations (Zambianchi, 2021), appears significantly lower in the women of the entire sample than in the men. The presence

of damages on personal things appears more relevant for self-esteem and dignity, the assumption on the world defined as Self-worth; perhaps the loss of objects belonging to one's life story, with strong affective and emotional value such as paintings, furniture, photos is felt as a loss of self-objects, related for this reason to the deep personal identity (Csíkszentmihályi & Rockberg, 1986; Kohut, 2009), and for this reason it produces the need to defend one's profound integrity and dignity.

Eudaimonic well-being does not present significant differences in relation to Assumptions about the world and the presence or absence of damage due to the flood. Being centered on the development of self and future life plans, it is perhaps modified more slowly. Unlike hedonic well-being, which is centered on the quality of life but also on the emotional experience, the latter being very sensitive to changes in the context and to events. It is therefore probable that it will undergo, or may undergo, modifications in the near future based on the changes produced by the flood, the possibility of reducing damage, aid from the institutions, processing of the trauma and the opportunities that open up after this event. The Assumptions about the world and the Time perspective can change over time, not immediately after a disaster, and especially, we could hypothesize, after having or not received help, assistance, restoration at a psychological, social and economic level during the hardest months after the disaster. The relevance of Assumptions on the world and Time perspective for people that experienced this traumatic event and the loss of work tools and personal things that emerged in the study suggests potential avenues for interventions aimed at supporting people who had

experienced this traumatic event. Psychotherapists and counselors could include specific time-based interventions (Boniwell et al., 2014; Celani & Zambianchi, 2025; Sword et al., 2014; Zimbardo et al., 2012) to restore a better time organization, with less prominent Future negative and Present fatalistic and interventions aimed at preventing or recreating better world-schemata for avoiding adverse long-term outcomes, as already suggested by J-Bulmann studies and other researchers that attested to the relevance of these cognitive frames for a constructive vs problematic relationship toward social and inner personal life.

Limitations of the study

The study has several limits, that must be taken into account. The first limit is the small sample, that does not permit to trace back rigorous conclusions about results obtained. Another important limit is the online recruitment, that can exclude people without digital skills, such as segments of older people with low level of school education. A second, broader research, not only through online platform could add information and especially could allow a more in depth evaluation of the long-term consequences of this collective trauma among the population of Emilia-Romagna on the study variables Assumptions about the world, Time perspective and Eudaimonic well-being here considered.

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