



Psychometric properties and further validation of the emergency reaction questionnaire in a sample of Portuguese adults

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ABSTRACT

Emergencies and disasters are abrupt, unexpected, dangerous events often traumatic. Individuals differ in the way they respond to this kind of adverse experience, depending on varied factors. This study used the Emergency Reaction Questionnaire (ERQ) to assess defensive mechanisms, feelings, and thoughts during emergency and disaster-related situations. The main objective of the present study was to confirm the factor structure and provide further support to the validity of the ERQ on a Portuguese sample. Here we replicated previous findings in showing that people who are more prone to react in an organized way in emergencies tend to have lower anxiety levels and a greater tendency for sensation seeking. We also found that females score lower than males; that ERQ specific readiness scores slightly increase with age and people who have risky jobs or routinely engage in extreme sports scored higher on the ERQ scales (meaning they act more readily and organized in an emergency). The ERQ and its Portuguese version show to be a psychometrically sound and valid measurement of emergency behavior, able to assess individual differences in the way people perform during various emergencies, and can be used in future research and in practice for screening or measuring training efficiency.

1. Introduction

Emergencies and disasters are abrupt, unexpected, dangerous events with severe impact on the individual, and, consequently, are often traumatic [1]. Disasters and emergencies have in common the fact they entail a threat that elicits automatic defensive responses in most people [2]. Frequent exposure to uncontrollable aversive events such as disasters and crises can cause psychiatric problems such as depression, anxiety, substance abuse, somatization, and posttraumatic stress disorder (PTSD) (e.g., Refs. [3–5]; 2004). Rescue workers and ambulance personnel, for example, have been shown to have a much higher prevalence of PTSD than the general population [6]. Further, female gender and older age are also among the risk factors for developing depression, anxiety, or other negative symptoms after such an event [7–9].

Individual differences play an important role in the effect of emergencies and disasters because individuals differ in the way they respond to stress. Some people are resilient and able to adapt or recover following exposure to this kind of adverse experience [10]. People's defensive responses can be better or worse during unexpected events [11] depending on varied factors such as their previous experience; behavior regulation, personality, perceived social support, life stressors, or lifestyle (e.g., Refs. [10,12–16]. While the defensive state and behaviors automatically triggered by the event are adaptive as they increase the chance of survival [2], these reac-

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tions are often crude and might not be the best way to cope with danger. Thus, targeted training and previous knowledge are required for these individual responses to be refined and lessen the negative psychological impact of the emergency in the long run (see e.g., Refs. [17,18]). All these factors influence human actions in stressful situations. These differences need to be assessed, both to understand this problem and to select, improve, and implement preventive measures for common citizens in dangerous sites and personnel required to deal often with emergencies.

The 30-item Emergency Reaction Questionnaire (ERQ) [11] was recently proposed as a method to predict one's reaction and behavior in highly dangerous situations. It was developed to access these more automatic (albeit trainable) defensive mechanisms, instead of using indirect fear or anxiety-related measures. The ERQ combines a likely behavioral outcome, as participants report their likelihood of performing certain defensive reactions, while also including items to assess feelings and thoughts as they also play a role (e.g., Refs. [19,20]). The ERQ has proven reliability, consistency, validity, and sound psychometric properties on community and special samples such as firefighters and extreme sports practitioners [11]. The ERQ was translated and adapted in France and Indonesia, showing appropriate psychometric properties [21,22]. This questionnaire also provides a quantitative measure of individual behavior in an emergency, instead of retrospective approaches face-to-face or by phone which require trained interviewers and may still create errors through recall biases [11]. The authors identified attitudes and behavior of people with risky jobs such as fighter pilots, firefighters, and ambulance crew in risky and highly critical situations, enabling the questionnaire to predict reactions during emergencies. This will help decide the person's ability to instantly engage in helpful actions in an organized way or instead will easily panic.

Overall, the ERQ is promising, and as such this study focused on its adaptation and preliminary analyses of the psychometric properties of this questionnaire in Portugal, based on a sample of adults. The Portuguese sample here studied includes participants from both Mainland Portugal and the Azores islands, where natural disasters, such as floods, earthquakes, and volcanic eruptions are more common [23]. More disasters are also to be expected, as reported by scientists [24], and population [25]. Throughout this century, natural disasters of hydrogeomorphologic origin have been the deadliest natural disasters in the Portuguese Territory, followed by earthquakes and volcanic eruptions [26]. [27] reported numerous (hydrologic (floods) and geomorphologic (landslides)) during the period from 1865 to 2010 in Portugal, widespread in the country. In total, 1622 disastrous floods; and 281 disastrous landslides were responsible for 1251 dead people, 14,191 displaced people, and 41,844 homeless people. Forest fires are also a serious issue in Portugal, as from 1980 to 2009 the number of forest fires exceeded half a million and the total burnt area represented more than a third of the surface area of mainland Portugal. The year 2003 was the worst fire season in Portugal, resulting in twenty-one human lives lost, hundreds of homes and agricultural premises destroyed and thousands of farm animals killed [28]. The island autonomous territories of Madeira and Açores also have a recent history of disasters such as earthquakes, landslides, forest fires, and hurricanes [29].

The overarching goal of the present study was to confirm the factor structure and provide further support to the validity of the ERQ on a Portuguese sample. We sought to replicate previous findings in Hungarian, French, and Indonesian samples that people who are more prone to react in an organized way in emergencies tend to have lower anxiety levels and a greater tendency for sensation seeking. Our first hypothesis was that females score lower than males because they are more vulnerable to anxiety symptoms; and that ERQ scores will slightly increase with age due to a general increase in knowledge and experience. We based these predictions on past results with the ERQ [11] and past studies showing female gender and older age being probable risk factors for developing negative symptoms in response to adverse events [7–9]. Our second hypothesis was that people inclined to sensation-seeking experiences feel less helplessness and more aptitude to deal with danger (e.g., Ref. [18]). Our third hypothesis was that people who have risky jobs or routinely engage in extreme sports will score higher on the ERQ scales. For example, people with experience in risky jobs¹ and extreme sports² are more likely to be calmer during emergencies, compared with less experienced people [11]. All in all, we hypothesized that the ERQ and its Portuguese version would be a psychometrically sound and valid measurement to assess individual differences in the way people behave in various emergencies.

2. Method

2.1. Participants

An anonymous and confidential online-based survey was voluntarily filled out by participants in the general public and carried out in Portugal through the Internet by posting on social media, mailing lists, and various forums. The convenient sampling method was utilized in the present study. Before filling out the survey, participants were informed that the participation was voluntary and that their responses would be confidential and secure. The data were collected from March to May 2021. Regarding COVID-19 regulations there was no curfew or significant isolation period at the time of the data collection, and vaccinations were available for all adults.

The required sample size for this study was determined by computing estimated statistical power with a conservative approach (factor analysis: RMSEA = 0.051, $1-\beta > 0.95$, $\alpha = 0.05$; groupwise comparisons: $f = 0.25$, $1-\beta > 0.95$), based on the results of the original publication of the ERQ and other validation studies. The analysis indicated a required total minimum sample size of 148 for the factor analysis and 210 for the groupwise comparisons. The sample consisted of 376 participants, with a mean age of 32.53 years ($SD = 14.01$), mostly female (77.9%), and with a diverse educational background (82.4% hold a high-school or college degree). More than half participants were single (61.7%). The majority of the participants were currently working (81.4%). In total,

¹ Risky jobs were defined as involving heavy machinery or requiring that individuals wear protective equipment and follow a strict set of safety standards, and that the position likely provides more risk of injury than the average role; for instance, police officer, paramedic, firefighter.

² Extreme sports were defined as activities perceived as involving a high degree of risk, involving high speed, heights, high level of physical exertion and highly specialized gear; for instance, motor racing, rock climbing, skydiving.

5.6% of participants reported practicing extreme sports, and a relatively larger percentage, although a minority, considered to have a risky job (18.6%). The research was carried out following the Code of Ethics of the World Medical Association (Declaration of Helsinki). Informed and written consent was obtained from all participants.

2.2. Measures

2.2.1. Sociodemographic questions

The sociodemographic questions included in the survey aimed to collect general sociodemographic characteristics (gender, age, educational background, marital status), as well as specific variables of interest for this study (job status and practice of extreme sports).

2.2.2. Emergency reaction questionnaire

The ERQ is a self-report questionnaire aimed to predict participants' reactions and behavior in an emergency. It includes 30 items, organized in four dimensions: General Readiness (8 items; e.g., item 1 "I like challenges, adventures, and activities that put me to the test"); General Helplessness (6 items; e.g., item 24 "I am apprehensive of unusual, threatening situations"); Specific Readiness (8 items; e.g., item 9 "If a situation becomes too dire, negative and fearsome, I would not fall apart, but still, be able to act organized"); Specific Helplessness (8 items; e.g., item 2 "When the fire alarm is on for a longer period of time, I always become petrified with gear, even if I know it is just a test"). The psychometric properties of the ERQ were examined in different samples, and the results show appropriate validity and reliability [11]. The ERQ was translated into Portuguese by a bilingual researcher and back-translation was ensured by an independent translator, supervised by the research team.

2.2.3. State-trait anxiety inventory – trait short version

The short version of the trait form of the STAI was developed to assess trait anxiety (e.g., item 1 "I feel that difficulties are piling up so that I cannot overcome them"), using five items from the original STAI [30]. This short form showed good psychometric properties, comparable to the ones obtained using the complete version of the inventory [11]. In our sample, the internal consistency was good ($\alpha = 0.90$).

2.2.4. Brief sensation seeking scale

The BSSS-8 measures sensation seeking, using eight items organized in four dimensions, each with 2 items: Experience seeking (e.g., item 1 "I would like to explore strange places"); Thrill and adventure seeking (e.g., item 3 "I like to do frightening things"); Disinhibition (e.g., item 5 "I like wild parties"); and Boredom susceptibility (e.g., item 7 "I get restless when I spend too much time at home") (Hoyle et al., 2002). The BSSS-8 has been used in diverse populations and its psychometric properties are appropriate (e.g., Ref. [31]. In our sample, the BSSS-8 total score's internal consistency was good ($\alpha = 0.83$).

2.3. Data analysis

To examine the construct validity of the Portuguese version of the ERQ, a confirmatory factor analysis was carried out, using JASP software [32] with the DWLS estimator on the original four-factor structure. Internal consistency was analyzed using Cronbach's alpha.

We checked to ensure that the distribution of the variables did not deviate significantly from a normal distribution (Skewness and Kurtosis values fell between -2 and 2). To study the convergent and divergent validity, Pearson correlations were calculated between ERQ sub-scale scores, STAI-SF, and BSSS-8 total scores. Group differences were examined through independent-samples t-tests and analysis of covariance (one-way ANCOVA). All assumptions were met for group comparisons (including the homogeneity of variance). Correlations, t-tests, ANCOVAs, and Reliability Analysis were carried out using SPSS, version 28.0.1.0 (IBM Corp., Armonk, NY, USA).

3. Results

3.1. Confirmatory factor analysis

The result of the confirmatory factor analysis indicated that the original four-factor model provided an acceptable fit on the Portuguese sample (CMIN/DF = 2.826, CFI = 0.974, TLI = 0.972, RMSEA = 0.070 [90% CI: 0.065–0.075], SRMR = 0.073). Item factor loadings ranged between 0.303 and 0.855 (see Table 1).

3.2. Internal consistency

The ERQ total score and subscales showed good internal consistency, with Cronbach's alpha ranging from 0.81 to 0.91: General Readiness $\alpha = 0.84$; Specific Readiness $\alpha = 0.87$; General Helplessness $\alpha = .82$; Specific Helplessness $\alpha = .81$; Total Score $\alpha = 0.91$.

3.3. Convergent and discriminant validity

Trait anxiety was positively correlated with both general and specific helplessness. Sensation seeking was positively correlated with the ERQ total score and with Specific Readiness and was strongly correlated with General Readiness (see Table 2 for the complete correlation results). Participants age was negatively correlated with General Readiness, but positively correlated with Specific Readiness and ERQ total score, and negatively correlated with both Helplessness scales of the ERQ, trait-anxiety, and sensation seeking.

Table 1

Standardized factor loadings and standardized error.

Factor	Item Nr.	SL	SE
F1 – General Readiness			
	1	0.71	0.02
	4	0.64	0.02
	5	0.73	0.02
	10	0.86	0.02
	11	0.66	0.02
	16	0.84	0.02
	26	0.69	0.03
	30	0.30	0.02
Factor 2 – Specific Readiness			
	9	0.66	0.02
	15	0.71	0.02
	17	0.74	0.02
	18	0.78	0.02
	19	0.57	0.02
	20	0.77	0.02
	21	0.81	0.02
	23	0.78	0.02
Factor 3 – General Helplessness			
	22	0.84	0.02
	24	0.62	0.02
	25	0.73	0.02
	27	0.77	0.02
	28	0.73	0.02
	29	0.57	0.02
Factor 4 – Specific Helplessness			
	2	0.56	0.02
	3	0.72	0.02
	6	0.40	0.02
	7	0.68	0.02
	8	0.59	0.02
	12	0.60	0.02
	13	0.73	0.02
	14	0.80	0.02

Note: SL – Standardized Loadings, SE – Standardized Error.

Table 2

Pearson correlations between the subscales scores and the total score on the Emergency Reaction Questionnaire, the short form of Spielberger Trait Anxiety (STAI-SF), the Brief Sensation Seeking Scale (BSSS-8), and participants' age.

	1. ERQ GR	2. ERQ SR	3. ERQ GH	4. ERQ SH	5. ERQ T	6. STAI SF	7. BSSS-8	8. Age
1.	–							
2.	.38***	–						
3.	–.31***	–.57***	–					
4.	–.29***	–.53***	.70***	–				
5.	.67***	.80***	–.81***	–.80***	–			
6.	–.01	–.27***	.52***	.41***	–.37***	–		
7.	.69***	.19***	.14**	–.15**	.40***	.12*	–	
8.	–.13*	.23***	–.22***	–.17***	.14**	–.37***	–.26***	–

Note: *p < .05; **p < .01; ***p < .001; ERQ GR: General Readiness; ERQ SR: Specific Readiness; ERQ GH: General Helplessness; ERQ SH: Specific Helplessness; ERQ T: Total Score. The cutoff for significance was p < .05.

3.4. Group differences

Except for sensation seeking, gender differences were found in all the measures' subscales and total scores, with male participants showing higher levels of readiness and lower levels of helplessness and trait anxiety (see Table 3 for detailed statistical results).

Considering the gender differences identified in the independent-samples t-tests, group differences for the type of job (dangerous vs. non-dangerous) and practice of extreme sports were analyzed using ANCOVAs, controlling for participants' gender. Regarding the type of job, participants with a risky job reported significantly lower levels of general and specific helplessness and a higher ERQ total score, when compared with participants whose job was considered not dangerous (see Table 4 for detailed statistical results).

Table 3

Gender differences in Emergency Reaction (ERQ), short-form of the Spielberger Trait-Anxiety (STAI-SF), and the Brief Sensation Seeking Scale (BSSS-8).

	Male (N = 83)		Female (N = 293)		t (df)	Sig.
	M	SD	M	SD		
ERQ Total Score	108.45	14.70	95.27	16.53	6.57 (374)	< .001
ERQ General Readiness	22.63	6.34	19.15	6.06	4.45 (374)	< .001
ERQ Specific Readiness	28.48	5.27	25.90	5.48	3.82 (374)	< .001
ERQ General Helplessness	12.02	3.53	14.81	4.78	-5.83 (175.87)	< .001
ERQ Specific Helplessness	14.64	4.24	18.98	5.72	-7.57 (175.12)	< .001
STAI-SF	9.41	3.41	11.62	4.32	-4.89 (163.78)	< .001
BSSS-8	24.54	7.15	23.19	7.17	1.52 (132.33)	.131

Note: M = Mean; SD = Standard Deviation; Cutoff for significance was $p < .05$.**Table 4**

Differences in Emergency Reaction (ERQ), short-form of the Spielberger Trait-Anxiety (STAI-SF), and the Brief Sensation Seeking Scale (BSSS-8) by type of job (Dangerous vs. Non-dangerous).

	Dangerous (N = 70)		Not dangerous (N = 306)		Between-group comparisons
	M	SD	M	SD	
ERQ Total Score	102.79	17.37	97.12	16.80	$F_{1,373} = 3.84, p = .05$
ERQ General Readiness	20.33	7.24	19.83	6.06	$F_{1,373} = 0.16, p = .90$
ERQ Specific Readiness	27.60	5.89	26.21	5.43	$F_{1,373} = 2.34, p = .13$
ERQ General Helplessness	12.74	4.78	14.53	4.59	$F_{1,373} = 6.09, p < .01$
ERQ Specific Helplessness	16.40	5.29	18.39	5.75	$F_{1,373} = 4.38, p < .05$
STAI-SF	10.27	4.31	11.33	4.20	$F_{1,373} = 2.17, p = .14$
BSSS-8	23.10	7.27	23.58	7.17	$F_{1,373} = 0.45, p = .50$

Note: M = Mean; SD = Standard Deviation; between-group comparisons were tested with ANCOVA models (gender as a covariate). The cutoff for significance was $p < .05$.

The comparison between subjects reporting the practice or not of extreme sports showed that participants who practice such sports presented significantly higher levels of general readiness and sensation seeking when compared to participants who did not report practicing extreme sports (see Table 5 for detailed statistical results).

4. Discussion

There is a good chance that every person will encounter some form of an unexpected and uncontrollable event during their lives that they find adverse and stressful. Most people will find themselves in the face of adversity multiple times. Such events trigger defensive behaviors (e.g., flight or fight) that either proved adaptive throughout evolution [33] or that are based on knowledge acquired through previous exposures, expertise, and training [14,34]. Even if people survive such a disaster or emergency, it can cause long-term psychological effects. Feeling helpless in such situations could increase the likelihood of developing some form of psychiatric problems, such as depression, anxiety, substance abuse, somatization, and posttraumatic stress (e.g., Refs. [3–5]; 2004) later in life. Such problems, then, may lead to isolation, loneliness, and a decrease in the quality of life [11,35]. Therefore, tools that are capable of evaluating the ability of an individual to react in an organized way in the face of adversity are essential for understanding automatic defensive behaviors, uncovering protective factors, and increasing the efficiency of future training programs.

Our results support the psychometric validity of using the ERQ in Portuguese adults to measure some emergency behaviors and to assess individual differences in the way people perform during various emergencies. As we hypothesized, the factor analysis con-

Table 5

Differences in Emergency Reaction (ERQ), short-form of the Spielberger Trait-Anxiety (STAI-SF), and the Brief Sensation Seeking Scale (BSSS-8) by the practice of extreme sports vs. no practice.

	Practices extreme sports (N = 21)		Does not practice extreme sports (N = 355)		Between-group comparisons
	M	SD	M	SD	
ERQ Total Score	108.24	13.74	97.58	17.04	$F_{1,373} = 3.26, p = .07$
ERQ General Readiness	24.05	5.52	19.68	6.25	$F_{1,373} = 5.86, p < .05$
ERQ Specific Readiness	28.52	5.23	26.35	5.54	$F_{1,373} = 1.26, p = .26$
ERQ General Helplessness	12.29	4.04	14.31	4.69	$F_{1,373} = 1.27, p = .26$
ERQ Specific Helplessness	16.05	4.95	18.14	5.74	$F_{1,373} = 0.34, p = .56$
STAI-SF	10.38	4.40	11.17	4.23	$F_{1,373} = 0.01, p = .93$
BSSS-8	28.24	3.84	23.21	7.23	$F_{1,373} = 8.60, p < .01$

Note: M = Mean; SD = Standard Deviation; between-group comparisons were tested with ANCOVA models (gender as a covariate). The cutoff for significance was $p < .05$.

ducted on a Portuguese sample is similar to that of the original study [11] showing a good fit for the four-factor model of ERQ. Correlational results supported the validity of the Portuguese version of the ERQ. In line with our first hypothesis, we confirmed that females scored lower compared to males on the ERQ. Similarly, a large body of previous studies has shown that females, compared to males, tend to show more neurotic characteristics, and anxiety symptoms (including feeling helpless and a lack of readiness to act in stressful situations) and have a higher prevalence of anxiety disorders [36,37]. Our first hypothesis regarding older was partially confirmed as the correlation between age and the readiness factors suggests that while general readiness decreases, specific readiness increases. This can be explained by what these constructs measure. General readiness is strongly associated with a general risk-taking and sensation-seeking attitude, both of which have a well-documented decrease during aging (see e.g., Ref. [38]. In contrast, specific readiness focuses on knowledge, and experiences, and also taps into training effects, therefore our results mean that as people age, they also learn how to react in an organized way. This might also be in line with our current as well as previous results [36,39] that the prevalence of anxiety-related symptoms tends to decrease with age.

In line with our second hypothesis, we found that higher levels of anxiety are associated with greater helplessness and lower readiness values; while people more prone to sensation-seeking feel less helplessness and more readiness in dangerous, unexpected, and aversive situations [9,11,13,14,18]. As per our third hypothesis, we found that those who had a risky job scored higher on the ERQ (meaning they act more readily and organized in an emergency) compared to those who do not have such a job, this was most evident in the helplessness factors. A possible explanation could be that people with risky jobs often do not choose their occupation due to sensation-seeking or risk-taking tendencies (as that may lead to negative consequences, a heightened risk of injury, and termination of employment) but rather out of necessity caused by a low socioeconomic status [40–42]. In fact, we found no difference between the groups in terms of sensation seeking. However, the training they continuously receive and the safety measures they need to learn to increase their sense of control, prepare them to act in an organized way, and may even contribute to better coping with stressful situations, such as focusing on solving the problem first instead of on their negative emotional state [11,18,43–45]. In line with this, people who routinely engaged in extreme sports scored higher on the general readiness factors of ERQ, which is associated with a general risk-taking and sensation-seeking attitude, as well as the sensation-seeking scale that points to the fact that they are less prone to feel intimidated and aroused even in uncontrollable aversive events [46]. Taken together, our results regarding socio-demographic variables lend further support to the validity of the ERQ and its Portuguese version.

4.1. Limitations

Some limitations shall also be noted, such as the unbalanced sample regarding several sociodemographic variables (i.e., a high number of single individuals and females), which means that our sample could not be considered representative of the Portuguese population. This is especially true in terms of gender as the majority of responses (~78%) were females. While the sample still included a good number of males, the female majority could have resulted in biases in the analysis of gender differences. To this end, we included gender as a covariate in the groupwise comparison to account for the possible bias. Further, we could not observe the consistency of ERQ over time on the present sample, although previous studies indicated adequate test-retest reliability. Finally, the data was collected during the COVID-19 pandemic and the implications of collecting data during the pandemic are still not well known. The fact that we collected data during a stressful event may also be a strength of the present study insofar as people had first-hand experience of a prolonged and uncontrollable aversive situation, thus they might have judged their reactions better which could have resulted in a higher reliability of the measurement. There was no curfew or significant isolation period during the data collection and vaccines were being made available for all adults during this time. The memories of the uncertainty were fresh and the prevalence of serious or fatal consequences of getting the virus were still relatively high. All in all, we think that this could have led to a better self-evaluation compared to studies that used the same questionnaire before the pandemic outbreak.

Future studies are necessary to test the long-term effects of COVID-19 on perceived efficacy in the face of adversity, test the usefulness of the measure for emergency reaction training needs and effectiveness, and, more importantly, to adapt the instrument to other age groups such as children. In fact, a recent study [47] investigated how personality traits and emotion regulation strategies play an important role in coping with COVID-19 in a sample of Portuguese adults. They argue that people with difficulties in emotional regulation and high levels of neuroticism traits could be at risk for developing severe psychiatric symptomatology during stressful events. Such was the COVID-19 pandemic. Nonetheless, they did not measure individual differences regarding the effectiveness of reactions and behavior during the emergency.

4.2. Conclusions

In conclusion, our study has shown promising results regarding the psychometrical properties of the Portuguese version of the ERQ as a potentially sound measurement of emergency behavior. The ERQ may be used in future research and in practice for screening or measuring training efficiency (e.g., assessing participants' self-evaluation about their reactions and behavior in highly dangerous situations before and after the training). The strengths of our study include a wide age range, and groups of people with risky jobs or practicing extreme sports. Further, to our knowledge, to date, this is the first instrument measuring emergency reactions in Portugal. In sum, these results have implications for professionals working with and helping (e.g., as counselors) individuals during the challenges of various stressful events, emergencies, and natural catastrophes. Preventive steps could be taken to teach people self-monitoring to recognize maladaptive patterns in their behaviors, facilitate open and frequent communication by experts, and raise awareness of the importance of training and previous knowledge. This is particularly relevant in a country such as Portugal, with a significant vulnerability to natural hazards (ESPON, 2020).

Credit author statement

Conceptualization: PD, CMC; Methodology: ANZS, PD; Formal analysis: ANZS, PD; Data preparation: PD, ANZS; Writing – original draft: CMC, PD, ANZS; Supervision: ANZS, PD, CMC; Project administration: ANZS, PD, CMC; Funding acquisition: ANZS, CMC; Writing – review & editing: ANZS, PD, CMC.

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Ethical approval

Ethics approval was obtained from the Local Ethical Review Committee of the university of the first author. Data collection was carried out following the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Informed consent

Informed consent was obtained from all individual participants included in the study.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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