



## LastQuake app safety checks links with the earthquake coordinates

The number of safety checks sent is not linked to the magnitude. Quite the contrary, links could be established with felt intensity, risk culture and general use of the app. Correlations appeared to be strong with the number of felt reports EMSC received through all tools, and especially with felt reports received via LastQuake. The more an earthquake has been felt and reported on LastQuake, the higher the number of sent safety checks. As mentioned in D3.3a, fear and risk culture could explain the use of safety check. For instance in Romania where the citizens have a strong cultural memory of earthquakes (Pavel, 2016) especially link to strong quakes in 1940, 1977 and 1991, the feature had been well adopted during an earthquake in January 2017. Indeed, what matters for the eyewitnesses is not the magnitude in itself but the intensity they felt and the generated fear. Independently of the severity of the threat and of psychological aspects, fear also varies depending on socio-cultural factors (Furedi, 2006) such as birth order or gender roles (Strümpfer, 1970; Denlay and Shrader, 2000; O'Connell, Abbott and White, 2017) as well as race, religious belief or trust in the government (IFRC, 2014). Moreover culture impacts not only the fear in itself but also the way this feeling is expressed (Bourke, 2003). Fear is not a tangible element and may appear difficult to quantify. In that sense, a first qualitative analysis was made on the 10 earthquakes that generated the most safety checks within the studied period. For these 10 earthquakes all comments collected by EMSC were analysed manually to check whether fear was expressed or not. Lexical analysis could not be automatized due to a high number of languages used (Fallery and Rodhain, 2007). Each comment was classified according to whether fear was expressed or not. Results found that correlation between the proportion of comments expressing fear and the number of safety check messages sent was moderate according to Cohen's guidelines ( $r=0.551$ ) (Cohen, 1988). This would require more in depth analysis on a higher number of seismic events. Variations related to the number of contacts appeared to be independent from all the seismological parameters, including magnitude, felt intensity or PGA for instance. However, it strongly varies from one region to another (Table 2 - as shown in the source document). This could be explained by different social structures with different conceptions of who are the relatives to contact in case of emergency (cf. D3.1 and Citizen Summits results) but also to technology use as SMS is not used to contact the same people around the world (D3.1). Moreover, SMS costs could also be a part of the explanation.

Note: See source document for full reference.

### Applicable to:

Stakeholders: [Norms/values](#), [Attitudes toward the media](#), [Social control](#), [Social networks](#), [Access and use of infrastructure/services](#)

Disaster Phases: [Response](#)

Types of Actors Concerned: [Non-active citizens](#), [NGOs](#)

Hazards: [Natural hazards](#)



## Source

[Deliverable D3.3b "Final report on the impact of best practices prototype implementation" \(page 31\)](#)

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<https://culturalmap.carismand.eu/a/3-3b-16-lastquake-app-safety-checks-links-with-the-earthquake-coordinates>