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# Generating Subjective Theories After a Disaster: The Role of Personality

**INGRID N. GONZÁLEZ-PALTA**

Universidad de La Serena, La Serena, Chile  
Universidad Alberto Hurtado, Santiago, Chile

**PABLO J. CASTRO-CARRASCO**

Universidad de La Serena, La Serena, Chile  
Universidad Católica del Maule, Talca, Chile  
Instituto Milenio para la Investigación en Depresión y Personalidad

**ENZO CABRERA ROJAS**

Universidad Católica del Norte, Coquimbo, Chile

**PAULINA JAMET RIVERA**

Universidad de La Serena, La Serena, Chile

**FRANCISCO LEAL-SOTO**

Universidad de Tarapacá, Centro de Investigación para la Educación Inclusiva, Iquique, Chile



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La correspondencia relacionada con este artículo debe dirigirse a: Mg. Ingrid N. González-Palta, e-mail: [igonalez@userena.cl](mailto:igonalez@userena.cl), Dirección de correspondencia: Avenida Matta N°147, Chile.

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### **Abstract**

The role of people's beliefs in their perception of disasters has been scarcely studied. This study, we analyzed how people who experienced an earthquake and a subsequent tsunami employ subjective theories (ST) to explain their traumatic experience. This study aimed to interpret the explanations developed by a group of people about the earthquake and tsunami that took place in Chile in 2015. Thirteen episodic interviews were conducted as part of a qualitative case study. The participants' theories were grouped into four categories: the impact of personality on one's reaction to hardships; the existence of a link between personality and coping styles; the limited influence of personality on one's way of coping with difficulties; and changes in personality after experiencing hardships. These findings are discussed analyzing whether the participants' explanations could foster personal growth and psychological well-being after the catastrophe.

*Keywords:* Chile, natural disaster, South America, subjective theories, tsunamis.

## **Generando Teorías Subjetivas Después del Desastre: El Rol de la Personalidad**

### **Resumen**

El rol de las creencias en la experiencia del desastre ha sido poco investigado. En este estudio se analizó cómo personas que experimentaron un terremoto y posterior tsunami, utilizan teorías subjetivas (TS) para explicar la experiencia traumática. El propósito de este estudio fue interpretar las explicaciones que algunas personas elaboraron respecto al terremoto y tsunami vivido en la zona norte de Chile el año 2015. Se realizaron trece entrevistas episódicas, en el marco de un estudio de caso con metodología cualitativa. Como hallazgos interesantes de las teorías surgen cuatro categorías: implicancias de la personalidad en la reacción ante dificultades; existencia de relación entre personalidad y estilo de afrontamiento; poca importancia de la personalidad al momento de afrontar dificultades, y cambio en la personalidad luego de experimentar una dificultad. Estos hallazgos se discuten analizando si estas explicaciones podrían favorecer –o no– el crecimiento y bienestar psicológico posterior a la catástrofe.

*Palabras clave:* América del Sur, Chile, desastre natural, teorías subjetivas, tsunamis.

ON SEPTEMBER 16, 2015, one of the most powerful earthquakes in Chilean history (8.4 Mw according to Universidad de Chile's Seismological Center, 2015) struck the north of the country, followed by a tsunami that ravaged the coast. The Fourth Region was among the hardest-hit areas. Data published by the National Emergencies Bureau –part of the Ministry of the Interior and Public Safety [*Oficina Nacional de Emergencia del Ministerio del Interior y Seguridad Pública de Chile*] (ONEMI, 2015)– shows that the main earthquake caused the deaths of 15 people, affected the property of 27,722 people, destroyed 2,442 homes, and left other 2,712 uninhabitable due to major damage. In brief, the event resulted in loss of life and had social, environmental, and economic consequences.

Recent research has tended to examine the psychological consequences of catastrophes based on the study of posttraumatic stress disorder (Hu, Cao, Wang, Chen, Liu, & Yamamoto, 2016; Zhen, Quan, Yao, & Zhou, 2016) or anxiety and stress symptoms (Díaz, Quintana, & Vogel, 2012). From a more positive perspective, other researchers have identified protective factors in people who have experienced catastrophic events as self-efficacy and locus of control (Armaş, Zeno, & Ionescu, 2017; Yang, Yang, Liu, Tian, Zhu, & Miao, 2010), perceived social support (Drury, Brown, González, & Miranda, 2015), and coping strategies (Leiva-Bianchi, Baher, & Poblete, 2012).

This study aimed to determine how people explain the catastrophe and whether their explanations foster psychological well-being in the context of a catastrophic event. This objective is based on the assumption that in adverse situations people employ resources to cope with natural disasters, including some provided by the environment, that are available in the social structure, cultural practices, religion, and belief systems (Oliver-Smith, 1996; Daly, 2014).

Recent studies have proposed that the key to understanding the attainment of psychological well-being after trauma is the rumination process

(Calhoun, Tedeschi, Cann, & Hanks, 2010; Zhen, Quan, Yao, & Zhou, 2016), particularly deliberate rumination (Arnosó, Bilbao, & Páez, 2011; Cann et al., 2011). However, research has thus far not completely explained the process and the contents of rumination in people who have experienced a natural disaster. Subjective theories (STs) –hypotheses or explanatory theories that people develop based on their experiences– could help shed light on such situations. STs make it easier for people to understand the events experienced and generate explanations about the future, all of which may (or may not) contribute to the attainment of personal growth and psychological well-being through relevant actions. Examining subjective theories (STs) also makes visible the subjective dimension of natural disasters, thereby complementing other studies conducted from a more objective point of view in Chile (e.g. García, Jaramillo, Martínez, Valenzuela, & Cova, 2014).

### **The Influence of Disasters on Personal Beliefs**

Janoff-Bulman (1992) asserts that catastrophic events are traumatic as they impact people's basic beliefs and trigger psychological mechanisms leading to the reconstruction of said beliefs (Arnosó et al., 2011). The effects of this process can range from psychological disorders to personal development and enrichment (Calhoun & Tedeschi, 2006; García, 2011). Even more so, it has been observed that people who deal with stressful events can simultaneously experience depreciation and personal growth (Baker, Kelly, Calhoun, Cann, & Tedeschi, 2008).

García, Jaramillo, Martínez, Valenzuela, and Cova (2014) and García, Cova, Rincón, and Vásquez (2015) have studied the reactions of survivors of the earthquake and tsunami that struck central Chile in February 2010, one of the most devastating recent catastrophes in South America. These studies confirm the differential role of intrusive and deliberate rumination as responses to stress. Similarly, a study of people who experienced

two earthquakes followed by tsunami alerts that hit northern Chile on April 1 and 2, 2014 (Leal-Soto, Carmona-Halty, & Ferrer-Urbina, 2016) not only confirmed the role of deliberate rumination in posttraumatic growth, but also established that it can occur directly as a result of deliberate rumination or through the transition from intrusive to deliberate rumination, as the model advanced by Calhoun et al. (2010) suggests.

### **Theoretical Framework: An Approach Based on the Study of Subjective Theories**

Subjective theories are classified as beliefs: those are theories or hypotheses that people generate regarding any aspect of their environment or themselves. The STs are explanatory and orient and justify people's behavior; also, they are explicit or can be made explicit by those who hold them (Groeben & Scheele, 2000). Catalán (2010; 2016) notes that subjective theories can be analyzed considering their emotional meaning and their potential for action, among other criteria. From an emotional perspective, a subjective theory can be characterized as either positive or negative depending on the subject's emotional response, that is, his/her closeness or distance from the object. With respect to their potential for action, subjective theories can either encourage or inhibit behavior.

In this regard, STs are located within the field of study of informal knowledge; the subject is assumed to be active, conscious, and able to construct personal explanations that he/she uses to guide and justify his/her behavior (hence the importance of studying them as a path toward posttraumatic growth). It is also assumed that STs can be conveyed to others (researchers), who will be able to understand or reconstruct them.

Thus far, STs have been studied in terms of their functions, their change processes (Castro, Krause, & Frisancho, 2015), and their functioning in contexts as psychotherapy, education, and health care (e.g. Jancic, 2011; Krause, 2011; Marková, 2013).

However, few studies have examined STs in people who have experienced natural disasters.

In this study, STs are examined based on two criteria included in the ST analysis system (Catalán, 2016): emotional meaning and orientation towards action. These criteria can be defined as follows:

- *Emotional meaning*: in this dimension, the criterion used was the subject's emotional response to the object to which the ST refers. STs can be either positive or negative. For instance, *Since I'm an "angry person", I'm tough and inflexible when someone makes a mistake* is a negative theory, because the person finds this trait unpleasant or at least undesirable.
- *Orientation toward action*: the potentiality criterion was used to classify STs as either progressive (Krause, 2011) or regressive depending on whether they referred to the start of a new action or to the inhibition or maintenance of an action. For instance, *experiencing a catastrophe makes you more cautious and teaches how to react in similar situations* is an action-initiating theory, because it entails a change in the person's usual behavior.

The general aim of this study was to interpret how people that were affected by the September 2015 earthquake and tsunami explain their experience during this disaster that struck northern Chile. To achieve this objective three generative questions – based on a literature review and the research program of subjective theories– were generated: *What subjective theories do people affected by the earthquake and tsunami developed in connection with their experience during the disaster?*, *How can these subjective theories be characterized?*, and *What aspects of STs could shed light on the posttraumatic growth process?*

## **Method**

### **Sample Selection**

Using convenience sampling (Flick, 2014), thirteen participants were selected upon the basis

of the following inclusion criteria: (a) being over 18 years old, (b) living in the area affected by the earthquake and tsunami, and (c) having sustained some type of material loss. Table 1 specifies the age and gender of the participants.

**Table 1**  
*Demographics of Participants*

Characteristic	Number	Percentage
<b>Gender</b>		
Man	4	31%
Woman	9	69%
<b>Age</b>		
18-30	3	23%
31-50	3	23%
51-70	7	54%

### Procedures

After they signed an informed consent, an individual episodic interview was conducted with each participant (Flick, 2014). The interviews lasted approximately one hour. An episodic interview integrates narrative-episodic and semantic elements. Thus, the interviews elicited three types of data: (1) specific episodes spontaneously narrated by the participants, that is, reports of certain events or situations that they remembered or imagined would happen in the future; (2) subjective definitions and argumentative-theoretical propositions; and (3) examples taken from concrete situations. This technique was selected because the knowledge that emerges in episodic interviews grants access to narrations and argumentations connected to specific events (Flick, 2014). In other words, episodic interviews enabled us to reconstruct the STs that the participants generated upon the basis of their experiences during the earthquake and the tsunami. The interviews were conducted by a team of Psychology undergraduates who received an interview script and were trained in its proper use by one of the authors of this study.

### Data Analysis

**Phase 1. Descriptive analysis.** The 13 interviews were descriptively analyzed using an open coding procedure (Corbin & Strauss, 2008) performed with *Atlas.ti* 7.5. A total of 159 STs were identified and recorded using codes. Density ranged from 1 to 32. It is relevant to note that subjective theories are not extracted verbatim from subjects' narratives. Instead, they are reconstructed via researcher triangulation based on the hypotheses that one or several interviewees convey in their discourse. For example, the sentence below is an ST, followed by a verbatim interview excerpt:

*Experiencing a catastrophe makes you more cautious and teaches you how to react in similar situations*

[Now] we always have something ready; maybe we already know what we have to put in our bags; maybe we already know when we have to get out, because the first wave came 15 minutes later, I think, so after some 10 minutes we should already be high up, in a safe area...

STs were described upon the basis of structural characteristics, considering their emotional meaning and orientation toward action (Catalán, 2016; Cuadra et al., 2017). These analysis domains were used working on the assumption that they would yield relevant information for the study of posttraumatic personal growth. To do this, each ST was characterized considering two aspects: (a) emotional meaning (positive or negative valence for the interviewee), and (b) orientation towards action (the theory's potential to initiate, maintain, or inhibit future behaviors).

**Phase 2. Relational analysis:** (a) the 159 STs identified were grouped into categories based on the topics to which they referred (e.g. STs that link personality with coping strategies in response to the disaster). (b) During the second data analysis stage, based on the resulting categories, two relevant categories were identified according to

their potential for answering the second research question (*i.e.* What aspects of STS could shed light on the posttraumatic growth process?): (1) personality and (2) coping styles (Lazarus & Folkman, 1984).

### Scientific Rigor Criteria

Intersubjective consensus (Kvale, 2007) was ensured through the inclusion of more than one researcher in each analysis phase. Results were discussed by the whole team. To ensure the credibility of the data (Lincoln & Guba, 1985), researcher triangulation and method triangulation were employed. In addition, the auditability criterion was met thanks to the use of *Atlas.ti*, making possible to establish clear links between researchers' interpretations and the original data.

## Results

### General Characterization of Subjective Theories by Domain of Analysis

One of the aims of this study was to identify and describe the subjective theories developed by people affected by the earthquake and tsunami in connection with their experience during the disaster. With respect to the descriptive analysis, Table 2 shows the subjective theories with the most support; the ones with the largest number of supporting quotations. Columns refer to their characteristics based on the two domains of analysis described by Catalán (2016): "emotional meaning" (emotional response to the object and connections with other theories) and "orientation towards action" (action-inhibiting, action-maintaining, and action-initiating).

**Table 2**  
*Subjective Theories with the Most Support, Characterized by Analysis Dimension*

ST	N	Emotional response	Potential for action
If there is a disaster, the first thing you worry about is family, because you can relax if they are fine	38	Positive	Action-maintaining
When a natural disaster occurs, the only thing you can do is "get back on your feet"	21	Negative	Action-maintaining
If there is an emergency that causes material losses, everyone can feel / unpleasant emotions/	19	Positive	Action-maintaining
When difficulties /occur in your surroundings/, you panic and do not know what to do	19	Negative	Action-inhibiting
Experiencing a disaster forces you to be more careful and shows you how to react in similar situations	17	Positive	Action-initiating
If people are in a state of shock after a catastrophe, they feel strongly supported by those who help them	17	Positive	Action-maintaining
When you escape, you have to save your life, because it is more important than material possessions	10	Positive	Action-maintaining
When you ask God, He answers and helps you if you are in trouble	10	Positive	Action-maintaining
Since we are all different, we all react differently to certain situations	10	Positive	Action-maintaining
Experiencing a disaster changes the way you are, because it affects you and leaves you "kind of traumatized"	10	Positive	Action-maintaining
If you are /emotionally affected/, you cannot "give emotional support" to others	7	Negative	Action-inhibiting
An earthquake is not so awful because it generates little damage, unlike a tsunami	6	Negative	Action-maintaining
Disasters are uncontrollable and unpredictable, because they are God's prerogative	6	Positive	Action-inhibiting
You change the way you deal with new situations when you experience a disaster	6	Positive	Action-initiating
If you "act badly", then God sends a disaster so you can learn and change	5	Positive	Action-initiating
When a disaster occurs, you have to organize so aid management can be faster	5	Positive	Action-initiating
If a disaster strikes, you react immediately, without reflecting	5	Negative	Action-maintaining
Disasters make you value your family more	5	Positive	Action-initiating

Note: N = number of quotations that support a subjective theory. These quotations can belong to more than one subject.

At this stage, although the object of research was the subjects' experience during the disaster, it was surprising to observe that most of the STs with the largest number of supporting quotations were positive. This defied expectations of a negative emotional response in a disaster situation. Also, action-maintaining or action-inhibiting STs were prevalent (127 in total), with only 20 being classed as action-initiating.

The explanations that the subjects generated about the catastrophe reflect the great importance ascribed to family, specifically regarding the safety and care that father or mother figures provide or should provide. These theories about the importance of the nuclear family make it possible to guide individual and social behavior given that in disaster situations interactions within groups intensify to improve adaptation to the environment. This is illustrated by the code *If there is a disaster, the first thing you worry about is family, because you can relax if they are fine*, supported by excerpts such as: "I just have to take responsibility and help my mom, calm her down, and get my grandma out of the house if this happens again [another earthquake]. I'd need to be calm so I can save our lives" (man).

One of the most frequent subjective theories in this sample was *When a natural disaster occurs, the only thing you can do is get back on your feet*. Therefore, the plans generated to deal with the disaster are linked to individuals' experience and knowledge of earthquakes and tsunamis, which helps them predict or orient their future actions. These actions are manifested through the ideas *being more careful, protecting one's life, saving a few material possessions, and asking for God's help*, among other action-initiating theories. Also, some subjects generated theories that could enable them to change leading to a positive reassessment of their family or their current life or to a new way of dealing with future hardships, all of which grants emotional stability in uncertain situations.

The religious dimension also influenced the way in which the subjects explained the occurrence

of the earthquake and tsunami: *If you act badly, then God sends a disaster so you can learn and change; Disasters are uncontrollable and unpredictable, because they are God's prerogative*. This finding has also been reported in other studies on disasters (McGeehan & Baker, 2017; Onetto, 2014; Park, 2016; Valenzuela, 2012).

Specifically, the theories connected to the subjects' action plans range from the individual to the collective, with a variety of emotional implications. For instance, some participants noted that their "direct personality" enabled them to ask for help and deal with the situation more adequately, whereas others reported that shame or pride inhibited their help-seeking behaviors. This position is illustrated by the theory *If you are too embarrassed to do your paperwork, that aid will go to other people*.

Closer to the collective end of the spectrum, the participants referred to the importance of family, neighborhood associations, or other bodies in the management of aid. Even though this was interpreted positively in the denser theories, there were some exceptions, such as the ST *After a disaster, people get together to request help, but then become divided because of inequalities*.

The participants' STs gradually revealed the notion that personal traits influenced how the disaster was dealt with: *Since we are all different, we all react differently to certain situations*. Specifically, some subjects froze during the disaster and found it hard to reflect. Others mentioned that emotional regulation could enable them to react adequately during a crisis or that, in contrast, an emotional outburst could prevent them from calming down another person. Finally, the participants noted that gender can be a predictor of self-control, as expressed through the following ST: *As a man, one should have the strength to control everything*.

During a later stage of the reconstruction of their STs, four categories emerged in connection with the interviewees' personality and coping styles during the disaster. These were: (1) the impact of personality on one's reaction to hardships; (2) the



existence of a link between personality and coping styles; (3) the limited influence of personality on one's way of coping with difficulties, and (4) changes in personality after experiencing hardships. Is a must

to point out that when interpreting the participants' discourse we took into account mentions of constructs studied in psychology research that could clarify the post-disaster personal growth process.

**Table 3**

*Categories of STS (Hypotheses) Held by the Interviewees which Link Personality with Coping Styles.*

<b>Influence of personality on one's reactions to difficult situations</b>
<p>If you are calm and patient, you will be able to deal with difficulties in a better way.            If you have an /impulsive and/or extroverted personality/, you can deal with difficulties better.            If you are not materialistic, it is not hard for you to let go of the goods that you have acquired with effort.            If you have been a fighter in the past, you try not to cry, because crying equals weakness.            Since I have the personality of a leader, I work on aid management to help others.            Since I have a direct personality, I can request and receive help.            Since I have a responsible and honest personality, I dislike bad or hidden intentions.            Even though I am shy, I do not have issues interacting with others, and so I react well to /complex situations/.            Since I'm an "angry person", I'm tough and inflexible when someone makes a mistake.            If you are too embarrassed to do your paperwork, that aid will go to other people.</p>
<b>Link between personality and coping strategies in response to the disaster</b>
<p>If you are too embarrassed to do your paperwork, that aid will go to other people.            Some people do not freeze and are able to make better decisions, because they have "more psychological strength".            Since we are all different, we all react differently to certain situations.</p>
<b>Limited importance of personality when dealing with difficulties</b>
<p>Even if we are all different, when there is a disaster, individual differences are not expressed.            When responding to an emergency, a person's /mood/ is more important than his/her /personality/.            If a shocking event occurs, personality does not change, you just enter an /emotional state/</p>
<b>Changes in personality after experiencing difficulties</b>
<p>If you want to get back on your feet, you need to leave your pride behind and be humble.            If you see your relatives are upset, you act strong, even if you do not have the "personality of a leader".            Experiencing a disaster changes the way you are, because it affects you and leaves you "kind of traumatized".            If a disaster causes material losses, your identity goes away along with the things you lose.            When a disaster occurs, people change for the worse, since they "take off their sheep's clothing".            When a disaster occurs, the change that it produces alter your identity.            After a disaster, you go from "extroverted" to "introverted", since you stop going out and start worrying about your home.</p>

Note: / / = researchers' interpretation of the interviewees' words; " " = verbatim transcription of the interviewees' words.

### **The Influence of Personality on People's Reaction to Hardships**

Here, the participants develop subjective theories that they use to explain how their stable personal characteristics ("personality" for the researchers) influence their way of tackling difficulties in general. The participants construct these STS s in order to justify the type of coping strategy adopted and to give meaning to their actions (Dann, 1983). For instance, *Since I'm an "angry person", I'm tough and inflexible when someone makes a mistake.*

### **The Link between Personality and Coping Strategies in Response to the Disaster**

This ST category is characterized by the presence of explanations where the people affected by the disaster connect their personal traits to their way of dealing with the experience in terms of the actions that they performed or did not perform. These theories differ from those in the previous category in that they are more specific, since they explain behaviors directly connected to the disaster or crisis. For instance, the theory *If you are too embarrassed to do your paperwork, that aid will go*



to *other people* orients help-seeking behavior from a proactive point of view. This ST implicitly refers to the possibility and the importance of controlling one's emotions to handle the situation; in it, the subject is regarded as an agent (Bandura, 1999).

### **The Limited Importance of Personality when Dealing with Hardships**

This category comprises two STs held by the interviewees. It refers to the "state-trait" division identified in psychology research, or to the interaction between external situations or influences (McCrae & Costa, 1996) and personal characteristics. In this category, the reconstructed STs *Even if we are all different, when there is a disaster, individual differences are not expressed* and *When responding to an emergency, a person's /mood/ is more important than his/her /personality/* reflect the participants' full awareness that, overall, their behavior during a disaster is not due to their personality and that the exceptional nature of the situation causes most people to react similarly. With respect to this subjective meaning, the discourse of some interviewees is in line with trait theory (Allport, 1961), situationist models, and the unidirectional interactionism (environment → behavior) (Bandura, 1999) typical of the (objective) scientific study of personality. In the latter approach, situations are regarded as generators of states and actions that are not necessarily stable in people. For one participant, this dominance of state over personality appears to explain why personal traits do not change due to disasters: in his/her view, the changes observed in people's actions are caused by the state in which they are (*If a shocking event occurs, personality does not change, you just enter an /emotional state/*).

### **Changes in Personality After Experiencing Difficulties**

For the participants, personal traits can be transformed as a result of the catastrophic event experienced. They explain this phenomenon in a variety of ways: for some, trauma causes the

change; for others, it is due to a personal decision to overcome the disaster by replacing some personal traits with others that are more necessary given the situation. In another ST, change is associated with a modification of the participants' perception of a person. They describe the manifestation of morally negative traits that they had not seen in others beforehand but which they assume were part of these people's personality (e.g. "[...] they removed their sheep's clothing and became wolves"). Here, the participants deny situational influence on actions and choose to assume that these traits were already part of others, even if they had not previously displayed them. The first type is exemplified by the ST *Experiencing a disaster changes the way you are, because it affects you and leaves you "kind of traumatized"*.

## **Discussion**

Our interest in this topic emerged due to the need to examine in more depth the subjective dimension of people's experience of the disaster by studying their explanations linked to the mentioned experience. Furthermore, we sought to determine whether these STs from our perspective as researchers could foster or hinder personal growth and psychological well-being after a catastrophe. In this section, we discuss the most relevant results obtained: (a) the characteristics of the STs identified, (b) the personality dimension as an element involved in the participants' explanations, and (c) the possibility of changing or growing after the earthquake, established through the analysis of STs.

### **Characteristics of STs**

Regarding the functional characteristics of STs, we analyzed the dimensions of *emotional response* (the relationship of each theory with the object to which it refers), and *potential for action* (action-maintaining, action-inhibiting, or action-initiating). The first finding to be discussed is that the ST with the highest density in the interviews, the one supported by the most quotations (38), manifests a positive emotional response: *If there is*

*a disaster, the first thing you worry about is family, because you can relax if they are fine.* This ST is of the action-maintaining type and could be associated with a self-control strategy. Considering the importance of family in Latin America (as studies have shown for several decades) (Carlos & Sellers, 1972), and given that few human lives were lost due to this disaster, it could be hypothesized that generating this ST –according to the meaning making model (Park, 2016)– enables people to stabilize their belief system and avoid distress, as this theory is consistent with a supraordinate belief about the value of family.

Another relevant finding was that most beliefs were positive, even when they referred to disaster situations. Although there was loss of property, the earthquake was not deadly. This characteristic could suggest that the participants have some level of resilience, given that their beliefs are aimed at offsetting noxious or harmful situations. Nevertheless, this characteristic can also have negative effects, since the action-maintaining nature of these STs can hinder actions focused on actively managing and seeking aid. In addition, as González-Muzzio (2013) points out, resilience cannot singlehandedly guarantee post-disaster recovery or growth. In future studies it would be relevant to continue examining the characteristics and contents of the STs held by community leaders, as these personal beliefs transcend the personal sphere in disaster situations and, with proper external guidance, can counter possible negative effects connected to aid management.

Lastly, another interesting finding was the presence of the religious dimension in the participants' STs. These beliefs operate as an interpretative framework at various points of the disaster (Chan, Rhodes, & Pérez, 2012): they can explain its origin and subsequent phases.

Given that STs of a religious nature or related to religion can emerge during events that prompt existential questions and assessments, it is important for those who lead intervention processes after a catastrophe to consider the psychological and

social dimensions of the religious interpretative framework. This is especially relevant because some religious beliefs could prime people's readiness before future disasters or facilitate personal and family recovery (McGeehan & Baker, 2017), whereas others could prevent or inhibit behaviors.

### **Subjective Theories: The Importance of Personality when Dealing with the Disaster**

For the participants, personality plays a major role in one's handling of difficult situations in general and in how one deals with a disaster, both during the event and afterwards. In the participants' view, personality can either facilitate the adoption of a better way of handling the problematic situation or prevent a proper response to it. As previously noted, the interviewees expressed their view that personality can lead to good or bad coping strategies in any difficult situation, not only during the specific disaster examined. This is relevant given that belief systems, in the long run, can foster the appearance of certain disorders (Ehlers & Clarke, 2000; Goenjian et al., 2001). Therefore, generating subjective theories that link personality to the adoption of better coping strategies in difficult situations might be a stable protective factor against disorders associated with such situations.

However, some interviewees minimized the role of personality in people's handling of the disaster. As already pointed out, STs grouped in this category are in line with situationist personality models or unidirectional interactionism (Bandura, 1999), two approaches that tend to overestimate the influence of external variables on the determination of behavior.

Our study illustrates the ideas advanced by O'Connell, Abbott, and White (2017) regarding how catastrophic situations can change people's belief systems. In this study, the interviewees reported that their stable traits had undergone changes after the event. This is a relevant result, as the quality and characteristics of the change in their STs can have a major impact on the recovery process after the earthquake/tsunami (Yeager, 2017). In our sample,

we found a tendency to regard personality changes as negative (*Experiencing a disaster changes the way you are, because it affects you and leaves you kind of traumatized*), even though some people interpreted them positively (*If you see your relatives are upset, you act strong, even if you do not have the “personality of a leader”*). Promptly detecting these explanations can provide professionals with information to guide decision-making processes in early crisis interventions. In addition, identifying these STs could open up personal development opportunities for the people affected.

### **Opportunities for Personal Growth After the Disaster**

Most of the STs identified are action-maintaining or action-inhibiting, with only a handful being action-initiating. This suggests that constructing STs that link personality with the disaster enables people to justify their actions, as these theories express how their behavior suits an uncontrollable and demanding situation. In some cases, STs linked to personality –regarded as a set of stable traits–perpetuate the inflexibility of subjects’ responses though other STs reflect personality change. In this context, differentiating STs that can maintain or inhibit potentially traumatic situations from others that can promote new ways of processing experiences (action-initiating) might help orient interventions for facilitating the transition from intrusive to deliberate rumination, thus laying the groundwork for posttraumatic growth.

One of the limitations of this study was its focus on descriptive analysis to the detriment of relational analysis. Stronger theoretical insights could be generated if future longitudinal studies develop this line of research. For instance, authors could pay closer attention to the role of people’s beliefs on coping and on the possible impact of disasters on the life cycle. Future research could focus on the ST systems developed by individuals who lead interventions after a disaster and on those of community leaders from the areas affected, as these personal beliefs can be rapidly conveyed to

the community, either enhancing or hindering the actions performed after a catastrophe. In addition, it is relevant for those who conduct psychological interventions to be able to identify specific traits in people’s explanations. This information should help them suggest alternative perspectives, thus enabling victims to understand their experiences in a complex and deep manner while also improving their readiness for future disasters.

### **Conclusion**

Based on the aim of identifying and characterizing the victims’ STs, the following findings can be reported:

1. A large percentage of the STs found are action-maintaining or action-inhibiting. Also, the STs with the most discursive support in the interviews have a positive emotional meaning. This could have negative implications due to the risk of hindering proactive aid management and help-seeking behaviors.
2. Some STs concern plans for dealing with a disaster, which can involve a range of aspects: emotional components, concrete actions, and individual or collective factors. In addition, the interviewees were observed to connect personal traits, mostly aspects of their emotional response, with their ways of reacting to the disaster.
3. For some interviewees, personality is closely linked to people’s general manner of responding to and solving difficulties, whereas others minimize the role of personal traits and attach more importance to context and external variables. All these observations are reflected in the four ST categories identified in the study.

Regarding the aim of identifying aspects that could shed light on the posttraumatic growth process, only a handful of action-initiating STs were expressed, whereas action-maintaining and action-inhibiting STs predominated. As the latter STs justify past behavior and do not promote new

actions, they could have a negative impact on personal growth after a disaster. In consequence, it would be useful for all this information to be available when conducting psychological interventions aimed at fostering posttraumatic growth, as well as when carrying out new studies on this topic.

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