

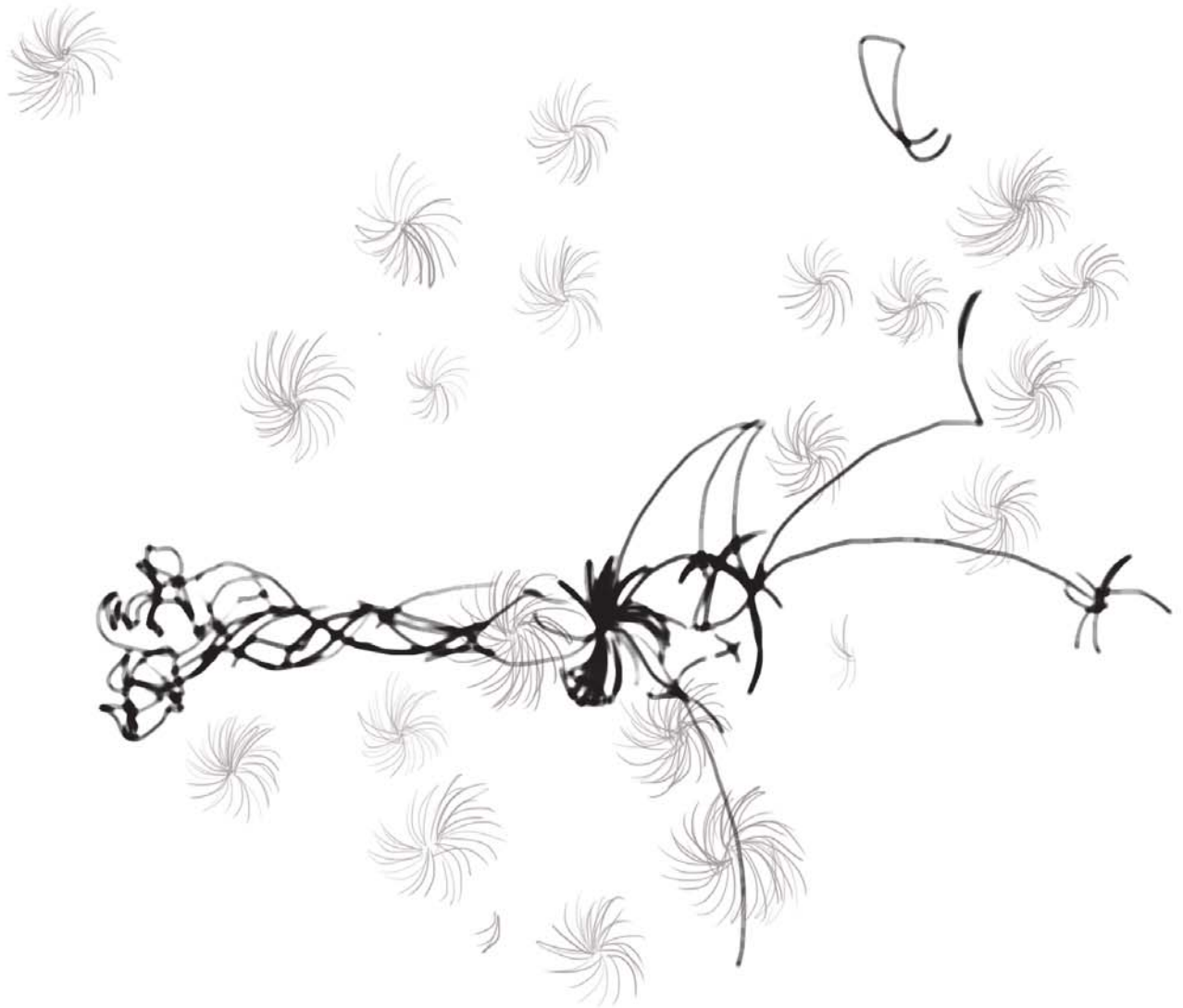


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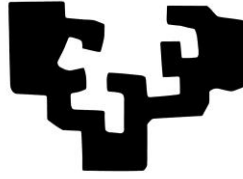
"Together we have it all!"

Benefits of participation in collective
emotional gatherings and
communal coping

Anna
Włodarczyk
2015



eman ta zabal zazu



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ANNA WŁODARCZYK

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Benefits of participation in collective emotional gatherings and
communal coping

Supervisor: Nekane Basabe

University of the Basque Country UPV/EHU

2015

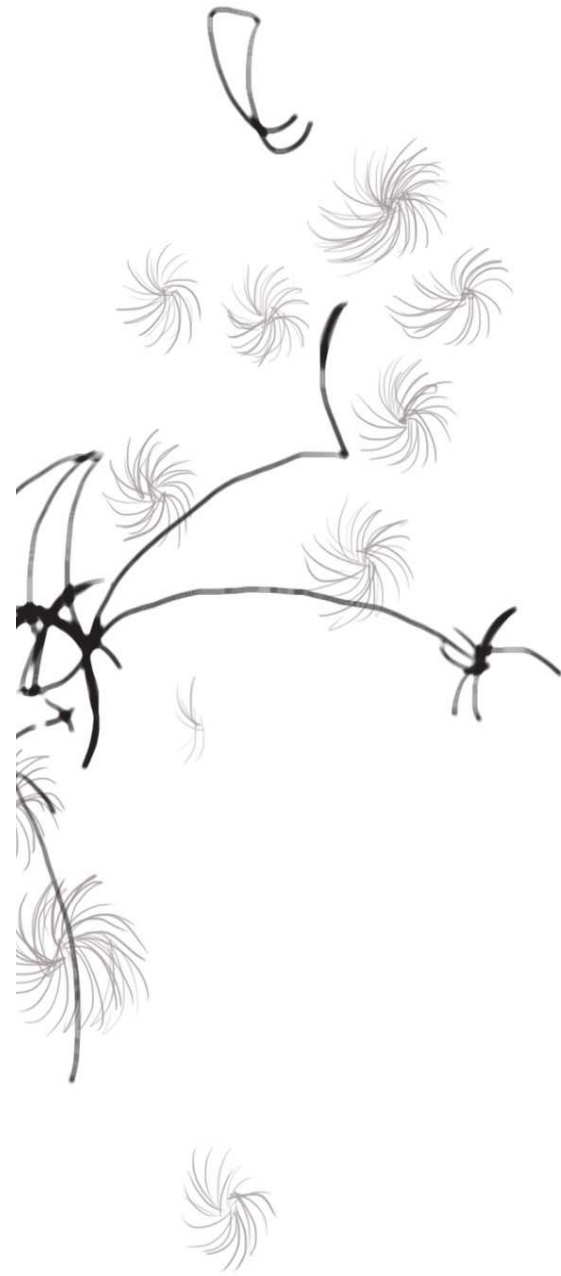
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*We may not have it all together,
but together we have it all*

*To my mother, my father
and my brother*



Acknowledgments

*"No man is an island" everyone is somehow connected to every other human being in some way.
Hardship is a treasure in that it causes men to grow and mature;
therefore we inherit wisdom from perceiving suffering and from overcoming it.*

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Still, the best is to come yet!



No man is an island,
entire of itself every man is a piece of the continent,
a part of the main if a clod be washed away by the sea,
Europe is the less, as well as if a promontory were,
as well as if a manor of thy friends or of thine own were,
any man's death diminishes me, because I am involved in mankind,
and therefore never send to know for whom the bell tolls – it tolls for thee.
John Donne, 1624

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Introduction



INTRODUCTION

Collective processes and emotions are currently the object of a major revival in psychology and the social sciences in general (e.g., Collins, 2004; Goodwin, Jasper, & Polletta, 2000; von Scheve & Ismer, 2013; von Scheve & Salmela, 2014). Collective identity (Haslam, Jetten, Postmes, & Haslam, 2009), collective optimal experiences (Walker, 2010), participation in collective emotional gatherings (Collins, 2004, Páez, Rimé, Basabe, Wlodarczyk, & Zumeta, 2015) and in social movements (Drury & Reicher, 2009, Páez, Javaloy, Wlodarczyk, Espelt, & Rimé, 2013) have recently been proposed as entailing major positive effects for social cohesion, social functioning and individual well-being.

Furthermore, literature frequently depict displays of solidarity and increased community cohesion in the aftermath of natural disasters (e.g. Rodriguez, Trainor, & Quarantelli, 2006; Bonanno, Brewin, Kaniasty, & La Greca, 2010; Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008), political violence (e.g. Drury, Cocking, & Reicher, 2009; Gilligan, Pasquale, & Samii, 2014; Lykes, Cabrera, & Martin Beristain, 2007; Páez et al., 2007) and mass tragedies (Hawdon, & Ryan, 2011; Hawdon, Oksanen, & Räsänen, 2012). Therefore, collective trauma entail a diminished emphasis on the self (only I have suffered) and a shift to the others (we have all suffered; we are all in it together) which results in widespread feeling of community and togetherness (Jacob, Mawson, Payton, & Guignard, 2008; Schwarz, 2014).

Emile Durkheim (1912) was the first author to describe the social and individual consequences of collective processes. This century-old vision overlaps considerably with the findings of current empirical research.

Durkheim stressed that the standards of thought and standards of conduct making social life possible do not exist outside of individual consciousness, and are active only when they are shared. Participation in collective rituals is an essential activity for forging links between the members of social groups, since they create solidarity and reinforce agreement with the group's values. Such group cohesion is achieved through collective solidarity rituals that require shared emotions, shared focus of attention and the shift of participants' awareness from themselves to the group (Collins, 1990). In such a context, emotional energy and emotionally loaded symbols are created. Thus, collective forms of coping become functional, since through emotional sharing and the perception of similarity they favor integration, social cohesion and the perception of a more positive social climate, reinforcing shared beliefs (Rimé, Basabe & Páez, 2005).

The aim of this dissertation is to investigate communal coping in different contexts of collective disadvantage, such as natural disasters or social conflicts. Additionally, we propose a closer look at the processes involved by analyzing the dynamics of social rituals developed in collective gatherings. Communal coping strategies, participation in collective gatherings, collective actions and social movements, generate conditions for shared emotions, especially self-transcendence emotions and create a perception of synchrony and contagion or emotional communion. These processes promote dilution of individual borders and enhance openness to the world and the others. Consequently, effects of self-transcendence implies, firstly, openness to the world, which subsequently reinforces positive social beliefs and enhances posttraumatic growth in the aftermath of traumatic events; secondly, openness to others promotes social cohesion and group solidarity; and thirdly, empowers individuals and communities and increases subjective well-being.

The five empirical chapters of this dissertation (chapters 1 to 5) are organized around three sections of research questions related to the aforementioned issues of societal importance. **Section 1** concerns an examination of micro social or communal coping strategies, with special attention to the role of participation in religious and secular collective gatherings, and its relation to posttraumatic growth and well-being in the

context of natural disasters. **Section 2** describes perceived emotional synchrony and self-transcendence emotions as processes which underlie the positive effects of micro social or communal coping and collective behaviour oriented to macro social coping. Finally, **Section 3** examines the role of self-transcendence emotions in motivating macro social coping in the context of social conflict. Figure 1 is a visual representation of the elements under study in this work grouped into the three proposed sections.

Overview

The core of this dissertation consists of five empirical chapters that were elaborated from stand-alone research papers. The five chapters follow a narrative which gradually unfolds into different parts of the integrated model postulated in this dissertation (Figure 1), corresponding to the fixed research objectives, as well as taking the reader through manifold explanatory approximations.

Hence, we start our empirical work with the examination of the potential individual and collective benefits of micro social or communal coping strategies in the context of natural disasters (**Section 1**). **Chapter 1** examines the relationship between participation in secular demonstrations, spiritual rituals and communal coping and tests whether these strategies might serve as buffers of posttraumatic growth which enhance social well-being. In **Chapter 2** we direct our attention to the concept of posttraumatic growth, together with its manifestations and explanatory processes, and describe the different types of changes individuals perceive in themselves, in their community, and in their society. In **Chapter 3** we attempt to identify communal coping strategies which enhance the different domains of posttraumatic growth in three different countries. In the next part of the present dissertation, we proceed to key processes

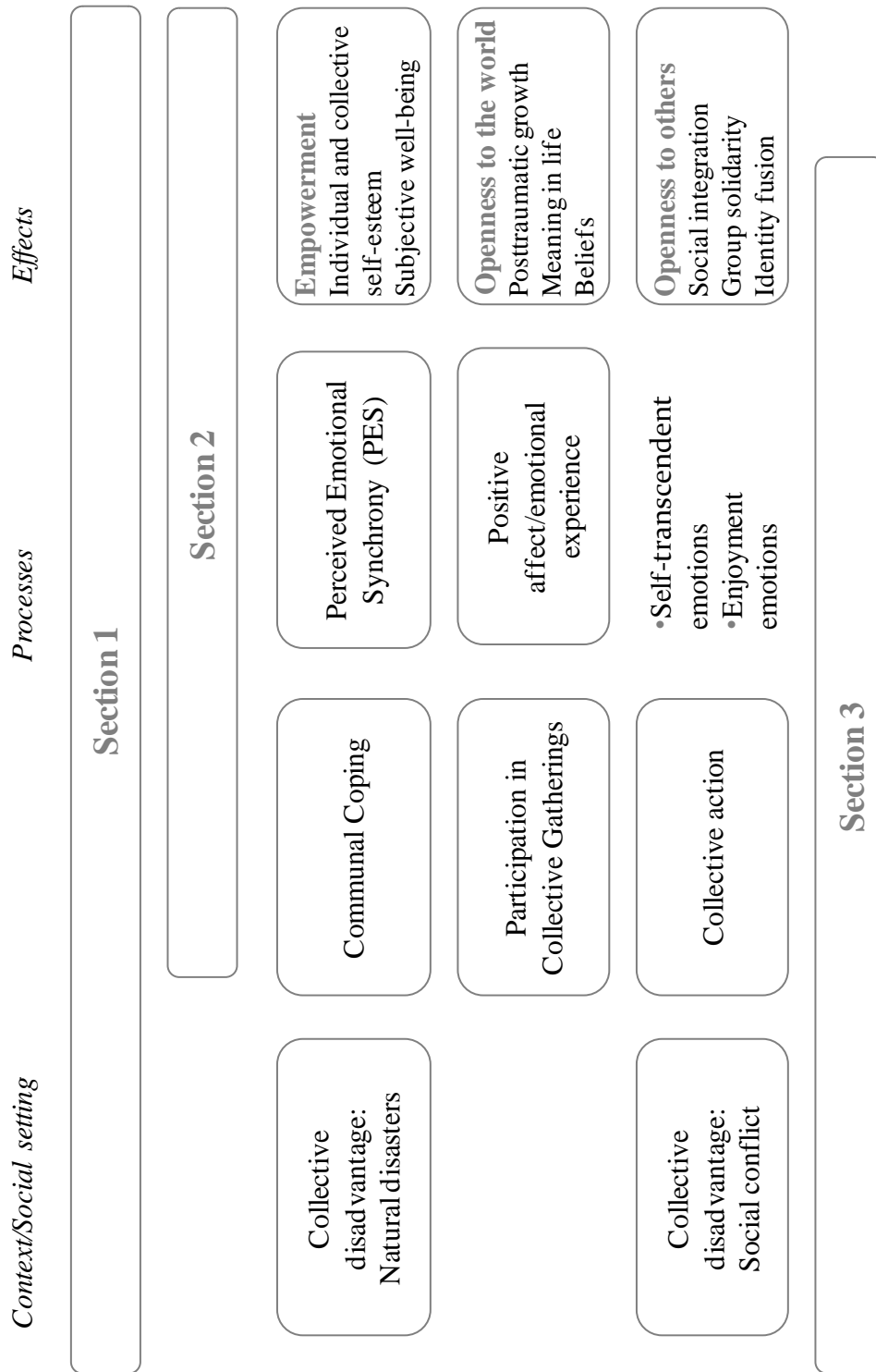


Figure 1. Overview of the three sections encompassed in this dissertation

which may explain the positive effects of micro social or communal coping, and collective behaviour oriented towards macro social coping (**S2-RQ3**). In **Chapter 4**, in two studies, the positive effects of participation in religious and secular collective emotional gatherings, as well as the mechanisms underlying this relation will be explored. More precisely, this research paper will firstly compare the effects of participation in spiritual versus secular Sunday activities as well as test the mediating role of perceived emotional synchrony and emotions. Secondly, whether perceived emotional synchrony is a direct predictor to positive outcomes or whether this relation is partially explained by the experience of specific emotions, like enjoyment or self-transcendent emotions (**S2-RQ4**) will be examined. Subsequently, **Chapters 5** explores in more depth the role of self-transcendence emotions in motivating macro social coping in the context of social conflict. Then a focus on the emotion of hope as a possible factor for enhancing involvement in social mobilization is explored. The following section briefly outlines the most relevant theoretical concepts that are discussed in each section and describes each of the empirical chapters, specifying the research questions and hypotheses addressed (for a summary see Table 1).

SECTION 1: FINDING INDIVIDUAL AND COLLECTIVE BENEFITS AFTER A COLLECTIVE TRAUMA: COMMUNAL COPING, POSTTRAUMATIC GROWTH AND WELL-BEING

Since the dangers in disasters come from outside the system and indiscriminately affect persons of all groups and statuses, there is a temporary breakdown in social class, ethnic group, and other hierarchical status distinctions, and a general democratization of the social structure. The reference changes from 'only I have suffered' to 'all of us have suffered; we are all in it together'. This is the basis for the widespread feeling of community and equality of suffering found in disasters.

—Fritz (1996, p. 58)

Traumatic stressors are events that challenge our existing ways of making sense out of our own reactions, our perceptions of others and challenge our “fair world assumptions” that the world is safe, predictable and “bad things do not happen to good people”. Although it is well known that trauma can evoke fear, uncertainty (Can I cope? Can I overcome it?), helplessness and hopelessness, a broad range of empirical studies have however confirmed that individuals do frequently perceive positive changes in themselves following adversity. Furthermore, stressful or life-threatening circumstances are not something that the individual has to deal with alone; other individuals are required to assist and to become intimately involved in the coping process. The use of social resources may foster stress resistance and produce favorable coping outcomes. Research on community events suggests that many benefits accrue when people are able to confront stress together. Hence, especially in the case of collective trauma, people may also perceive such benefits in their community and society. Therefore, it is important to understand how communal coping efforts are influencing individual and collective perceptions of benefits and well-being. Within the present dissertation, we argue that communal response and collective participation is beneficial in that it puts individuals in the presence of others and produces communal synergy which is then translated into enhanced feelings of belonging and cohesion and has wider, substantial positive effects for both individuals and communities. In regard to this, the relationship between communal coping, potential individual and collective benefits after a collective trauma, and well-being are investigated. Figure 2 represents the postulated associations examined in this section.

Collective Behavior in Natural Disasters

Natural disasters are events that affect a community or group, and are not attributable to human agents. Although natural disasters involve a community in a specific geographical location, their consequences often extend to other areas and provoke negative effects on well-being and mental health, even among those who were not exposed to the direct threat (Smith et al., 2014). Furthermore, one can observe the immediate consequences of the disaster (e.g., loss of human life, destruction on a

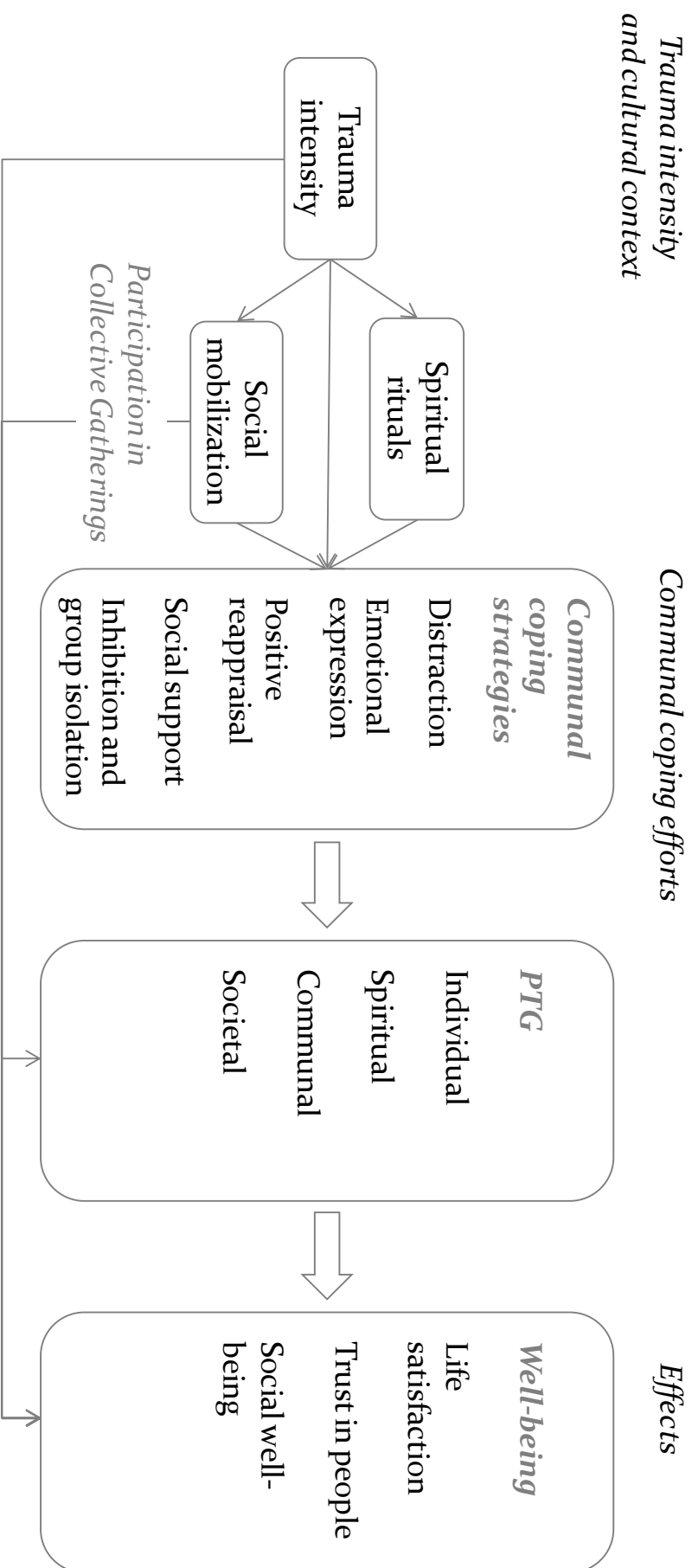


Figure 2. Overview of the postulated associations examined in Section 1

massive scale), short- and medium-term threats (e.g., seismic aftershocks, imminent possibility of a second earthquake or a tsunami), together with long-term psychological consequences, which may alter community functioning and generate specific behaviors in the population (Ursano, McCaughey, & Fullerton, 1994). Some reactions will focus on negative aspects, while others will more likely be associated with actions of solidarity and help.

Definition of Communal Coping

Communal coping occurs when one or more individuals perceive a stressor as 'our' issue and activate a process of shared or collaborative coping (a shared appraisal of stress and a shared action orientation toward managing the stressor) within a group or community (Lyons, Mickelson, Sullivan, & Coyne, 1998). Regardless of whether the stressor produces similar consequences to all, communal coping involves thinking and acting as if a stressor is shared. In the last 30 years some theoretical approaches and scales were developed in respect to communal coping. Zhang and Long (2006) defined communal coping as activities that orient attention to relationships with in-group members and the maintenance of interpersonal relationships with the goal of managing work-related stress. Wong (1993) proposes a distinction between collective coping and social support, as he argues that in collective coping, the stressor becomes an in-group problem and group members act jointly in order to solve it as they consider it their responsibility. This is quite different from an individual who uses his or her own effort to garner social support based on personal relationships. Similarly, Hardie et al. (2006) proposes a scale of collective coping which captures the group mobilization facet of communal coping. Therefore, we argue that the social dynamics of communal coping is more complex than the social support that occurs where one subject or a group of persons provides help to another.

Similarly to group emotions, communal coping implies identification with a category and appraisal of an event as a member of a group. Some approaches to group emotions propose that the processes of the emergence of group emotions rely on group-based identification and norms (Menges, 2015). However, group emotions are not necessarily collective emotions –

they are emotions related to group belongingness, but could be felt also in isolation or only at the individual level. Collective emotions are emotions that are perceived as feelings, enacted and shared by members of the relevant in-group. They are emotions in the group, not only related to the group or based on groups concerns and norms (Scheve & Salmela, 2014). Socio-cultural approaches tend to conceive collective emotions as synchronized emotional experiences that emerge through the social interaction of co-located group members (Páez & Rime, 2014; Menges, 2015). Similarly, when coping efforts are based on social identity and appraisals are shared, communicated and enacted collectively by members of the in-group, it could be conceived as communal coping. This is why we focused our approach on communal coping related to group dynamics and collective gathering.

Collective Gatherings and Communal Coping

Group and community participation in different kind of collective gatherings and rituals seems to play an important role in the way people cope with collective trauma that could be conceived as a enlarged communal coping at more collective level, above dyadic, interpersonal and group processes. These collective activities, religious and secular rituals or gatherings can be defined as a typology of collective meetings, which take place in a public space, intended to convey a symbolic message to an audience, both for expressive purposes (e.g., expressing criticism of a government) and in instrumental terms (e.g., demands for political change). At the same time, they also represent a form of communication that supports a "we-they" differentiation, which is enhanced by strengthening the collective identity of a group or a particular subgroup. Obviously, the communal or social action does not require consensus or total absence of conflict within the group in question. In most cases, the rituals of protest are "sociodrama" that intensify the conflicts of values within a framework of power struggle. During these gatherings and rituals individuals find themselves living an emotion in a collective way. Emotions are experiences and shared collectively as they are generated through the interaction with other group members or co-present participants. The objective is to remember and celebrate something, to claim for the political

changes or for collective memory through ritualized and symbolic behaviors.

Collective Posttraumatic Growth: Communal and Societal dimension

While PTG was originally conceptualized as personal and interpersonal benefits, in cases of collective trauma and in cultures that emphasize collectivistic values, growth can also be perceived at a communal and societal level. As proposed by Páez et al. (2013) Collective Posttraumatic Growth is defined “as benefits perceived in the community and society as a response to collective trauma experiences. It is a process of community learning reflected in collective emotions, emotional climate, beliefs, values and social behaviors” (Páez et al., 2013, p. 18). Scholars have addressed collective posttraumatic growth aspects such as increased political awareness (Ai, Cascio, Santangelo & Evans-Campbell, 2005), cohesion and group identity as positive responses to collective traumas. Furthermore, collective processes of resilience that occur in order to counteract trauma are based on rebuilding social relationships and reconstructing a sense of belonging, social identity and enhancing collective values such as solidarity and community cohesion (Lykes et al., 2007; Páez et al., 2007). Communal coping and social mobilization may have an effect on the development of collective PTG as long as those coping modality generate a positive emotional experience of hope and solidarity and a demonstration of people’s power.

Communal Coping, PTG and Cultural Differences

Coping practices may be influenced by culturally based worldviews, values, practices and abilities to modify fundamental assumptions that are affected by culture and rooted in aspects of collectivism (see Kuo, 2013; Wong & Wong, 2006). Coping behaviors and strategies adopted by individuals from more collectivistic cultures, such as African, Asian, and Latin American countries, tend to place primary importance on group loyalty, duties and norms and relationships, and tend to see others as a part of the self (i.e., they possess high group dependent self-construal). Moreover, more traditional values are associated with religious coping and participation in collective rituals. In this vein, members of collectivistic

cultures may place greater importance on collective or communal coping strategies or practices when they experience problems (Cross, 1995; Moore & Constantine, 2005). Obviously communal coping or collective reaction to a group level stressor, appraised as a shared problem and acted upon through coordinated joint action is not limited to collectivistic nations. However, it looks logical that cultures stressing dependence to ascribed groups or collectivistic ones should reinforce communal or group level coping. Some studies confirm that sharing a collectivistic self-construal is related to extensive use of relational and collective coping (Hardie et al., 2006). However, collectivistic individuals do not necessarily engage in more communal coping whereas individualistic subjects are more able to express and search for social support (Taylor et al., 2004; Chun, Moos, & Cronkite, 2006). Furthermore, in European context, people sharing collectivistic values reported using more communal coping as a resource to address collective traumatic events (Fernandez, Páez, & Pennebaker, 2009). Additionally, in Spain, communal coping was found to be associated with PTG both at the individual and communal level in Spain (Páez et al., 2007). On the other hand, studies using the Posttraumatic Growth Inventory (PTGI) and similar scales usually find lower level of spiritual growth in Spain than in the US and in traditional collectivist Latin American nations (Páez et al., 2013).

Globally, despite growing empirical evidence of the salience of collective coping strategies among Asians and African Americans, empirical studies examining coping behaviors and their outcome among other cultural groups, such as Latin Americans, Pacific Islanders or Muslims, are still scarce (Kou, 2013). Therefore, we will attempt to analyze cultural differences in communal coping among people affected by natural disasters in three countries (Spain, Chile and Colombia) with different cultural background in order to examine some of the above mentioned distinctions.

Taken together, in this section we examine micro social or communal coping strategies and participation in religious and secular collective gatherings as possible determinants of posttraumatic growth and positive adjustment in the context of collective disadvantage as natural disasters.

Chapter 1: Positive Effects of Communal Coping in the Aftermath of a Collective Trauma: The Case of 2010 Chilean Earthquake

Background: Chapter 1 examines how participation in secular demonstrations, spiritual rituals and communal coping enhance posttraumatic growth and social well-being. Research into communal coping covers different types of massive traumatic events, focusing on coping through participation in rituals and demonstrations, such as funeral rituals (Gasparre et al., 2010; ODHAG, 1998), political demonstrations (Páez, Basabe, & Rimé, 2005), and natural disasters (Espinosa, Ferrándiz, & Rottenbacher, 2011; Kaniasty & Norris, 1993). Thus, this chapter depicts communal coping and participation in collective ritualized activities as potential tools that by reinforcing in-group interaction might foster individual posttraumatic growth and social well-being among people affected by an earthquake in Chile in 2010.

Research questions and aims:

S1-RQ1 Are communal coping strategies commonly used in order to confront the stressful life circumstances, as natural disasters?

S1-RQ2 Is communal coping and participation in collective gatherings functional and beneficial?

The aim of this study was to verify whether communal coping and participation in collective ritualized activities are functional reducing the impact of collective trauma. First, we expect that participants will report medium high level of communal coping (H1.1). Subsequently, it was predicted that the frequency of participation in collective secular gatherings, spiritual rituals, should be related to adaptive forms of communal coping and particularly to reinforce social well-being and posttraumatic growth. More precisely, participation in demonstrations and rituals will be related to adaptive communal coping strategies, like reappraisal, regulated emotional expression, distraction, searching for social support and low avoidance and venting (H1.2). In addition, these latter, more micro-social strategies will constitute a way of enhancing posttraumatic growth and rebuilding well-being (H1.3).

Chapter 2: Individual and Collective Posttraumatic Growth in Victims of Natural Disasters: A Multidimensional Perspective

Background: Although, a number of recent studies have shown that individuals perceive positive changes in the wake of adversity at intra and interpersonal level, still little attempts has been made to measure their perception of changes that can occur in their community and the broader society. Therefore, considering collective traumas affect not only individuals but entire communities we postulate that natural disasters contain social and cultural dimensions that would favor growth processes at collective or community level. The principal interest of **Chapter 2** resided in the evaluation of different types of changes individuals perceive in them selves, in their community and in their society and its relation to trauma intensity and well-being in the context of people affected by natural disasters.

Research questions, aims, and hypotheses:

S1-RQ3 Do people perceive communal and societal changes and benefits after a collective trauma?

S1-RQ4 What is the relationship between different types of perceived changes or benefits and well-being?

In the present research we propose that individuals would perceive not only personal and spiritual growth, but also greater group-communal strength and additional social benefits in the aftermath of the earthquake (H2.1). Furthermore, we expect that perceiving all those benefits would promote personal and social well-being (H2.2). Explicitly, we aim to explore specific relations between the postulated dimensions of PTG, trauma intensity and different individual and societal indicators of well-being.

Chapter 3: Communal Coping and Posttraumatic Growth in a context of natural disasters in Spain, Chile and Colombia

Background: Chapter 1 reveals that communal coping and collective participation can foster individual posttraumatic growth and social well-being. Chapter 2 stresses the importance of considering broadened range of benefits in the aftermath of collective trauma, and examines the association of different domains posttraumatic growth and personal and social domains of well-being. In Chapter 3 we sought to examine the relationship between trauma intensity and individual, communal and societal domains of posttraumatic growth as well as to identify communal coping strategies which enhance posttraumatic growth in the context of natural disasters in three different cultures with different collectivistic or individualistic orientation. Recent research points out that the culture affects the experience of posttraumatic growth and its meanings (Helgeson et al., 2006; Splevins, Cohen, Bowley, & Joseph, 2010; Taku, 2011; Weiss & Berger, 2006). Therefore, although generally perceived intensity of traumatic experience should be associated with communal coping, and the later should increase posttraumatic growth, the response to collective trauma may be different in Latin American nations which are more collectivistic and traditional than in Spain considered as more individualistic and secularized.

Research questions and hypotheses:

S1-RQ3 Are communal coping strategies culturally specific?

S1-RQ4 What is the relationship between communal coping strategies and perception of individual, communal and societal posttraumatic growth?

Therefore, in the present study we analyze direct and mediational associations between trauma intensity, communal coping strategies, and individual, communal and societal posttraumatic growth in three different samples exposed to natural disasters (earthquake in Spain and Chile, and floods in Colombia). We predict that positive communal coping strategies

should mediate the association between intensity of trauma and posttraumatic growth, such that the effect of trauma intensity on posttraumatic growth weakens with increased reliance on positive communal coping strategies (H3.1). Second, we expect that social support and spiritual rituals play a more important mediational role in individualistic and collectivistic cultures respectively (H3.2). Third, we expect also higher frequency of participation in spiritual rituals and lower use of social support as a communal coping strategy in collectivistic cultures (H3.3), as well as lower level of reported individual, communal and societal posttraumatic growth in the moderately individualistic Spain, by comparison to moderately collectivistic Chile and Colombia (H3.4).

SECTION 2: MECHANISM UNDERLYING THE POSITIVE EFFECTS OF MICRO SOCIAL OR COMMUNAL COPING AND COLLECTIVE BEHAVIOUR ORIENTED MACRO SOCIAL COPING

It is by uttering the same cry, pronouncing the same word or performing the same gesture in regard to some object that [groups] become and feel themselves to be in unison... Individual minds cannot come in contact and communicate with each other except by coming out of themselves; they cannot do this except by movements. So it is the homogeneity of these movements that gives the group consciousness of itself.

—Durkheim (1912, p. 262-263)

[A]nyone who has truly practiced a religion knows very well that it is the cult that stimulates the feelings of joy, inner peace, serenity, and enthusiasm that, for the faithful, stand as experimental proof of their beliefs.

—Durkheim (1912, p. 420)

Social rituals, festivals, worship, celebrations precisely fulfill the function of periodically gathering individuals, of recreating the social group and of reviving shared beliefs. According to Durkheim (1912), the key in these situations is that common feelings are felt and expressed. Under

these conditions, an emotional communion or perceived emotional synchrony with others settles. Thus, participation in collective religious gatherings was found to enhance positive affect (Pargament, 2007); strength social integration and positive shared beliefs, among participants (Beristain, Páez, & González, 2000; Gasparre, Bosco, & Bellelli, 2010; Kanyangara, Rimé, Philippot, & Yzerbyt, 2011; Páez, Basabe, Ubbillos, & Gonzalez, 2007; Páez et al., 2013; Rimé, Kanyangara, Yzerbyt, & Páez, 2011; Weiss & Richard, 1997). Although, some studies suggested that those effects are a consequence of movement synchronization (McNeill, 1995) and occur even when the coordinated action is meaningless and devoid of affect (Wiltermuth & Heath, 2009; Valdesolo, Ouyang, & DeSteno, 2010); mere physical synchronization seems not to sufficient to explain all these effects. Social cohesion effects observed in collective movements can be seen as resulting from a common redefinition of participants' social identity (Drury & Reicher, 2000; 2005).

Perceived Emotional Synchrony

The neo-Durkheimian perspective suggests that the emotional synchrony that is generated among participants in these micro and macro social meetings, together with other factors like the synchronicity in people's behavior, and potential optimal experience, elicits an increase in well-being (Collins, 2004; Páez et al., 2015). Through emotion elicitation, reciprocal emotional stimulation and the building up of mutual empathy, collective gatherings bring participants to a stage of emotional communion or emotional synchrony. Feelings such as "we are one" were viewed by Durkheim as being at the heart of these participants' experience of group belonging and social integration.

Perceived Emotional Synchrony and Transcendence Beliefs and Emotions

Transcendence values like benevolence implies the relation of the ego with a group or in the case of universalism with the humankind and universe (Schwartz, 1994). Transcendence beliefs includes the tendency to orient oneself toward a larger transcendent reality or connectedness and belief in the unitary nature of existence or universalism are more general aspects and probably more cross culturally valid (Emmons, 2005).

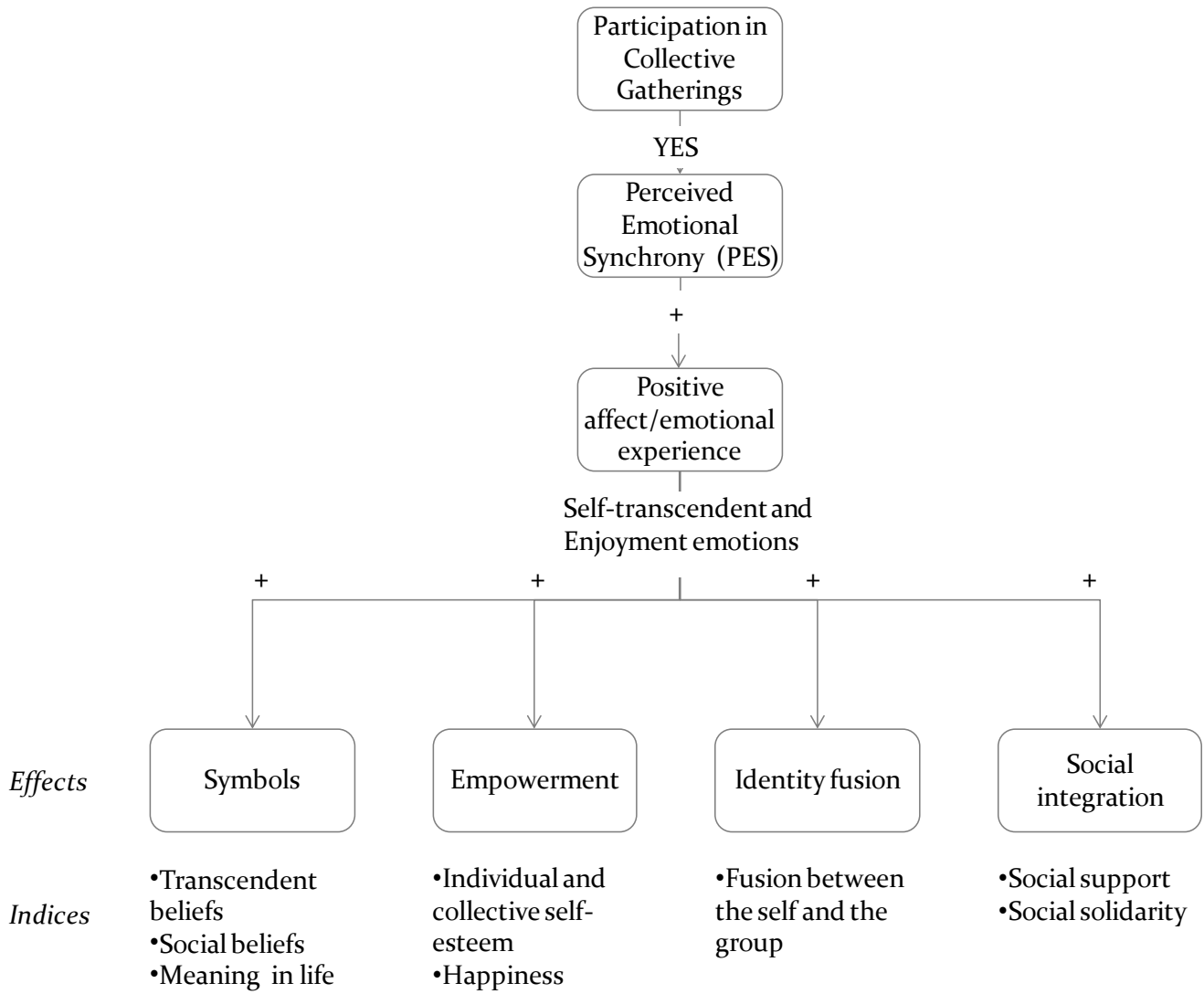


Figure 3. Overview of the postulated associations examined in Section 2

Emotions like awe and inspiration are characterized by the appraisals of seeing something great, inducing respect or persons and behaviours better than usual and the self. Urge to do your best, express what is good in you and motivates improvement of the self and the society (Haidt, 2006; Emmons, 2005). These positive emotional states pull out of self-absorption and enables one to see himself as part of something greater, in addition, they weakens differences between the self and the social world (Frederickson, 2009; Van Cappellen & Rimé, 2014), inducing self-transcendence or fusion of personal identity with the social world.

In this **Section 2** we build upon recent findings by Páez et al. (2015) about participation in collective gatherings. In two longitudinal field study we attempt to examined the role of shared emotional states (perceived emotional synchrony with others) and the experience of self-transcendent emotions in explaining beneficial effects of positively-valanced collective gathering on personal and social beliefs, empowerment, fusion of identity and social integration (see Figure 3).

Chapter 4: Religious and Secular Collective Gatherings, Perceived Emotional Synchrony and Self-Transcendence Emotions: Two Longitudinal Studies

Background: Drawing on Durkheim's view on the role played by collective gathering in the elicitation of numerous positive effects, **Chapter 4** the mecanisms through which participation in collective gathering reinforces positive personal and social beliefs, empowerment, fusion of identity and social integration (see Figure 3). We argue that perceived emotional synchrony or perception of collective effervescence is associated with strong emotional reactions, particularly in terms of experiencing qualitatively different self-transcendent and enjoyment emotions. Therefore, we also examine the role of self-transcendent emotions (e.g. awe, inspiration, gratitude) in explaining positive outcomes of participation in collective gatherings. We propose that perceived emotional synchrony should be associated to intense emotional activation, and that

particularly self-transcendent emotions should reinforce transcendence beliefs and other meaning attribution related outcome – like beliefs and values. In Study 1, we compared the effects of participation in spiritual versus secular Sunday activity on transcendence beliefs and collective self-esteem and the mediational role of perceived emotional synchrony and positive and self-transcendent. In Study 2, we conducted a more stringent test of our hypotheses by implementing serial mediation in order to examine whether perceived emotional synchrony increases self-transcendent and enjoyment emotions which then heightens positive outcomes. Participants completed questions concerning such issues before, during and after the event.

Research questions, aims, and hypotheses:

- S2-RQ5** What are the principal effects of participation in collective emotional gathering?
- S2-RQ6** What are the core mechanism underlying positive social and individual consequences of collective gatherings?
- S2-RQ7** Does perceived emotional synchrony contribute to positive outcomes through the experience of self-transcendent emotions?
- S2-RQ8** Are those direct and indirect effects similar or specific for personal, interpersonal and empowerment effects?

Specifically, the two quasi-experimental and longitudinal studies described in **Chapter 4** examine mechanism through which participation in positively valance collective religious and secular activities enhance which positive affect, empowerment, openness to the world and others. Thus, we expected that participation in a collective emotional gathering will positively affect participants personal and social beliefs, empowerment, fusion of identity and social integration (H4.1). This hypothesis will be tested by comparing scores before and after participation in religious and secular gatherings. Futhermore, in line with a central tenet of Durkheim's theory, we predicted that the more participants experienced emotional synchrony in the collective situation, the stronger these various effects would be (H4.2). This second hypothesis will be tested as a direct effect of

perceived emotional synchrony on outcomes. Third, we predict that increases in self-transcendence emotions could be experienced stronger by participants reporting higher level of perceived emotional synchrony with others during social celebrations (H4.3). Finally, self-transcendent emotions should play a specific mediational role between perceived emotional synchrony, and positive outcomes especially in terms of meaning in life and transcendent beliefs (H4.4).

SECTION 3: DETERMINANTS OF INVOLVEMENT IN MACRO SOCIAL COPING IN THE CONTEXT OF SOCIAL CONFLICT

[I]n and of itself, anger is not likely to produce organized collective action, but rather other (usually individual) forms of resistance [...]. It is only when anger gets joined with hope that the forms of action we normally associate with social movements and revolutions are apt to take place.

—Aminzade & McAdam (2001, p. 31-32)

In the last **Section 3** we explore dynamics of communal coping processes and ask whether self-transcendent emotions, as hope, enhance involvement in macro social coping in the context of social conflict. Whereas the existing literature suggests that negative group-based emotions, particularly anger or outrage, are separate but complementary pathways to collective action, relatively little attention has been paid to the role of positively valenced group-based emotions, like hope. More specifically, this section explores the power of emotions to transform beliefs into actual behavior. Thus, the scope is defined by, first, a focus on shared group beliefs and, second, a focus on group emotions that group members experience in relation to specific situation of collective disadvantage attributable to social agents. Figure 4 represents the relations analyzed in this section.

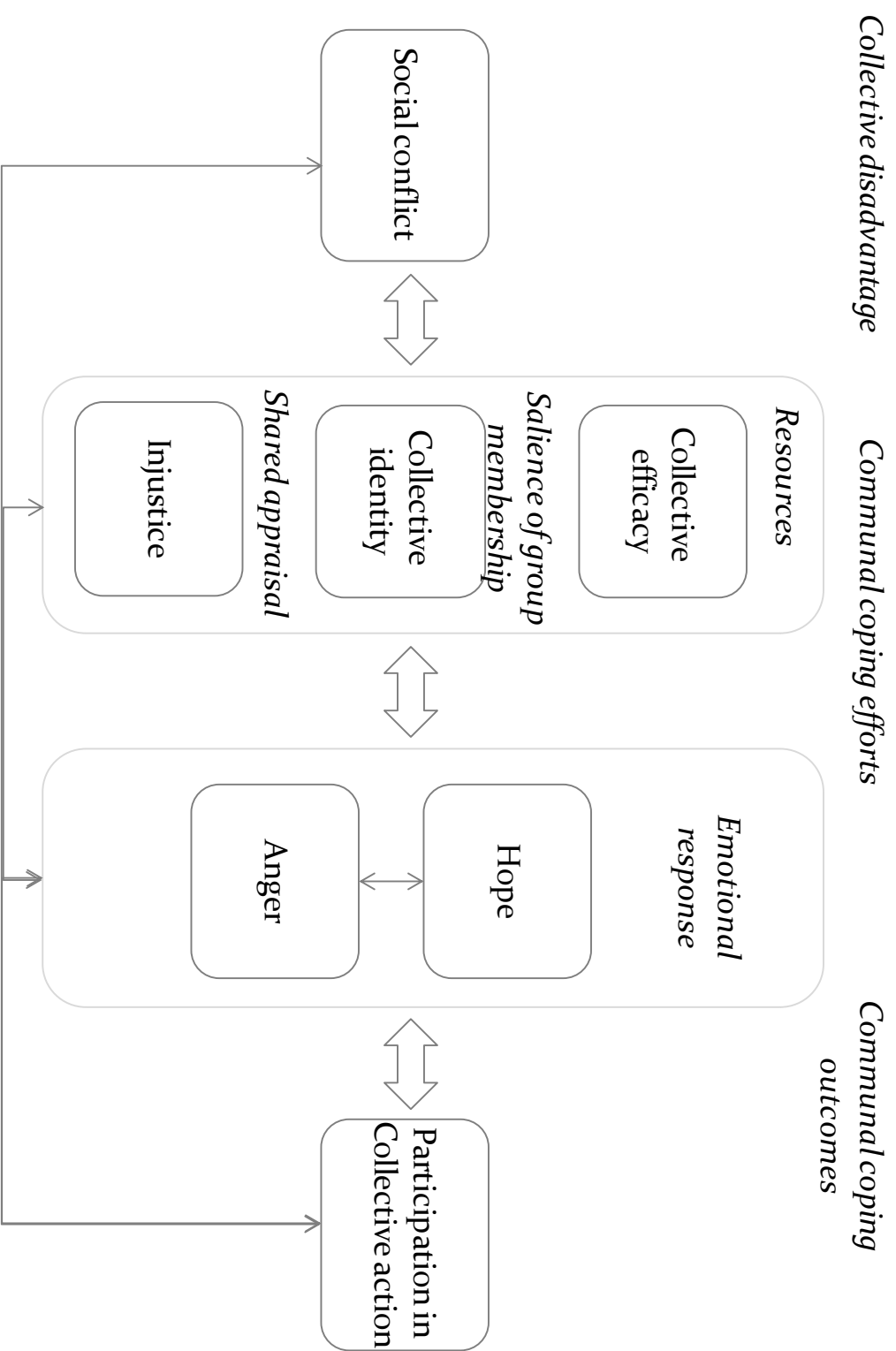


Figure 4. Overview of the postulated associations examined in Section 3

We adopt the perspective of Social Identity Theory (Tajfel, 2010; Tajfel, Billig, Bundy, & Flament, 1971), which revolves around the assumption that when people perceive themselves as part of a group more than as independent individuals their personal identity is reduced and their social identity is reinforced. If the group finds itself involved in a social conflict its members' social identity is activated, to such an extent that they become representatives of the society and the movement, more than independent persons (Turner, 1987). The salience of social identity has the quality of increasing members' identification with the group's values and beliefs, the perception of similarity, positive feelings (attraction, empathy, etc.) and prosocial relations of cooperation and solidarity (Turner, 1987). This is important for the movement, as it generates group cohesion and promotes unity of beliefs and coordinated action (Javaloy et al., 2001). Current approaches to social mobilization (Stürmer & Simon, 2009; Thomas, McGarty, & Mavor, 2009b; van Stekelenburg, Klandermans, & van Dijk, 2011; Van Zomeren, Spears, Fisher, & Leach, 2004; Van Zomeren, Leach, & Spears, 2012) emphasize the role of social identity, although they usually incorporate perceived injustice, collective efficacy and group-based emotions as complementary factors fuelling collective action.

In general, mobilization can reinforce a positive and dignified view of oneself, just as imagining a better society can encourage people to find joy in the task of achieving something positive (Goodwin, Jaspers, & Palleta, 2001). Both experimental (Kirschner & Tomasello, 2010, Wiltermuth & Heat, 2009) and longitudinal studies (Páez, Bobowik, Bilbao, Campos, & Basabe, 2011; Rimé, Páez, Basabe, & Martínez, 2009) have confirmed that coordinated collective behaviors reinforce identity and cohesion. More importantly, this emotionally loaded motivation for initiate interaction offers potential for social change (Collins, 1990). According to Elaborated Social Identity Model of crowd behavior (ESIM; Drury & Reicher, 2000; 2009) a similar surge of social cohesion, empowerment and positive affect is described as resulting from crowd dynamics. In this model, the social cohesion effects observed in collective movements are seen as resulting from a common redefinition of participants' social identity as a consequence of the behavior of out-group members.

According to the neo-Durkheim sociocultural model, emotional communion or perceived emotional synchrony influences the creation of positive affect and group cohesion (Rimé et al., 2009). Shared emotion can serve as a means of categorization for a group; for example, the moral indignation or anger derived from feelings of injustice tends to create the collective identity and solidarity that are crucial to the creation of a group (Thomas, McGarty, & Mavor, 2009b). Furthermore, this negative shared appraisal of social problems intensifies indignation or collective anger (Páez et al., 2013). If those feelings are accompanied by a strong sense of emotional communion or high emotional energy developed during repeated interactions shared anger can be transformed into high expectations and hope. Hence hope is required in order to reframe potentially risky context into positive expectations and inspire willingness to engage in active participation (Summers-Effler, 2002). Hope was identified as an important element of coping processes, as it arises in situations when people expect the worst but still try to turn things better (Lazarus, 1991; Snyder, Rand, & Sigmon, 2005). Surprisingly little research has examined the impact of hope on fuelling social mobilization. Therefore, we argue that social change is not possible without anger, but anger needs hope to be an effective agent of change, for that reason, people need to mobilize the hope in order to act.

In the final **Section 3** we were interested in examining the determinants of involvement in macro social coping in the context of social conflict. More precisely, based on the findings from **Section 2**, we propose that self-transcendent emotions as hope can be seen as a factor that reinforces involvement in collective gathering and social movements.

Chapter 5: Hope and anger as mediators between collective action frameworks and participation in collective mobilization: the case of 15-M

Background: The context of sudden rise of new social movements is exceptionally relevant for studying the different psychological motivators and processes that foster collective action. After a long time of neglecting the importance of emotions in protest, current principal explanatory models of collective action (Stürmer & Simon, 2009; Thomas, McGarty, & Mavor, 2009b; van Stekelenburg, Klandermans, & van Dijk, 2011; Van Zomeren, Spears, Fisher, & Leach, 2004; Van Zomeren, Leach, & Spears, 2012) incorporated group-based emotions, particularly anger or moral outrage, as separate but complementary pathways to collective action. At the same time, surprisingly few studies have directly examined the role of positively valenced group-based emotions in inspiring individuals to undertake collective action. Although many recent authors are pointing out the importance of considering positive emotions in explaining group dynamics (e.g. Mackie, Devos, & Smith, 2000; Smith, 1993; Thomas, McGarty, & Mavor, 2009a), much of the collective action literature does not sufficiently account for its crucial role in encouraging engagement in political protest. Based on the theoretical and empirical findings described in **Chapter 4** we propose that positive emotions, and especially hope, may be the key element which fuels resistance and protest, by transforming shared beliefs and grievances into actual action. In this line and considering constantly growing empirical evidences (Greenaway, Cichocka, van Veelen, Likki, & Branscombe, 2014, Páez et al, 2013; Sabucedo & Vilas, 2014; Smith & Leiserowitz, 2014) we propose that hope extends the motivational potential of anger and integrate this perspective with other prominent social psychological perspectives that emphasize factors such as perception of injustice, collective efficacy, group identification. Briefly, in **Chapter 5** we explore the dynamics of participation in collective action or mobilization and extend collective action models by highlighting the specific role of hope.

Research questions, aims, and hypotheses:

B3-RQ11 What are the determinants of involvement in collective action?

B3-RQ12 Do self-transcendent emotional states have the power to transform beliefs and tendencies into actual action?

Specifically, the general objective of the study is to test the role of hope and anger, triggered by perceptions of injustice, collective efficacy and identity, as drivers of participation and involvement in the collective actions of the 15-M movement. We seek to integrate collective action models and emphasize the role of the emotional component, especially hope. The present study extends collective action research by investigating relations between collective action frameworks by contrasting the SIMCA and EMSICA in a specific context of emergence of 15-M socio-political protest movement (H5.1), examining the mediating role of the emotions between those frameworks and collective participation (H5.2), and directly exploring the association between anger and hope (H5.3).

Table 1
Overview of the three blocks of research questions encompassing the five empirical chapters

RQ No.	Research Questions (RQ)	ChapterH No.	Hypotheses	Method
Section 1 - Finding individual and collective benefits after a collective trauma: communal coping, posttraumatic growth and well-being				
S1-RQ1	Are communal coping strategies commonly used in order to confront the stressful life circumstances, as natural disasters?	1	H1.1 People exposed to collective traumatic event would report medium high level of communal coping.	Design: cross-sectional, correlational. Participants: N = 557 volunteers affected by the earthquake of 8.8 degrees on the Richter scale which occurred in Chile on February 27, 2010.
S1-RQ2	Is communal coping and participation in collective gatherings functional and beneficial?		H1.2 Participation in demonstrations and rituals will be related to adaptive communal coping strategies, like reappraisal, regulated emotional expression, distraction, searching for social support and low avoidance and venting.	
			H1.3 Micro-social strategies are considered to be a way of enhancing posttraumatic growth and rebuilding well-being.	
S1-RQ3	Do people perceive communal and societal changes and benefits after a collective trauma?	2	H2.1 Individuals will perceive not only personal and spiritual growth, but also greater group-communal strength and social benefits.	Design: cross-sectional, correlational. Participants: N = 332 volunteers who had experienced the earthquake of 8.8 degrees on the Richter scale that occurred in Chile on February 27th, 2010.
S1-RQ4	What is the relationship between different types of perceived changes or benefits and well-being?		H2.2 Perception of all those benefits will promote personal and social well-being.	

Table 1

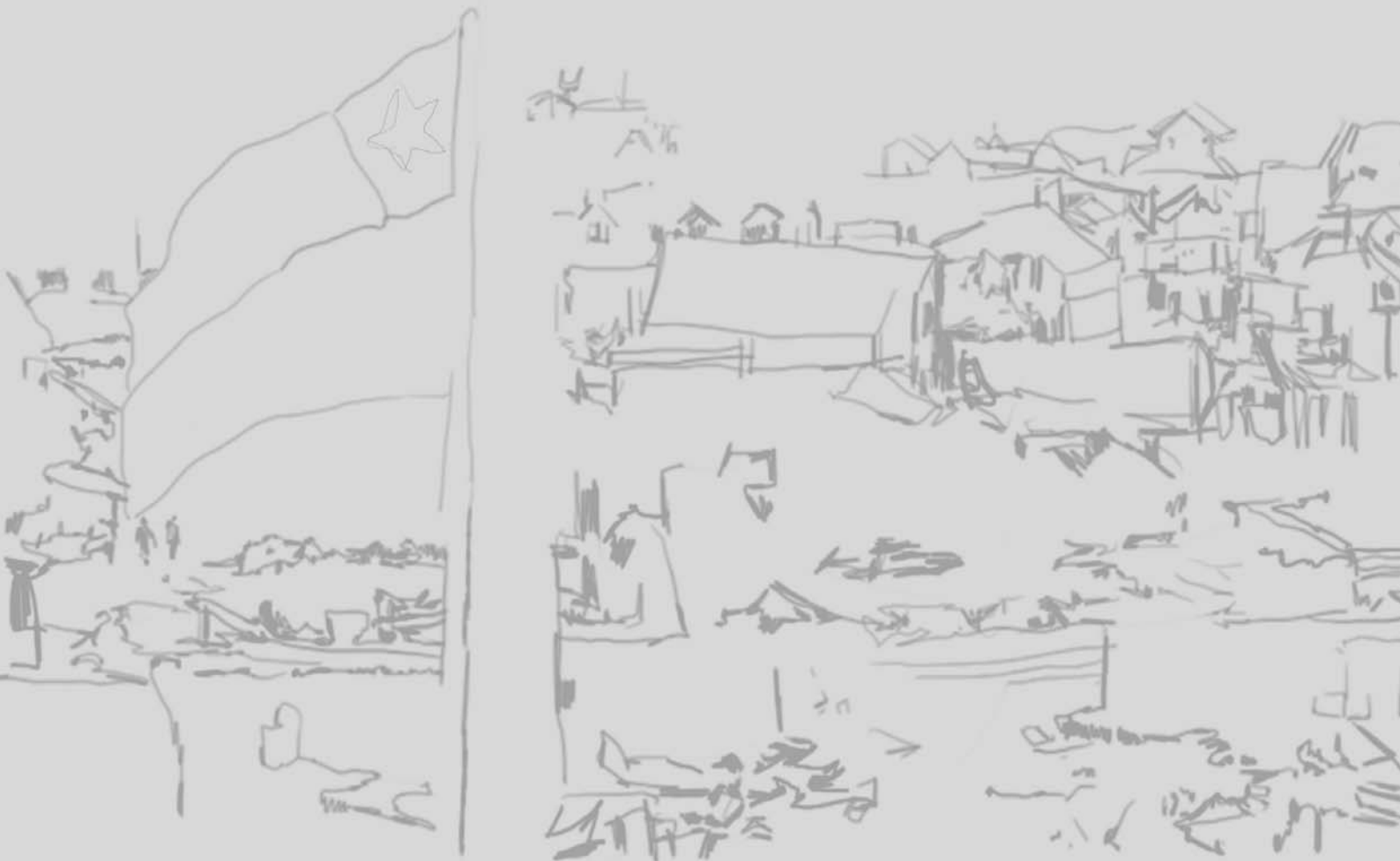
Overview of the three blocks of research questions encompassing the five empirical chapters

RQ No.	Research Questions (RQ)	ChapterH No.	Hypotheses	Method
S1- RQ5	Are communal coping strategies culturally specific?	3	H3.1 Positive communal coping strategies mediate the association between intensity of trauma and posttraumatic growth, such that the effect of trauma intensity on posttraumatic growth weakens with increased reliance on positive communal coping strategies.	Design: cross-sectional, correlational. Study 1 - Earthquake – Lorca (Spain) - Participants: N = 92 people directly affected by the consequences of Earthquake in Lorca (Spain). Study 2 - Earthquake – Concepción (Chile) – Participants: N = 332 volunteers who had experienced the earthquake of 8.8 degrees on the Richter scale that occurred in Chile on February 27th, 2010. Study 3 - Floods – Northern Colombia – Participants: N = 120 people affected by floods in Colombia, residents of two villages at south of Barranquilla.
			H3.2 Social support and spiritual rituals will play more important mediational role in individualistic and collectivistic cultures respectively.	
			H3.3 In collectivistic culture the frequency of participation in spiritual rituals will be higher whereas the use of social support communal coping strategies will be lower comparing to individualistic one	
S1- RQ6	What is the relationship between communal coping strategies and perception of individual, communal and societal posttraumatic growth?		H3.4 In moderately individualistic Spain individual, communal and societal posttraumatic growth will be reported less frequently in comparison to moderately collectivistic Chile and Colombia	
Section 2 - Mechanism underlying the positive effects of micro social or communal coping and collective behaviour oriented macro social coping				
S2- RQ7	What are the principal effects of participation in collective emotional gathering?	4	H4.1 Participation in a collective emotional gathering will positively affect participants' personal and social beliefs, empowerment, fusion of identity and social integration.	Design: two quasi-experimental and longitudinal studies. Study 1 - Religious ritual and secular group activities – Participants: 110 participants in

Table 1
Overview of the three blocks of research questions encompassing the five empirical chapters

RQ No.	Research Questions (RQ)	ChapterH No.	Hypotheses	Method	
S2-RQ8	What are the core mechanism underlying positive social and individual consequences of collective gatherings?	H4.2	The more participants experienced emotional synchrony in the collective situation, the stronger these various effects would be.	Christian Mass (N=60) and participants in secular Sunday group activities N=49) Three different measurement times: Thursday, Sunday and the following Tuesday.	
S2-RQ9	Does perceived emotional synchrony contribute to positive outcomes through the experience of self-transcendent emotions?	H4.3	Increase in self-transcendence emotions could be experiences stronger by participants reporting higher level of perceived emotional synchrony with others during social celebrations.	Study 2 - Pseudo-military Folkloric Marches in the Basque Country –Participants: N = 550 participants in the Tamborrada held on January 20th, 2013 Three different measurement times: four days before the celebration, the day of the celebration and four days after.	
S2-RQ10	Are those direct and indirect effects similar or specific for personal, interpersonal and empowerment effects?	H4.4	Self-transcendent emotions should play a specific mediational role between perceived emotional synchrony, and positive outcomes especially in terms of meaning in life and transcendent beliefs		
Section 3 - Determinants of involvement in macro social coping in the context of social conflict					
S3-RQ11	What are the determinants of involvement in collective action?	5	H5.1	Collective action frameworks and emotions predict involvement in collective action.	Design: cross-sectional field study. Participants: 638 individuals directly contacted in the 15-M movement camps and its surroundings as well as at university campuses during the month of June, 2011
S3-RQ12	Do self-transcendent and shared emotions have the power to transform beliefs and tendencies into actual action?		H5.2	Hope and anger mediates the relationship between collective action frameworks and involvement in collective action.	
			H5.3	The influence of anger is mediated by hope.	

Chapter 1



CHAPTER 1.

POSITIVE EFFECTS OF COMMUNAL COPING IN THE AFTERMATH OF A COLLECTIVE TRAUMA: THE CASE OF 2010 CHILEAN EARTHQUAKE

This chapter is under review as: Wlodarczyk, A., Basabe, N., Páez, D., Amutio, A., García, F., Villagrán, L., & Reyes, C. (2015) Communal coping, participation in collective gatherings and rituals, posttraumatic growth and social well-being in the aftermath of a collective trauma: the case of 2010 Chilean earthquake. *European Journal of Education and Psychology*.

Introduction

Collective responses as communal coping and participation in collective ritualized activities are functional because they reduce the impact of trauma (Villagran, Reyes, & Wlodarczyk, 2014). Moreover, these responses may foster posttraumatic growth and enhance well-being.

A traumatic situation can temporarily or permanently alter people's capacity to cope and their concept of self, stripping life of meaning and pleasure (Cury, 2007). It can break the bonds in the relationship between a person and their community, break the firmly held belief that people are good and that their actions have meaning or contribute to the common good (Keyes, 1998). The breakdown experienced in the fundamental beliefs of people who suffer a trauma (Janoff-Bulman, 1992) can produce distrust in change, social advancement and institutions. Nevertheless, it has been widely observed that traumatic experiences present an opportunity for significant growth (Helgeson, Reynolds, & Tomich, 2006; Tedeschi & Calhoun, 1996). People tend to mitigate the effects of the disaster with their capacity for organization, communication and social support. These interactive communal processes promote the increase of positive affectivity, the decrease of negative affectivity, the improvement of positive relationships with others and the reinforcement of purpose in life and psychosocial well-being in general (Gasparre, Bosco, & Bellelli, 2010; Tang,

2006). Defending common interests helps them to find meaning in the experience that they have had (Silver, Boon, & Stones, 1983; Tait & Silver, 1989) and helps to reinforce positive beliefs about themselves, others and society (Gasparre, et al., 2010; Poulin, Silver, Gil-Rivas, Holman, & McIntosh, 2009).

Furthermore, although studies on traumatic experiences of natural disasters have placed more emphasis on the negative and psychological sides than the positive and psychosocial ones (Bonanno, Brewin, Kaniasty, & La Greca, 2010), people's reactions are often collective and of positive valence. In a survey held after the earthquake in Chile in 2010 in over 22,000 homes from the affected provinces, people were asked whether they faced the consequences of the earthquake collectively or individually. Among the affected, 50.5% declared to use individual strategies, while 14.2% collective ones. Collective strategies were more commonly used in the most affected regions (39.8% Biobío and Maule 23.6%). Regarding the type of activity, 39.3% of the people organized themselves collectively in order to get water and food supplies and 37.9% did so to increase safety in their community (Larrañaga & Herrera, 2011). Furthermore, 89.8% indicated that they had received support from neighbours, both instrumental support, like receiving water, food, firewood (44.1%), emotional support (39.5%), and support as protection and shelter (46%) (Díaz, 2011). It was also found that in the aftermath of collective trauma people report intra, interpersonal and social positive responses, like increase in valuing and giving social support, enhanced cohesion, increase in altruism, and reinforcement of positive social beliefs and values (Vazquez & Paez, 2011). We will examine the features of collective responses that could explain these positive outcomes.

Communal Coping as a Collective Response

While the research on coping was primarily focused on individuals' capacities to overcome stressful circumstances (Folkman & Lazarus, 1988), natural disasters constitute a context in which individual and group efforts are likely to be combined (Hobfoll, Schroder, & Malek, 2002; Lyons, Mickelson, Sullivan, & Coyne, 1998). Those collective interactions can be conceived as communal coping or strategies adopted by the community to cope with the effects of the event. *Communal coping* is a process in which the appraisal and actions to resolve a problem occur within the context of social relationships.

People perceive the stressful event to be “our” problem rather than “my” or “their” problem (Lyons et al., 1998). This distinguishes it from coping through social support or regulating the individual stress of others, which are generally measured in terms of individual strategies that are applied with the help of others or for others (Little, Kluemper, Nelson, & Gooty, 2011), and do not imply that the problem is tackled collectively. The main features of communal coping are: a) Shared collective experience: the stressful situation must be experienced by two or more people, and have an impact on the group or collective structure; b) Shared appraisal of the stressful event: this situation involves thinking and acting as if the stress factor were shared, people consider that they and others perceive the event as “our problem” c) Collective/shared communication about the stress: the presence of communication and cooperation is necessary to address the stressful situation and to generate a shared appraisal; d) Mobilization of social relations: people will have to share responsibilities and act collectively/jointly to face the problematic situation (Lyons et al., 1998).

Communal Coping Strategies

Recent reviews and meta-analyses have concluded that coping dimensions are unstable and depend on the type of stress and sample, although there is some agreement about the existence of second-order dimensions such as adaptive and maladaptive coping (Campos, Iraurgi, Páez, & Velasco, 2004; Skinner, Edge, Altman, & Sherwood, 2003). Adaptive forms of coping include direct coping if the problem can be solved, reappraisal, regulated emotional expression and non-repressive self-control. The maladaptive dimension includes rigid dysfunctional approach coping (rumination, venting/emotional discharge and confrontation) and rigid maladaptive avoidance, based on abandonment, social isolation, inhibition and emotional suppression (Carver & Connor-Smith, 2010; Carver, 2011; Connor-Smith & Flachsbart, 2007).

On the basis of the review of the intrapersonal (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Web, Miles, & Sheeran, 2012) and interpersonal (Little, Kluemper, Nelson, & Gooty, 2011) coping families, and following collective validation studies on these, several communal coping strategies have been identified (Włodarczyk et al., 2013). The following are of particular note:

Aimed at changing the situation and social relationships. *Direct instrumental coping*: direct actions aimed at resolving or changing the stressful situation, involving a degree of risk for the group; *Social support*: search for contact, consolation, instrumental support or advice and spiritual support in the group;

Aimed at avoiding the situation. *Avoidance*: voluntary disconnection or escape that would imply efforts to detach or distance oneself from the causes of stress. In this way the environment or group tries to ignore what has happened;

Aimed at redirecting attention and cognitive change. *Distraction*: active attempts to deal with the stressful situation through a pleasant activity, for example: preparing meals, doing exercise together, watching television, going out for a walk, etc. *Positive reappraisal*: active attempts to change or modify the point of view of the stressful situation, with the aim of salvaging the positive aspects of the experience from the negatives. *Spiritual rituals*: planned symbolic actions that can take place during periods of transition or crisis. They include: commemorative rituals, performed after negative events such as the loss of a loved one; and acts of recognition, where there is a celebration of the positive.

Aimed at regulating emotional responses. *Self-control*: active attempts or efforts to regulate themselves as a group, both in terms of emotions and behaviours. These strategies involve both inhibition and self-comforting. *Emotional expression*: a strategy characterized by expressing emotions in order to share one's own emotions with others.

The dimensions listed are not exhaustive and depend on the items included and the samples used, although they are in line with the main categories of coping strategies and the regulation of affect (Skinner et al., 2003; Web et al., 2012). Furthermore, coping strategies can be differentiated in terms of types of collective behaviour, which can include mass demonstrations and rituals, protest demonstrations, commemorations and ceremonies, religious mourning rituals and secular rituals.

Research into communal coping covers different types of massive traumatic events, focusing on coping through participation in rituals and demonstrations, such as funeral rituals (Gasparre et al., 2010; ODHAG, 1998), political demonstrations (Páez, Basabe, & Rimé, 2005), and natural disasters (Espinosa,

Ferrándiz, & Rottenbacher, 2011; Kaniasty & Norris, 1993). These collective actions facilitate emotional expression and social sharing of emotions; they also make it possible to perceive an emotional climate as something that is more positive and full of hope, although they also foster feelings of anger and motivate action. In fact, participation in collective gatherings or demonstrations and rituals increases well-being because it reinforces positive affect, self-esteem, perceived social support and fusion of personal with collective identity, as well as positive social beliefs (Páez & Rimé, 2014; Prati & Pietrantonio, 2009). Along the same lines, participation in commemorations of the victims of a massacre predicted high cohesion one year after this collective trauma (Hawdon & Ryan, 2011). Participation in religious and secular rituals was associated to posttraumatic growth in victims of violence in Guatemala (Gasparre et al., 2010), and predicted positive affect, social integration and collective posttraumatic growth in Spain in the aftermath of 2004 bombing (Páez, Basabe, Ubillos, & González, 2007).

Furthermore, participation in collective gatherings or collective behaviours is considered to be source that reinforces personal and communal adaptive coping strategies. For instance, participation in celebrations (McRae, Heller, John, & Gross, 2011) or demonstrations (Páez et al., 2007) were related to adaptive coping strategies like low suppression, high reappraisal, high altruism and direct coping.

Objectives

We expect that people would report medium high level of communal coping. Based on the above considerations, it was also predicted that the frequency of participation in collective secular gatherings, spiritual rituals should be related to adaptive forms of communal coping and particularly to reinforce instances of collective positive psychology, like enhanced social well-being and posttraumatic growth. More precisely, participation in demonstrations and rituals will be related to adaptive communal coping strategies, like reappraisal, regulated emotional expression, distraction, searching for social support and low avoidance and venting. In addition, these latter, more micro-social strategies are considered to be a way of enhancing posttraumatic growth and rebuilding well-being.

Method

Sample

Participants in the study were in total 557 volunteers who experienced the earthquake of 8.8 degrees on the Richter scale which occurred in Chile on February 27, 2010. All of the volunteers were from the Bio Bío region, which was the most affected one during the earthquake. The sample was quasi-random and was obtained in 2013, and consisted of 63.8% women, with an age range between 18 and 74 ($M = 27.02$, $SD = 12.76$). Most of the participants were from the towns of Concepción (50.7%) and San Pedro de la Paz (16.4%). The majority of the participants had a university degree (51.5%), followed by those with primary or secondary education (29.3%) and a technical education degree (17.6%). A sub-sample answered a longer version of the survey, including Keyes Social Well-Being scale. This sub-sample consisted of 225 women and 103 men, aged ranged between 18 and 30 years ($M = 19.82$ years, $SD = 1.95$), mainly students from Psychology, Nursing, Philosophy and Pedagogy faculties of the University of Concepcion and from Law faculty of the University of San Sebastian.

Measures

Participation in collective gatherings, demonstrations, secular and spiritual rituals. Participation in collective gatherings was assessed by two items: “*We attended manifestations and gatherings*”, “*We organized commemorations and ceremonies*” ($\alpha = 0.57$). Furthermore, participation in spiritual rituals was assessed using these two items: “*We attended Masses and religious ceremonies*”, “*We prayed*” ($\alpha = 0.73$). The range of responses was from 0 = never to 3 = always.

Communal Coping Scale. The scale measures the frequency with which different coping strategies are used. The design of the communal coping scale was based on the Ways of Coping Scale (Folkman & Lazarus, 1988), the items were reworded to make them plural, other items were drawn from the Measure of Affect Regulation Styles (Larsen & Prizmic, 2006) and Coping Schemas Inventory-Revised (Wong, Reker, & Peacock, 2006). In total 67 collective coping items were included, and tested in a pilot study with 35 postgraduate students

who had suffered a shared stressful experience in recent months. Next, the 23 most reliable items with the highest content validity were selected, representing different families of coping strategies. This new instrument was submitted to a panel of experts and underwent a second pilot test with 74 adults, consisting of 37 students paired with a member of their close family who had experienced the same stressful situation, to observe any convergence in the strategy used. The final 23 items were grouped into five communal coping dimensions: distraction, emotional expression, positive reappraisal, emotional or informational and altruistic social support and self-control or inhibition and group isolation. Respondents indicated on a standard 4-point Likert scale ranging from 0 = never to 3 = always the extent to which the items described their communal coping strategies.

Short Form of the Posttraumatic Growth Inventory (Cann et al., 2010).

The scale consists of 10 items with response options ranging from 0 ("I did not experience this change") to 5 ("I experienced this change to a very great degree"). In this brief form, each of the domains of posttraumatic growth is represented by two items, however, as suggested by the authors, a total score is considered to represent more general sense of PTG (Cann et al., 2010). The internal consistency for the questionnaire was very satisfactory, $\alpha = 0.93$.

Social Well-Being. A total of 15 items from the short Spanish version of Social Well-Being Scale (Bobowik, Basabe, & Páez, 2015; Keyes, 1998) were used to assess five dimensions of participants' SWB: social contribution ($\alpha = .779$), social integration ($\alpha = .601$), social actualization ($\alpha = .762$), social acceptance ($\alpha = .580$), and social coherence ($\alpha = .571$). Each subscale – as in the original short version of the scale – consisted of three items. Responses ranged from 1 (*completely disagree*) to 5 (*fully agree*). Satisfactory reliability was also obtained for the whole scale ($\alpha = .77$).

Procedure

Questionnaires were distributed among students in different sessions during September 2013. The interviews with non-students were conducted in October 2013. In both cases each participant was given a letter of informed consent that included issues of confidentiality, anonymity and willingness of the process and explained the objectives of the study and its implications. The confidentiality of participant data was said to be fulfilled through anonymity. All participants were asked to complete the instruments in relation to their experience of the situation during the earthquake in February 2010.

Data analysis

First, in order to define the structure of the Communal Coping Scale maximum likelihood analysis was performed on the 23-item scale. Next, Confirmatory Factor Analysis (CFA) was used to confirm the existence of the proposed dimensions of communal coping. In addition descriptive statistics were calculated. Convergent validity of the scale was tested by examining correlations between participation in collective gatherings and spiritual rituals. Predictive validity was tested by examining correlations between communal coping and posttraumatic growth and well-being. Furthermore, Structural equation modelling (SEM) with Mplus 6.11 (ML (Maximum Likelihood) was used to specify the relation of participation in secular and spiritual rituals, the use of communal coping strategies and posttraumatic growth and well-being.

To check the fit of the models, in addition to the chi-squared test the following indexes were considered: CFI (*Comparative Fit Index*) and TLI (*Tucker-Lewis index*), whose values above .90 are considered acceptable, and also RMSEA (Root Mean Square Error of Approximation), with cut-off value close to 0.06 (Hu & Bentler, 1999) or a stringent upper limit of 0.07 (Steiger, 2007). Statistical significance of the parameters is calculated, and for each dependent variable, the unexplained variance or error term (Error δ) and the percentage of explained variance (R^2) are provided. In the presentation of the results the standardized solution is shown. All the coefficients represented by continuous arrows in the graphs are statistically significant, while the dashed lines indicate effects that are not statistically significant for $p < .05$. The data had almost no missing values, with the percentage of missing values for each

variable being less than 1%, so that these missing values were considered missing at random.

Results

Communal Coping: Psychometric Properties

The results of the preliminary likelihood analysis with Oblimin rotation with the number of factors set to be extracted at three to five, revealed that five-factor solution obtained the best fit to the data (χ^2 (143, $N = 556 = 324.098$, $p < .001$; CFI = 0.946; TLI = 0.908; RMSEA = 0.046 (90% CI [.039, .053])). Eight items were dropped due to low factor loadings ($\leq .30$). In order to confirm the measurement model of communal coping scale we performed a CFA with five latent dimensions, which corresponds to the proposed dimensions of communal coping – allowing the covariances among the latent dimensions to be freely estimated. Means, standard deviations of all the items composing *Communal Coping Scale* are presented in Table 1.

The baseline model on the remaining 15 items did not reach a satisfactory fit so one item was allowed to load on more than one factor (see Table 1: Item 3.- *We have eaten and drunk together to make us feel better*). The final model supported the expected five-factor solution (see Figure 1), and showed satisfactory fit to the data, χ^2 (79, $N = 556 = 192.761$, $p \leq .001$; CFI = 0.943; TLI = 0.924; RMSEA = 0.051 (90% CI [.042, .060])).

Frequency of communal coping and participation in collective gatherings and spiritual rituals

A large proportion of people (40.3%), declared participation in religious rituals (praying or participating in religious rituals), while 27.8% of participants performed secular rituals and collective gatherings, at least once.

Regarding the frequency of use of different communal coping strategies, self-control or inhibition and group isolation was reported at least ones by 37.5% of participants, whereas more adaptive strategies like: communal positive reappraisal (92.5%), emotional expression (80.4%), emotional or informational and altruistic social support (73.8%), communal coping by distraction (69.2%), were far more frequent. Finally, PTG was reported on a middle-high level ($M = 2.90$, $SD = 1.32$).

Table 1

Descriptive Statistics of items included in the Communal Coping Scale

Communal Coping Scale				
<i>Dimension</i>	<i>Item</i>		<i>M</i>	<i>SD</i>
Distraction	1. We have tried to be together and do things to enjoy ourselves and relax (parties and group activities) [Tratamos de estar juntos y hacer cosas para divertirnos y relajarnos (fiestas y actividades de grupo)]		1.68	1.09
	2. We have gone out for a walk, exercised, etc. to feel better [Hemos salido a pasear, hacer ejercicio, etc. para estar mejor]		1.28	1.08
	3. We have eaten and drunk together to feel better [Para sentirnos mejor hemos comido y bebido juntos]		1.82	1.03
Emotional expression	4. We have told or expressed one another how we feel [Nos decíamos o expresábamos unos a otros cómo nos sentimos]		1.67	.98
	5. We have talked to other people about what happened and we have shared our thoughts and feelings [Hemos hablado con otras personas de lo ocurrido y hemos compartido nuestros pensamientos y emociones]		2.00	.93
Self-control or inhibition and group isolation	6. We avoid being with other groups of people who have not lived our experience. We isolated ourselves [Evitamos estar con otros grupos de personas que no vivían nuestro problemas, nos aislamos]		.39	.78
	7. We have tried to keep our emotions to ourselves and do not show them in front of others [Hemos intentando guardar y ocultar nuestros sentimientos ante otros]		.85	.88
	8. We have not talked about things that went wrong [No hablábamos sobre las cosas que iban mal]		.94	.88
Emotional or informational and altruistic	9. Everyone has tried to speak to people who could do something specific to solve our problem [Cada uno ha tratado de hablar con personas que podrían hacer algo concreto para resolver nuestro problema]		1.08	.98

social support	10. We have accepted the likability and understanding of other people who did not experience our situation [Hemos aceptado la simpatía y la comprensión de otras personas que no vivían nuestra situación]	1.98	1.01
	11. We have spoken to other people who had a similar problem to see what they did [Hemos hablado con otras personas que tenían un problema similar para saber que hicieron]	1.69	1.02
	12. We have offered other people our experience from the past, to help others to cope with the problem [Hemos puesto a disposición de los demás nuestra experiencia del pasado, para ayudar a otros a enfrentar el problema]	1.81	1.01
Positive reappraisal	13. We have tried to find the positive side of the situation for the group [Hemos tratado de encontrar el lado bueno de la situación para el grupo]	2.07	.95
	14. As a result of the situation, we have grown and improved as a group [Como resultado de la situación hemos crecido y mejorado como grupo]	1.90	.97
	15. We have discovered important things in life [Hemos descubierto cosas que son importantes en la vida]	2.33	.89
Participation in collective gatherings, demonstrations, secular and spiritual rituals			
Spiritual rituals	1. We have prayed [Hemos rezado]	1.56	1.20
	2. We have attended masses or religious ceremonies [Hemos acudido a las misas o ceremonias religiosas]	.91	1.11
Collective gatherings	3. We have gone to demonstrations or gatherings [Hemos acudido a manifestaciones o concentraciones]	.57	.88
	4. We have organized or participated in joint actions (commemorations or non-religious mourning ceremonies) [Hemos organizados o participados en acciones conjuntas (fiestas de conmemoraciones o ceremonias de duelo no religiosas)]	.36	.70

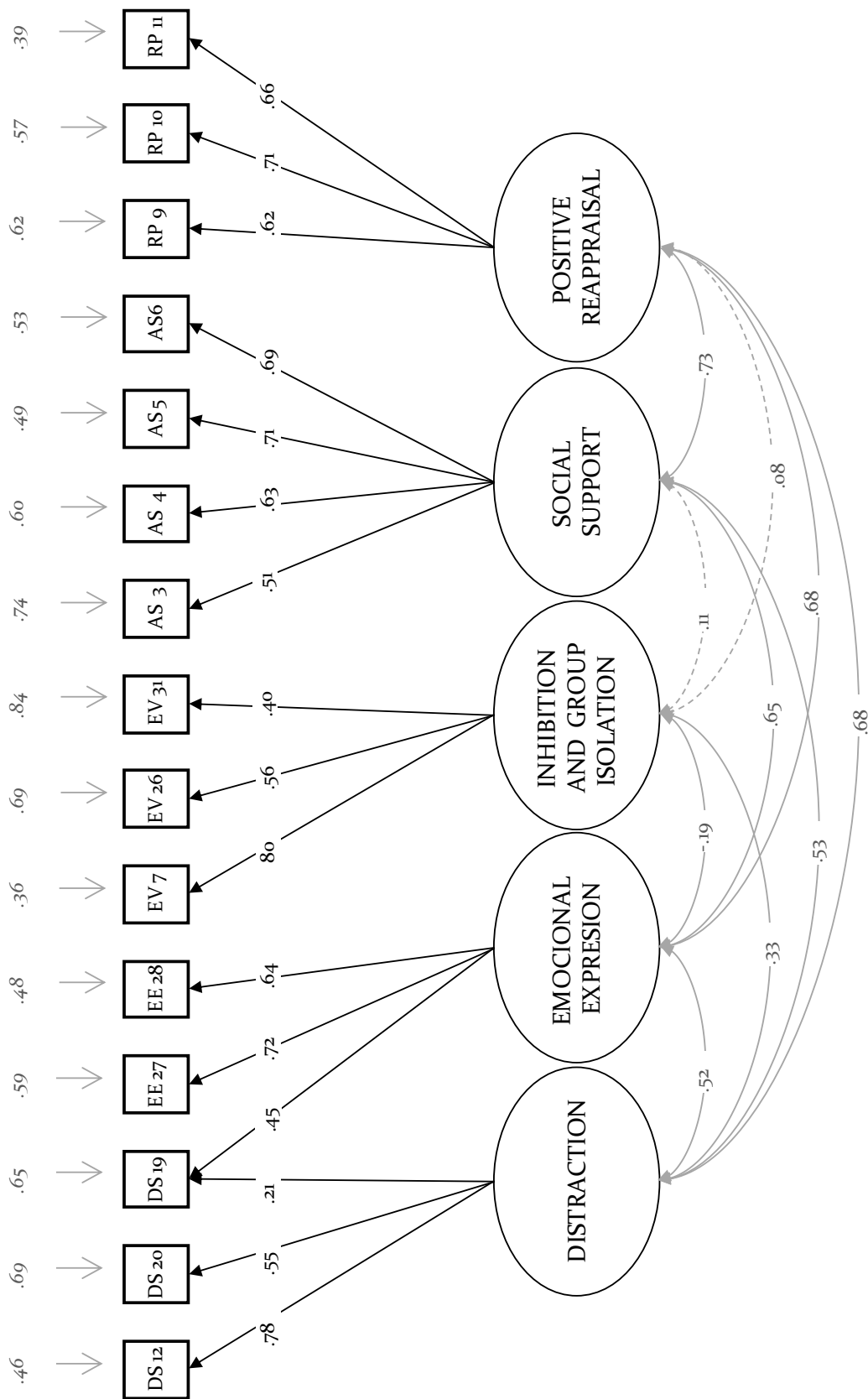


Figure 1. Communal coping strategies – Confirmatory Factor Analysis

Table 2

Correlations between communal coping strategies PTG-SF (N = 557) and SWB (N=317).

	A	D	EE	SI	SS	PR	CG	SR
Distraction	.651	1						
Emotional expression	.672	.678**	1					
Self-control or inhibition and group isolation	.498	.065	.009	1				
Emotional or informational and altruistic social support	.745	.429**	.487**	.089*	1			
Positive reappraisal	.712	.480**	.527**	.013	.528**	1		
Collective gatherings	.568	.200**	.116**	.204**	.206**	.110**	1	
Spiritual rituals	.733	.262**	.281**	.110**	.245**	.290**	.208**	1
PTG-SF	.923	.271**	.282**	.122**	.284**	.327**	.146**	.409**
Social well-being	.770	.132**	.179**	.032	.243**	.251**	.155**	.225**

** Correlation is significant at the 0.01 level (1-tailed).

Participation in social mobilizations and spiritual rituals; communal coping strategies, posttraumatic growth and social wellbeing.

To contrast the hypothesis of the simultaneous relation between participation, coping strategies and posttraumatic growth a model considering social participation and coping strategies as predictors of PTG was estimated. Figure 2 shows the relation between the variables included in the model, with a satisfactory fit of the model to the data, $\chi^2(358, N = 556) = 904.699, p < .001$; CFI = 0.915; TLI = 0.903; RMSEA = 0.052 (90% CI [.048, .057]).

Confirming that social gatherings and rituals reinforce adaptive microsocial communal coping strategies, it was shown that participation in spiritual rituals

is related to distraction, emotional expression, positive reappraisal and social support. This hypothesis was also partially supported for participation in secular collective gathering, that is, related to strategies like distraction and social support but also to self-control and in-group isolation. Communal reappraisal and participation in collective gatherings are significantly related to posttraumatic growth. In addition, based on the estimation of indirect effect, spiritual rituals showed to enhance PTG through positive reappraisal ($B = .414$, $SE = .162$, $Est./SE = 2.560$, $p = .01$). No indirect effects from secular collective gatherings to PTG were found.

In order to confirm the hypothesis of the association of participation in collective gatherings, spiritual rituals and its relations with coping strategies and posttraumatic growth, a model with social well-being as a focal dependent variable was developed using the data obtained in the first round. The proposed model obtained a reasonable fit ($\chi^2 (875, N = 332) = 1610.363$, $p < .001$; CFI = 0.905; TLI = 0.897; RMSEA = 0.039 (90% CI [.036, .042])). As it can be seen in Figure 3, the model confirms the predictions of the previous model (estimated with the whole sample), showing the same relations between the predictors and posttraumatic growth, and a direct effect of participation in secular collective gatherings on PTG but also on SWB.

In addition, indirect effects of participation in secular collective gatherings on SWB through PTG ($B = .112$, $SE = .041$, $Est./SE = 2.767$, $p = .006$) and of religious rituals through positive reappraisal and PTG on SWB ($B = .197$, $SE = .084$, $Est./SE = 2.361$, $p = .018$) were found.

Discussion

Overall results of the study provide evidence that shared stressful life circumstances, as being affected by an earthquake, are a context in which people engage in joint actions and communal coping in order to successfully confront the situation (Hobfoll et al., 2002; Kaniasty & Norris, 1993; Lyons et al. 1998). Around 30% of the people reported participation in collective gatherings and joint actions and about 40% in religious public rituals.

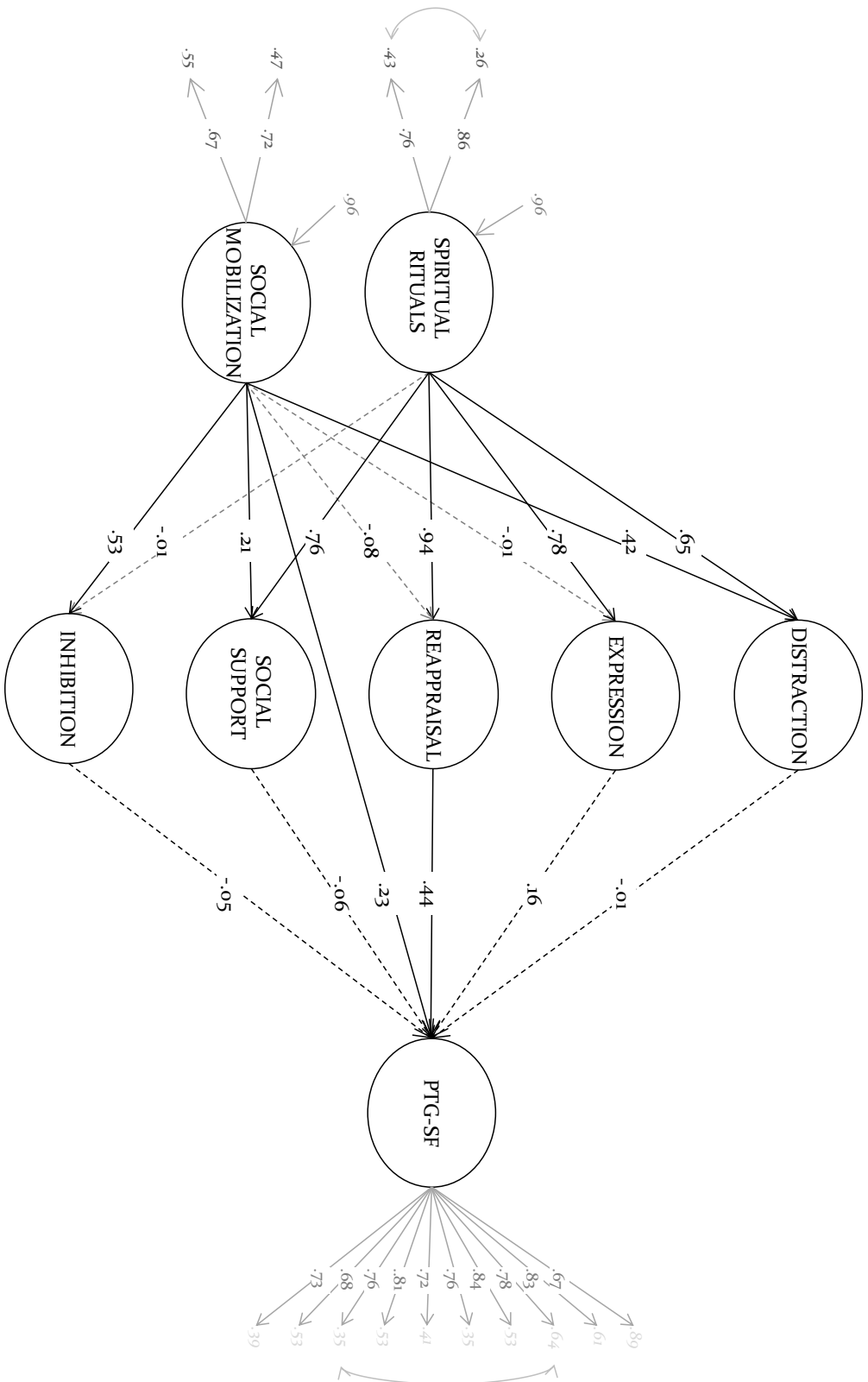


Figure 2. Participation in secular collective gathering and spiritual rituals, communal coping strategies and posttraumatic growth

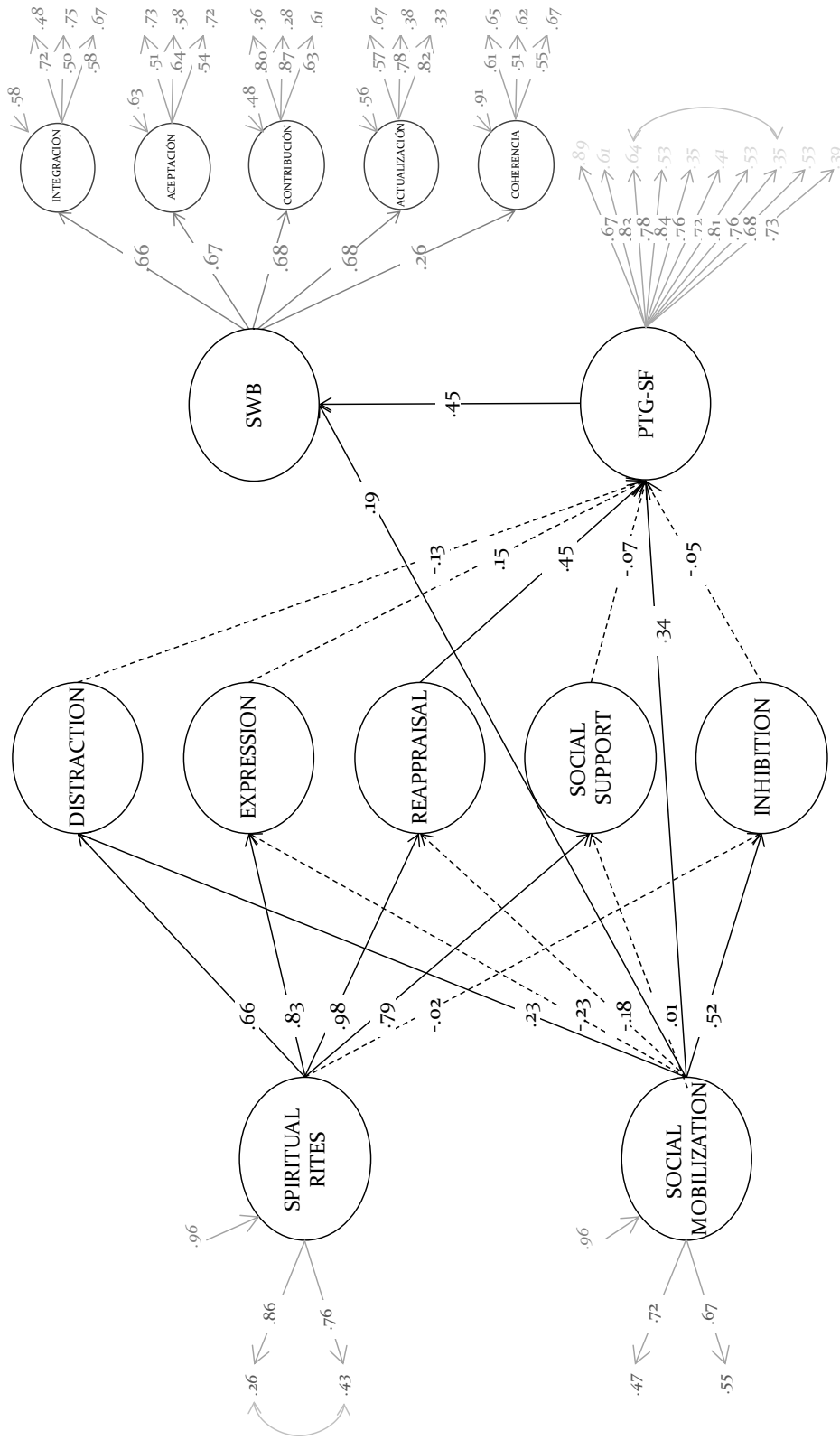


Figure 3. Participation in secular collective gathering and spiritual rituals, communal coping strategies and posttraumatic growth and its impact on social well-being.

These findings are congruent with a large survey which found that globally 22% of the people (36.9% in case of the most affected region Bío Bío) coped with the earthquake using collective forms of coping and that around 90% received instrumental and emotional support from their neighbours (Díaz, 2001, Larrañaga & Herrera, 2011).

Communal coping strategies were assessed by a multidimensional scale that emphasizes on collective agency and aims to provide a broader understanding of responses to shared problems. The scale has satisfactory reliability with the exception of Cronbach's alphas corresponding to the dimension of self-control and in-group isolation. Furthermore, a five factor solution corresponding to the proposed dimensions of communal coping show a reasonably adequate fit. Four of the proposed dimensions are supposed to be adaptive and one (composed of avoidance and venting) is considered as potentially not adaptive. One item loaded in more than one factor (*We have eaten and drunk together to make us feel better*) as it appears in emotional expression and distraction, probably reflecting the central role of sharing meals and drinks in the collectivistic Chilean culture. The intercorrelations among the five dimensions are moderate (with the exception of self-control or inhibition and group isolation dimension which is not related to emotional expression, emotional or informational and altruistic social support and positive reappraisal) confirming that people would rather use different coping strategies.

Furthermore, confirming that communal coping helps to increase positive collective responses, correlations show the strength of the link between reappraisal, distraction, social support, participation in collective secular and religious and PTG and social well-being. Self-control or inhibition and group isolation correlates only with PTG but not with social well-being. Negative, but non-significant association confirms partially the not adaptive role of this dimension.

Correlations and SEM confirm that participation in secular collective gathering is related to posttraumatic growth, which is congruent with previous studies (Gasparre et al, 2009; Páez et al., 2007). Furthermore, participation in spiritual rituals enhance PTG even more than participation in secular collective gatherings, probably because of the importance of religiosity in Chilean culture, and the fact that a systematic social movement did not appear in the aftermath

of catastrophe. Even though, participation in both secular and religious rituals was not negatively associated to not adaptive dimension as expected; and our results did not confirm that collective gatherings decrease suppression, we did find that collective participation increases reappraisal (McRae et al., 2011). Furthermore, the social isolation and avoidance dimension is related to PTG which is congruent with studies showing that not adaptive forms of coping like denial or is related to rumination and anxiety are related to PTG (Prati & Pietrantoni, 2009) as it reflects the activation of negative arousal. A similar process probably occurs at communal level.

Confirming that collective behaviour helps to increase positive collective responses, the frequency of participation in collective secular gatherings and spiritual rituals was also positively related to social well-being. In this case the associations was of similar strength; in addition, participation in secular gatherings showed a significant direct effect on social well-being. These results are important, because they confirm long term positive effects of the participation in collective gatherings on social well-being (Hawdon & Ryan, 2011).

Congruent with the hypothesis of collective behaviour or social gatherings as context reinforcing adaptive microsocial communal coping, results of this study showed that spiritual rituals were related to adaptive communal coping strategies, like reappraisal, regulated emotional expression, distraction, searching for social support and low avoidance and venting (even if the last coefficient did not reached statistic significance). A similar profile was found for participation in secular collective gatherings. Participation in secular collective gathering is related to strategies like distraction, social support but also to self-control and avoidance; however, it was unrelated to emotional expression and positive reappraisal. These results confirmed that participation in collective gatherings increase potential for social support, promote pleasant collective scripts, and also help to control and suppress social sharing of negative emotions, reinforcing ingroup interaction – which can be perceived as a manifestation of increased social cohesion. However, contrary to the results of McRae et al. (2011) and Páez et al. (2007), participation in secular demonstrations did not reinforce reappraisal nor communal emotional expression.

Finally, only positive reappraisal or reappraisal as communal regulation was a direct predictor of PTG, and mediated the relation between participation in collective gatherings and PTG and social well-being. Those results are consistent with studies showing that positive emotional response mediates between participation in collective gatherings and improved social climate (Páez & Rimé, 2014) and confirm the central role of positive reappraisal coping with societal issues (Halperin, Porat, Tamir, & Gross, 2013).

Conclusions

This study confirmed that communal coping was a common response, and that the scale measuring it showed satisfactory structural validity. Moreover, communal coping and participation in collective ritualized activities appears as instances of collective positive psychology, because they afford social growth and enhance well-being. As results show,

communal adaptive forms like communal reappraisal, regulated emotional expression, distraction and searching for social support were associated to social well-being and posttraumatic growth, . These communal coping strategies were associated with participation in collective gatherings and rituals. Communal reappraisal was specifically related to posttraumatic growth and associated to spiritual rituals, probably due to the religious characteristic of the Chilean culture. Secular collective gatherings reinforced social well-being and posttraumatic growth. Globally, results supported the importance for personal and social adjustment to negative life events using macro and micro-social forms of coping with stress. These findings confirmed social functions of collective secular gatherings that reinforce ingroup interaction and contribute to social cohesion especially in a collective trauma like an earthquake.

This study presents some limitations, like its retrospective nature and that the data was collected three years after the earthquake. However, it is important to stress that the sample was composed exclusively of people living in the affected area, a sample of people affected by a traumatic event that affects community life. Furthermore, more complex scales of communal coping and longitudinal studies are necessary to expand and confirm our results.

Chapter 2



CHAPTER 2.

**INDIVIDUAL AND COLLECTIVE POSTTRAUMATIC
GROWTH IN VICTIMS OF NATURAL DISASTERS: A
MULTIDIMENSIONAL PERSPECTIVE**

Introduction

Recent trauma literature showed that about two-thirds of people exposed to stressful events report positive personal and social-life changes (Helgeson, Reynolds, & Tomich, 2006; Prati & Pietrantonio, 2009). When the primary emotional response to a traumatic event is highly intense and negative (Vázquez, Pérez-Sales, & Hervás, 2008) and the traumatic event has been strong enough to challenge the basic beliefs of the victim, the experience would result in a positive re-evaluation (Triplett, Tedeschi, Cann, Calhoun, & Reeve, 2012). This indeed, can lead to the development of cognitive and affective skills which will in turn help people to find ways of coping successfully with the event (Prati & Pietrantonio, 2009). These skills, namely, posttraumatic growth (PTG), were originally defined by Tedeschi and Calhoun (1996, 2004) as the experience of positive change resulting from the struggle with major life crises or traumatic events, and would be made up of five domains (relating to others, a greater sense of closeness; personal strength, increased self-reliance; new possibilities, e.g., developing new opportunities; spiritual change, personal spirituality or religious faith; and appreciation of life, both for each day and for the value of life).

The present study explores the processes of posttraumatic growth among Chileans who lived through the earthquake that occurred in their country on February 27th, 2010. We discuss the concept of PTG, together with its manifestations and explanatory processes, going on to describe the different types of changes individuals perceive in themselves, in their community and in their society, all of which are assessed by the *Individual and Collective PTG Scale (ICPTGS)*. More precisely, the principal aim of this work is to emphasize that growth processes also occur at the collective or community level as positive responses to exposure to collective traumas, affecting not only individuals but entire communities. Whereas currently used standardized measures (Park, Cohen, & Murch, 1996; Tedeschi & Calhoun, 1996) assess mainly personal posttraumatic growth, we propose a broader understanding of growth processes and assess also individuals' perceptions of benefits for their community and society in the aftermath of trauma.

Collective behavior in Natural Disasters

Natural disasters are events that affect a community or group, and are not attributable to human agents. Although natural disasters involve a community in a specific geographical location, their consequences often extend to other areas and provoke negative effects on well-being and mental health even among those who were not exposed to direct threat (Smith et al., 2014). Furthermore, one can observe the immediate consequences of the disaster (e.g., loss of human life, destruction on a massive scale), short- and medium-term threats (e.g., seismic aftershocks, imminent possibility of a second earthquake or a tsunami), together with long-term psychological consequences, which may alter community functioning and generate specific behaviors in the population (Ursano, McCaughey, & Fullerton, 1994). Some individuals may respond to a natural disaster by focusing on its tragic consequences, while other reactions may be more likely associated with actions of solidarity and help. Recent studies have pointed out that social relations and community interactions are an important predictor of reparation and of successful coping in the wake of a disaster (Bonanno, Brewin, Kaniasty, & La Greca, 2010; Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). Thus, collective coping strategies, such as requesting and receiving help from friends, family and/or government, social sharing, or participation in rituals and spiritual practices (Rhodes & Tran,

2012; Tang, 2006), will probably reinforce positive adaptation to the disaster situation and serve as a basis of PTG. Lastly, these coping strategies also involve community efforts to demand a response from the government and authorities because the needs to be met are immediate (e.g., restoring security, helping survivors). A slow or late response from the government may predict posttraumatic stress in certain populations (e.g., African Americans), as was found among those affected by Hurricane Katrina; on the contrary, an efficient response would predict higher levels of personal growth (Rhodes & Tran, 2012) and is an important component in the recovery of the community. Therefore, in order to develop appropriate intervention strategies for people exposed and threatened by natural disasters, it is important to identify the processes associated with adaptive coping and perception of potential benefits for individuals (Tedeschi & Calhoun, 2004), but also for communities and a broader society (Poulin, Silver, Gil-Rivas, Holman, & McIntosh, 2009; Ursano et al., 1994).

Collectivistic Culture, Spirituality and PTG

Importantly, culture may be one of the important determinants of PTG processes and their meanings (Helgeson et al., 2006; Weiss & Berger, 2006). The Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) is the most frequently used measure of positive effects of adversity and has shown high statistical reliability and validity (Linley, Andrews, & Joseph, 2007). However, recent studies have discussed the possibility of cultural differences in the PTG experiences and the subjective ratings of the indicators of PTG between individuals from individualistic and collectivistic cultures (Splevins, Cohen, Bowley, & Joseph, 2010; Taku, 2011). The five domains of PTG (Tedeschi & Calhoun, 1996) were generally found in western, individualistic and developed countries (such as Australia, the USA and western European countries) (Linley, Andrews, & Joseph, 2007; Morris, Shakespeare-Finch, Rieck, & Newbery, 2005; Taku et al., 2008). In these cultures there is an emphasis on self-determination and independence so that people give more importance to intrapersonal emotional experience, and it is plausible that for this reason they differentiate better the different facets of individual growth. Nevertheless, a number of recent studies have yielded different factorial solutions, not always totally according to the five original dimensions. Three dimensions, related to changes

in perception of self, changes in interpersonal relationships, and changes in philosophy of life or in religious or spiritual/existential beliefs were found especially in studies conducted in more collectivistic contexts (García, Cova, & Melipillán, 2013; Leiva-Bianchi & Araneda, 2013; Weiss & Berger, 2006). Moreover, other studies have also suggested second-order intra and interpersonal factors and a second-order general factor structure (Kagan, Güleç, Boysan, & Çavus, 2012; Linley et al., 2007; Taku et al., 2008).

Furthermore, it has been found that the religious-spiritual dimension of PTG is more pronounced in faith-based Latin or African cultures than in Asian and Western societies (García et al., 2013; Weiss & Berger, 2006, Páez, Vázquez, & Echeburúa, 2013). In addition, existing literature suggests that religious or spiritual beliefs represent a framework of help for later reappraisal of the traumatic event, and that they can be useful in people's psychological recovery, in their personal development and in their subsequent growth (Helgeson et al., 2006; Prati & Pietrantonio, 2009; Show, Joseph, & Linley, 2005). Other authors have stressed that this growth requires a previous condition of spirituality or religiosity (O'Rourke, Tallman, & Altmaier, 2008; Taku, 2011), which would orient such reappraisal and eventually give meaning to the event.

Collective PTG: Communal and Societal Dimension

While PTG was originally conceptualized as personal and interpersonal benefits, in cases of collective trauma and in cultures that emphasize collectivistic values growth can also be perceived at a communal and societal level. As proposed by Páez et al. (2013, p. 18), collective posttraumatic growth is defined "as benefits perceived in the community and society as a response to collective trauma experiences. It is a process of community learning reflected in collective emotions, emotional climate, beliefs, values and social behaviors". Examples of communal and social benefits include increased family closeness, social support, empathy, prosocial behavior and, in the case of collective trauma, increased community cohesion in different cultural contexts (Poulin et al., 2009; Vázquez et al., 2008).

Cross-cultural studies in Asia, Africa, the Middle East and Latin America have shown that in cultures which emphasize relations of duty and group membership PTG may represent perceived benefits for the national community

(Vázquez & Páez, 2011). In semi-collectivistic cultures, such as that of Japan, research has found that even individual traumas can provoke such collective growth or strengthening of the connection with the global community and humankind (Taku, 2011).

In the case of Guatemala, research has shown that not only collective massacres have a greater individual and community impact than individual repressive events, but also that people who have to face collective massacres develop more forms of social mobilization and social cohesion (Vázquez & Páez, 2011). In the September 11th attacks on the USA and the March 11th bombings in Madrid (2004), many individuals reported perceived social benefits, as increased prosocial behavior, religiosity and political engagement (Poulin et al., 2009; Rimé, Páez, Basabe, & Martínez, 2010). These emerging findings on perceived communal and social changes are crucial because they point out that it is important to assess a broader perception of different positive outcomes.

Positive intra and interpersonal changes and collective growth as a reaction to a terrorist attack (Rimé et al., 2007) were assessed with measures developed on the basis of the PTGI and items reflecting the indices of a peace culture as proposed by UNESCO. Findings relative to PTG indicated a moderate level of intrapersonal benefits, a high level of interpersonal benefits and an even higher level of collective growth. These results strongly support that, under conditions of collective trauma, and more probably in cultures emphasizing collectivistic values, growth is perceived at the societal level, with effects such as increased political participation and greater appreciation of cultural values related to peace. Furthermore, communal forms of coping help to counteract trauma through the rebuilding of social relationships, sense of belonging and social identity, affinitive, and collective values, such as solidarity and community cohesion (Norris et al., 2008).

In the present study it was proposed that natural disasters are events containing social and cultural dimensions that would favor PTG. Consequently, given the collective nature of the trauma and traditionalism and cultural collectivism of the populations analyzed, it was hypothesized that individuals would perceive not only personal and spiritual growth (García et al., 2013; Show et al., 2005), but also greater group-communal strength (Bonanno et al., 2010) and additional social benefits (Poulin, et al., 2009; Rhodes & Tran, 2012; Taku,

2011; Vázquez & Páez, 2011) in the aftermath of collective trauma. Furthermore, in line with the aforementioned literature, it was expected that perceiving all those benefits would promote personal and social well-being.

Based on the above considerations, the first aim of the present study was to assess perception of those multiple positive changes and examine factor structure of *The Individual and Collective Posttraumatic Growth Scale (ICPTGS)*. The scale integrates the evaluation of the perception of personal (discovering strengths, new opportunities, spiritual development, change in philosophy of life), and interpersonal (increased appreciation of receiving and giving social support) PTG (Tedeschi & Calhoun, 1996), assessed by the mean of items included in PTGI-SF (Cann et al., 2010); and perception of communal (increased social cohesion) and societal (reinforcement of prosocial cultural values) benefits. Thus, we set out to determine whether the five original factors of PTGI are differentiated from one another or collapse into one individual dimension, and also whether there emerge dimensions of communal change and another dimension of more general societal change (*general hypothesis*). To this end we test four possible factor structures (the three-factor first-order model, the four-factor first-order model, the seven-factor first-order model, and a second order factor model).

Second, we were interested in testing predictive validity of the proposed instrument. Explicitly, we expected to that different dimensions of PTG would be associated with trauma intensity, personal and life satisfaction, perceived attainment of adaptive group goals, and social well-being.

Method

Participants

Participants in the study were 332 volunteers who had personally experienced the devastating earthquake of 8.8 degrees on the Richter scale that rocked the western coast of Chile on February 27th, 2010. They were students from the Psychology, Nursing, Philosophy and Education faculties at the University of Concepción, and from the Law faculty at the University of San Sebastián. Both institutions are in the Bío Bío region, which was that most severely affected by the earthquake. The sample was made up of 225 women and

103 men, with an age range of 18 to 30 ($M = 19.82$, $SD = 1.95$). About 57% of participants reported personal or family property being damaged or destroyed as a result of the earthquake.

Procedure

Having previously talked to the lecturers and obtained their consent, questionnaires were distributed to the students in various sessions during September 2012. Informed consent was obtained and confidentiality of participant data was guaranteed through anonymity. Participants were asked to respond to all the measures in relation to their experience of the earthquake in February 2010.

Measures

Trauma intensity. Emotional impact of the traumatic episode was assessed by three items (“Overall, how stressful or traumatic was the earthquake-tsunami situation for you?”, “How intense was the experience for you?”, “To what extent did it cause you anxiety?”). The response scale ranged from 1 (*not at all*) to 7 (*a lot*). A single factor was yielded by an exploratory factor analysis. Reliability (Cronbach’s alpha) of this scale was excellent ($\alpha = .87$). A mean score of the three items was calculated ($M = 4.23$, $SD = 1.57$), a lower score indicating less emotional impact of the traumatic event.

Satisfaction with life (SWL). An item taken from the World Value Survey was used to assess life satisfaction (“All things considered, how satisfied are you with your life as a whole these days?”) on a 10-point Likert scale from 1 (*dissatisfied*) to 10 (*satisfied*).

Trust in people (Gonzalez, 2012). A single item was used to assess overall trust in others (“To what extent would you say that in general one can trust the majority of people”) on a 10-point Likert scale (1 = *low trust* to 10 = *high trust*).

Group Goals (GG) - Perceived attainment of adaptive goals in the episode. Functionality of communal coping strategies was measured by means of five items. In relation to the experience of the earthquake, participants reported the extent to which the group/community had succeeded in achieving adaptive goals such as: (1) Reducing displeasure; (2) Understanding, the

situation; (3) Resolving problems; (4) Managing relations with other people; (5) Preserving group self-image and social relations. The response scale ranged from 1 (*little or no change*) to 7 (*major change*). Exploratory factor analysis yielded a single factor. Reliability of this scale was satisfactory ($\alpha = .822$).

Social well-being. A total of 15 items from the short Spanish version of Social Well-Being Scale (Bobowik, Basabe, & Páez, 2014; Keyes, 1998) ranging from 1 (*completely disagree*) to 5 (*fully agree*) were used to assess five dimensions of participants' SWB: social contribution ($\alpha = .78$), social integration ($\alpha = .60$), social actualization ($\alpha = .76$), social acceptance ($\alpha = .58$), and social coherence ($\alpha = .57$). Each subscale consisted of three items. Satisfactory reliability was obtained for the whole scale ($\alpha = .77$).

Individual and Collective Posttraumatic Growth Scale (ICPTGS). A 19-item scale was administrated in order to measure PTG after a traumatic event such as the earthquake on three different levels: personal level (personal growth: dimensions of appreciation of life, new possibilities, personal strength, relationships with others and spiritual growth), group level (communal growth), and societal or socio-political level (collective or societal growth) (see Appendix 1).

In order to assess personal growth, we used 10 items adapted from a Short Form of Posttraumatic Growth Inventory (PTGI-SF; Cann et al., 2010). Although, each of the original factors of PTGI is represented in PTGI-SF by two items, a total score is considered to represent more general sense of PTG (Cann et al., 2010). To assess communal growth, we included four items referring to improved intra-group cohesion, empathy and group strength. Finally, in order to measure societal growth, we used five items referring to positive changes in cultural values in response to a collective catastrophe (see Appendix 1). Together, these nine additional items, measuring communal and societal growth, were based on PTG scale by Rimé et al. (2007) which in previous studies yielded highly satisfactory reliability ($\alpha = .92$) and satisfactory Cronbach's alpha levels, above .70 for all three subscales (Rimé et al., 2007). Response options ranged from 0 (*not at all*) to 4 (*very great degree*). Overall reliability of this version of the ICPTGS was very good, as it attained highly satisfactory values of Cronbach's alpha, $\alpha = .92$.

Data Analysis

Confirmatory Factor Analyses (CFA) were conducted using MPlus 6.11. The models tested included a model with seven correlated factors reflecting the five subscales measured by the original PTGI and additional communal and societal factors (Model A); a three-factor model (Model B) and an alternative four-factor model (Model C). Structural equation modeling (SEM) was used to determine the relation between PTG and indicators of perceived emotional impact and well-being. Working with the variance and covariance matrix, we applied the ML (Maximum-Likelihood) method. For checking the fit of the models we took into account, in addition to the chi-squared test, the CFI (*Comparative Fit Index*) and TLI (*Tucker-Lewis Index* or *Non-Normed Fit Index*) (values above .90 are considered acceptable), as well as the RMSEA (Root Mean Square Error of Approximation), with a cut-off value close to .06 or a stringent upper limit of 0.07 (Steiger, 2007). We paid particular attention to the CFI among different models. A Δ CFI value of -0.01 or less means that the null hypothesis of invariance can be rejected (Cheung & Rensvold, 2002). In the presentation of the results we show the standardized solution. All the coefficients represented by continuous arrows in the graphs are statistically significant, while the broken lines indicate effects that are not statistically significant for $p < .05$. The data had almost no missing values, with the percentage of missing values for each variable being less than 1%, so that these missing values were considered missing at random.

Results

Confirmatory Factor Analysis

In line with recent findings (Cann et al., 2010), we first tested a seven-factor solution based on five personal growth dimensions and two additional dimensions of communal and societal PTG (Model A). The results revealed that this model returned admissible CFI values but relatively poor TLI and RMSEA values (see Table 1). In addition, it should be noted that the poor and inconsistent model fit was likely attributable to the extremely large interfactor correlations (ranging from .72 to .96) especially between the factors representing dimensions of: New Possibilities, Relations with Others, Appreciation of Life, and Personal Strength (see Table 2).

Table 1

Fit Indices for Confirmatory Factor Analyses of alternative ICPTGS models

	χ^2	df	CFI	TLI	RMSEA	90% CI of RMSEA
A	407.089*	134	.920	.898	.078	.070, .087
B	509.984*	149	.894	.879	.085	.077, .094
C	406.290*	146	.924	.911	.073	.065, .082
D	310.449*	143	.951	.941	.059	.050, .068

Note: $N = 332$. ICPTGS = Individual and Collective Posttraumatic Growth Inventory. Model A = 7-first-order-correlated-factor model; Model B = 3-first-order-correlated-factor model; Model C = 4-first-order-correlated-factor model; Model D = modified 4-first-order-correlated-factor model; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Squared Error of Approximation; 90% CI confidence interval of RMSEA = 90%; * $p < .01$.

These high correlations question the discriminant validity (Brown, 2006) of the original 5-factor PTGI model, suggesting that the original factors could collapse into one personal dimension. Taking these criteria into account, in the next step we performed a CFA with three latent dimensions: individual, communal and societal PTG (Model B). As can be seen in Table 1 the fit indexes obtained for Model B were rather poor. In accordance with what was observed in other studies conducted with Chilean samples (García et al., 2013; Leiva et al., 2014), two items corresponding to spiritual growth dimension showed relatively lower loadings on the latent structure of personal growth factor, and the modification indices indicated high association between those two items. These results inspired an alternative four-factor solution (Model C), composed of an individual, spiritual, communal and societal growth factors. The fit indexes CFI, TLI and the RMSEA were more satisfactory for Model C. Δ CFI value of Models A and C, and B and C was in both cases greater than 0.01, which suggests that Model C fits the data better. Nevertheless, given that the fit of Model C was slightly lower than desired for the RMSEA, we re-specified the model based on both the statistical (modification indices) and theoretical grounds. In the first step, as indicated by the modification indices, item 6 belonging to the original dimension of New Possibilities was also allowed to load on Spiritual Growth

dimension. $\Delta CFI = .016$ indicated a significant improvement of the model. Furthermore, item 10 corresponding to the original dimension of Relations with Others was allowed to cross-load on Communal Growth dimension ($\Delta CFI = .013$). The final re-specified four-factor solution (Figure 1) showed an improvement in the model parameters, and all fit indexes were within the expected range (see Table 2).

Table 2

Means, standard deviations, reliabilities and correlations between dimensions of ICPTG

	<i>M</i>	<i>SD</i>	α	NP	PS	RO	SC	CG	SG
AL (D5)	2.76	1.04	.73	.94**	.72**	.95**	.66**	.69**	.37**
NP (D2)	2.62	1.03	.77		.85**	.96**	.81**	.71**	.48**
PS (D3)	2.85	0.96	.71			.91**	.58**	.70**	.40**
RO (D1)	2.80	0.94	.63				.66**	.91**	.45**
IG (D1+D2+D3+D5)	2.75	0.85	.89				.68**	.76**	.47**
SC (D4)	2.22	1.18	.84					.53**	.41**
CG (D6)	2.66	0.95	.84						.46**
SG (D7)	2.09	1.09	.88						

Note: AL = Appreciation of Life, NP = New Possibilities, PS = Personal Strength, RO = Relating to Others, IG = Individual Growth, SC = Spiritual Change, CG = Communal Growth, SG = Societal Growth.

** $p < .001$

Structural equation modeling

Once the ICPTG structure was determined, we examined its predictive validity. First, we estimated a model in which trauma intensity (perceived stress, level of intensity and anxiety felt as a consequence of the experience) was set as a predictor of ICPTG. The proposed model obtained an adequate fit ($\chi^2 (196, N = 332) = 401.834, p < .001; CFI = 0.948; TLI = 0.939; RMSEA = 0.056 (90\% CI [.048, .064])$). As the results showed, trauma intensity was associated with more Individual, Communal and Societal Growth but the relation did not reached significance in the case of Spiritual Growth (Figure 2).

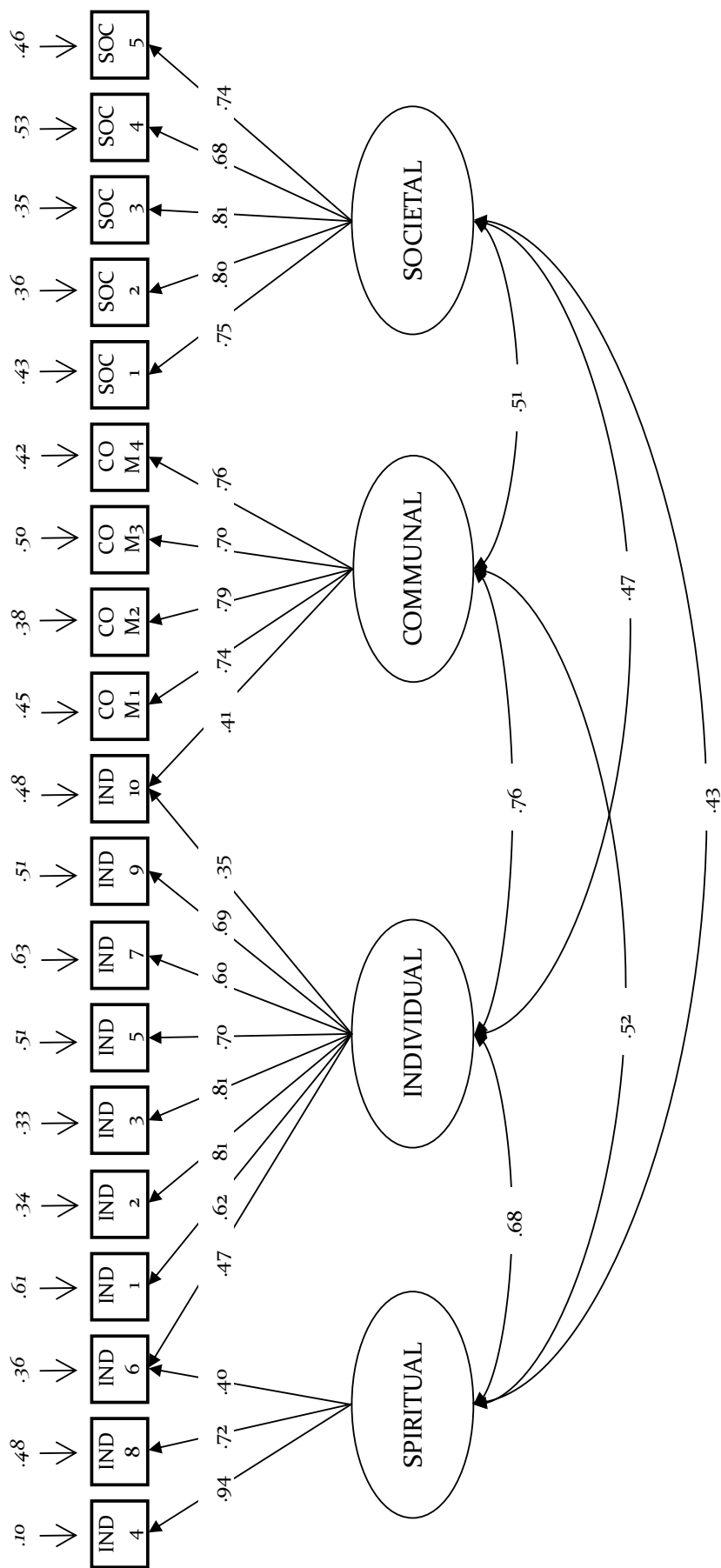


Figure 1. Confirmatory factor analysis of the multidimensional model of the Individual and Collective Posttraumatic Growth Scale (ICPTGS) – modified 4-first-order-correlated-factor model.

Note: Path coefficients are standardized estimates. Significant covariances between latent factors are shown by double-headed solid lines. Standardized residual variances for each item are also shown in italics. All the regression coefficients are significant at the .05 level.

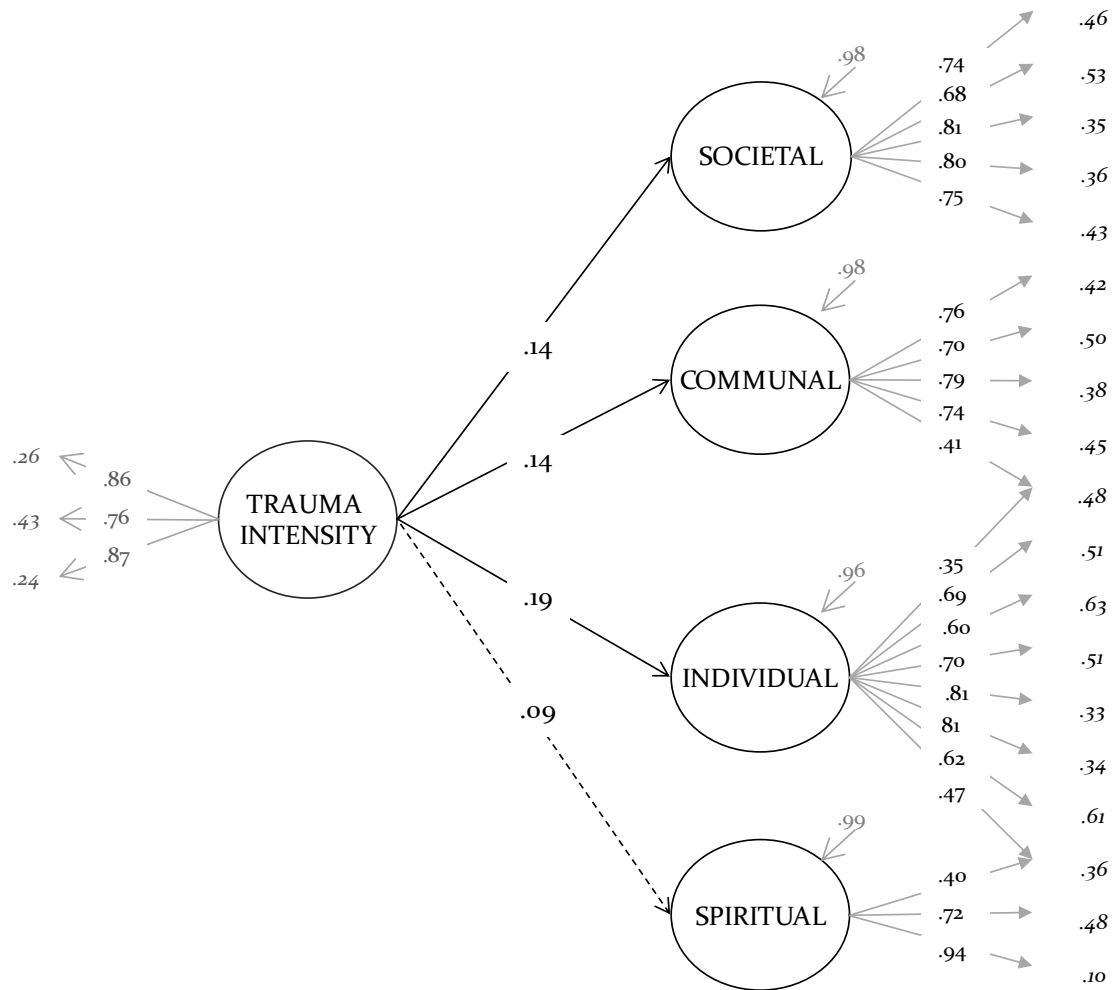


Figure 2. Relation between trauma intensity and ICPTG.

In the next step, as can be seen in Figure 3, we estimated a model which confirmed a positive relation between communal growth and trust in people and between individual growth and life satisfaction (Model fit: χ^2 (173, $N = 332$) = 352.068, $p < .001$; CFI = 0.948; TLI = 0.937; RMSEA = 0.056 (90% CI [.047, .064])).

In addition, perceived attainment of adaptive group goals (GG) was positively related to all the dimensions of posttraumatic growth (Figure 4), except the Societal one (in that case, although the direct effect was positive, it did not attain statistical significance). The model showed good fit to the data, χ^2 (238, $N = 332$) = 457.485, $p < .001$; CFI = 0.947; TLI = 0.938; RMSEA = 0.053 (90% CI [.045, .060])).

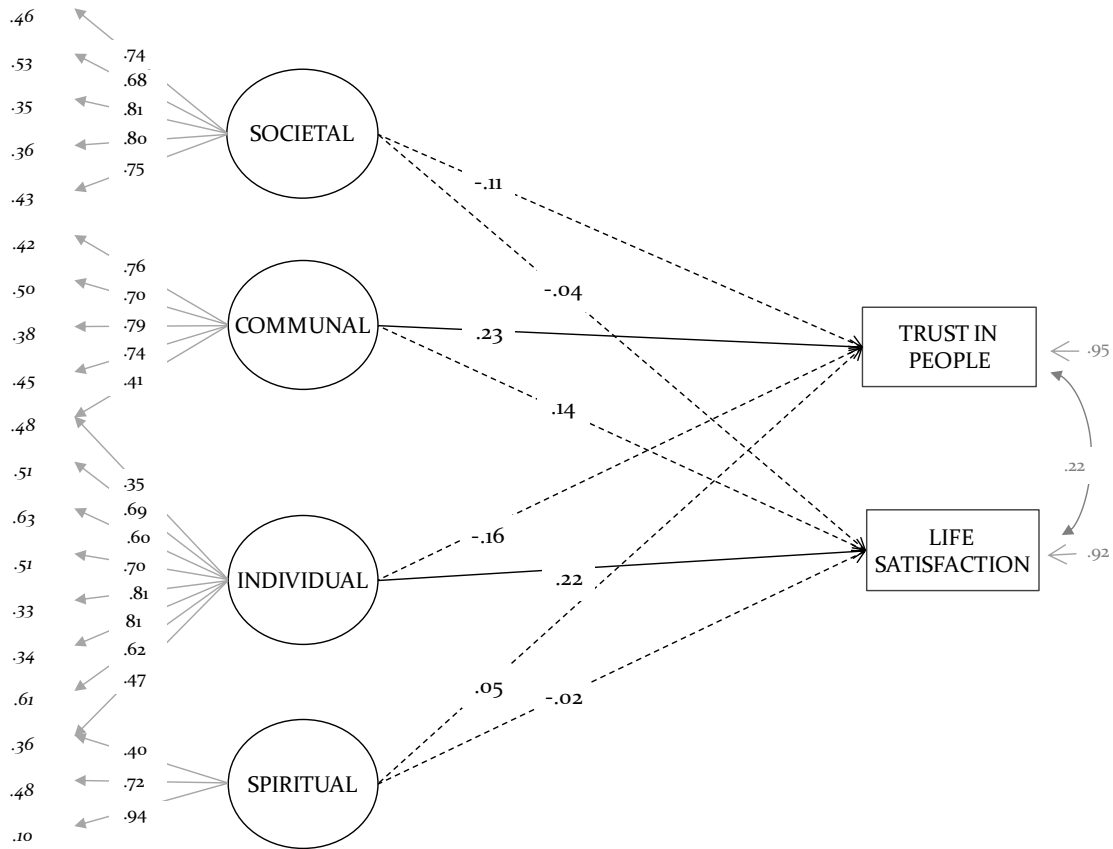


Figure 3. Relation between ICPTG and trust in people and life satisfaction.

Finally, to confirm the positive relation between ICPTG and Social Well-being we estimated a model considering the four dimensions of ICPTG as predictors of different dimensions of Social Well-being (Figure 5). Again a satisfactory fit to the data was obtained, $\chi^2 (488, N = 332) = 781.130, p < .001$; CFI = 0.937; TLI = 0.928; RMSEA = 0.043 (90% CI [.037,.048]). Although relations between Spiritual and Societal Growth and different dimensions of Social Well-being did not reached statistical significance, Communal Growth was shown to be specifically related to the dimensions of integration, acceptance and actualization, whether Individual Growth was related to dimensions of contribution and coherence.

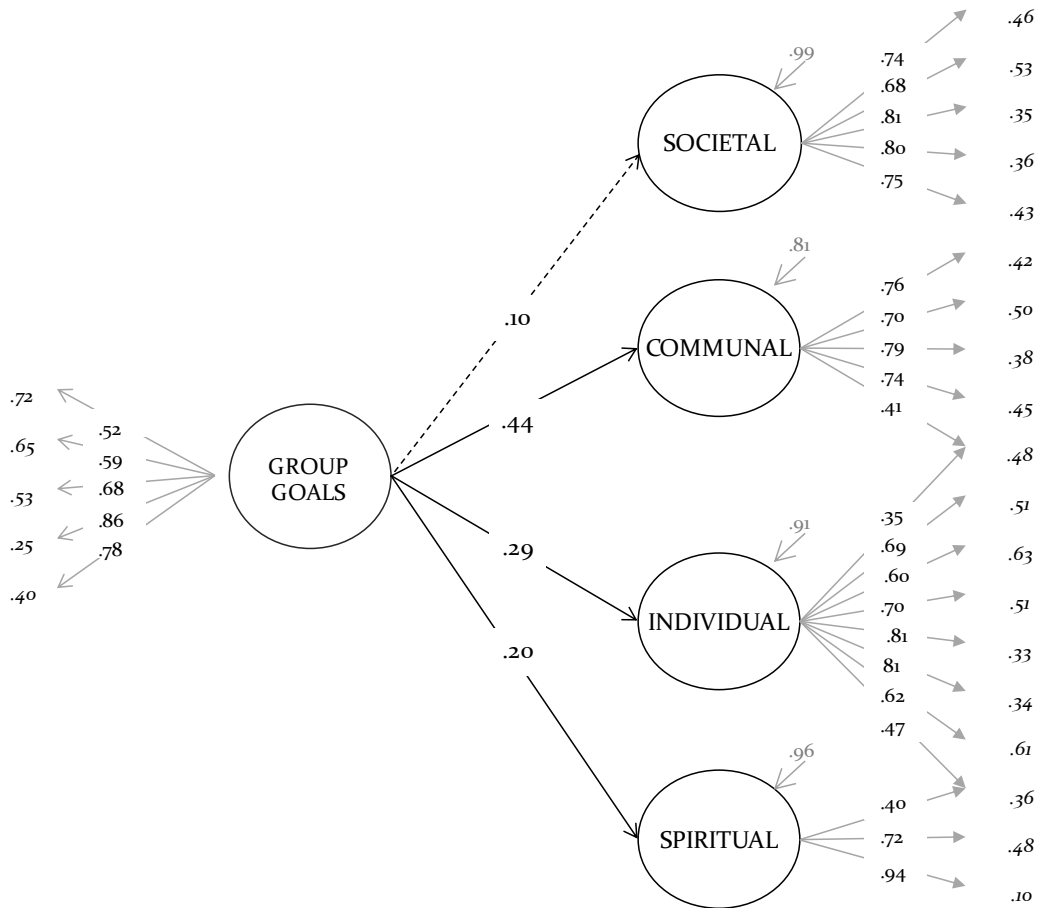


Figure 4. Relation between perceived attainment of adaptive goals and ICPTG.

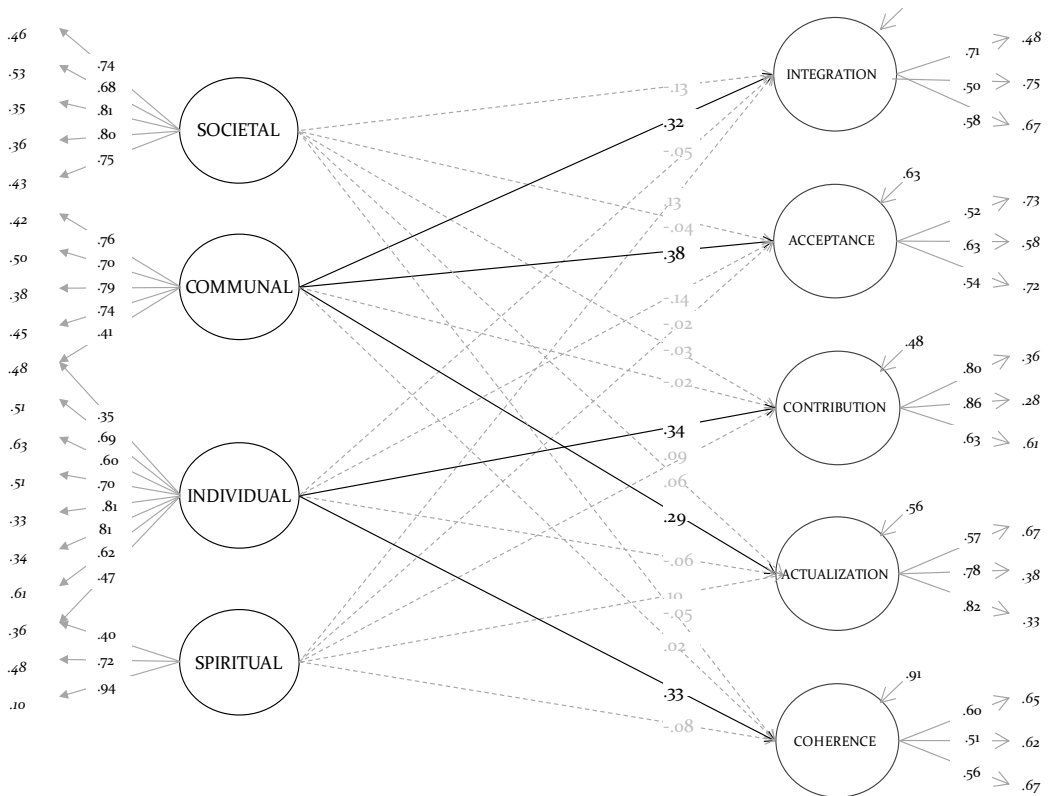


Figure 5. Relation between ICPTG and different dimensions of social well-being.

Discussion

Our core hypothesis was that PTG individuals would perceive not only personal and spiritual growth, but also greater group-communal strength and social benefits in the aftermath of collective trauma. The present study described an instrument designed to assess such factors in the context of a collective traumatic event, in this case a natural disaster. The results revealed a four-dimensional structure of *The Individual and Collective PTG Scale (ICPTGS)* made up of an intra- and inter-personal growth factor (composed of four of the five original dimensions of the PTG, Tedeschi & Calhoun, 1996), a second, spiritual factor linked to traditionalism and cultural collectivism (García et al., 2013; Show et al., 2005), and two group-level factors, communal growth and societal or socio-political participation (societal growth) (Bonanno et al., 2010; Rhodes & Tran, 2012; Taku, 2011; Vázquez & Páez, 2011).

ICPTGS replicates the five original factors proposed in Tedeschi and Calhoun's (1996) PTGI, showing that stressful and/or traumatic events generate effects in an individual growth dimension. Likewise, the CFA validates two less well explored dimensions of growth – a community-microsocial factor and a societal-macrosocial one – giving rise to a model with a seven-factor solution. However, taking into account relatively poor fit obtained for this model and large interfactor correlations between the four factors representing intra and interpersonal growth we opted for a four-factor model, since it better reflects the “multi-level” structure we suggested. Moreover, our results confirmed that the best fitting model was the modified four-first-order-correlated-factor model (Model D). It is noteworthy that, apart from communal and societal dimensions, the results suggested a single personal growth factor underlying four of the PTGI original factors and a separate spiritual growth factor. These findings are consistent with previous studies analyzing Chilean sample (García, Cova, & Melipillán, 2013; Leiva-Bianchi & Araneda, 2013).

Furthermore, our principal interest resided in the evaluation of the impact of traumatic experiences not only at a personal/individual level, but also in terms of their consequences for the perception of growth as a community and society. The results confirmed that as a consequence of a traumatic event individuals can perceive positive changes not only in themselves but also in their community and society. This finding might signify, on the one hand, that

the dimensions of growth described here are related to different effects of the trauma, but on the other, that it is important to take into account not only psychological but also psychosocial consequences of traumatic experience (Bonanno et al., 2010).

Overall, individual, spiritual and communal dimensions showed high consistency and predictive validity. The concurrent validity analysis showed that trauma intensity and perceived attainment of adaptive goals are related to intensification of posttraumatic growth especially at individual and communal levels. More importantly, though individual growth was shown associated with life satisfaction, communal growth was related to an increased trust in people. In addition, we confirmed that different dimensions of *ICPTGS* are associated to specific aspects of social well-being. Whether individual growth enhanced feelings of contribution and coherence, communal growth was linked to more “relational” aspects of social well-being, such as integration, acceptance and actualization.

Therefore, the results confirmed that within the context of natural disasters the perceptions of change within oneself and within a group may have different psychosocial implications. Only the societal dimension showed lower construct validity (even though, it was only the relation between perceived attainment of adaptive goals and societal growth that failed to attain statistical significance). It is likely that growth is produced more readily in microsocial networks, in this case groups, families or neighborhoods, and above all on the basis of a more emotional appraisal of growth, since processes of positive adjustment can be observed in the immediate environment. According to a meta-analysis by Prati and Pietrantoni (2009), coping through emotional social support and seeking social support were moderately related to posttraumatic growth. On the other hand, at a collective level, given the time elapsed since the disaster, it is probably more difficult to make a positive reappraisal, given that the actions of solidarity and social support which tend to emerge immediately after the event diminish over time, when people stop talking about it (Páez et al., 2013).

Splevins et al. (2010) concluded that the concept of PTG was probably universally acceptable, and that possible cultural differences were related to how a traumatic event is understood and the extent to which growth responses are accepted. In this line, Taku (2011) found that Northern Americans differed

from Japanese in what changes are indicative of growth. In the present case, we propose that the Latin American culture in general and that of Chile in particular, is relatively collectivistic. Interestingly, some recent research conducted in Chilean population affected by natural disasters has suggested that the perception of personal change is clearly differentiated from the perception of spiritual change and the appreciation of relations with others (see García et al., 2013; Leiva-Bianchi & Araneda, 2013). A similar structure is replicated in our findings, suggesting that, in this particular context, more self oriented facets of PTG could be collapsed into a global personal dimension.

Limitations and future research

The measurement proposal of the *ICPTGS* does not respond to all the questions in relation to how growth occurs in people. One unanswered question refers to whether the PTG construct measures real growth or subjective growth (Frazier, Tennen, Gavian, Park, Tomich, & Tashiro, 2009; Helgeson et al., 2006). In the present case we have used, like the majority of studies measuring PTG, a subjective measure that leaves unresolved the question of what the participants are considering as growth in the wake of a traumatic event. Future studies addressing the subject of collective traumatic events should strive to identify the measures and factors necessary for the development of growth at each level, as well as the limits involved.

A limitation of the present study is the inclusion of convenience samples, made up of students, which reduces the level of representativeness. Even so, the participants in the study were indeed exposed to the earthquake of 8.8 degrees on the Richter scale which occurred in Chile. In this regard, though, future research should prioritize the study of growth responses in more heterogeneous samples, which would take account of variables such as: age, sex, socio-economic status, educational level, cultural context and level of exposure to disasters. Given the collective and cultural nature of such catastrophes, it is essential to identify similarities and differences with regard to growth processes.

Likewise, the current study used mainly cross-sectional self-report measures. The incorporation of other methods, such as behavioral measures or longitudinal studies, which take account of aspects such as changes in lifestyle or health-related habits, would help to clarify not only the difference between

real and perceived growth but also the question of lack of validity in reports about personal change that are not clarified by self-report measures (Frazier et al., 2009).

Finally, there remain questions as to how growth occurs and whether it is due specifically to the traumatic experience or actually to a general feeling of growth (Páez et al., 2013). Thus, we propose two specific questions: Is the growth based on specific aspects of the traumatic event, on the context in which it takes place or on the individual's pre-trauma factors?; and, is the growth related to coping strategies at the community level or the cultural form of understanding the adverse circumstances and the way they are overcome? The contribution of the *ICPTGS* is that it makes possible the consideration of some less commonly explored aspects, such as community, collective and cultural factors of growth. We consider it an instrument with good psychometric properties that can contribute to progress in the study of growth, especially in relation to natural disasters, and possibly also in contexts of violence and humanitarian catastrophes.

Appendix 1.

Spanish Version of the ICPTG

<i>Item</i>	<i>Dimension</i>
1. I changed my priorities about what is important in life. [He cambiado mis prioridades sobre lo que es importante en la vida.]	Appreciation of Life [Nueva valoración de la vida]
2. I have a greater appreciation for the value of my own life. [Aprecio más el valor de mi vida.]	
3. I am able to do better things with my life. [Me siento capaz de hacer cosas mejores en mi vida.]	New Possibilities [Nuevas posibilidades]
6. I established a new path for my life. [He construido un nuevo rumbo o camino de vida.]	
4. I have a better understanding of spiritual matters. [Tengo una mejor comprensión de algunas cuestiones o creencias espirituales.]	Spiritual Change [Crecimiento espiritual]
8. I have a stronger religious faith. [Tengo más fe religiosa.]	
5. I have a greater sense of closeness with others. [Siento un mayor sentido de proximidad con las demás personas.]	Relating to Others [Mejora en las relaciones con otros]
7. I know better that I can handle difficulties. [Siento que puedo manejar mejor las dificultades.]	Personal Strength [Fortaleza personal]
9. I discovered that I'm stronger than I thought I was. [He descubierto que soy más fuerte de lo que pensaba.]	
10. I learned a great deal about how wonderful people are. [He aprendido lo maravillosas que son las personas (o lo extraordinaria que pueden llegar a ser).]	Relating to Others [Mejora en las relaciones con otros]

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| 11. We discovered that our community, group, family was stronger than we thought. [Descubrimos que nuestra comunidad, grupo, familia era más fuerte de lo que pensábamos.] | |
| 12. The community, group, family became more compassionate and prepared to help. [La comunidad, grupo, familia se hizo más compasiva y dispuesta a ayudar.] | |
| 13. The community, group, family has created contexts for talking about what happened and what we felt. [La comunidad, grupo, familia ha creado instancias para hablar de lo que pasó y de lo que sentimos.] | Communal growth
[Fortaleza comunal] |
| 14. My community, group, family began to express more openly its opinions and ways of thinking. [Mi comunidad, grupo, familia empezó a expresar su opinión, su forma de pensar más abiertamente.] | |
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- | | |
|--|---|
| 15. Awareness about violations of human rights in this country has been raised. [Se ha reforzado la sensibilidad hacia violaciones de los derechos humanos en este país.] | |
| 16. Support for justice for all and against impunity in this country has been reinforced. [Se ha reforzado el apoyo a una justicia igual para todos y contra la impunidad en este país.] | |
| 17. Support for freedom of expression and the acceptance of differences has been reinforced. [Se ha reforzado el apoyo a la libertad de opinión y la aceptación de diferencias.] | Societal growth
[Crecimiento social] |
| 18. Rejection of violence as a form of repression and political action has increased. [Ha aumentado el rechazo a la violencia como forma de represión y acción política.] | |
| 29. Political and ethical participation and commitment in this country have increased. [Ha aumentado la participación y los compromisos políticos y éticos en el país.] | |
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Note: Items from 1 to 10 correspond to Short Form of Posttraumatic Growth Inventory (PTGI-SF; Cann et al., 2010) and were used by permission of the authors.

Chapter 3



CHAPTER 3.

COMMUNAL COPING AND POSTTRAUMATIC GROWTH IN A CONTEXT OF NATURAL DISASTERS IN SPAIN, CHILE AND COLOMBIA

This chapter is under review as: Włodarczyk, A., Villagran, L., Reyes, C., Martínez, F., Palacio, J. & Madariaga, C. (2015). Communal Coping and Posttraumatic Growth in a context of natural disasters in Spain, Chile and Colombia. *International Journal of Intercultural Relations*.

Introduction

Given their frequency and the fact that they affect diverse geographical areas, natural disasters have been identified as one of the greatest threats to the world's population. These events also reveal how risks are continuously constructed through increasing development gaps. The effects of natural disasters are strongly shaped by the socio-economic conditions and culture of the affected country (McFarlane & Williams, 2012; Neria, Nandi, & Galea, 2008). In psychosocial terms, this type of disaster requires governmental and community responses in order to mitigate its potential negative effect, especially on vulnerable people (Bonanno, Brewin, Kaniasty, & La Greca, 2010). This is why it is important to examine community dynamics and culturally-rooted practices that promote positive responses during and after disasters as criteria for both analysis and intervention.

Natural disasters can be characterized in accordance with three main features. Firstly, they are events that affect a community or group and, while they are not attributable to human agents, previous human actions or omissions may exacerbate or mitigate their effects (e.g., building houses close to rivers or other high-risk zones; prevention programs). Consequently, they might prompt

people to question their basic beliefs regarding the meaning and benevolence of the world, rather than those related to their social world and to the self (Janoff-Bulman, 1992). Secondly, they usually have immediate consequences (e.g. loss of human life, destruction on a massive scale), short- and medium-term threats (e.g. seismic aftershocks, tsunami, etc.) and long-term psychological consequences, all of which prompt specific behaviors among the population. Some reactions will focus on negative aspects, such as the feeling of being a victim of events, or situations of violence related to threats and crime (e.g. the possibility of robberies, looting and street violence); while others will more likely be associated with actions of solidarity and help (Drury & Olson, 1998). Thirdly, given that the needs they engender are of an urgent nature, they usually provoke a response from the government and authorities. A slow or late response from the government may predict posttraumatic stress in certain populations (Rhodes & Tran, 2012).

Trauma usually fuels social coping. High levels of direct exposure to trauma have been associated with seeking social support from friends, family and/or the government, and implementing this strategy was found to result in a more positive adaptation to the disaster situation (Tang, 2006). Collective responses are also common among people exposed to climatic and environmental disasters (Steg & Sievers, 2000). Because of the importance of mobilizing social relations when coping with natural disasters, we will focus not only on coping strategies related to the extensive use of social support, but also on more group-oriented behaviors, which can be considered communal coping.

Communal Coping Definition

Coping is defined as the efforts or strategies invoked to manage or master stress in order to reduce the stressor's negative impact on wellbeing (Pearlin & Schooler, 1978). Originally, coping was studied almost exclusively from an individualistic perspective (Lazarus & Folkman, 1984). However, contrary to much of the existing research, individuals do not process stress alone. In recent years, research into both the impact of stressors on couples and families and the explication of the social context of stress and coping has included the concept of coping as a social phenomenon (Hobfoll & Spielberger, 1992). From a social support perspective, the use of social resources may foster stress resistance and produce favorable coping outcomes (Hobfoll & Lerman, 1989). However, the

social dynamics of coping extend beyond the simple notion of social support where one person provides help to others. Communal coping is defined as a process in which a stressor perceived as 'our' issue is substantively appraised and acted upon within a group or community (Lyons, Mickelson, Sullivan, & Coyne, 1998). Communal coping is composed of coping strategies employed by a group to solve a problem in which said group is involved. First of all, the group or community must perceive itself as an entity, and when something problematic occurs, regardless of whether or not the stressor produces similar consequences for all, communal coping involves thinking and acting as if the stressor were shared. One or more individuals must perceive the stressor as 'our' problem (social appraisal) versus 'my' or 'your' problem (individualistic appraisal), and activate a process of shared or collaborative coping, including some form of communication about the details of the circumstance and the meaning of the situation. Through shared experience and communication that creates a common appraisal, the belief is developed that joining together to deal with a particular problem would be beneficial, necessary and expected. The implementation of communal coping strategies that aim to reduce the negative impact of traumatic experience can lead to posttraumatic growth and may subsequently increase wellbeing. Moreover, although studies in this field have not been conducted in contexts of disaster, the existing data suggest that communal coping has direct benefits for wellbeing. Several studies have confirmed that communal coping is significantly associated with lower levels of psychological distress (Wells, & Malek, 2002; Koehly et al., 2008) and better recovery and increased wellbeing (Hobfoll, Schroder, Rohrbaugh, Mehl, Shoham, Relly, & Ewy, 2008). These findings are consistent with the assumption that in situations of anxiety and threat, people experience a strong urge to affiliate with others in order to compare their condition in a social and emotional way and find some kind of meaning in the experience (Schachter, 1959). Several studies have also shown the benefits of strong community ties for recovery from disasters (for a review see Bonnano et al., 2010), and community-based interventions regularly include components that encourage community cohesion (e.g. Foa et al., 2005).

PTG, Culture and Natural Disasters

Natural disasters are events that require an institutional, cultural and collective response. In a study which examined the effects of Hurricane Katrina, collective responses such as greater religious involvement, which fosters increased psychosocial resources, were found to be related to posttraumatic growth (Chan & Rhodes, 2012). Similarly, Rhodes and Tran (2012) pointed out that a positive assessment of the government response favored community recovery and was also associated with posttraumatic growth. These findings suggest that collective and culturally-rooted coping behaviors may influence the emergence of posttraumatic growth following natural disasters. There is therefore much interest in identifying what specific aspects of community dynamics can be defined as learned resources which promote posttraumatic growth in the long run. Moreover, is it also important to explore other dimensions of growth, such as the perception of benefits at both a communal and societal level (Poulin, Silver, Gil-Rivas, Holman, & McIntosh, 2009).

A broader definition of posttraumatic growth, which includes the dimensions outlined above, may help foster the integration of different cultural and collective manifestations that emerge in response to disasters. When cultures that emphasize collectivist values are exposed to trauma, we expect growth to be associated with increased group cohesion and the promotion of political engagement. In this sense, it has been found that, in aftermath of an earthquake, people do indeed use several communal coping strategies such as, for example, distraction at a community level involving organized activities such as eating and drinking together (Smithe et al., 2014; Villagrán, Reyes, Wlodarczyk & Páez, 2014). Other strategies are linked to the search for understanding through religion (Chan & Rhodes, 2012) and searching for and giving social support (Salloum & Lewis, 2010; Smithe et al., 2014). Thus, some authors have found that the reconstruction of social relations, a sense of belonging and a social identity based on values such as solidarity and community cohesion can help counter the effects of a disaster (Lykes, Beristain, & Cabrera, 2007). However, although it has been observed that ethnic differences affect psychological symptoms (Perilla, Norris, & Lavizzo, 2002), little attention has been paid to cultural factors affecting individual and group responses to natural disasters. The above considerations highlight the need to

explore collective and cultural aspects that may foster posttraumatic growth. A comparison of reported PTG showed, in general, higher scores in collectivistic and traditional cultures such as Guatemala and Rwanda, than in individualistic cultures such as the USA and Spain, probably due to the stoic ethos and religious background of the former (Vazquez & Paez, 2011). However, it should be noted that previous comparisons were drawn using normative response options and non representative samples. This study aims to overcome this problem by comparing similar samples of disaster-affected people. We expect to find higher reported levels of PTG, specifically collective growth, in collectivistic cultures. Moreover, because Latin American cultures emphasize the expression and social sharing of positive emotions and cognitions (the so called “simpatico” culture), we expect that this positive bias will be strong in the case of Chile and Colombia. By way of example, Latin America scores higher for wellbeing than its social factors predict, while the opposite is true for East Asia, reflecting a family-oriented, positive social life in Latin American countries, in comparison with Asian collectivism (Helliwell, Huang & Wang, 2015).

Cultural Differences and Coping Strategies

Coping strategies may be influenced by culturally-based worldviews, values and practices, as well as the ability to modify fundamental assumptions that are affected by culture and rooted in aspects of collectivism (see Kuo, 2013; Wong & Wong, 2006). The coping behaviors and strategies adopted by individuals from more collectivistic cultures, such as African, Asian, and Latin American countries, tend to place primary importance on group loyalty, duties, norms and relationships, and tend to see others as a part of the self (i.e. they possess a high group dependent self-construal). Moreover, more traditional values are associated with religious coping and participation in collective rituals. In this vein, members of collectivistic cultures may place greater importance on collective or communal coping strategies or practices when they experience problems (Cross, 1995; Moore & Constantine, 2005). However, as found by Taylor et al. (2007), Asians and Asian Americans resist seeking social support through concern over shattering relatives’ wellbeing and benefit more from implicit social support, focusing on valued social groups and maintaining in-group harmony. European Americans, on the other hand, are more likely to use explicit social support based on direct interactions and asking for emotional

support, even if this upsets others (Taylor et al., 2007). In general, people from more individualistic cultures tend to value uniqueness and voluntary relationships with others (Constantine, Gainor, Ahluwalia, & Berkel, 2003; Kuo, 2011). The direct coping strategies commonly used in Western culture include assertive self-disclosure, expressing one's own thoughts, confronting others and asking for help (Lucas, 2002). Finally, despite growing empirical evidence of the salience of collective coping strategies among Asians or Asian Americans/Canadians and African Americans/Canadians, little has been done to date to examine coping behaviors among other cultural groups, such as Latin Americans, Pacific Islanders or Muslims (Kou, 2013). Furthermore, it is important to remark that differences in the use of social support were found when collectivistic Asians were compared with North-Americans. Also, as mentioned earlier, Latin American collectivism is characterized by a higher level of interaction and social sharing of positive emotions, which may mitigate this supposedly less frequent seeking of social support.

To sum up, we expected perceived intensity of traumatic experience to be associated with communal coping, which in turn increases posttraumatic growth. We hypothesized that the relatively more collectivistic cultures (Chile and Colombia) would report more PTG growth, particularly communal and societal, more communal coping by traditional religious rituals and less coping by social support than the relatively more individualistic Spanish culture. We also expected to find that spiritual rituals play a more important meditating role and social support a less important role in collectivistic cultures.

Firstly, we analyzed the direct associations and mediation links between trauma intensity, communal coping strategies and individual, communal and societal posttraumatic growth in three different samples exposed to natural disasters (earthquakes in Spain and Chile, and floods in Colombia). We predicted that positive communal coping strategies would mediate the association between intensity of trauma and posttraumatic growth, with the effect of trauma intensity on posttraumatic growth weakening with increased reliance on positive communal coping strategies. Secondly, we expected social support and spiritual rituals to play a more important mediating role in individualistic and collectivistic cultures, respectively. Thirdly, we expected a higher frequency of spiritual coping strategies and a lower level of social support

communal coping strategies in collectivistic cultures, and a low level of individual, communal and societal posttraumatic growth in the moderately individualistic Spanish culture, in comparison with the moderately collectivistic Chilean and Colombian cultures which, despite not evidencing strong collectivistic traits, are nevertheless Latin-American nations which attach great importance to extended family links, duties and rights (Hofstede, 2001; Schwartz, 1990).

STUDY 1 - EARTHQUAKE – LORCA (SPAIN)

Method

Participants

Participants were 92 people directly affected by the consequences of an earthquake in Lorca (Spain). The sample comprised 62% women and 38% men, aged between 19 and 70 ($M = 41.88$, $SD = 13.54$).

Procedure

The 2011 Lorca earthquake was an earthquake of moderate magnitude that caused significant localized damage in the Region of Murcia, Spain. Participants were contacted during the last few months of 2012 (around one and a half years after the disaster) by psychologists from Lorca's emergency center and asked whether they would be willing to participate in the study.

Measurements

Trauma intensity. The emotional impact of the traumatic episode was assessed by a single item: "Overall, how stressful or traumatic was the earthquake-tsunami situation for you? The response scale was from 1 (nothing) to 7 (a lot).

Communal Coping Scale. The frequency of use of different coping strategies was measured by the 27-item Communal Coping Scale (Villagrán et al., 2014), which is based on items selected from the Ways of Coping Scale (Folkman & Lazarus, 1988), the Measure of Affect Regulation Styles (Larsen &

Prizmic, 2006) and the Coping Schemas Inventory-Revised (Wong, Reker, & Peacock, 2006). Bearing in mind the definition of communal coping, the items were formulated in the plural (“we” language) and were re-worded in order to describe to joint action. Seven main communal coping strategies were found in a previous exploratory and confirmatory factor analysis: social mobilizations (participation in demonstrations and collective secular rituals), spiritual rituals, redeployment of attention or distraction, regulated emotional expression, positive reappraisal, social support and self-control or inhibition and group isolation. Relative scores were computed for each strategy by dividing the sum of the items for each subscale by the number of items. Respondents indicated the extent to which they used communal coping strategies to cope with the effects of the traumatic experience on a standard 4-point Likert-type scale ranging from 0 (*does not apply or not used*) to 3 (*used a great deal*). The reliability of the subscales ranged from .41 to .91 (see Table 4).

Individual and Collective Posttraumatic Growth Scale (ICPTGS). This 20-item scale was used to measure the posttraumatic growth prompted by a traumatic event at an individual, communal and societal level. A short version of the PTGI (Tedeschi & Calhoun, 1996) was used to assess individual growth (Cann et al., 2010). In order to evaluate the collective aspects of PTG, we added five items to assess communal growth and another five items to measure positive changes in cultural values in response to a collective catastrophe. These items were previously used by Rimé, Páez, Basabe and Martínez (2010), showing satisfactory reliability. The items used to assess societal growth were inspired by two of the main aspects of a culture of peace as proposed by UNESCO. Participants were asked to indicate the extent to which they perceived positive changes as the result of the traumatic experience. Response options ranged from 0 (*no change at all*) to 5 (*important change*). The scale was found to have a satisfactory reliability level, with a Cronbach's α of .86 for individual PTG, .80 for communal PTG and .87 for societal PTG.

Statistical Analysis

The present study used descriptive statistics, variance analysis and correlation analysis. All tests were 2-tailed and significance was set at 0.05. All statistical procedures were completed using SPSS 20.0. Multiple mediation analyses were the principal data analysis technique used to contrast direct associations between trauma intensity and individual, communal and societal PTG, and the mediating role of communal coping strategies. We used the SPSS macro PROCESS (Hayes & Preacher, 2013) for bootstrapping indirect effects. This macro provides indirect effect estimates for multiple mediators, standard errors (*SEs*) and the confidence intervals (*CI*s) derived from the bootstrap distribution (Hayes & Preacher, 2013).

Results

Firstly, a bivariate correlation analysis was conducted in order to analyze the relationship between all the study variables (see Table 1). The correlations revealed that trauma intensity was positively related to individual and communal PTG, whereas in the case of societal PTG, the correlation coefficient did not reach significance. Furthermore, correlations between all communal coping strategies were positive and ranged from moderate to high. The results indicated a similar pattern of association between all communal coping strategies and the three domains of PTG.

In the next step, mediation analyses were conducted, taking the different domains of PTG as dependent variables. In the first analysis, individual PTG was the predicted variable. Trauma intensity, spiritual rituals, distraction and reappraisal were positively associated with individual PTG and emotional expression presented a negative association, as indicated by the significant unstandardized regression coefficients shown in Figure 1a. Furthermore, the results of the analysis indicate that participation in spiritual rituals partially mediated the effect of trauma intensity on the development of individual PTG ($B = .10$, $SE = .04$, $CI [.03, .20]$).

As shown in Figure 1b, trauma intensity, spiritual rituals and social support were found to be significant predictors of communal PTG. In this case, participation in spiritual rituals and social support totally mediated the

relationship between trauma intensity and communal posttraumatic growth. Significant indirect effects of trauma intensity on communal PTG were found through spiritual rituals ($B = .07$, $SE = .04$, $CI[.01, .17]$) and social support ($B = .07$, $SE = .04$, $CI[.01, .19]$). Finally, no mediating effects were found for societal PTG. As shown in Figure 1c, when the rest of the variables included in the equation were controlled, distraction was positively associated with societal PTG.

Table 1

Correlations between trauma intensity, communal coping strategies and PTG in Spain

	Communal Coping strategies								Posttraumatic Growth		
	TI	SM	SR	D	EE	PR	SS	SI	Ind	Com	Soc
Trauma intensity	1										
Social mobilization	.127	1									
Spiritual rites	.336**	.378**	1								
Distraction	.038	.595**	.408**	1							
Emotional expression	.183*	.470**	.399**	.664**	1						
Positive reappraisal	.170	.463**	.328**	.560**	.507**	1					
Social support	.232*	.475**	.380**	.511**	.586**	.381**	1				
Self-control inhibition	0.119	.429**	.365**	.438**	.190*	.184*	.206*	1			
Individual	.255**	.347**	.507**	.488**	.329**	.515**	.415**	.221*	1		
Communal	.287**	.271**	.411**	.343**	.281**	.282**	.446**	.199*	.653**	1	
Societal	.043	.378**	.254**	.512**	.282**	.291**	.316**	.402**	.575**	.569**	1

$N = 92$, ** Correlation is significant at 0.01 (1-tailed).

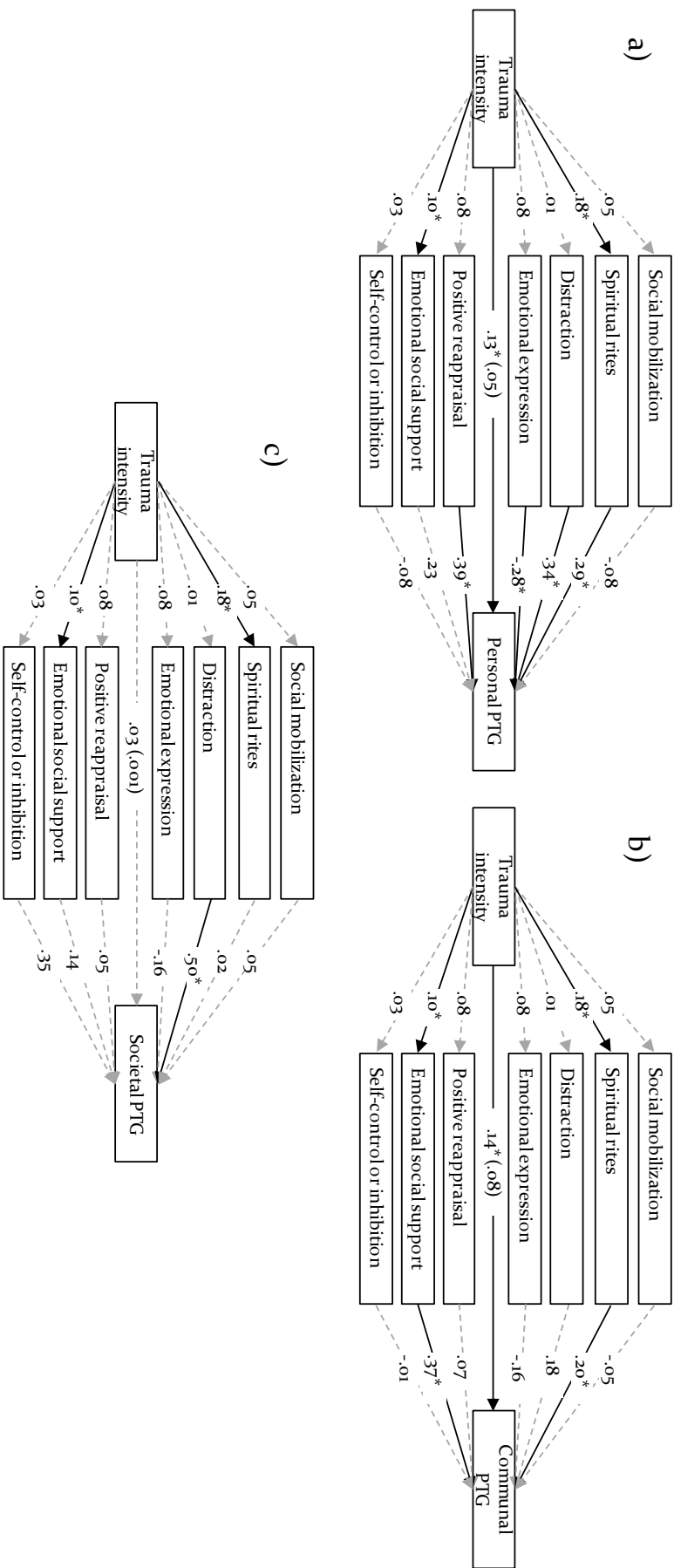


Figure 1. Relation between trauma intensity, communal coping strategies and individual, communal and societal PTG in Spain

STUDY 2 - EARTHQUAKE – CONCEPCIÓN (CHILE)

Method

Participants

Participants were 332 students from the University of Concepción and the University of San Sebastian. All were directly exposed to the devastating impact of the earthquake which occurred in Chile on February 27, 2010, since they were residents of the Bío Bío region, which was the area most severely-affected by the catastrophe. The sample comprised 225 women and 103 men, aged between 18 and 30 ($M = 19.82$, $SD = 1.95$).

Procedure

Questionnaires were distributed among volunteer students from the Psychology, Nursing, Philosophy and Pedagogy Faculties at the University of Concepcion, and the Law Faculty at the University of San Sebastian, in September 2012, around two years after the disaster. Participants were asked to complete the questionnaire in relation to their experience of the situation during the earthquake.

Measurements

The same measures were used as in Study 1. Table 4 shows the descriptive statistics and reliability levels for the study variables.

Results

A bivariate correlation analysis was conducted to analyze the relationship between the study variables presented in Table 2. A moderate correlation was found between trauma intensity and all the three domains of PTG. Moreover, communal coping strategies were found to correlate positively with each other, with the exception of self-control or inhibition and group isolation, which correlated only with participation in social mobilization. Correlations between different domains of PTG and communal coping strategies were moderate. The results clearly support the hypothesis that the use of different coping strategies enhances all domains of PTG.

Table 2

Correlations between trauma intensity, communal coping strategies and PTG in Chile

	Communal Coping strategies								Posttraumatic Growth		
	TI	SM	SR	D	EE	PR	SS	SI	Ind	Com	Soc
Trauma intensity	1										
Social mobilization	.040	1									
Spiritual rites	.163**	.152**	1								
Distraction	.094*	.184**	.296**	1							
Emotional expression	.154**	.120*	.317**	.705**	1						
Positive reappraisal	.139**	.113*	.359**	.527**	.545**	1					
Social support	.078	.242**	.249**	.451**	.481**	.528**	1				
Self-control or inhibition	.050	.164**	.024	.000	-.089	-.047	.023	1			
Individual	.223**	.110*	.345**	.307**	.343**	.378**	.345**	.037	1		
Communal	.170**	.095*	.262**	.416**	.399**	.417**	.362**	.007	.694**	1	
Societal	.150**	.146**	.166**	.196**	.110*	.137**	.160**	.155**	.416**	.428**	1

$N = 332$, ** Correlation is significant at 0.01 (1-tailed).

To test whether the relationship between trauma intensity and different domains of PTG were mediated by communal coping strategies, three separate mediation analyses were conducted. Figure 2a shows the results of the mediation analysis in which individual PTG was the dependent variable. The results indicate that trauma intensity, participation in spiritual rituals and positive reappraisal are direct predictors of individual PTG. Participation in spiritual rituals and positive reappraisal partially mediated the effect of trauma intensity on individual PTG. Significant indirect effects of trauma intensity for

individual PTG were found through reappraisal ($B = .02$, $SE = .01$, $CI [.02, .06]$) and spiritual rituals ($B = .04$, $SE = .01$, $CI [.01, .07]$).

Figure 2b shows a similar pattern when communal PTG was the predicted variable. In this instance, however, there was full mediation. Trauma intensity, distraction and positive reappraisal were found to have a significant direct effect on communal PTG. However, when positive reappraisal was inserted into the equation, the effects of trauma intensity were no longer significant. Accordingly, a significant indirect effect of trauma intensity on communal PTG was found through reappraisal ($B = .02$, $SE = .01$, $CI [.01, .06]$). Societal PTG was predicted exclusively by trauma intensity and distraction. In this case however, as with the Spanish sample, no mediating effects were found (see Figure 2c).

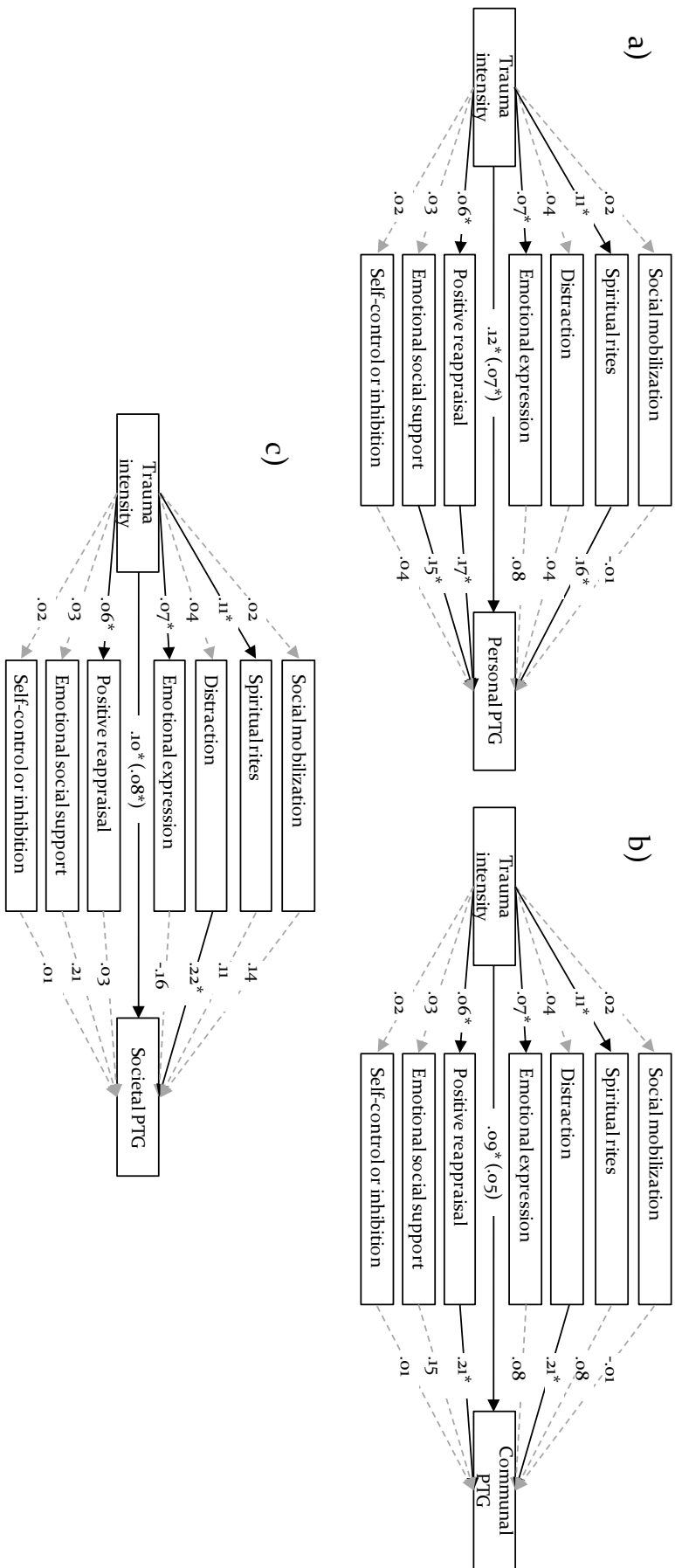


Figure 2. Relation between trauma intensity, communal coping strategies and individual, communal and societal PTG in Chile

STUDY 3 - FLOODS – NORTHERN COLOMBIA

Method

Participants

Participants were 120 people affected by floods in Colombia. All were residents of two villages to the south of Barranquilla. The sample comprised 63.3% women and 36.7% men, aged between 17 and 81 ($M = 38.82$, $SD = 14.08$).

Procedure

In November 2010, a coupled ocean-atmosphere phenomenon “*La Niña*” resulted in the flooding of 400 km² at Canal Del Dique (south of Barranquilla), with an estimated maximum volume of 1.2 billion m³ of flooding which forced around 174,739 people to leave their flooded homes, effectively rendering them homeless (UnNorte, 2011). Two years later, those who had still not been able to return to their dwellings were contacted directly at shelters in Campo de la Cruz and Sabanalarga (south of Barranquilla). The questionnaire was administered to those who agreed to participate in the study after they had signed an informed consent form.

Measurements

The same measures were used as in Study 1 and Study 2. Table 3 shows the descriptive statistics and reliability levels for all the study variables.

Results

As in Study 1 and Study 2, we first examined correlations between trauma intensity and the three domains of PTG. As shown in Table 3, trauma intensity was positively related only to communal PTG. Correlations between communal coping strategies ranged from negative although non-significant, to highly positive (see Table 3). Interestingly, social mobilization was strongly related to distraction and emotional expression, moderately associated with self-control or inhibition and group isolation, and unrelated to social support and participation in spiritual rituals. For its part, participation in spiritual rituals was related exclusively to social support. Surprisingly, participation in spiritual rituals was

unrelated to any of the three domains of PTG. The relationship between communal coping strategies and communal PTG was generally stronger than with individual and societal PTG.

Table 3

Correlations between trauma intensity, communal coping strategies and PTG in Colombia

	Communal Coping strategies									Posttraumatic Growth		
	TI	SM	SR	D	EE	PR	SS	SI	Ind	Com	Soc	
Trauma intensity	1											
Social mobilization	.129	1										
Spiritual rites	.249**	.130	1									
Distraction	.098	.561**	.021	1								
Emotional expression	.206*	.444**	-.002	.685**	1							
Positive reappraisal	.159	.251**	-.084	.376**	.380**	1						
Social support	.113	.145	.185*	.092	.259**	.393**	1					
Self-control or inhibition	.100	.353**	-.095	.494**	.406**	.239**	.043	1				
Individual	-.012	.191*	.107	.504**	.317**	.326**	.221**	.297**	1			
Communal	.180*	.359**	-.055	.410**	.498**	.494**	.424**	.415**	.331**	1		
Societal	.129	.297**	-.076	.367**	.270**	.112	.051	.218**	.222**	.389**	1	

$N = 120$, ** Correlation is significant at 0.01 (1-tailed).

To determine whether trauma intensity had an indirect effect on individual, communal and societal PTG in Colombia, we conducted the same mediation analyses as in Studies 1 and 2. As shown in Figure 3a and confirming the results of the correlation analysis, only distraction was found to have a significant direct effect on individual PTG.

Furthermore, as shown in Figure 3b, communal PTG was directly related to trauma intensity, positive reappraisal and social support.

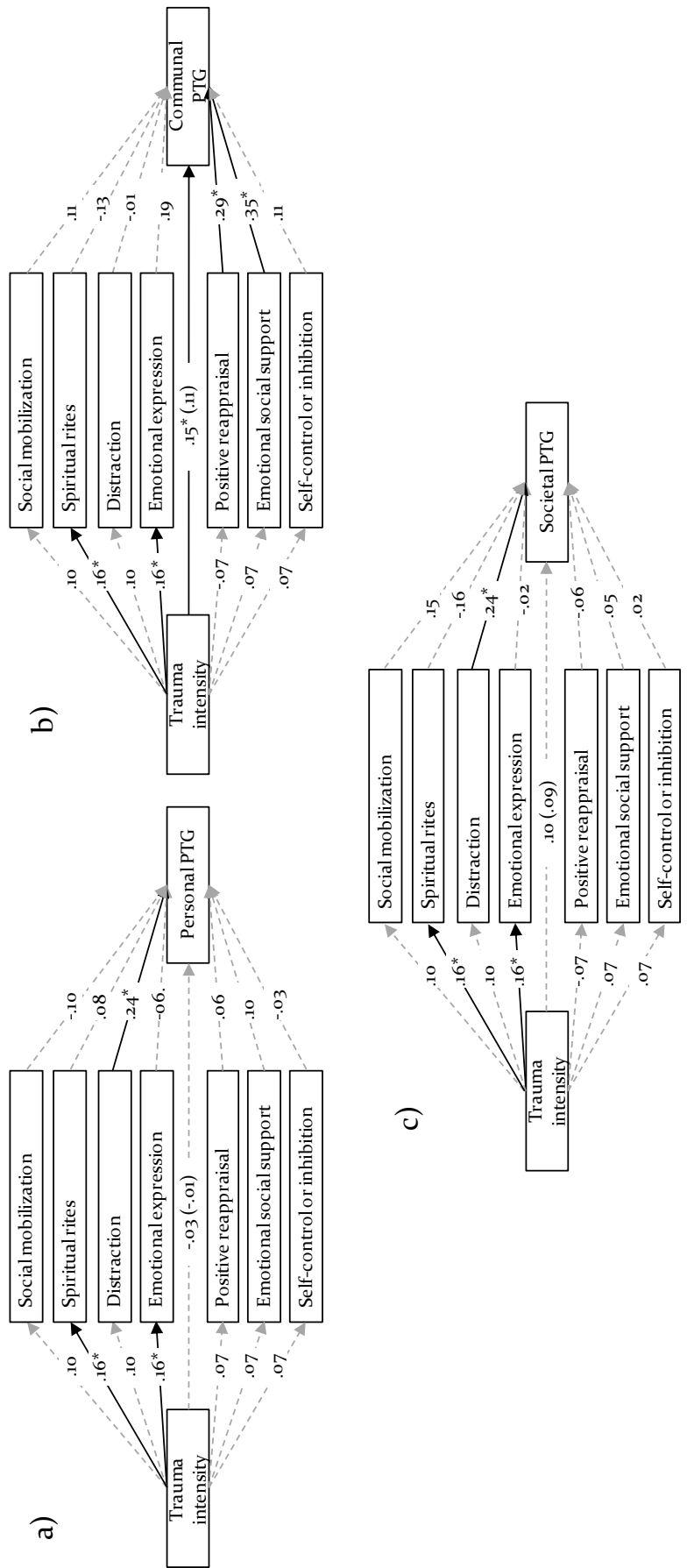


Figure 3. Relation between trauma intensity, communal coping strategies and individual, communal and societal PTG in Colombia

Moreover, a significant indirect effect of trauma intensity on communal PTG was found through social support ($B = .03$, $SE = .02$, $CI [.01, .07]$), indicating full mediation. As in both Study 1 and Study 2, no mediating effects were found, and again only distraction was found to be positively associated with societal PTG (see Figure 3c).

Comparison of coping and PTG between the three sample groups

Table 4 shows the mean scores, standard deviations and alpha coefficients for all the scales included in the three studies.

Subsequently, a series of one-way ANOVAs were conducted to examine whether the mean scores for trauma intensity, communal coping strategies and individual, communal and societal PTG differed between the three samples. Tukey's HSD tests showed that participants from Colombia reported statistically significantly higher trauma intensity than participants from Spain, and participants from Chile reported less trauma intensity in comparison with both Colombia and Spain. Regarding communal coping strategies, social mobilization was more frequently used in Spain than in Chile. Moreover, coping through participation in religious rituals, distraction, emotional expression and positive reappraisal was more frequent in more collectivistic Colombia and Chile than in Spain, confirming the more stoic ethos of collectivistic cultures. Furthermore, social support was reported more frequently in Colombia than in Chile, as was self-control or inhibition and group isolation, which was used as a coping strategy more frequently among participants from Colombia than among those from either Chile or Spain.

As expected, all three domains of PTG were higher in more collectivistic Chile and Colombia than in the more individualistic Spain. In particular, Colombians scored higher for individual PTG than Chileans, and both Colombians and Chileans scored higher than Spaniards. Regarding communal PTG scores, no statistically significant differences were observed between Chile and Colombia, although the scores reported in both countries were higher than in Spain. In line with our original hypothesis, individual, communal and societal growth scores were higher among participants from more collectivistic Colombia and Chile than among those from the more individualistic Spain.

Table 4.

Communal coping strategies and posttraumatic growth in Colombia, Spain and Chile

		Spain N = 87	α	Chile N = 301	α	Colombia N = 119	α	Quadratic F(2, 504)	p ≤	η_p^2
Trauma intensity	M	5.01 ^{a,b,c}	-	3.93 ^{a,b,c}	-	6.49 ^{a,b,c}	-	120.43	.001	.308
	SD	1.55		1.73		0.98				
Social mobilization	M	0.75 ^a	.636	0.46 ^a	.502	0.60	.405	8.13	.001	.031
	SD	0.71		0.63		0.75				
Spiritual rites	M	0.84 ^{a,b,c}	.854	1.26 ^{a,b,c}	.759	2.51 ^{a,b,c}	.433	104.58	.001	.293
	SD	0.92		1.03		0.66				
Distraction	M	0.97 ^{a,b,c}	.760	1.56 ^{a,b,c}	.673	1.24 ^{a,b,c}	.827	19.26	.001	.071
	SD	0.75		0.83		0.99				
Emotional expression	M	1.40 ^{a,b}	.677	1.76 ^{a,b}	.685	1.75 ^{a,b}	.548	16.42	.001	.061
	SD	0.71		0.78		0.75				
Positive reappraisal	M	1.78 ^{a,b}	.679	2.06 ^{a,b}	.731	2.05 ^{a,b}	.675	5.18	.006	.020
	SD	0.67		0.76		0.72				
Emotional social support	M	1.77	.650	1.59 ^c	.757	1.90 ^c	.540	0.55	.576	.002
	SD	0.66		0.76		0.62				
Self-control or inhibition and group	M	0.67 ^{b,c}	.594	0.66 ^{b,c}	.472	0.85 ^{b,c}	.446	5.88	.003	.023
	SD	0.54		0.55		0.69				
Individual PTG	M	3.34 ^{a,b,c}	.880	3.73 ^{a,b,c}	.875	4.22 ^{a,b,c}	.557	35.45	.001	.123
	SD	0.81		0.83		0.41				
Communal PTG	M	3.27 ^{a,b}	.747	3.68 ^{a,b}	.835	3.71 ^{a,b}	.718	8.49	.001	.033
	SD	0.78		0.92		0.83				
Societal PTG	M	2.5 ^{a,b,c}	.907	3.09 ^{a,b,c}	.878	3.47 ^{a,b,c}	.781	20.42	.001	.075
	SD	0.91		1.09		0.80				

Nota: Tukey post hoc: ^a Spain vs Chile, p < .05; ^b Spain vs Colombia, p < .05; ^c Chile vs Colombia, p < .05

Finally, spiritual coping was higher in the more collectivistic and less secularized Latin American nations. However, no differences were found between Spain and the two Latin American countries studied as regards seeking social support.

Discussion

This study sought to examine the relationship between trauma intensity and three domains of PTG, and to identify communal coping strategies which enhance PTG in the context of natural disasters in three different cultures with different collectivistic or individualistic orientations.

The findings of all three studies presented suggest that communal and societal growth was more strongly perceived in collectivistic countries, with individual growth also being more common in these countries, especially among Colombian participants. This finding confirms previous limited comparisons (Vazquez & Paez, 2011). Furthermore, trauma intensity was positively related to communal PTG in all three contexts and to individual PTG in Spain and Chile, although surprisingly not in Colombia. One explanation for this result could be related to the living conditions of the survivors of the flood in Colombia, who were previously residents of high-risk areas who then experienced important economic and lifestyle losses. Moreover, during the period in which the data were collected, participants were still living in a transitional shelter, receiving aid from the government and various NGOs and waiting for future relocation by local authorities. Consequently, this group was affected by increased uncertainty (Alderman, Turner, & Tong, 2012) and these conditions may have undermined participants' capacity for positive reappraisal. This is consistent with the results reported by Afifi et al. (2012), who concluded that heightened levels of uncertainty are associated with exposure to stressors and are negatively associated with mental health.

This study examined the direct and indirect relationships between trauma intensity and PTG, and identified and evaluated the mediating role played by communal coping strategies. The results confirm that trauma intensity is associated with communal coping strategies such as participation in spiritual rituals, emotional expression and reappraisal. On the other hand, social mobilization and inhibition and group isolation were shown to be unrelated to trauma intensity. The association between trauma intensity and PTG was

confirmed at a communal level, and partially at an individual level. Moreover, communal coping was associated with PTG in general, with the exception of inhibition and group isolation in Chile. Globally, multivariate analyses revealed that trauma intensity, spiritual rituals and reappraisal are directly and positively associated with individual PTG in Chile and Spain. The results also support the prediction that communal coping mediates the effect of trauma intensity on recovery. Specifically, the effect of trauma intensity on individual posttraumatic growth was partially mediated by positive reappraisal in Spain and Chile.

Importantly, the results revealed that while collective religious forms of coping are more frequent in more traditional and collectivistic societies such as Colombia and Chile, some degree of this kind of coping was also reported by participants from the more individualistic Spanish culture. Although religious coping was reported more frequently by Chilean and Colombian participants than Spanish ones (with the greatest differences in effect size of all coping strategies), it nevertheless had a direct positive effect on the development of individual PTG in both Chile and Spain, playing a mediating role in communal coping also in this latter country. These results show that religious coping is beneficial and enhances posttraumatic growth, even in a secularized context like Spain (Gerber, Boals, & Schuettler, 2011; Pargament, Smith, Koenig, & Perez, 1998).

Social support was not, as we expected, higher in the relative individualistic Spanish culture, and was higher in Colombia than in Chile. Communal PTG was predicted by coping through social support in Spain and Colombia. Trauma influence on communal growth was fully mediated by participation in spiritual rituals and social support in Spain, and by social support in Colombia. This confirms the idea that asking for and receiving social support is an antecedent of PTG, not only at an individual level, but at a communal level also (Helgeson, Reynolds, & Tomich, 2006; Prati & Pietrantonio, 2009). The results also partially confirm that social support has a stronger impact on communal growth in Spain than in more collectivistic nations. These results are important since they partially confirm the role of social support in more individualistic countries, but also show that Latin American collectivism does not display the “social inhibition” style of Asian cultures (Helliwell et al, 2015).

Positive reappraisal at a communal level was also found to be an adaptive strategy. The results show that positive reappraisal influenced individual

posttraumatic growth in Spain and Chile and partially mediated the relationship between trauma intensity and individual and communal posttraumatic growth in Chile. Furthermore, communal PTG was predicted by positive reappraisal in Chile and Colombia and the relationship between trauma intensity and communal PTG was fully mediated by positive reappraisal in Chile. These findings confirm the adaptive role of focusing on positive aspects and emotional distancing from the negative effects of the traumatic experience. Indeed, reappraisal was confirmed as one of the most important antecedents of PTG in a meta-analysis by Prati and Pietrantonio (2009).

Finally, in all the samples, only direct effects were found for societal PTG. Societal PTG was specifically associated with distraction in Chile, Spain and Colombia and was predicted by trauma intensity in the case of Chilean sample. This result is interesting, since it suggests that social activities unrelated to collective trauma which enhances group cohesion and collective joy may play an important specific role in the development of societal growth (Páez, Rimé, Basabe, Włodarczyk, & Zumeta, 2015).

Among the limitations of the study, we should note that the measure of trauma intensity that was used was a subjective evaluation of traumatic experience and did not directly measure posttraumatic stress disorder. Therefore, the question remains as to whether the trauma measured here is associated with an expected reaction to the disaster (Bonanno et al., 2010). Secondly, the data are cross-sectional and retrospective and thus do not allow for causal claims about either the associations between trauma intensity and posttraumatic growth, or the impact of communal coping. An important temporal distance exists between the occurrence of the disaster and the recollection of the data; the measures obtained were not longitudinal and thus reflect participants' perceptions at a temporal distance of around two years from the occurrence of the disaster. Furthermore, when assessing coping strategies in the aftermath of a natural disaster it is difficult to distinguish between temporary strategies and generalized forms of coping (Yamashita, 2012). The third limitation is related to the difference in sample sizes and the fact that the study design cannot separate the impact of the trauma itself from that of heightened exposure resulting from the specific conditions in each country. In the case of Colombia and Spain, participants in the study were probably more directly affected by the disaster, whereas the Chilean sample consisted mostly of

indirectly affected individuals. This may affect the results presented here. However, as shown by Smithe et al. (2014), people living outside the area affected by a disaster may report similar symptoms to those suffered by individuals who directly experienced the traumatic event. Another limitation is related to the effects of different types of natural disasters. In this case, the Colombian population experienced flooding, which resulted in important economic and even human losses; by comparison, the effects of the earthquakes in Spain and Chile were less severe. Furthermore, it is important to bear in mind that participants from the Colombian sample had been evacuated and were still living in transitional shelters. The process of evacuation and its immediate aftermath is likely to encourage bonds among the evacuated individuals and might alter the impact of communal coping (Afifi et al., 2012). These differences need to be taken into consideration when comparing the three samples, as differences in their experiences may have hindered the development of certain communal coping strategies and PTG, which might reasonably be expected at a later date. However, we still have no clear idea of the time that elapses between a traumatic event and the onset of PTG (Bitsch et al., 2011); it is important to consider also other aspects that can favor PTG, such as, for example, an adequate response from the authorities (Rhodes & Tran, 2012). Accordingly, the emergence of communal coping may be more related to the social and organizational resources previously available to a community (Benight, Swift, Sanger, Smith & Zeppelin, 1999; Hobfoll & Lilly, 1993), with these conditions enhancing or hindering the emergence of PTG.

The findings reported here make a significant contribution to the growing body of research attesting to the benefits of communal coping, especially in the context of natural disasters, which promotes, in some cases, the appearance of PTG. The results presented here are consistent with that proposed by Norris and Elrod (2006), suggesting that it is necessary to adopt a wider perspective on the combined effects of psychosocial factors that may reduce the negative effects of natural disasters on individuals and communities. The results show the need to strengthen the resources available to communities in order to facilitate prevention and intervention in the event of natural disasters, while at the same time highlighting the importance of considering community and cultural aspects in research on the impact of and responses to such disasters.

Chapter 4



CHAPTER 4.

RELIGIOUS AND SECULAR COLLECTIVE GATHERINGS, PERCEIVED EMOTIONAL SYNCHRONY AND SELF- TRANSCENDENT EMOTIONS: TWO LONGITUDINAL STUDIES

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Introduction

Collective processes and collective emotions are currently the object of a major revival in psychology and the social sciences in general (e.g., Collins, 2004; Goodwin, Jasper, & Polletta, 2000; von Scheve & Ismer, 2013; von Scheve & Salmela, 2014). Collective identity (Haslam, Jetten, Postmes, & Haslam, 2009), collective optimal experiences (Walker, 2010) and participation in collective emotional gatherings (Collins, 2004; Páez, Rimé, Basabe, Włodarczyk, & Zumeta, 2015) and social movements (Drury & Reicher, 2009; Páez, Javaloy, Włodarczyk, Espelt, & Rimé, 2013) have recently been proposed as entailing major positive effects for social cohesion, social functioning and individual well-being. The present paper will focus on the social and individual effects that most types of collective gatherings have in common, with particular attention being paid to the role played by emotional binding in the way such effects occur.

Durkheim's (1912) Model of Collective Processes

Social rituals, festivals and worship celebrations fulfil the function of periodically gathering individuals together, recreating the social group and reviving shared beliefs. Such events involve shouting, singing, music, movement and dances (among others), as well as the use of various stimulants. According to Durkheim (1912), the key aspect in these situations is that common feelings are felt and expressed. Under these conditions, an emotional synchrony is established, stimulating collective feelings and leading to increased integration of the participants. Individuals are transported out of themselves and their common feelings and shared beliefs take over. Participants thus experience a blurring of self-other boundaries, a sort of self-transcendence, a sense of union with others, openness to others and a sense of empowerment accompanied by positive affect. They then leave the collective situation with a renewed sense of confidence in life and social institutions. We first briefly review recent studies on collective gatherings such as mourning ceremonies, protest demonstrations and transitional justice procedures that have tested different aspects of Durkheim's model and provided partial support for its predictions.

Firstly, it has been shown that participation in collective emotional gatherings increases identification with other co-present participants, as well as reinforcing a broader sense of social identity (i.e. ethnic identification, Gasparre, Bosco, & Bellelli, 2010) and enhancing prosocial behaviour (Rosanno, 2012). A longitudinal study by Kahn et al. (2015) confirmed the key role of collective rituals in strengthening social identity, showing that one month after participation in a Hindu festival; pilgrims exhibited heightened social identification as a Hindu and increased frequency of prayer rituals compared to others who did not attend the event. Furthermore, it has been suggested that rituals and collective gatherings may fuel identity fusion with other members of the group present at the event, although evidence for this is still scarce (Swann et al., 2012). Identity fusion is the feeling of oneness with the group, associated with highly permeable borders between the personal and social self. This blurring of the self-others boundary or the borders between the personal and collective self encourages people to channel their personal agency into group behaviour, engendering the possibility that the personal and social self will combine synergistically to motivate pro-group behaviour, both aggressive and

altruistic (Gómez, Vázquez, Brooks, Buhrmester, Jetten, & Swann, 2011; Swann et al., 2012). Two important contextual causes of identity fusion are as Swann et al. (2012, p.9) suggest, the sharing of bonding experiences with others and participation in affectively-charged rituals.

Secondly, participation in collective emotional gatherings enhances social cohesion, in terms of fostering a general sense of social integration (Weiss & Richard, 1997), increases one's perception of social support (Páez, Basabe, González, & Ubillos, 2007) and reinforces positive intergroup stereotypes and a positive emotional climate (Kanyangara, Rimé, Philippot, & Yzerbyt, 2011). A longitudinal study found that participation in a public honour ceremony for the victims of a specific group significantly predicted solidarity five, nine and thirteen months after the tragedy, controlling for other predictors (Hawdon, & Ryan, 2011). Moreover, Hawdon, Oksanen and Räsänen (2012) confirmed that social solidarity decreases symptoms of depression and promotes well-being in both the short and long-term.

Thirdly, participation elicits positive individual emotions (Neville & Reicher, 2011) and collective emotions (Páez et al., 2007; Páez et al., 2013). For instance, Tewari et al. (2012) found that Indians who participated in a one-month pilgrimage ritual reported a longitudinal increase in well-being relative to those who did not participate. Similarly, Fischer, Xygalatas, Mikidis, Reddish, Tok, et al. (2014) found that intensity of participation in a ritualised collective gathering was related to arousal and positive affect. They compared changes in levels of happiness, fatigue and heart rate reactivity among high-intensity participants, low-intensity participants and spectators (unrelated/unknown to the fire-walkers). Results showed that fire-walkers experienced the highest increase in heart rate and reported greater happiness post-ritual compared to low-intensity participants and spectators (Fischer et al. 2014).

Fourthly, participation in collective gatherings "fuels" participants with energy and consequently increases their sense of efficacy, worthiness and individual and collective self-esteem. Collective gatherings evoke a sense of empowerment (Drury & Reicher, 2005) and increased efficacy, accompanied by high positive affect (Páez et al., 2007). Satisfactory participation in collective gatherings also increases group or collective self-esteem (Beristain, Páez, & González, 2000; Rimé, Kanyangara, Yzerbyt, & Páez, 2011).

Finally, collective gatherings reinforce agreement with social beliefs and values related to the in-group: successful rituals generate and reinforce “sacred” symbols and values. Moreover, symbols become meaningful because they are emotionally charged, and as such become easier to remember and more likely to guide behaviour (Collins, 2004; Páez et al., 2007). A study by Fischer et al. (2013) showed that in addition to generating a greater sense of shared sacred values among participants and higher levels of perceived trust and emotional connectedness, participation in a ritualised celebration also reinforced pro-social behaviour (i.e. more generous contributions to a public fund).

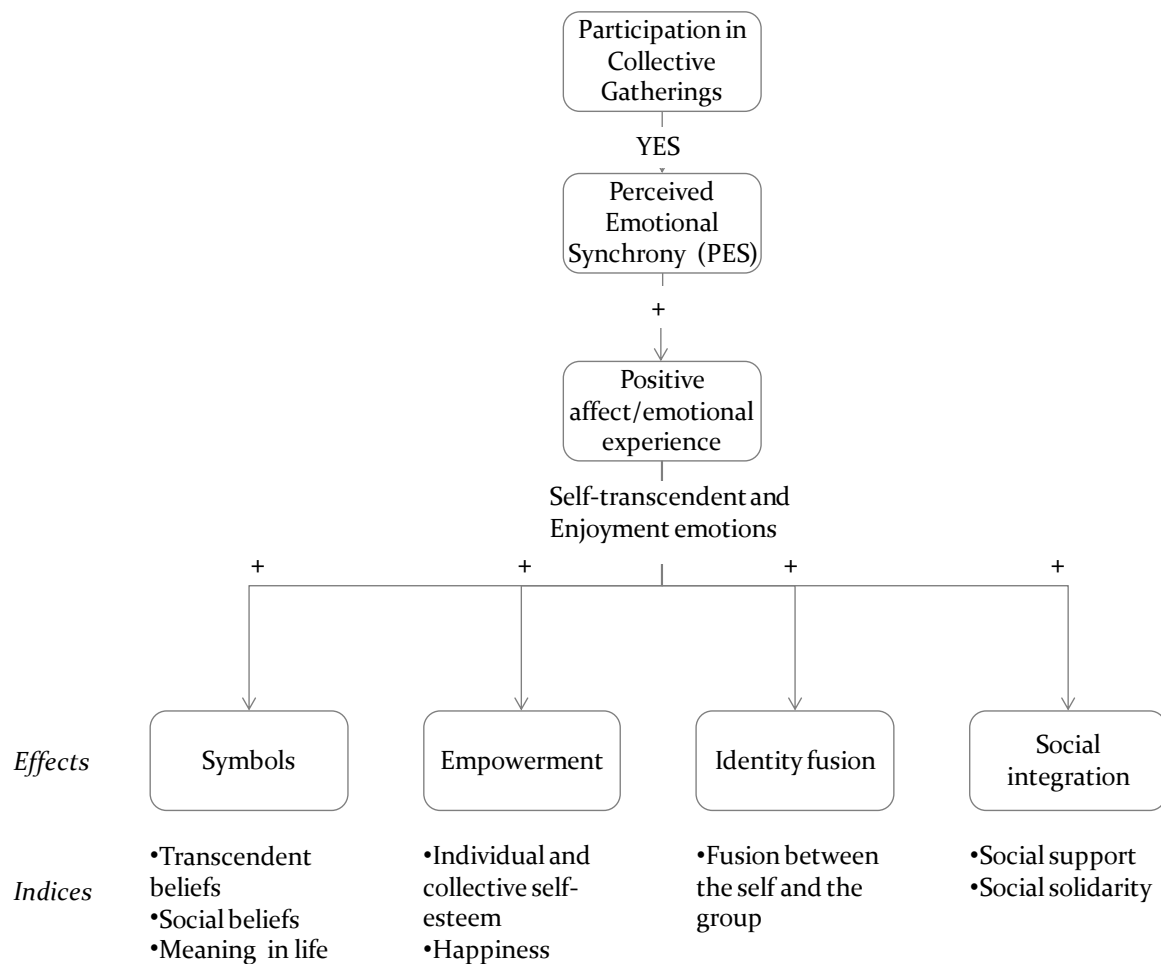


Figure 1. Conceptual model: Positive effects of participation in collective emotional gatherings

In the view of the above, we set out to verify and corroborate the validity of Durkheim's model, which postulates the crucial nature of participation in collective gatherings for eliciting these effects. Thus, we expect participation in collective gatherings to reinforce personal and social beliefs, empowerment, identity fusion and social integration (see Figure 1).

Movement Synchronisation

Some of the effects which Durkheim (1912) attributes to participation in collective gatherings were also listed by McNeill (1995) as being provoked by mere movement synchronisation. This author highlighted the fact that synchronised movements such as dance, song, music and shouting have played an important role in the history of humankind, in military exercises, during work (rowing, moving large masses, building, etc.), in sports, at parties and in religious ceremonies. In his review of historical documentation, McNeill identified a number of effects resulting from movement synchrony. These effects can be grouped into four dimensions: (1) openness to the world: altered consciousness, feeling of inflation of the self, blurring of self-awareness and loss of self-boundaries, (2) openness to others: feelings of being together, feelings of being one with the other, "*esprit de corps*", (3) positive affect: relaxation, calmness, sense of well-being, and (4) empowerment: feelings of confidence, energy, strength and a sense of satisfaction with the world in general. The effects of movement synchronisation described by McNeill (1995) have also been documented in studies on mimicry, a specific form of synchrony. In several studies (van Baaren, Holland, Kawakami & van Knippenberg, 2004; van Baaren, Holland, Steenaert, & van Knippenberg, 2003), imitation was found to increase pro-social behaviour. Participants who were imitated were more willing to provide help and were more generous to others than participants who had not been imitated. Recently, Chartrand and Lakin (2013) conducted a thorough review of studies on behavioural mimicry in which one of the interaction partners is mimicked unknowingly. Being mimicked was shown to entail two types of effects for the mimicked person. The first was positive affect, as evidenced by the numerous emotional benefits reported by mimicked participants as the result of the interaction. The second was that, compared to controls, the mimicked participants reported enhanced openness to others. This was manifested through attraction and empathy, helping behaviour, perception

of interdependence, choice of physical closeness, confidence in each other, progress of negotiations and the ability to perceive emotions in other people. Thus, imitation and behavioural mimicry can be said to have effects which are fairly comparable to those resulting from conditions of movement synchronisation. Moreover, this very large pool of observations from social situations closely matches those reported by Durkheim (1912) as typical effects of collective gatherings and social rituals.

Durkheim's (1912) Collective Effervescence

Durkheim (1912) defined collective effervescence as the core mechanism underlying the positive social and individual consequences of collective gatherings. Collective effervescence is an amplified, excited reaction which is made possible when a group of people experience something emotional together. Once people are assembled, said Durkheim, their closeness transports them to an extreme degree of exaltation. Each consciousness echoes the other, which causes excitement and emotion. When expressed collectively, human feelings intensify. Both sadness and joy are amplified by echoing from consciousness to consciousness: everyone drives everyone. In Durkheim's view, the specific nature of the feelings that are pooled does not matter. They can range from extreme depression to extreme elation, painful irritation or ecstatic enthusiasm. What is essential is that individuals are gathered together, that common feelings are felt and that they are expressed in common acts. Group members need to be in communion, to be united in the same mind and in the same action. Regardless of the specific nature of the feelings and acts involved, the basic process of emotional communion or emotional synchrony always lead to the same previously described positive effects.

How is it that synchronisation and collective effervescence entail similar social and individual effects? The effervescence that develops in a collective gathering can be described as a multifaceted process of social synchronisation. First, when a common emotional event is enacted collectively, participants converge together in special spaces and at particular times. Second, they begin their participation with shared concerns, shared intentions and shared goals that are then mutually reinforced as the event develops. Third, they share similar cognitive and emotional responses to the displayed group symbols (e.g.

flags, emblems, leaders, icons). Fourth, throughout the experience their attention and concentration are focused on the same thing– the core of the social event (e.g. the podium, stage, speaker, altar). Fifth, participants display group mimesis or coordinated collective behaviours (shared gestures, shared movements, moving and marching together), thus enacting behavioural synchrony. Sixth, these behaviours are accompanied by coordinated expressive manifestations (singing together, yelling, saying particular words or sentences, playing music, dancing, etc.) in such a way that every participant's mind, voice and body becomes attuned to the state shared in the group. Seventh, and most importantly, all six preceding elements concur in stimulating participants' emotional arousal in such a way that they will experience and enact similar emotional states; therein probably lies the strongest source of the social and individual effects of participation in collective gatherings. Due to the ease with which emotions are mirrored, shared and spread among those who are co-present (Iacoboni, 2009; Gallese, 2001; Hatfield, Cacioppo, & Rapson, 1993), a situation of emotional synchrony develops, thus entailing perceptions of similarity and unity: "we feel the same, we are the same, we are one" (Collins, 2004, Páez, et al., 2013; Rossano, 2012; von Scheve & Ismer, 2013).

The concept of collective effervescence and perceived emotional synchrony has been directly submitted to empirical research in several studies, most of which were based on physiological arousal and self-reports by participants in and spectators of high-activation rituals. However, these promising studies did not include self-report measures of collective effervescence and use only a limited number of outcomes. Social contagion studies have confirmed the transmission of affect by automatic imitation and feedback from mimicked nonverbal behaviour (Lakin, Jefferis, Cheng, & Chartrand, 2003). These studies showed that perceiving someone else's facial expression in a social interaction contributes to one actually feeling the emotion associated with that expression (Stel & Vonk, 2010). Hatfield et al. (1993) highlighted the fact that, in addition to facial expressions, haptic, vocal and verbal information from others also generates emotional contagion. Studies on the social sharing of emotion (e.g. Rimé, 2009) and on the capitalisation of positive emotions (e.g. Gable & Reis, 2010) found that verbal interaction increases emotionality and induces emotional convergence among interaction partners, partly because it elicits a common appraisal of events (von Scheve & Ismer, 2013). Finally, it was shown

that participation in collective gatherings stimulates the social sharing of emotion, which in turn reinforces participants' personal and collective emotions (Rimé, 2007; Rimé, Páez, Basabe, & Martinez, 2010).

The Role of Shared Emotions

In sum, synchronised behaviours such as marching, singing and, in general, doing things together have been shown to enhance people's sense of union with others, positive affect and pro-social behaviour, particularly when the experience is intrinsically motivating and absorbing (e.g. optimal experience, or flow). However, current research also suggests that this occurs even when the coordinated action is meaningless and devoid of affect (Wiltermuth & Heath, 2009; Valdesolo, Ouyang, & DeSteno, 2010). Mere physical synchronisation alone seems to be sufficient to trigger the effects described above. Behavioural synchrony, devoid of any symbolic charge (i.e. participants from the USA singing the Canadian anthem), provokes an increase in prosocial behaviour and social identification. Effects are also found with minimal coordinated activity that does not change affect - when soldiers march in step, it is unlikely that they are experiencing strong emotions, yet effects analogous to those described so far result from their synchronised action (McNeill, 1995). The question thus arises of whether the collective effervescence and perceived emotional synchrony described by Durkheim (1912) really play an essential role in the induction of these effects. Collective gatherings usually include references to symbols related to in-group beliefs, values and social identity. As Durkheim suggested, these symbols are affectively loaded, they are "recharged" with affect during rituals and are essential for focusing attention. Furthermore, during collective gatherings participants act in behavioural synchrony, but they also experience intense emotions as a consequence of the use of symbols related to social identity and values. Although, as stated above, behavioural synchrony alone may have positive outcomes, we expect collective gatherings which include symbols and intrinsically related affect to reinforce and be more effective in provoking positive outcomes, due to collective effervescence or intense shared emotions.

Social Identification, Collective Self-categorisation and Emotions

In the Elaborated Social Identity Model of crowd behaviour (ESIM; Drury & Reicher, 2000, 2009), which is based on the tenets of self-categorisation theory, a similar surge of social cohesion, empowerment and positive affect is described as resulting from crowd dynamics, although in this case it is attributed to cognitive changes occurring among participants. In this model, crowd events are viewed as consisting characteristically of intergroup encounters, and identity within a group can change as a function of intergroup dynamics (Di Giacomo, 1980). Thus, the social cohesion effects observed in collective movements are seen as resulting from a common redefinition of participants' social identity as a consequence of the behaviour of out-group members. To illustrate their view, Drury and Reicher (2009) reported that at a demonstration, participants came together as a united force because of their shared experience of illegitimate treatment by members of the out-group (the police). Yet it is very likely that these participants' cognitive experience of illegitimate treatment also activated within them powerful emotions of anger, frustration and resentment that they then expressed and shared, thus creating the collective effervescence described by Durkheim. Drury and Reicher (2009) indeed stated that "The sense of crowd unity was evident in participants' behaviour, as they oriented together, focusing on the same targets, sang and chanted together, and pushed in unison (...)" (p. 714). Moreover, following the redefinition of their social identity and the resulting feelings of cohesion and empowerment, participants experienced a deep sense of happiness and even euphoria at being involved in demonstrations. This is congruent with Durkheim's perspective: social identification results from a "hot" emotional process that complements cognitive self-categorisation.

Self-Transcendent Emotions

According to the neo-Durkheimian approach, intense shared emotional experience is a key explanatory element of the beneficial effects of rituals. Accordingly, Krause and Hayward (2013, quoted in Van Cappellen, Toth-Gauthier, Saroglou, & Fredrickson, 2014) found that intense religious rituals (i.e. where members openly express their emotions during worship services) are associated with well-being (i.e. life satisfaction). However, it is probably the complementary activation of negative and positive emotions that fuels positive

outcomes (Fredrikson, 2009), since participation in religious rituals has been associated with both positive and negative affect (Campos et al, 2004). In relation to positive emotions, self-transcendent positive emotions are particularly relevant for religious and spiritual experiences (Van Cappellen & Rimé, 2014; Van Cappellen, et al., 2014). Induced self-transcendent positive emotions prompted religious and spiritual people to endorse more spirituality-related feelings and behavioural intentions, and increased spiritual beliefs (Saroglou, Buxant, & Tilquin, 2008), whereas other positive emotions such as induced amusement or positive moral emotions such as pride, did not produce such effects. These emotions act through an enhanced perception of the benevolence of people/the world and meaning in life (Van Cappellen et al., 2014). In other words, experiencing of self-transcendent emotions plays an important role in the effects of collective religious activities, as well as spiritual activities in general. In their study of the functionality of religious rituals, Van Cappellen et al. (2014) found that while the effect of church attendance on well-being was significant, it became non-significant when the cognitive, social and emotional aspects of church attendance were controlled for. Three scales asked about participants' experience during mass: cognitive (mass helps me understand the meaning of life), social integration (during mass I feel close to others) and emotional (during mass I feel self-transcendent emotions: awe, gratitude, love and peace, and positive emotions: pride and amusement). Furthermore, the emotional aspect of mass was the specific facet associated with satisfaction with life, and only the self-transcendent positive emotions of awe, gratitude, love and peace (not the other positive emotions of pride and amusement) were found to be significant mediators of this relationship, (Van Cappellen et al., 2014). These results suggest that self-transcendent positive emotions are one way through which religion is beneficial for well-being.

Transcendent Beliefs and Values

Transcendence is related to connections to larger groups and the universe and thereby provides meaning and purpose to life (Peterson & Seligman, 2004). Transcendence is related to feelings of awe, gratitude, hope, calm and inspiration, as well as spirituality beliefs. Positive emotions such as peacefulness/calm, closeness/love, gratitude, awe, inspiration and hope are related to self-transcendence (Emmons, 2005). These positive emotions have

been studied as self-transcendent positive emotions (Haidt, 2006). This family of positive emotions is linked to the interests or welfare of either society as a whole or at least of persons other than the judge or agent (Haidt, 2006). These positive emotional states pull one out of self-absorption and enhance acceptance and openness to the world and others. They also enable one to see oneself as part of something greater. Moreover, they weaken differences between the self and the social world (Fredrickson, 2009; Van Cappellen & Rimé, 2014), inducing self-transcendence or fusion of personal identity with the social world. We will examine appraisals and action tendencies related to these emotions and their association with rituals.

Serenity, content and calm are usually associated with safe, peaceful and familiar places that require little effort of adaptation or moves to savour current circumstances (Fredrickson, 2009). Even though the emotion of calm or serenity is more strongly associated with Hinduism and Buddhism-related Asian spiritual ideologies than with Monotheist religions, feelings of joy, contentment and internal harmony and peace are present also in Christianity and Islam. Participation in prayers, meditation and religious rituals induces calm and contentment as the result of contact with a transcendent reality, or because of relaxation and mindfulness in the case of meditation (Emmons, 2005), forming a cross-cultural dimension of spirituality (Saroglou, et al., 2008).

Love is elicited by warm feelings and concern over another's well-being (Fredrickson, 2009). Participation in religious rituals is associated with giving and receiving social support, the feeling of belonging to a community, personal and collective self-esteem and, consequently, *closeness and feelings of "love thy neighbour"*. By worshiping God you worship your community and yourselves (Emmons, 2005), but of course you can also feel general love or closeness to secular, political or ethnic groups.

Gratitude is associated with the recognition that someone does good things for you or your group, thus enhancing reciprocity. Gratitude is an emotional response towards a benefactor that prompts an individual to be prosocial (Haidt, 2006). Gratitude towards supernatural entities for gifts and mercies are common in religious worship and private and collective rituals, and dispositional measures of gratitude correlate with measures of religiousness (Emmons, 2005). Similarly to that stated above, you can also feel gratitude for

the success of social movements (i.e. the workers' movement, social democracy, freedom movements or a figure that embodies these claims and struggles, such as Nelson Mandela).

Awe/wonder is the emotional response to something vast (such as natural or artistic beauty) that cannot be comprehended using existing mental structures (Haidt, 2006). Awe, reverence or amazement are feelings of wonder experienced by the self when faced with something vast, great, powerful, real, true and/or beautiful, such as Notre Dame Cathedral or a large-scale National parade; these feelings may also be mixed with fear when witnessing events such as an atomic explosion or a tsunami. This appraisal induces a need to accommodate beliefs, which are challenged by the perceived greatness (Haidt, 2006; Emmons, 2005; Fredrickson, 2009). In religious rituals, the presence of something sacred induces feelings of overpowering majesty and mystery. However, a powerful expression of ritualised collective behaviour, a demonstration (e.g. the Red Army parade celebrating the triumph over the Nazis or a huge Arab spring demonstration) or a charismatic leader and speaker can also induce awe (Emmons, 2005).

Inspiration or elevation is the positive emotional response to moral exemplars, such as good deeds, acts of altruism and heroes and martyrs, whether they are religious or secular. *Admiration* is inspiration produced by exemplars of talent and skill, such as excellent players or speakers. These emotions are characterised by the recognition of having witnessed something or someone greater or better than usual or greater or better than yourself. They prompt an urge to do your best, to express what is good in you and to improve both yourself and society (Haidt, 2006; Emmons, 2005). Religious martyrs and exemplary lives usually generate inspiration, but obviously figures like Mandela are moral examples – at least for those who agree with their goals.

Hope is a positive emotion that comes into play when life circumstances are negative or there is considerable uncertainty about how things will turn out (Fredrickson, 2009). Hope arises precisely within those moments when fear, sadness, hopelessness or despair seem just as likely. In times of negative life events, hope is “fearing the worst but yearning for better.” Hope opens the mind, removes the blinders of fear and despair and helps one “to see the big picture”. People become creative, unleashing dreams for the future. **Hope** is a

belief and a feeling that, no matter how awful or uncertain they are at the moment, things will turn out for the best. Hope is knowing that our current problems are not permanent and that the future is still promising, despite tough circumstances (Fredrickson, 2009). Hope, optimism, future-mindedness and future-orientation represent an emotional, cognitive and motivational stance towards the future. Hope consists of “expecting the best in the future and working to achieve it; believing that a good future is something that can be brought about” (Peterson, 2006). In other words, “hope” is articulated through optimism and a positive outlook on life and people around you. We agree with authors like Vaillant (2008) who include hope in the list of self-transcendent emotions, because hope is goal-oriented and is often related to an adequate grasp of the purpose or meaning of life and existence. Emmons (2005) has associated hope with “ultimate concerns.” Hope is linked to the human ability to imagine, i.e. to see what is not here and now and could be better. Hope may often emanate from one’s belief in the existence of a greater power, and/or from a humanistic acceptance of the goodness of humanity. In all these cases, hope calls for an attitude of transcendence, because in general, optimism is related to a collective mission that is larger than the individual self, albeit humanistic (humankind, workers’ movement, women’s liberation, national independence, internationalism, etc.) or supernatural (God, Goddess, etc.). Religious rituals inspire hope through the expectation of God’s mercy, symbolic immortality and a better fate in the afterlife. Secular rituals inspire hope through ideological expectancies of positive utopian future states of society and humankind. Previous studies suggest that participation in collective gatherings such as demonstrations induces not only positive affect but also emotions such as hope (Drury & Reicher, 2005, 2009; Páez et al, 2007). Brief experiences of self-transcendent positive emotions are not restricted to religious rituals and practices, and following Durkheim (1912), we agree with the idea that it is not only religious, but secular rituals also which increase self-transcendence or spirituality in a broad sense amongst people, with the facet of supernatural power being associated specifically with religious rituals.

Self-Transcendent Emotions, Religious Rituals and Social Solidarity

Self-transcendent emotions are related to well-being, but also to more social outcomes such as social cohesion. A recent study addressed the association between emotional activation, particularly transcendent emotions, during religious rituals and social outcomes, such as social identification and commitment to values and goals. Based on Collins' (2004) approach to rituals, Draper (2014) studied 434 congregations that agreed to administer a worship experience survey among their members. Data on a random subsample of respondents (n = 73,196) was collected within the framework of a large-scale survey conducted in the USA in 2001. Four questions, focusing on two transcendent emotions, supernatural feelings and positive affect, were used to measure emotional experience during worship. Participants were asked how often they experienced the following emotions during worship services at their congregation: 1) "a sense of God's presence," 2) "awe or mystery," "inspiration" and "joy". Sensing that God is present suggests the perception of something outside and above the group, a feeling which Durkheim deemed to be a feature of collective effervescence and which is related to transcendence. A sense of awe or mystery is a transcendent emotion (see above), a feeling of being overwhelmed in the presence of something more powerful than oneself. Inspiration is another transcendent emotional which involves feeling inspired by positive moral entities, figures and behaviours. In the case of a spiritual experience, it is when Christians talk about the presence and inspiration of the Holy Spirit. Joy is a general non transcendent positive emotion. The factor analysis conducted indicated that these four measures load on a common factor. For Draper (2014), the index captures collective effervescence based on the aggregated mean of individual emotional experiences, thus making it an index of collective emotions. Two questions tap social identification, long-term commitment to the congregation and commitment to the aims and values of the group. A collective level analysis was performed with the mean scores for each congregation. Collective effervescence was found to correlate with antecedents or characteristics of congregational worship, such as the duration of the religious ritual, frequency of participation (mean of attendance at available services) and strictness of rules (as indicators of symbolic barriers), as well as with belonging and commitment. All antecedent variables also correlated significantly with belonging and commitment, with the exception of duration of

the religious ritual. Draper (2014) argues that individuals who attend longer and more frequent worship rituals are likely to be exposed longer to sacred objects, focus their attention more and share more in others' emotions. They also become more familiar with the ritual's symbols, and thus more able to gain emotional resonance and to be skilled at reaching higher levels of effervescence. Of course, habituation and exhaustion due to over-long or over-frequent rituals are also possible. Globally, Draper (2014) confirms at a collective level that more frequent rituals and, to a lesser extent, longer rituals, are associated with strong emotions in participants, particularly transcendent emotions such as awe and inspiration, as well as with a perception of something outside and above the group, in this case of a supernatural nature. When socioeconomic variables and the characteristics of the rituals were controlled for, higher collective means of these emotions were associated with strong social identification and commitment to the group.

We will try to show that perceived emotional synchrony or individual perception of collective effervescence may not only enhance emotional energy and positive affect, well-being, esteem and efficacy, social identification, social integration and agreement with social beliefs, but may also help to increase transcendent beliefs. We will examine the role of transcendent emotions, such as awe and inspiration, and we expect perceived emotional synchrony to be associated with emotional activation, and transcendent emotions to reinforce transcendent beliefs and generate more meaning attribution related outcomes, such as beliefs and values, as argued below.

Collective Emotional Gatherings and Self-Transcendent Experience and Beliefs

In Durkheim's approach, rituals or collective emotional gatherings are intrinsically related to transcendence, because collective effervescence is an intense and shared emotional state experienced by participants *that is perceived as independent of and larger than any single participant*. Successful ritual experiences generate a strong sense of belonging with the other ritual participants, because collective effervescence is a peak emotional experience that depends on the others' presence. As Durkheim (1912, p.424) writes: "The

vital energies become hyper-excited, the passions more intense, the sensations more powerful; there are indeed some that are produced only at this moment. Man does not recognise himself; he feels somehow transformed and in consequence transforms his surroundings". Participants in rituals attribute the emotional experience to a force that is above and beyond any one of them. In other words, they attribute it to a large and transcendent force, of a supernatural nature in the case of religion or of a social nature (ethnic group, community, nation, social movement) in the case of secular rituals. In Durkheim's view, this attribution is incorrect in the religious case insofar as the external force is thought to be the supernatural, because by worshipping the God, Goddess or totem, participants are actually worshipping the in-group. Viewed in a different light, however, the attribution is correct for Durkheim because collective effervescence is necessarily above and beyond the individual. Society is reified and the group is perceived as a transcendent entity (Draper, 2014).

Religious and ideological rituals, or those types of symbolically-charged collective gatherings and emotions that tap into transcendent entities, are obviously associated with spirituality. Spirituality reflects the personal search for connection with a larger sacredness or a transcendent entity (Van Cappellen et al., 2014). Recent developments in values and positive psychology analyse self-transcendent values and will be discussed shortly in relation to a broadened view of spirituality as the individual's experience of being in contact with a large unity, plan or meaningful life.

An early version of the value theory (Schwartz, 1994) raised the possibility that spirituality might constitute another near-universal value. Schwartz defines the goals of spiritual values as meaning, coherence and inner harmony through transcending everyday reality. However, spirituality did not demonstrate a consistent meaning across cultures and was therefore dropped from the theory. Nevertheless, we believe that meaning in life is an important facet of well-being and is valued cross-culturally. Indeed, a recent study found that inner harmony is mentioned as an important facet across different cultures (Delle Fave, & Koop, 2012).

The classification of character strengths by Peterson and Seligman (2004) also addresses the topic of self-transcendence. These authors include in the field of transcendence a) the appreciation of beauty and excellence: noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life; b) gratitude: being aware of and thankful for the good things that happen; c) hope: expecting the best and working to achieve it; d) humour: liking to laugh and joke; bringing smiles to other people, and e) religiousness: having coherent beliefs about the higher purpose and meaning of life. With the exception of humour it is clear that a, b and c are related to self-transcendent emotions such as awe and inspiration/elevation, gratitude and hope. Finally, religiousness stresses the goal of spiritual values as finding meaning and purpose in life.

In the case of rituals, including religious ones, and as described previously, Durkheim (1912) posits that the implicit transcendent entity is the social group itself. Spirituality usually includes three facets: a belief in a greater supernatural power, the tendency to orient oneself towards a larger transcendent reality or connectedness, and a belief in the unitary nature of existence or universalism (Emmons, 2005). However, spirituality does not necessarily imply belief in supernatural entities. This is one facet which is not commonly shared in secularised Europe (Saroglou et al., 2008) or in Buddhist and Confucian Asia for instance (Cottraux, 2007). However the other two facets, i.e. the tendency to orient oneself toward a larger transcendent reality or connectedness and a belief in the unitary nature of existence or universalism, are more general and probably more cross-culturally valid aspects (Emmons, 2005).

We expect not only religious, but secular rituals also to increase these two facets of self-transcendent beliefs or spirituality in a broad sense among people. We will determine whether, as Durkheim states, an increase in self transcendent beliefs and emotions is indeed the effect of secular and religious rituals such as Sunday Mass or collective gatherings in general. Because collective emotional gatherings provide connection with society and reinforce social integration and positive social beliefs, they act as social tools that infuse life with purpose and meaning - spirituality in the broadened sense of the term. This is why we expect satisfactory participation in rituals and collective emotional gatherings to

increase not only psychological well-being in general, but also, particularly, the facet related to finding meaning in life.

Overview

To sum up, research has demonstrated that various conditions of synchronised behaviour may provoke a sense of union with others, along with a prosocial orientation and a sense of empowerment accompanied by positive affect. In collective gatherings, factors contributing to a process of social synchronisation abound. Participants converge in space and time, share concerns, intentions, goals and responses to group symbols, have a common focus of attention and concentration and display coordinated collective behaviour as well as coordinated expressive manifestations. According to Durkheim (1912), such conditions foster the induction of the shared emotions that invade participants. The ensuing sense of perceived emotional synchrony and unison would considerably magnify the effects of mere corporal synchronisation. Thus, while both McNeill's (1995) observations and recent experimental findings demonstrate that simple movement synchrony without emotion is sufficient to produce effects similar to those described by Durkheim, Durkheim himself stressed that the emotional effervescence and perceived emotional synchrony which occur in collective gatherings play a key role in explaining the effects of such social events. The studies described below aim to assess the validity of Durkheim's view regarding the role played by collective emotions in the elicitation of these effects.

We focused, in two quasi-longitudinal studies, on the correlational and causal effects of participation in collective emotional gatherings and the mechanisms underlying this relationship. In Study 1, we compared the effects of participation in spiritual versus secular Sunday activities on transcendent beliefs and collective self-esteem, and the mediating role of perceived emotional synchrony and positive and self-transcendent emotions. In Study 2, we conducted a more stringent test of our hypotheses by implementing serial mediation in order to examine whether perceived emotional synchrony increases positive and self-transcendent emotions, which in turn heighten

positive outcomes. Participants completed questions concerning such issues before (Time 1), during (Time 2) and after the event (Time 3).

Thus, in a first hypothesis, we expect participation in a collective emotional gathering to positively affect participants' transcendent beliefs, well-being and sense of union with others (i.e. collective self-esteem, identity fusion, solidarity and social integration). This hypothesis will be tested by comparing scores before and after participation in religious and secular gatherings. In a second hypothesis, in line with a central tenet of Durkheim's theory, we predict that the more participants experienced emotional synchrony in the collective situation, the stronger these various effects would be. This second hypothesis will be tested as a direct effect of perceived emotional synchrony on outcomes. Thirdly, we predict that stronger increases in self-transcendent emotions will be experienced by participants reporting a higher level of perceived emotional contagion and synchrony with others during social celebrations. Finally, self-transcendent emotions are expected to play a specific mediating role between perceived emotional synchrony and positive outcomes such as meaning of life and self-transcendent beliefs.

STUDY 1 - PARTICIPATION IN RELIGIOUS RITUAL AND SECULAR GROUP ACTIVITIES

This study compares participation in religious versus secular Sunday activities with the purpose to examine whether such participation induces previously described positive outcomes, but also reinforced participants' emotions and feeling of self-transcendence and whether it was especially so in people who had experienced a high level of perceived emotional contagion and synchrony with others.

It is supposed that spiritual collective gatherings should reinforce emotions like awe, admiration and elevation. Weekly religious rituals are not necessarily emotional loaded events, however studies found that religious rituals specifically induce joy, but also calm, and to lower extent love/closeness, gratitude, awe, and inspiration, admiration or elevation (Emmons, 2005).

As previously exposed, emotions like peacefulness/calm, closeness/love, gratitude, awe and inspiration, are related to self-transcendence (Emmons, 2005). Transcendence is related to connections to larger groups and universe and thereby provides meaning and purpose to life (Peterson & Seligman, 2004). Transcendence is related to feelings of awe, gratitude, hope, calm, inspiration and spirituality beliefs. These positive emotions have been studied as the self-transcendent positive emotions (Haidt, 2006). This family of positive emotions is linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent (Haidt, 2006). These positive emotional states pull out of self-absorption, acceptance and openness to the world and others, and enables one to see himself as part of something greater, in addition, they weakens differences between the self and the social world (Frederickson, 2009; Van Cappellen & Rimé, in press), inducing self-transcendence or fusion of personal identity with the social world.

Religious and ideological rituals or these types of symbolically loaded collective gatherings and emotions are obviously associated with spirituality. Spirituality does not imply necessarily belief in supernatural entities. This is only one facet of it which is not commonly shared in secularized Europe (Saroglou et al., 2008) or in Buddhist and Confucian Asia for instance (Cottraux, 2007). However the other two facets, the tendency to orient oneself toward a larger transcendent reality or connectedness and belief in the unitary nature of existence or universalism are more general aspects and probably more cross culturally valid (Emmons, 2005). We will contrast the increase in transcendence beliefs and emotions as the effects of religious rituals like Sunday Mass, or collective gatherings in general.

First, we expect that perceived emotional synchrony will be higher in religious rituals which are often characterized by stronger symbolic and emotional content, particularly in terms of self-transcendent emotions, than in secular Sunday activities.

Second, a congruence specific hypothesis suggests that self-transcendent emotions will be strongly related to perceived emotional synchrony. Moreover, we expect self-transcendent emotions will be experienced more intensely during religious ritual than during other secular Sunday activities.

Third, we predict greater enhancement of transcendence beliefs and collective self-esteem in participants reporting high level of perceived emotional

synchrony with others. Moreover, self-transcendent emotions experienced during Sunday activity should predict especially the increase in transcendence beliefs, controlling for other enjoyment emotions and perceived emotional synchrony.

Method

Participants

A longitudinal study compare beliefs and group processes between participants in Sunday Mass and participants in secular Sunday group activities. Student from the University of the Basque Country were asked to recruit acquaintance who would participate in either secular or religious activity during the weekend. The sample consisted of 110 volunteers between the age of 23 and 90 years old ($M = 53.94$ years, $SD = 18.17$). Most (76.4%) self-identified as Spanish; 61.8% were female.

Procedure

Participants responded to a questionnaire containing measures of transcendence beliefs and collective self-esteem on Thursday and again on the following Tuesday. During the weekend they participated either in a Christian Mass ($N=60$) or in other secular Sunday activity (family meals, playing cards with friends etc., $N=49$). On Sunday evening they were asked to complete a questionnaire containing measures of perceived emotional synchrony and positive emotions related to the activity in which they participated.

Measures

Perceived Emotional Synchrony (PES). Short version of the Perceived Emotional Synchrony Scale (Páez et al., 2015) was used to assess the extent to which participants experienced emotional effervescence during the activity. This 7-items version with a 7-point response scales (1=Not at all and 7= All of the time) showed a satisfactory reliability $\alpha = .71$.

Positive Emotions. Fredrickson's Positivity Test (Fredrickson, 2009; Fredrickson, Tugade, Waugh, & Larkin, 2003) was used to assess specific positive emotions by 10 items. Importantly, this scale includes positive emotions related to self-transcendence (Emmons, 2005). Explanatory factor analysis

confirmed the existence of two separate factors; first one corresponding to self-transcendent emotions and a second one composed of two emotions – joy and amusement. Composite indexes were created by averaging the intensity of the experience of each of self-transcendent emotions (awe, gratitude, hope, inspiration, love, serenity) and enjoyment emotions index (joy, amusement). Participants were asked to indicate till what extent they have experienced each of the listed during the event (Christian Mass vs. secular Sunday activity), using 0- not at all to 4 - extremely. .

Transcendence Beliefs. In this scale, spirituality is understood as the tendency to orient oneself toward a larger transcendent reality and involves a belief in the unitary nature of existence. The scale consists of five items such as: “I often feel an intense emotional or spiritual connection with people around me” or “I have had moments of great joy in having strong feelings of unity” (Cloeninger, 1994; Vaillant, 2009, p. 235). The original scale also includes items as “Sometimes I feel that my life is guided by a force greater than that of any human being” which refer to transcendent supernatural entities and thus makes the scale less reliable in secularized European countries than in the United States (Cottraux, 2007). For this reason, we used only the items that do not refer to a specific supernatural power. Cronbach’s α was .84 at pre- and .85 at post-evaluation.

Collective Self-Esteem scale (CSE). Private collective self-esteem and Importance to Identity subscales of collective self-esteem scale (Luthanen & Crocker, 1992) were applied. Items were answered on a 7-point rating scale (1 = disagree strongly to 7 = agree strongly). Cronbach’s α was .83 at pre- and .84 at post-evaluation.

Results

Perceived Emotional Synchrony.

Participants in religious ritual reported higher perceived emotional synchrony ($M = 5.43$, $SD = 1.54$) than participants who were involved in other secular activities during the weekend ($M = 4.82$, $SD = 1.20$), $t(105) = 2.25$, $p = .027$, $d = .44$ (Hip. 1).

Self-Transcendent and Enjoyment Emotions and Perceived Emotional Synchrony

First, we examined the association between perceived emotional synchrony and self-transcendent and enjoyment emotions, controlling for the type of activity (Hip 2). Perceived emotional synchrony was strongly related to self-transcendent emotions index, $r(103)=.54$, $p < .001$ than to an averaged measure of emotions of enjoyment (joy and amusement), $r(103)=.29$, $p = .001$, controlling for type of activity. Accordingly, a more precise examination of each emotion revealed that perceived emotional synchrony was associated specifically with awe, wonder, or amazement, partial $r(103) = .48$, $p < .001$; gratefulness, appreciation, or thankfulness, $r(103) = .47$, $p < .001$; hope, optimism, or encouragement, $r(103) = .44$, $p < .001$; inspiration, upliftment, or elevation, $r(103) = .48$, $p < .001$, love, closeness, or trust, $r(103) = .45$, $p < .001$; serenity, content, or peace, $r(103) = .24$, $p < .005$. In addition, it was also associated with positive emotions like interest, alert, or curiosity, $r(103) = .36$, $p < .001$; joy, gladness, or happiness, $r(103) = .45$, $p < .001$, and pride, confidence, or self-assurance, $r(103) = .32$, $p < .001$, but not with amusement, fun-loving, or silly $r(103) = .09$, $p = .173$.

Furthermore, in contrary to our predictions (Hip. 2), an independent-samples t-test indicated that participants in Sunday Mass did not report experiencing more self-transcendent emotions ($M = 3.04$, $SD = 0.99$) compared to participants in other secular activities ($M = 2.77$, $SD=0.93$), $t(105) = -1.44$, $p = .151$, $d = -.28$). A closer examination of self-transcendent emotions revealed that only hope was experienced more intensely among participant in the religious ritual ($M = 3.18$, $SD = 1.19$) than among those who participated in secular activities ($M = 2.75$, $SD = 1.13$; $t(108) = 1.90$, $p = .05$, $d = .37$). Furthermore, considering enjoyment emotions, participants in Mass did report feeling less amused, fun-loving, or silly ($M = 2.26$, $SD = 1.33$) than participants in secular activity ($M = 3.20$, $SD = .87$), $t(104) = 4.38$, $p < .001$, $d = .78$).

Effects on Transcendence Beliefs and Collective Self-Esteem and Mediational Role of Perceived Emotional Synchrony and Emotions

In order to contrast the outcomes of participation in Sunday activities, baseline or pre-test scores were used as co-variables and multiple regressions

were run with secular activities versus Mass as independent variable and transcendence beliefs and collective self-esteem as dependent variables. We carried out bootstrapping analyses (5000 resamples) with Hayes's (2011) *MEDIATE* macro (multiple mediational analyses with categorical independent variable) to test the mediation effect of perceived emotional synchrony and self-transcendent and enjoyment emotions.

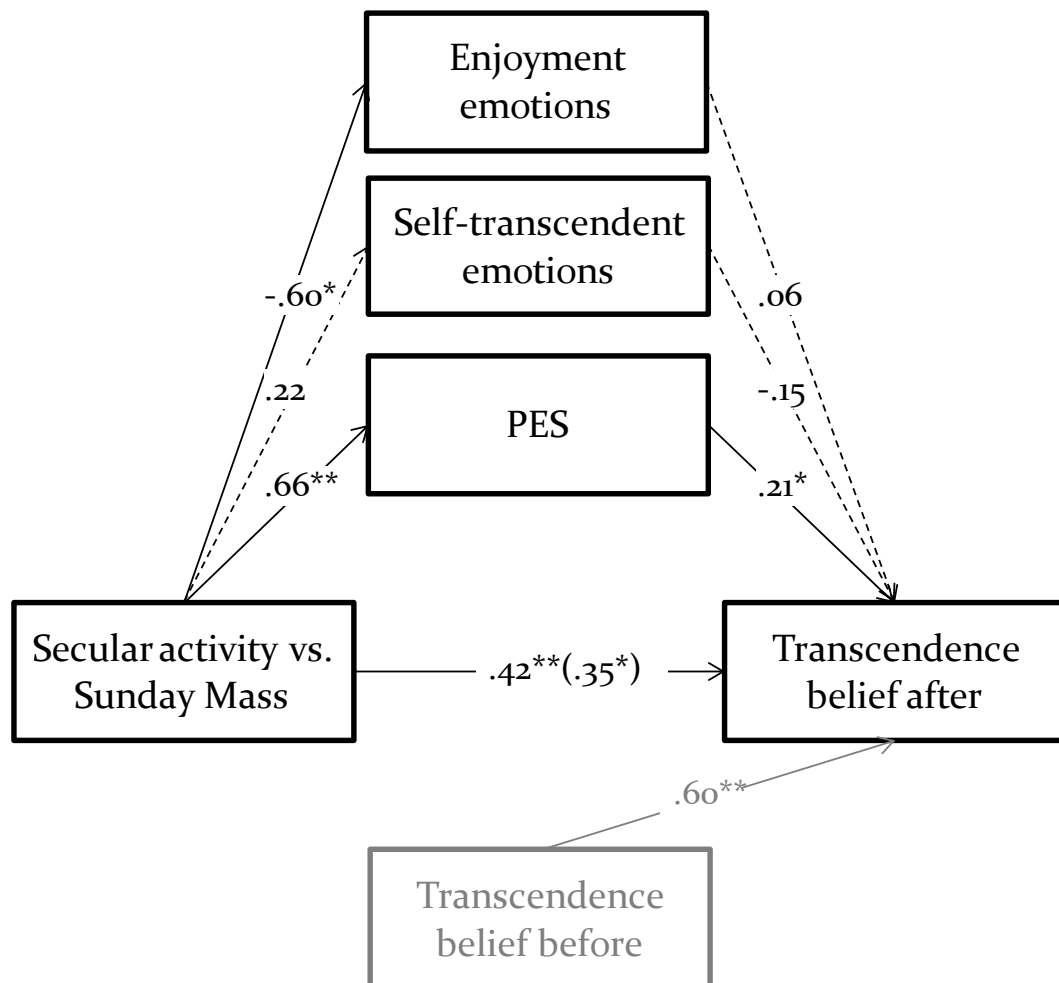


Figure 1. Mediating Role of Perceived Emotional Synchrony (PES) and Self-transcendent and Enjoyment emotions in Predicting Transcendent Beliefs Enhancement (controlled for baseline or pre-test) after Participation in Secular activity vs. Sunday Mass (Study 1)

Note: Non-standardized regression coefficients are presented. Numbers in parentheses refer to the beta after the mediators were added to the regression equation (direct effect); * $p < .05$, ** $p < .01$, *** $p < .001$.

We examined the indirect effects of type of activity on enhancement of transcendence beliefs and collective self-esteem via the postulated mediators. We entered the three potential mediators simultaneously in a parallel mediational analysis. Conducting this parallel mediational analysis is important, because it controls for overlap among mediators. As can be seen in Figure 1 main effect of participation in different activity was significant, participants in religious ritual reported higher transcendence beliefs and higher perceived emotional synchrony in comparison with non participants (Hip. 2).

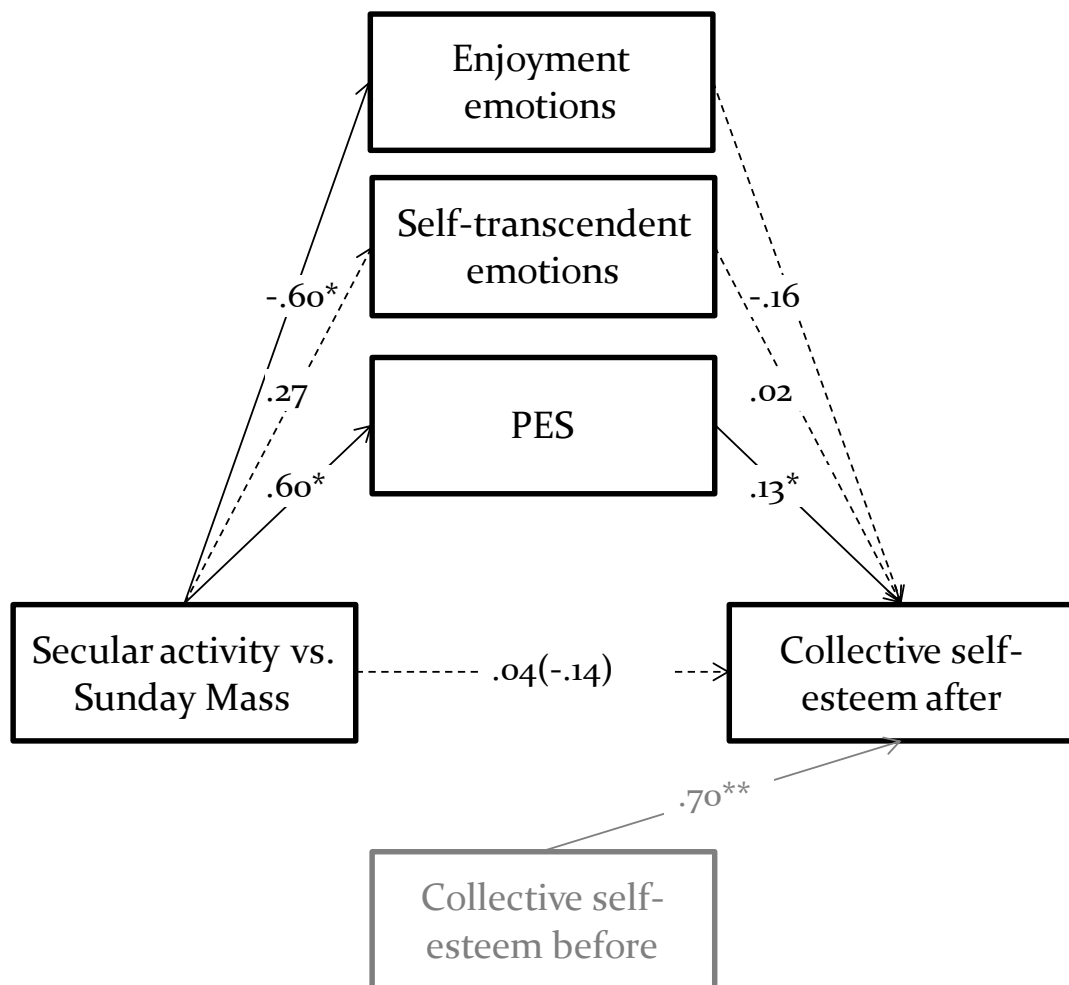


Figure 2. Mediating Role of Perceived Emotional Synchrony (PES) and Self-transcendent and Enjoyment emotions in predicting Collective Self-esteem Enhancement (controlled for baseline or pre-test) after Participation in Secular activity vs. Sunday Mass (Study 1)

Note: Non-standardized regression coefficients are presented. Numbers in parentheses refer to the beta after the mediators were added to the regression equation (direct effect); * $p < .05$, ** $p < .01$, *** $p < .001$.

Consistent with previously reported t-test comparisons, no effects were found for self-transcendent emotions, whereas positive emotions of joy and amusement were higher among participants in secular activity. High perceived emotional synchrony during Sunday activities reinforced transcendence beliefs in general and showed a significant indirect effect of type of participation ($B = .14$, $SE = .08$, $CI [.02, .33]$), whereas the effects of self-transcendent emotions ($B = -.01$, $SE = .05$, $CI [-.15, .06]$) and enjoyment emotions ($B = .01$, $SE = .04$, $CI [-.03, .17]$) were not significant controlling for perceived emotional synchrony. Thus, the results revealed that regardless of the intensity of self-transcendent and enjoyment emotions, the perceived emotional synchrony accounted for the enhancement of transcendence beliefs more among participants in Mass than among those who were involved in other secular activities (Hip 3).

Regarding collective self-esteem after the weekend controlling for collective self-esteem reported before, no main effects of type of activity were yielded as can be appreciated in Figure 2. High perceived emotional synchrony during Sunday activities reinforced collective self-esteem particularly in Mass as indicated by the significant indirect effect of type of participation ($B = .08$, $SE = .05$, $CI [.01, .20]$). No effects were found for neither self-transcendent nor positive emotions (Hip.3).

Discussion

The results of the present study corroborate previous findings showing that perceived emotional synchrony was higher in a symbolically loaded collective gathering than in secular activities celebrations. Even though only partially, the results confirm the congruence hypothesis. The self-transcendence emotions were strongly related to perceived emotional synchrony than to enjoyment emotions like joy and amusement. However, by respect to the type of activity, only hope was experienced more intensely during religious ritual, whereas joy and amusement, were experienced especially during secular Sunday activities. This particular finding puts into question the supposed superior influence of Mass on transcendence emotions, nevertheless confirms the differential patterns between religious vs. secular activities.

In regard to the third hypothesis, we confirmed that positive outcomes were stronger among participants reporting higher level of perceived emotional

synchrony with others. The results of mediational analysis reaffirmed that the reinforcement of self-transcendent beliefs and collective self-esteem was enhanced through perceived emotional synchrony (and not through self-transcendent or positive emotions) especially for participants in Mass (compared to participants in other secular activities). Even as we previously describe self-transcendent emotions and perceived emotional synchrony correlated strongly, the results of a mediational analysis revealed greater importance of emotional synchrony compared to self-transcendent and positive emotions. In this context it can be concluded, that high perceived emotional synchrony reinforces positive outcomes regardless of the type of activity. These suggest that emotional and cognitive effects of collective gatherings are more general than expected, as they do not occur only in religious rituals like Sunday Mass.

This study provides the first demonstration of the differential longitudinal effects of perceived emotional synchrony and self-transcendent and enjoyment emotions on transcendence beliefs and collective self-esteem cognitive health. Nevertheless, by drawing on existing data, the outcome measures were limited in having no capacity to examine other positive effect postulated by Durkheim's model. In the next longitudinal we address this shortcoming by including standard measures of personal and social beliefs, empowerment, identity fusion and social integration. This allows us to check all the predicted positive outcomes on a larger sample as well as examine the mechanisms through which they are enhanced, specifically the explanatory process of perceived emotional synchrony, and the role of self-transcendence and positive emotions.

STUDY 2 - PSEUDO-MILITARY FOLKLORIC MARCHES IN THE BASQUE COUNTRY

This study focused on an important folk tradition that has continued since the nineteenth century in the city of San Sebastián in the Basque Country (Spain). Every year, in the *Tamborrada*, or collective drum marches, processions accompanied by large groups of “drummers” invade the streets of the town for a 24-hour-long celebration. The procession involves several thousand local people

who train all year and wear Napoleon-style military uniforms while parading. They are playing drums, marching and singing traditional songs in synchrony like pseudo-military units, as was the case of the walkers in Study 1. For these walkers and for all inhabitants of San Sebastián, this celebration represents symbolic moments of high emotional impact.

The purpose of the study was to replicate the findings from Study 1 using a design intended to overcome some of its limitations. In line with Durkheim's emotional effervescence concept, the hypothesis was that participants in the *Tamborrada* who experienced higher emotional synchrony during the celebration would report greater enhancement of perceived social integration, higher personal well-being, and more benevolent social beliefs after their participation, controlling for baseline or pre-event measurements for these dependent measures. In addition, in this study we take directly into account identity fusion (Gómez et al., 2011; Swann et al., 2012). Swann et al. (2012, p.9) suggested that an important contextual source of identity fusion is found in sharing bonding experiences with others and in participation in affectively-loaded social rituals.

Our second study offered an opportunity to examine the associations of perceived emotional synchrony with the various outcomes, and thus to specify whether the variables that matter for the positive outcomes of collective gatherings are specifically related to the experience of self-transcendent or positive emotions, or rather in the shared collective behavioural and emotional experience. Consequently, this study examines the association between perceived emotional synchrony and self-transcendent and positive emotions and their direct, sequential and indirect effects on personal and social beliefs, social integration and empowerment. We will contrast the increase in self-transcendence beliefs and emotions as the effects of participation in a secular ritual.

First, we predict pre-*Tamborrada* to post-*Tamborrada* increase in all the postulated positive outcomes. We aimed to evaluate the replicability of the previous finding, while testing its generality, and examining the distinction between self-transcendent and positive emotions. How does perceived emotional synchrony contribute to positive outcomes of participation? Is it above and beyond the experience of self-transcendent and positive emotions?

Or is it because perceived emotional synchrony increases self-transcendent and positive emotions, which subsequently fosters positive outcomes? Further, are those direct and indirect effects similar or specific for personal, interpersonal and empowerment effects? Specifically, in this study we hypothesized that perceived emotional synchrony explains the enhancement of different positive outcomes, and this effect would be mediated by increased self-transcendent and positive emotions. Subsequently, we assessed those effects on personal and social beliefs (Hip.2.1) (transcendence beliefs, meaning of life, and benevolence of the world), (Hip.2.2) empowerment (happiness and collective self-esteem), and (Hip. 2.3) identity fusion and social integration (solidarity and social support).

Method

Participants

Town Hall officials and coordinators of folkloric companies were contacted in order to recruit volunteers who would participate in the *Tamborrada* held on January 20th, 2013. A total of 550 participants (49.4% female) aged between 18 and 90 ($M = 42.75$ years, $SD = 13.98$), most of them (89.2%) residents of San Sebastián, volunteered to complete the study forms. Encrypted personal e-mails were used to collect data online at the three different measurement times (four days before the celebration, the day of the celebration and four days after).

Procedure

Four days before the *Tamborrada* and again four days after it, participants completed questionnaires measuring their personal and social beliefs, personal well-being and collective self-esteem (empowerment), identity fusion with the group and social integration. Also, on the afternoon following the *Tamborrada*, all participants filled out the scale measuring their perceived experience of emotional synchrony in this folkloric event.

Measures

Process Measures

Perceived Emotional Synchrony (PES). An 16-item scale was used to assess the extent to which participants experienced a condition of emotional effervescence (Páez et al., 2015); 7-point response scales were utilized (1=Not at all and 7= All of the time). Cronbach's alpha was satisfactory, $\alpha = .94$.

Positive Emotions. Fredrickson's Positivity Test (Fredrickson, 2009; Fredrickson et al., 2003) was used to assess self-transcendent emotions and enjoyment emotions (described in Study 1).

Personal and Social Beliefs

Transcendence Beliefs. Participants' self-transcendence beliefs were assessed using a shorter version of the Cloeninger's scale (Cloeneinger, 1994; Vaillant, 2009, p. 235), as described in Study 1. Reliability coefficients were $\alpha = .87$ at the pre- *Tamborrada* and $\alpha = .91$ at the post- *Tamborrada* evaluation.

Social Beliefs. Effects on social beliefs were evaluated by Janoff-Bulman's (1989) World Assumptions Scale (WAS). This is a 32-item scale that measures vulnerability-related beliefs about the benevolence and meaningfulness of the world and one's own self-worth (for a detailed discussion of the conceptual and psychometric development of the scale, see Janoff-Bulman, 1989). There are eight subscales that specifically tap respondents' assumptions about themselves, other people and the impersonal world. We used four items which correspond to the dimension of Benevolence of the Impersonal World (e.g., "The world is a good place"), in order to assess positive basic beliefs about the benevolence of the world. Respondents indicated their agreement or disagreement with each of the 4 items on 6-point scales, with endpoints 1 ("strongly disagree") and 6 ("strongly agree"). Reliability coefficients were $\alpha = .79$ at the pre-*Tamborrada* and $\alpha = .81$ at the post-*Tamborrada* evaluation.

Meaning in Life Questionnaire – Short Form (MLQ-SF). Two items from the Presence of Meaning subscale of the Meaning in Life Questionnaire (MLQ, Steger, Frazier, Oishi & Kaler, 2006) were included in the study. The Presence of Meaning subscale measures how full respondents feel their lives are of meaning and was found to be positively related to well-being, intrinsic religiosity,

extraversion and agreeableness. Presence relates as expected with personal growth self-appraisals, and altruistic and spiritual behaviors. The two items (“I understand my life’s meaning”, “My life has a clear sense of purpose”) were rated from 1 (Not at all true) to 5 (Completely true). Recently, the MLQ short form was used in national health surveillance research in the United States and Chile, revealing very good reliability and validity in those samples (Kobau, Snizek, Zack, Lucas, & Burns, 2010; Steger, F. M., & Samman, E. (2012). We obtained satisfactory reliability coefficients $\alpha = .89$ at the pre-*Tamborrada* and $\alpha = .93$ at the post- *Tamborrada* evaluation.

Empowerment

Collective Self-Esteem. This scale was developed to assess the collective self-esteem operationalized as liking for the group (Brewer, 1991; Hornsey & Hogg, 2000), group pride (Smith & Tyler, 1997), attraction to the group (Jackson & Smith, 1999). The four items (e.g. “I consider my group members as especially interesting”, “I want to continue to be a part of my group”) were answered on a 7-point rating scale (1 = disagree strongly to 7 = agree strongly). Cronbach's alpha coefficients were $\alpha = .86$ and $\alpha = .88$ for the measurements before and after the *Tamborrada*, respectively.

Personal Well-Being. This variable was assessed using the Pemberton Happiness Index (PHI, Vázquez, & Hervás, 2012). It contains 11 items rated on 11-point scales (0 = disagree strongly, to 10 = agree strongly) examining general, eudaimonic, hedonic, and social well-being, and yielding a single well-being index. Cronbach's alpha coefficients were very satisfactory, $\alpha = .93$ for pre-*Tamborrada* and $\alpha = .94$ for post-*Tamborrada* measurements.

Social Cohesion

Fusion of Identity. Fusion with the *Tamborrada* group was measured using the 7-item verbal fusion scale (Gómez et al., 2011). Example items are “I am one with my group” and “I am strong because of my group” Respondents indicated the degree to which each statement reflected their relationship with their *Tamborrada* group on scales ranging from 0 (strongly disagree) to 6 (strongly agree). Cronbach's alpha coefficients were very satisfactory, $\alpha = .93$ for pre-*Tamborrada* and $\alpha = .92$ for post-*Tamborrada* measurements.

Social Integration. The 10-item Feeling of Relatedness Scale developed by Richer and Vallerand (1998) (ESAS) assessed participants' perception of social integration. The scale yielded Cronbach's alphas of .96 and .98 in measurements before and after the *Tamborrada*, respectively.

Solidarity. Three items corresponding to solidarity subscale from the Multicomponent In-Group Identification Scale (Leach et al., 2008) were adapted to assess solidarity with other citizens of San Sebastian (e.g. "I feel solidarity with people from San Sebastian", "I feel a bond with other citizens of San Sebastian"). Responses were given on seven-point scales ranging from 1 (*fully disagree*) to 7 (*fully agree*). Cronbach's alpha coefficients were $\alpha = .81$ for pre-*Tamborrada* and $\alpha = .89$ for post-*Tamborrada* measurements.

Results

Confirmatory Factor Analysis.

In order to avoid measurement problems and to confirm that the indicators used are really measuring different concepts, we first tested a series of confirmatory factor analyses (CFA). First, we aimed to verify that the assumed distinction among the self-transcendent and positive emotions employed in Study 1 was supported empirically. We conducted a CFA to test whether the two-factor solution (self-transcendent and positive emotions) fit the data better than a one general factor, in which all the positive emotions were represented as a single factor. To evaluate model fit, in addition to the chi-squared test, the following indexes were used to check the fit of the models: the CFI (*Comparative Fit Index*) and the TLI (*Tucker-Lewis Index*), for which values above .90 are considered acceptable, as well as the SRMR (Standardized Root Mean Square Residual), for which values close to .08 indicate a relatively good model fit (Bentler, 1990; Joreskog & Sorbom, 1993). Particular attention was paid to the CFI (Schermelleh-Engel, Moosbrugger, & Müller, 2003), a Δ CFI value of -0.01 or less means that the null hypothesis of invariance can be rejected (Cheung & Rensvold, 2002). As the data in Table 1 indicate, the two-factor confirmatory model provided a good fit to the data, whereas the one-factor model provided a poorer fit to the data and the Δ CFI value was significant. These analyses

therefore supported our conceptual distinction among the self-transcendent and positive emotions.

Furthermore, we conducted exploratory factor analysis (EFA) on the 16 items of our measure of perceived emotional synchrony using Mplus 6.11 (Muthén & Muthén, 2010). Maximum likelihood and oblique geomin rotation were appropriate methods of extraction and rotation at the first stage of examining the construct validity. Low factor loadings ($< .30$) and split loadings ($> .30$ on both factors) were criteria for item exclusion. The analysis indicated that only one-factor solution had an eigenvalue of 1.00 or higher. All the factor loadings were greater than .69 and fit indices were acceptable (see Table 1). Given that there was no theoretical nor statistical base which could support other factorial solution we concluded that our measure of perceived emotional synchrony is one-dimensional and we used a single factor in all the subsequent analysis.

Table 3

Fit Indexes for the Alternative Models

	χ^2	<i>df</i>	TLI	CFI	SRMR	AIC
Model 1	76.737*	19	.950	.966	.030	9693.216
Model 2	104.240*	20	.930	.950	.036	9718.719
Model 3	842.073*	104	.904	.917	.035	23208.102

Note: $N = 550$. Model 1 = Two correlated factors (self-transcendent and enjoyment emotions); Model 2 = One factor (positive emotions); Model 3 = EFA one-factor solution - Perceived emotional synchrony (PES); TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual; AIC = Akaike's Information Criterion; * $p < .01$.

Finally, we tested a pure measurement model of our process variables. In this model all the latent variables (self-transcendent emotions, enjoyment emotions and perceived emotional synchrony) were specified as correlated exogenous constructs. Each item was allowed to load only on its designated latent factor and no errors were allowed to correlate. Each latent factor and manifest variable was allowed to correlate with the other latent factors and

manifest variables. The complete measurement model obtained a good fit [$\chi^2(550, 248) = 1011.108, p < .001, CFI = .930, TLI = .923, SRMR = .036, AIC = 32463.392$]. All items loaded highly on their designated latent factor (all factor loadings $> .74$) and were significant based on 99.5% bootstrapping confidence intervals. Correlations revealed strong positive associations between the measures of self-transcendent and enjoyment emotions ($r = .827, p < .001$). Similarly, the measure of perceived emotional synchrony was positively and strongly related to the measure of both self-transcendent ($r = .688, p < .001$) and enjoyment emotions ($r = .628, p < .001$). In light of the above, we concluded that our measures had adequate construct validity.

Participation Outcomes

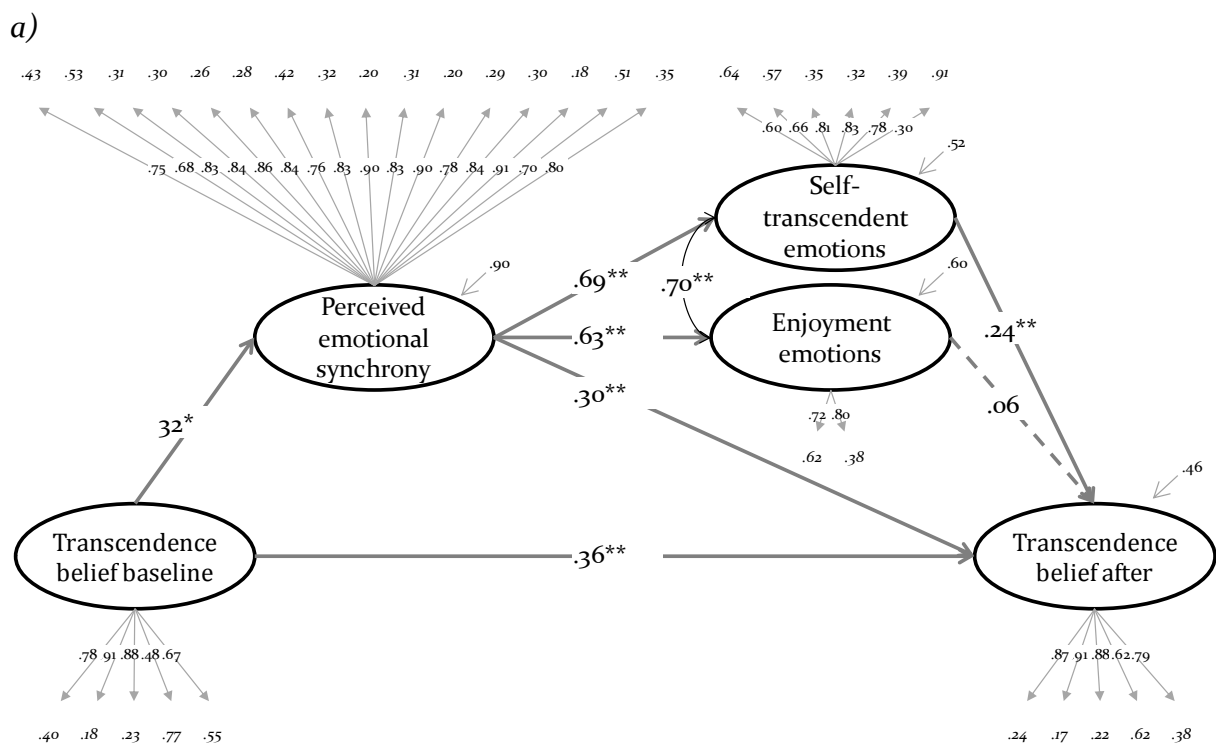
First, repeated measures ANOVAs were employed to consider change from pre-*Tamborrada* to post-*Tamborrada* in participant's personal and social beliefs; empowerment; fusion of identity and social integration (Hip. 1). We found that all the postulated outcome variables differed significantly from pre-*Tamborrada* to post-*Tamborrada* evaluation. The results confirmed that personal and social positive beliefs increased after participation in *Tamborrada* (transcendence beliefs, $F(1, 546) = 160.282, p < .001, \eta_p^2 = .227$; social beliefs, $F(1, 547) = 32.206, p < .001, \eta_p^2 = .056$; meaning in life, $F(1, 546) = 5.980, p = .015, \eta_p^2 = .011$). Main effect of time was also confirmed for the indicators of empowerment: collective self-esteem, $F(1, 545) = 23.682, p < .001, \eta_p^2 = .042$ and personal well-being, $F(1, 538) = 5.01, p = .026, \eta_p^2 = .009$. Subsequently, we confirmed fusion of identity with the group of *Tamborrada* increased from before to after the event, $F(1, 547) = 49.369, p < .001, \eta_p^2 = .083$. Accordingly, participants increased their feelings of solidarity with others citizens of San Sebastian, but only during the event, $Quadratic F(1, 540) = 37.692, p < .001, \eta_p^2 = .065$, overall scores did not differ significantly from before to after *Tamborrada*, $Linear F(1, 540) = 5.01, p = .026, \eta_p^2 = .009$. Finally, the main effect of time was observed for social integration, feelings of relatedness with people in general, $Linear F(1, 546) = 40.18, p < .001, \eta_p^2 = .07$.

Mediational Analysis: Perceived Emotional Synchrony, Self-Transcendent and Enjoyment Emotion

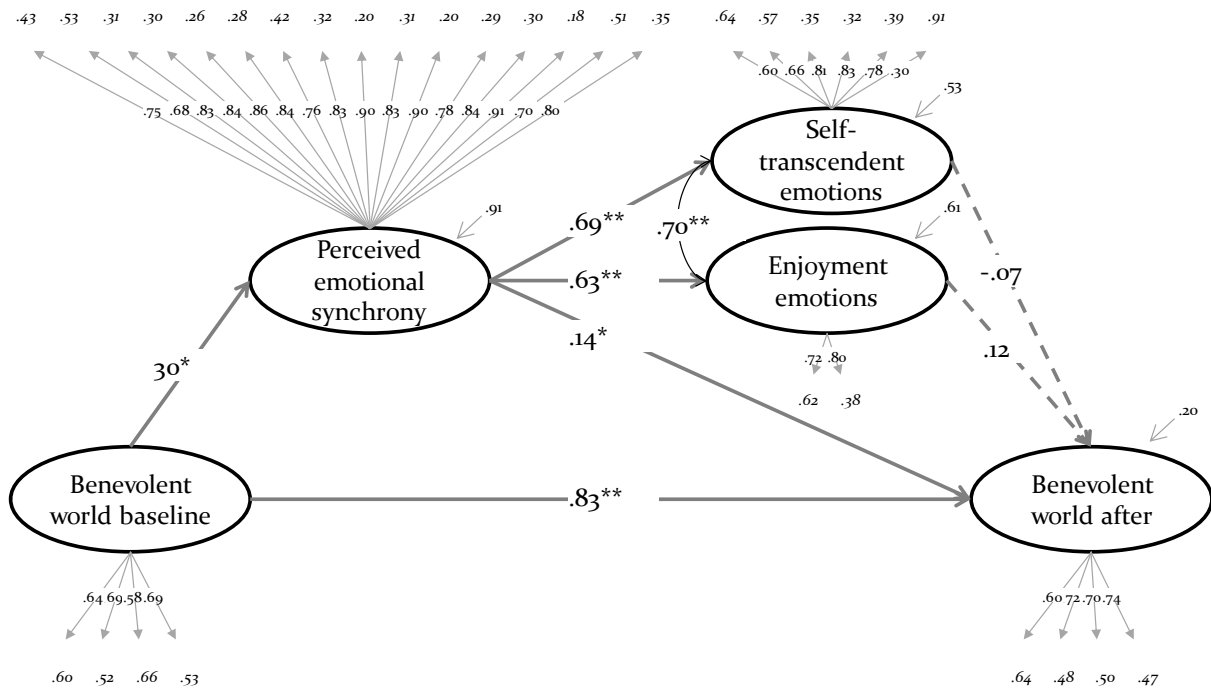
Based on the findings from Study 1, we focused on whether the perceived emotional synchrony effect on positive outcomes of participation in a ritualized celebration was partially or completely explained by the experience of either or both types of emotions. Building off the aforementioned CFA model, we conducted mediation analyses using structural equation modeling (SEM). Unlike regression-based approaches to mediation, the SEM approach to mediation uses model-fit criteria to determine whether the proposed mediation model provides a plausible fit to the data. Similar to regression-based approaches, we also examined the significance of the indirect effect of the perceived emotional synchrony on positive outcomes controlling for the baseline. The models were tested using Mplus 6.11 (Muthén & Muthén, 2010). The estimation procedure applied was maximum likelihood. Considering the lack of multivariate normality, we applied the bootstrap method. It is a non-parametric approach to parameter estimation, and hence free from assumptions about the normality of the variables' distribution or the sampling distribution of the statistics (see Efron & Tibshirani, 1993). Standard errors and confidence intervals based on a bootstrap sampling distribution are calculated for each of the parameters or statistics. If the values of the estimated effect within the confidence interval include zero, this indicates a non-significant effect. In the presentation of the results, the standardized solution is shown. All the coefficients represented by continuous arrows in the graphs are statistically significant, while the dashed lines indicate effects that are not statistically significant for $p < .05$. In order to test whether perceived emotional synchrony explains the enhancement of different positive outcomes, and whether this effect is mediated by increased self-transcendent and positive emotions, we elaborated a series of structural equation models. To test the mediation hypotheses, we computed indirect effects (standardized estimates are presented) and tested their significance based on bootstrapped (unstandardized) confidence intervals.

Effects on personal and social beliefs (Hip.2.1) (transcendence beliefs, meaning of life, and benevolence of the world)

As can be seen in Figure 3a, perceived emotional synchrony acts as a direct predictor of the increase in transcendence beliefs and at the same time enhance both self-transcendent and positive emotions. Moreover, only the self-transcendent emotions predicted increased transcendence beliefs, whereas the effect of positive emotions did not reach conventional levels of statistical significance. Furthermore, the relationship between perceived emotional synchrony and the increase of transcendence beliefs was observed to be partially mediated by the enhancement of self-transcendent emotions. A significant indirect effect on beliefs only through ($B = .17$, $SE = .07$, $Est./S.E = 2.48$, $p = .013$, 97.5% CI [0.035, 0.300]). We next examined the serial mediational model path from perceived emotional synchrony to the increase in beliefs in benevolence of world (Figure 3b) and meaning of life (Figure 3c) via self-transcendent and positive emotions.



b)



c)

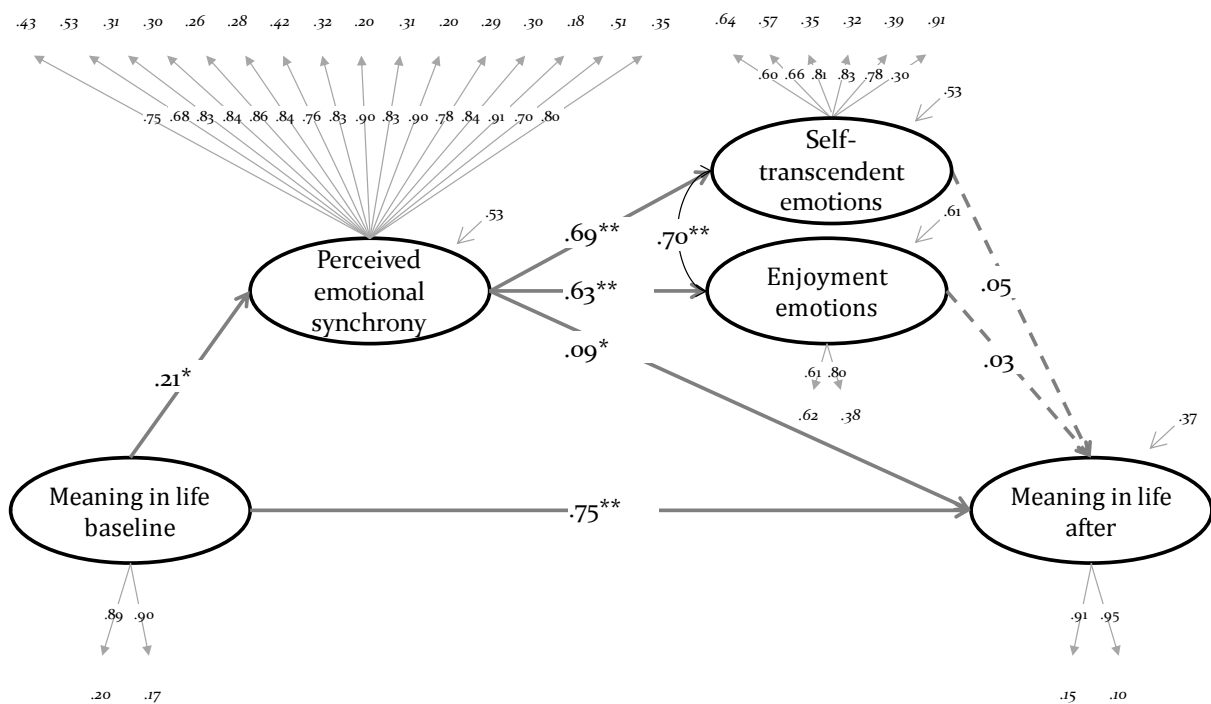
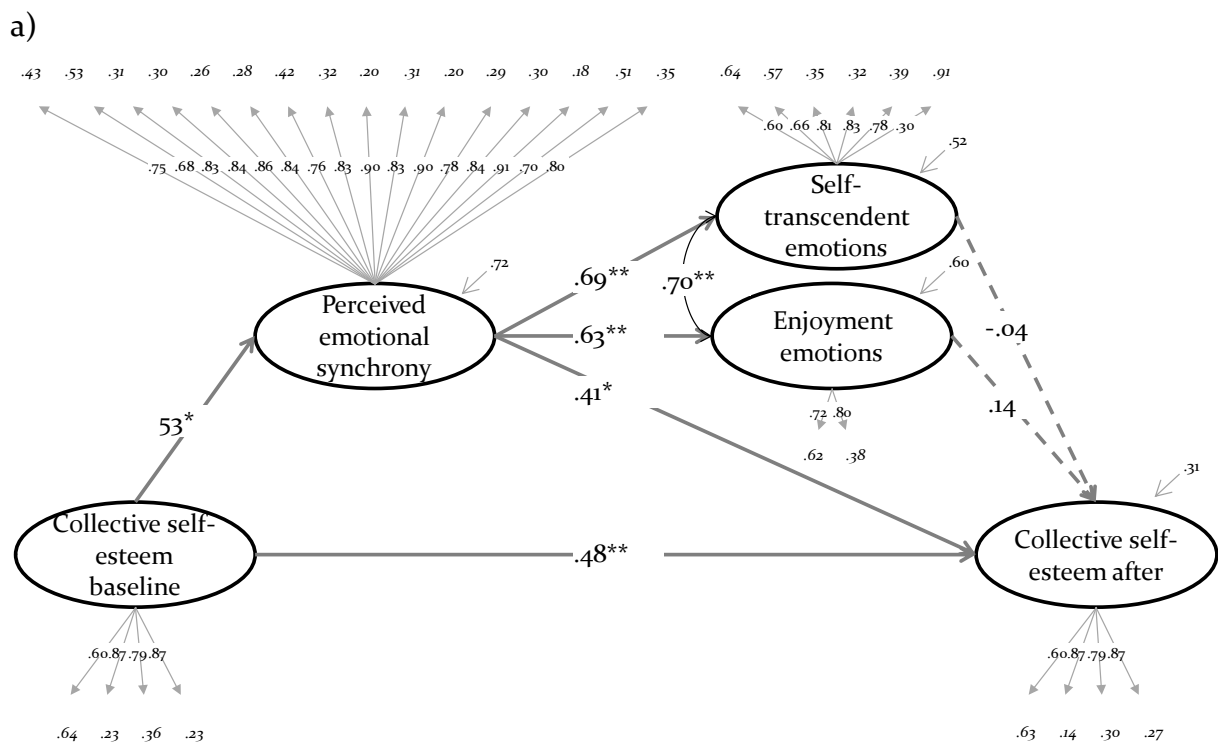


Figure 3. Perceived emotional synchrony and emotions as mediators between the changes in personal and social beliefs: transcendence beliefs, benevolence of the world and meaning of life after participating in Tamborrada. Model fit: a) $\chi^2(550, 517) = 1698.386, p < .001, CFI = .920, TLI = .916, SRMR = .058, AIC = 48003.062$; b) $\chi^2(550, 453) = 1438.088, p < .001, CFI = .925, TLI = .918, SRMR = .039, AIC = 41735.778$; c) $\chi^2(550, 341) = 1160.481, p < .001, CFI = .936, TLI = .929, SRMR = .040, AIC = 36381.977$.

Thus, after taking into account baseline strength of those beliefs, the degree to which participants perceived emotional synchrony among them during the celebration of Tamborrada predicted a significant proportion of their positive beliefs about the benevolence of world and meaning of life (albeit modest). Moreover, the indirect effect via emotions did not emerge as significant, confirming that perceived emotional synchrony was the most important predictor of the increase in beliefs strength.

Effects on (Hip.2.2) empowerment (collective self-esteem and happiness)

The effects on empowerment of participants were examined in the same way. As can be seen in Figure 4, perceived emotional synchrony predicted the increase in both collective self-esteem (Figure 4a) and personal well-being (Figure 4b). Moreover, self-transcendent and positive emotions did not have a direct effect on the increase in collective self-esteem or in personal well-being, over and above the effect of the baseline and the effects of perceived emotional synchrony. Likewise, the indirect effects via emotions were not significant. Once again, those results confirmed that perceived emotional synchrony felt during the event results in empowerment operationalized as increased feelings of group attraction and increased subjective happiness.



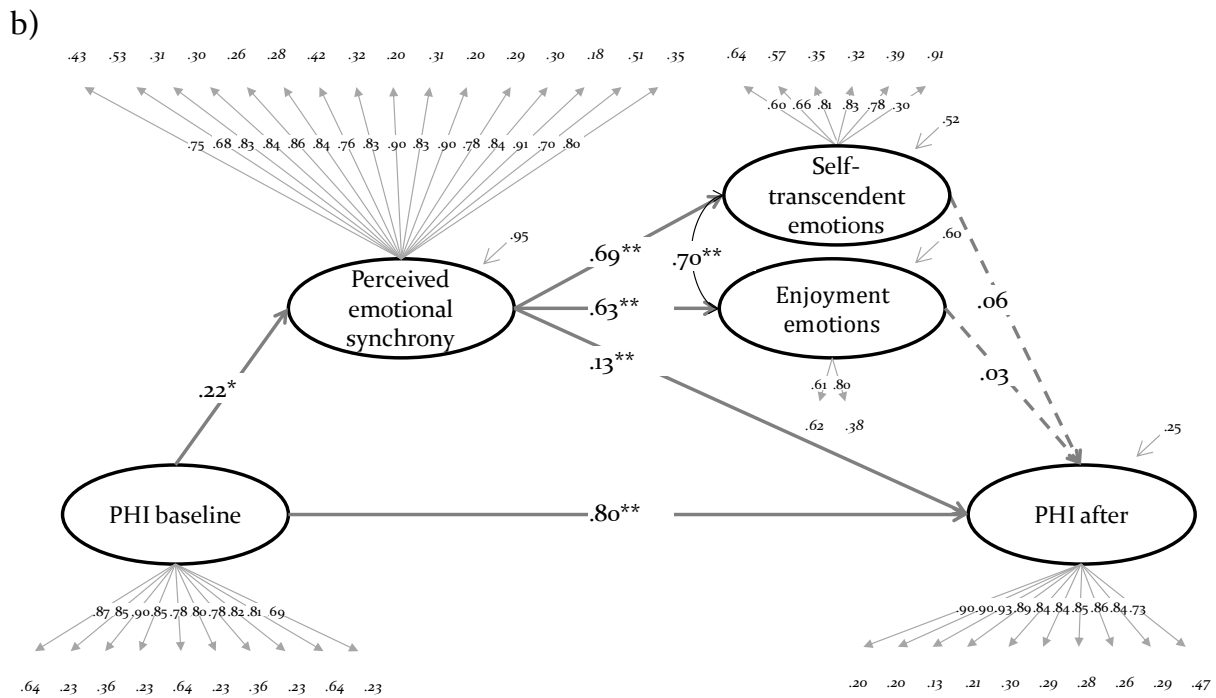


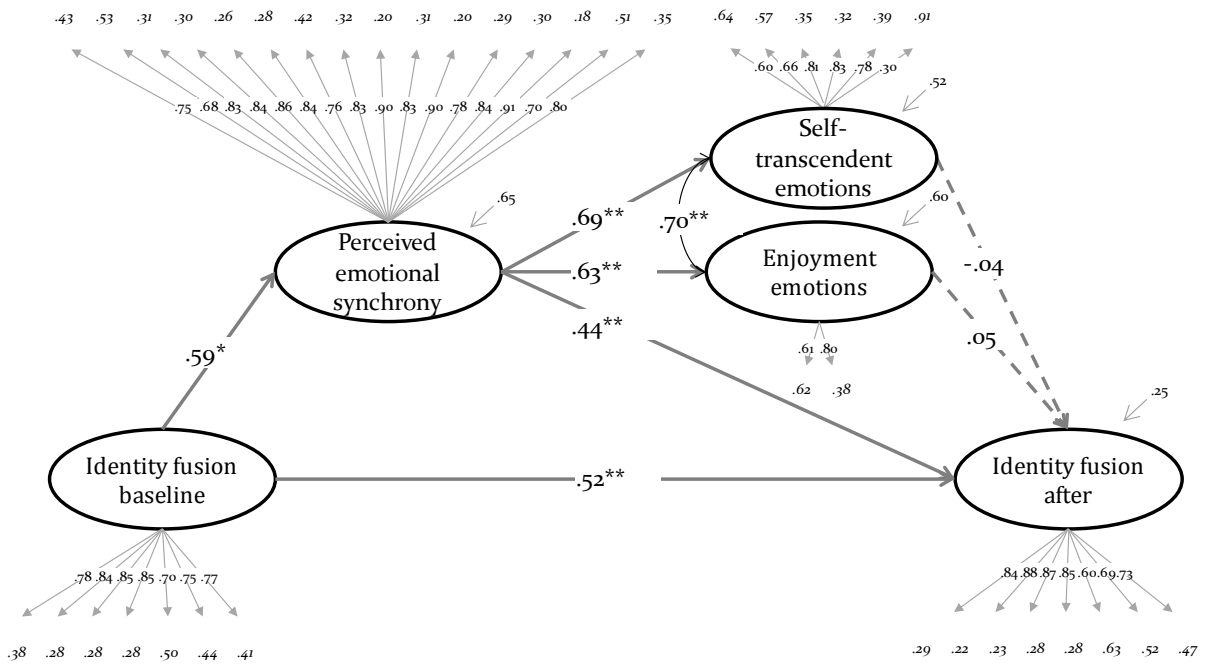
Figure 4. Perceived emotional synchrony and emotions as mediators between the change in empowerment: Collective self-esteem and Personal well-being after participating in Tamborrada. Model fit: a) $\chi^2(550, 454) = 1585.085, p < .001, CFI = .922, TLI = .915, SRMR = .045, AIC = 43306.197$; b) $\chi^2(550, 890) = 2982.485, p < .001, CFI = .912, TLI = .906, SRMR = .060, AIC = 65852.245$.

Effects on (Hip.2.3) identity fusion and social integration (solidarity and social support)

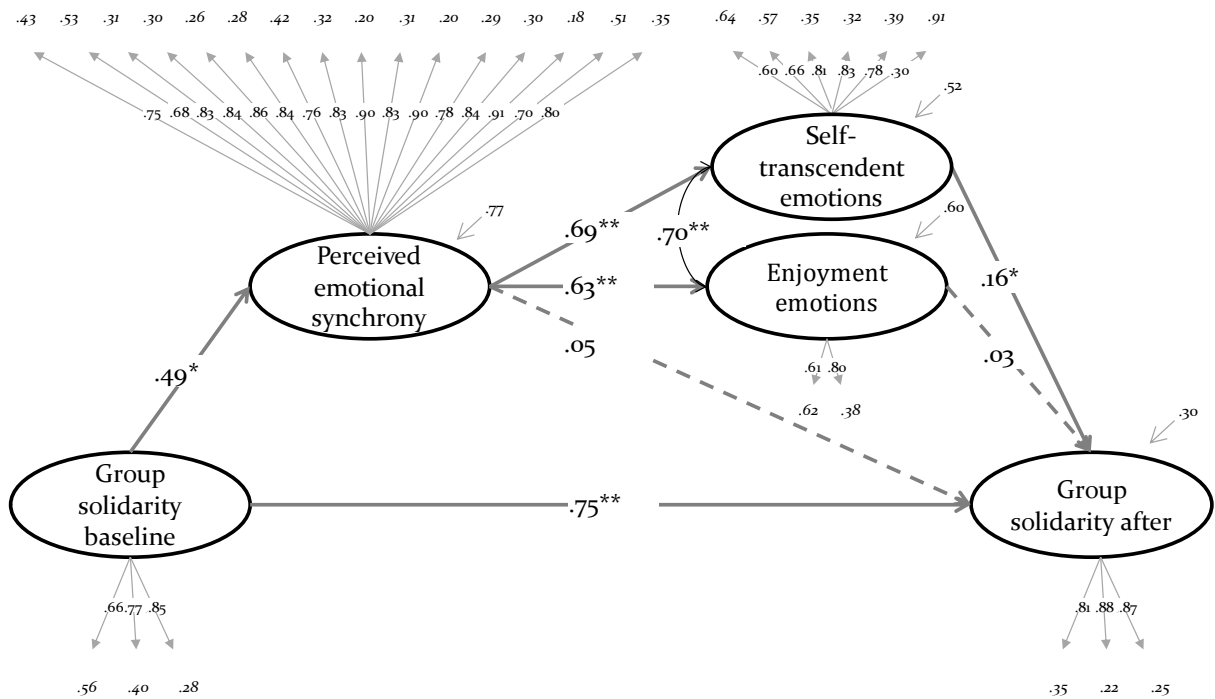
Finally, we examined the effects of participation on identity fusion and social integration. Regarding the increase in fusion with Tamborrada group (Figure 5a), which could be considered as a specific and close group for participants, we observed the main effect of perceived emotional synchrony. This focal direct effect was not mediated by emotions.

As to the increase in solidarity with people from San Sebastián (Figure 5b) we observed a direct effect of self-transcendent emotions. The direct effect of perceived emotional synchrony did not, as in previous models, emerge as significant. Given the lack of direct effects we examined indirect association via self-transcendent emotions. Perceived emotional synchrony was observed to have a significant, although rather small, indirect effect on the increase in solidarity ($B = .11, SE = .06, Est./S.E = 1.83, p = .067, 95\% CI [0.017, 0.305]$).

a)



b)



c)

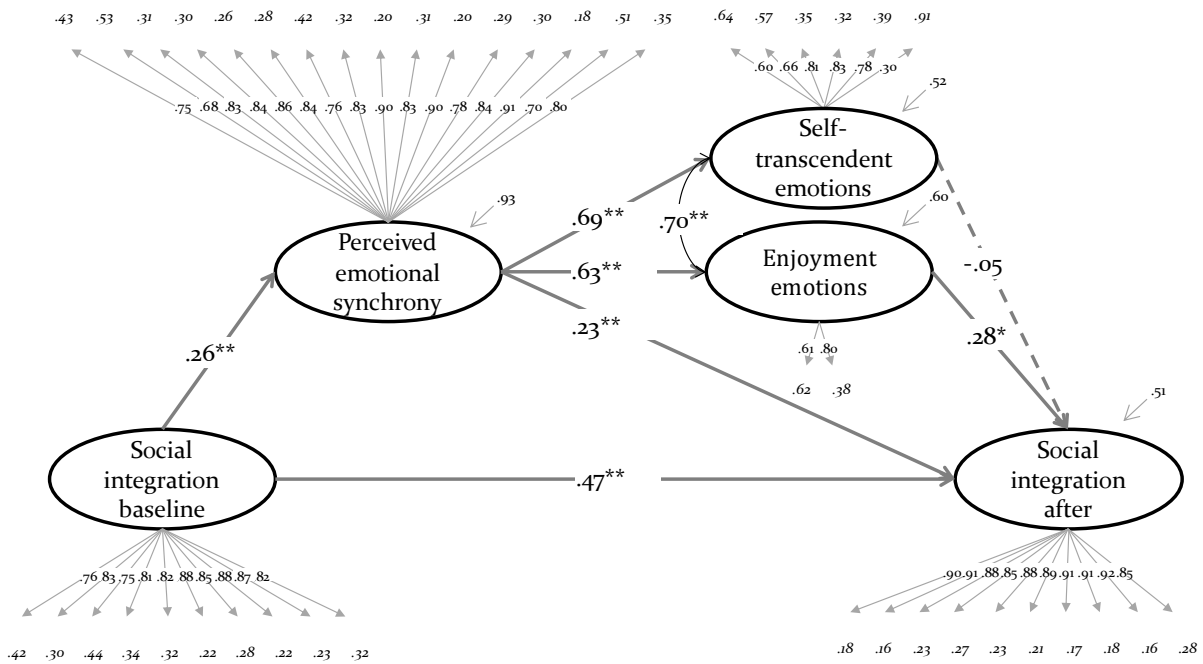


Figure 5. Perceived emotional synchrony and emotions as mediators between the change in social integration: Identity Fusion with Tamborrada group, Solidarity with citizens of San Sebastián and Social integration – relatedness with people in general after participating in Tamborrada. Model fit: a) $\chi^2 (550, 653) = 2288.276, p < .001, CFI = .914, TLI = .908, SRMR = .049, AIC = 53753.366$; b) $\chi^2 (550, 395) = 1285.551, p < .001, CFI = .933, TLI = .926, SRMR = .041, AIC = 41222.620$; c) $\chi^2 (550, 892) = 2822.738, p < .001, CFI = .921, TLI = .916, SRMR = .046, AIC = 54486.064$.

Finally, we examined the mechanisms through which participation was consequential as predictor of the increase in perception of social integration operationalized as relatedness with people in general. As can be seen in the Figure 5c, the increase in social integration was predicted by perceived emotional synchrony and this relation was partially mediated by the experience of positive emotions (joy, amusement) rather than self-transcendent emotions. Perceived emotional synchrony showed a significant indirect effect on well-being through positive emotions ($B = .18, SE = .07, Est./S.E = 2.48, p = .013, 97.5\% CI [0.037, 0.316]$).

Discussion

Our data provide longitudinal evidence that participation in a collective emotional gathering associated to high emotional synchrony impacted participants positive personal and social representations or shared social beliefs, increased participants' feelings of empowerment, group belonging and social integration. Specifically, we found a pre- to post-Tamborrada increase in transcendence beliefs, beliefs about benevolence of world, and meaning of life. Also, participants reported more collective self-esteem and happiness than before. Finally, participation affected perception of social integration in terms of fusion of identity with the group with whom they participated in the celebration, but also increased solidarity with citizens of San Sebastian and perceived relatedness with people in general. In addition, all the various positive effects hypothesized by Durkheim's model for participation in a collective emotional gathering were specifically found in relation to the collective experience of synchronization. More importantly, the results confirmed that collective gatherings enhance identity fusion, or merging of the personal and the collective self.

Our results also point to some of the processes involved in these effects. The results supported our prediction regarding the inter-relationships between perceived emotional synchrony with others, and experience of self-transcendent and enjoyment emotions in the context of a secular performance involving group synchronization. All three variables were linked, with especially marked ties between the latter two. Moreover, according our hypothesis, the more participants perceived emotional synchrony the greater was the tendency to experience self-transcendent and enjoyment emotions. In addition, the results confirmed the association between perceived emotional synchrony and self-transcendence emotions in a secular ritual.

Additionally, the results show that the positive effects hypothesized by Durkheim's model for participation in a collective emotional gathering are found specifically in relation to the collective experience of synchronization. The fact that our process variables helped explain the effects obtained also adds weight to the argument that the change found amongst participants in Tamborrada is indeed related to the former's experience of emotional synchrony. Moreover, our analyses of indirect effects show that the more they

experienced perceived emotional synchrony, the greater were the effect of participation. Yet, at the same time, the effects attributable to self-transcendent and positive emotions were modest. More precisely, we found that self-transcendent emotions felt during a secular ritual partially mediated the influence of perceived emotional synchrony on the increase in transcendence beliefs and completely mediated this association in the case of solidarity. On the other hand, enjoyment emotions partially mediated the effect of perceived emotional synchrony on the increase in feelings of relatedness to people in general (a measure of social cohesion). Nevertheless, self-transcendent and positive emotions did not affect general beliefs such as benevolence of the world and meaning of life, nor empowerment (collective self-esteem and personal well-being), concluding that self-transcendent and enjoyment emotions do not explain the positive effects of perceived emotional synchrony occurring during folk festival. However, what is important in our results is that self-transcendence, more than enjoyment emotions, play the role of reinforcing transcendence beliefs. Our results generalize Van Cappellen et al. (2014) studies and also are more specific, but at the same time fail to confirm generalized effects of self-transcendent emotions on well-being.

General Discussion

Recent studies have shown that collective gatherings entail a number of psychosocial consequences among participants (see Khan et al., 2015; Páez et al., 2015; Pandey, Stevenson, Shankar, Hopkins, & Reicher, 2014) mainly because of the particular emotional dynamic they generate. Yet, the precise nature of the processes involved has remained unclear. In this paper, we build upon previously reported findings by Páez et al. (2015). As such, we conceptualized perceived emotional synchrony as a sense of emotional connectedness, emotional fusion and reciprocal empathy that is commonly experienced as a consequence of emotion elicitation, reciprocal emotional stimulation and the building up of mutual empathy generated during collective emotional gatherings. Whereas previous research has provided evidence that perceived emotional synchrony predicts various positive outcome variables while controlling for intensity of participation or shared flow (see e.g., Páez et al., 2015), in this research we tested more directly the relationship of perceived emotional synchrony and the experience of self-transcendent and enjoyment

emotions. Exploratory and confirmatory factor analyses, for example, revealed that perceived emotional synchrony is a unique construct that emphasizes feelings of social connectedness and emotional reciprocity (such as “we are one”, “we feel the same”) and its related yet qualitatively different from a mere experience of positive emotional states.

The reported studies contribute to the existing literature by examining the idea that the perceived emotional synchrony experienced during, both religious and secular, collective gatherings enhance several psychological functions. Specifically, in two studies study we attempted to find support for Durkheim (1912) contention that high levels of “collective effervescence” are predictive of reinforcement of: positive personal and social beliefs, empowerment, fusion of identity and social integration. In addition, we sought to analyse the explanatory power of self-transcendent and enjoyment emotions in explaining the effects of perceived emotional synchrony. In Study 1, the parallel mediational analyses supported a model in which perceived emotional synchrony strengthens transcendence beliefs and collective self esteem after participation in religious and secular Sunday activity above and beyond the experience of self-transcendent and positive emotions. Furthermore, the results of Study 1 indicated that the relation between perceived emotional synchrony and self-transcendent emotions is stronger than between perceived emotional synchrony and enjoyment emotions. Thus, those findings set the stage for longitudinal Study 2 which replicated and extended the findings of Study 1 in a context of a different collective gathering. Specifically, attention was turned toward an in-depth examination of perceived emotional synchrony as a source for experimenting different positive emotions and its direct and indirect effects on enhancement of a broader range of positive effects of participation in collective gatherings. The examination of serial mediational paths from pre-Tamborrada to post-Tamborrada scores via perceived emotional synchrony and emotions accentuated the findings of Study 1. Most important, the direct effect of perceived emotional synchrony on personal and social beliefs, empowerment and social integration proved highly robust. This direct effect remained significant also controlling for the experience of self-transcendent and enjoyment emotions on several outcomes as: beliefs of benevolence of the world, meaning in life, personal well-being, collective self-esteem and fusion with the group. More important, consistent with diverse theoretical

perspectives, we obtained support for a serial mediational model in which perceived emotional synchrony boosts transcendence beliefs and solidarity via self-transcendent but not via enjoyment emotions. Finally, enjoyment emotions evoked by perceived emotional synchrony bolstered feelings of relatedness with people in general.

In all, we argue that collective emotional gatherings characterized by physical proximity, mutual focus of attention and emotional energy provide conditions in which participants' psychological resources and social connectedness are strengthened. Specifically, emotional synchrony perceived during the climax of the ritual inspires feelings of transcendence and fusion with other members of the group. In other words, the process of symbolic merging of the self and other is also especially likely to favour, both emotional and cognitive, states of self-transcendence that helps people find a sense of belonging (Ryff & Keyes, 1995; Csikszentmihalyi, 1990). Moreover, participation in positively-valenced collective emotional gatherings reinforces pro-social values and increases positive world assumptions or social beliefs, and through this reinforces the dimension of purpose and meaningful life, and probably the perception of personal growth. In consequence, participation in collective gatherings not only enhance positive relationships with others, but also reinforce a view of the self, as worthier, more positive and enlarged, connecting the self to large entities like the social group. Indeed, our results confirmed that perceived emotional synchrony affords not only remarkable interpersonal benefits, but also distinct patterns of subjective well-being (i.e., meaning in life, PHI which includes measures of hedonic - satisfaction with life, affect items; psychological - self-esteem, mastery, growth and social well being - positive relations with others; Vázquez & Hervas, 2012).

Conclusion

First, the results from two longitudinal studies on participation in both religious and secular gatherings add robust empirical evidence to the social psychological literature confirming that collective rituals elicit intense and shared emotional state which increases positive personal and social beliefs, empowerment, fusion of identity and social integration. Second, we show that the core mechanism of the positive effects yielded rests on the intensification of

feelings of emotional connectedness or perception of emotional synchrony with the other participants which impacts one's sense of belonging to the group that such intensification entails but also to more abstract transcendent entity through the ways in which one becomes able to see himself as part of something greater. Finally, collective participation may influence participants' vision of the social world and as such has the power to transform psychological and social realities by shaping behavioral tendencies. This potential give rise to novel and exciting possibilities for future research regarding both intra and intergroup relations, and in addition carries practical implications in social and political domains.

Chapter 5



CHAPTER 5.

HOPE AND ANGER AS MEDIATORS BETWEEN COLLECTIVE ACTION FRAMEWORKS AND PARTICIPATION IN COLLECTIVE MOBILIZATION: THE CASE OF 15-M

This chapter is under second revision as: Włodarczyk, A., Basabe, N., Páez, D., Zumeta, L. (2015). Hope and anger as mediators between collective action frameworks and participation in collective mobilization: the case of 15-M. *Journal of Social and Political Psychology*.

Introduction

As a response to the global economic crisis, which had dramatic social and economic repercussions in Spain, May 15th 2011 witnessed the emergence of the so-called *Indignados* (The Indignant Ones) movement. Awareness of the severe critiques to which the system was exposed spread initially via books, such as the bestselling “¡Indignaos!” (Hessel, 2010), which denounced the current situation in Spain, reflecting collective discontent and an emphatic rejection of politicians’ approach to dealing with the situation (Páez, Javaloy, Włodarczyk, Espelt, & Rimé, 2013). The sudden rise of new social movements emerging from new political opinion-based groups (McGarty, Thomas, Lala, Smith, & Bliuc, 2014) is an exceptionally relevant context for studying the different psychological motivators and processes that foster collective action.

Since the emergence of the 15-M movement in Spain, both activists and scholars have stressed its plural, inclusive and transversal character and the role of shared emotions. Indignation and hope played a pivotal role in transforming

crises into protest (Laraña & Diez, 2012; Castells, 2012; Perugorría & Tejerina, 2013). Trust was destroyed, provoking a wave of indignation, but hope for a better future was crucial in turning grievances into action and motivated large numbers of individuals from diverse backgrounds to gather within physical spaces. Slogans like “Organize your anger”, “Without hope there is no future” and “Yesterday angry, today hopeful” pointed out that although anger was necessary to mobilize protesters, it was hope that offered possibilities for change and the creation of new spaces within civil society, characterized by trust (Páez et al, 2013; Sabucedo & Vilas, 2014).

Recent literature on collective action aims to integrate the constructs offered by different theoretical approaches and include multiple predictors of engagement in collective action (e.g. Drury & Reicher, 2009; Gamson, 1992; Stürmer & Simon, 2004; Turner, 1987; Van Zomeren, Postmes, & Spears, 2008). After having neglected the importance of emotions in protest movements for many years, the current main explanatory models of collective action (Stürmer & Simon, 2009; Thomas, McGarty, & Mavor, 2009a; van Stekelenburg, Klandermans, & van Dijk, 2011; Van Zomeren, Spears, Fisher, & Leach, 2004; Van Zomeren, Leach, & Spears, 2012) incorporate group-based emotions, particularly anger and moral outrage, as separate but complementary pathways to collective action. At the same time, surprisingly few studies have directly examined the role of positively valenced group-based emotions in inspiring individuals to undertake collective action. Although many recent authors have pointed out the importance of considering positive emotions when explaining group dynamics (e.g. Mackie, Devos, & Smith, 2000; Smith & Mackie, 2008; Thomas, McGarty, & Mavor, 2009b), the majority of studies on collective action fail to sufficiently account for their crucial role in encouraging engagement in political protest. One positive emotion which has recently aroused most interest is hope. In our view, hope is a motivating emotion capable of fueling resistance and protest. We ground our argument for incorporating hope into explanatory models of collective action in a wide range of sociological studies on the capacity of hope for generating change (see Braithwaite, 2004a; Courville & Piper, 2004; McGeer, 2004). From this perspective, hope can be viewed as a bridge between collective action frameworks and actual action. Thus, a belief in hope for a better future provides the foundation upon which individuals find it worthwhile to engage in efforts to improve their personal and social situation (Hanna, 2002; Foster-

Fishman et al. 2007). More precisely, as argued by Aminzade and McAdam (2001, p.31) “[A]nger in the case of perceived injustice and hope regarding the prospects for change [...] appears to serve as the necessary affective bedrock on which many movements are built”. This suggests that negative emotions, although important (Van Zomeren et al., 2004; 2012), are not the only emotional predictors of collective action. According to Frijda (1988) “anger implies hope”, because hope is “yearning for better” even “when the odds do not greatly favor it” (Lazarus, 1991, p. 283). Therefore, we argue that social change is not possible without anger, but that anger needs hope to be an effective agent of change; thus, people need to mobilize hope in order to act.

In this paper, we seek to clarify the explanatory mechanisms of participation in collective action offered by theories of collective action and social identity. Furthermore, our aim is to integrate collective action models and explore the role of hope and anger as drivers of participation and involvement in collective mobilizations. In this sense, and in light of increasing empirical evidence (Greenaway, Cichocka, van Veelen, Likki, & Branscombe, 2014; Páez et al, 2013; Sabucedo & Vilas, 2014; Smith & Leiserowitz, 2014), we attempt to examine the role of hope and anger in motivating action and to integrate this perspective into other prominent social psychological perspectives that emphasize factors such as the perception of injustice, collective efficacy and group identification. Thus, in the present paper, we extend existing research by examining the mediating role of hope and anger in the relationship between collective action frameworks and participation within the context of the 15-M sociopolitical protest movement. We report the results of a field study that tests the predictive validity of current explanatory models of collective action (SIMCA and EMSICA) in a real life context and integrates hope and anger as drivers of participation and involvement in collective mobilizations. More specifically, the paper explores the power of emotions for transforming beliefs into actual action. Thus, the scope of this article is defined by, first, a focus on shared group beliefs and, second, a focus on group emotions that group members experience in relation to other current social situations.

First of all, we briefly review recent psychological perspectives on collective action and the importance of emotions in mobilizing collective action, taking into account those amplifiers of existing motivations. Subsequently we describe

the relationship between anger and hope and hope and efficacy, and its particular importance in collective action research. Finally, we propose that hope is the key element in explaining the relationship between collective action frameworks, anger and commitment to social movements such as 15-M.

Frameworks of Collective Action

According to the literature on the social and psychological dynamics of collective action there are at least three components that constitute collective action frameworks: perceived injustice, social identity and efficacy (Gamson, 1992; Klandermans, 1997; van Zomeren et al., 2008). In order for collective action to emerge, it is necessary for the social situation to be interpreted as unjust (Touraine, 1978). Moreover, in line with Relative Deprivation Theory (RDT), this appraisal must be shared and elicit emotional arousal (Kawakami & Dion, 1993; Leach, Snider, & Iyer, 2002). Thus, perception of the injustices themselves and moral indignation in connection with one's adversaries can incite feelings of mutual identification that enable the construction of an "us", a collective identity. In accordance with Touraine's (1978) conceptualization of social movements, Social Identity Theory (SIT; Tajfel, 2010; Tajfel & Turner, 1979), Klandermans' (1988) concept of collective action and the neo-Durkheimian perspective, social or collective identity plays a central role in encouraging collective mobilization. The salience of social identity has the quality of increasing members' identification with the group's values and beliefs, the perception of similarity, positive feelings (attraction, empathy, etc.) and prosocial relations of cooperation and solidarity (Turner, 1987). This is important for the movement, as it generates group cohesion and promotes unity of beliefs and coordinated action (Javaloy, Rodríguez, & Espelt, 2001). Finally, the third core perspective highlights the importance of instrumental motivation and individuals' expectations concerning the costs and benefits of engagement in collective mobilization. As proposed by Resource Mobilization Theory (McCarthy & Zald, 1977), people have to share a belief that the situation is unstable and that as long as certain essential resources are mustered, it can be effectively changed. In this sense, the perception of group efficacy is defined as the belief that the group is capable of changing the current situation through organized action (van Zomeren et al., 2004).

Recently, van Zomeren and colleagues (2008) carried out a meta-analysis of studies on collective action. The results of this research show that the indicators of perceived injustice, identity and efficacy predict collective action in a near-similar fashion (and with a moderate effect size); at the same time, they are positively correlated among themselves. Furthermore, a greater effect size was found for politicized identity, which was found to be an important mediator. On this basis, the authors proposed a comprehensive model which they called the Social Identity Model of Collective Action (SIMCA).

The SIMCA suggests that while the collective action frameworks (efficacy, injustice and identity) are direct predictors of collective action, at the same time social identity reinforces the perception of injustice, emotions and the perception of efficacy (acting as an indirect predictor of collective action). According to van Zomeren and colleagues (2008), identity functions as a bridge between efficacy and the perception of injustice, facilitating and boosting the group experience of injustice and efficacy. Furthermore, the SIMCA allows for the direct effect of identification to be stronger when identity is politicized.

An alternative model has also been proposed by Thomas, McGarty and Mavor (2009a), called the Encapsulated Model of Social Identity in Collective Action (EMSICA). This model inverts the causal relations established in the SIMCA. The EMSICA model suggests that social identity mediates the effect of injustice and efficacy on collective action, providing the basis for the emergence of social identity. Since experiences of injustice and efficacy tell us about who “we” are, and social identity can capture (and mediate) these two emotional reactions, its direct effect is not so substantial in the model (Thomas et al., 2009a). Both models assign social identity a central role in driving collective action, although it is important to emphasize that they cater to different contexts. Whereas SIMCA was derived from many primary studies on traditional forms of collective action (involving low-status or otherwise deprived groups, including social movements), EMSICA refers to more emergent, opinion-based social identities.

The causal relation is disputable: the experimental studies by Swaab, Postmes, van Beest and Spears (2007) suggest that the incorporation of one of the frameworks can lead to the development of the others, and that shared social identity can be both a product and a precursor of shared cognition (Swaab

et al., 2007) or collective action (Thomas et al., 2009a). While van Zomeren et al.'s (2008) meta-analysis did not include the opinion groups closest to the profile of participants in new social movements, the empirical study by Thomas, Mavor and McGarty (2012) compared the SIMCA and EMSICA models in three independent samples of shared-opinion groups. The authors concluded that neither of the models is clearly superior to the other, and that everything may depend on the socio-cultural context. Given the importance of confirming the generalizability of these previous findings, we attempted to investigate the SIMCA's and the EMSICA's applicability within the context of the emergence of the 15-M socio-political protest movement in Spain.

The Importance of Emotions in Social Mobilization

Since Gamson's (1992) proposal regarding the important motivating role of anger in political protest, emotions are no longer seen as irrational. Recent studies have stressed the importance of group emotions in people's willingness to form part of a collective action (Mackie et al., 2000; Musgrove & McGarty, 2008; van Zomeren et al., 2008). Also, as demonstrated by Van Stekelenburg and Klandermans (2007), emotions may be viewed as amplifiers of existing motivations, rather than as a separate pathway to collective action (van Zomeren et al., 2004). Moreover, human behavior is likely to be influenced by automatic emotional judgments, as well as by conscious cognitive calculation (see Bargh, 1984; LeDoux 1996; Loewenstein, Hsee, Weber, & Welch, 2001; Slovic et al. 2002). Thus, intense emotions are closely linked to action (Frijda, 1988; Maitner, Mackie, & Smith, 2006) and likely to have a powerful direct impact on actual behavior, complementing deliberative decision-making or cost-benefit calculations (Loewenstein & Lerner, 2003; Perlman 2013). According to Intergroup Emotions Theory ([IET]; Smith, 1993), shared appraisal leads to group emotions which in turn foster action tendencies. Thus, the causal link between collective action frameworks and group emotions may be recursive. On the one hand, being part of a specific group may facilitate the experience of group-based emotions (see Mackie et al., 2000; Postmes, Haslam, & Swaab, 2005; van Zomeren et al., 2008), something which is particularly true in the case of social identities based on established long-term social categories. On the other hand, however, it has been suggested that shared emotional experiences and social sharing of emotion may trigger psychological group formation (see

Livingstone, Spears, Manstead, Bruder, & Shepherd, 2011; Swaab et al., 2007). Indeed, both experimental (Kirschner & Tomasello, 2010, Wiltermuth & Heat, 2009) and longitudinal studies (Páez, Rimé, Basabe, Włodarczyk, & Zumeta, 2015; Rimé, Páez, Basabe, & Martínez, 2009) have confirmed that actual participation in coordinated collective gatherings reinforces group identity and cohesion. According to the available literature (see Kessler & Hollbach, 2005; Smith & Mackie, 2008; Thomas, Mavor & McGarty, 2009a), the casual relationship between group identity and group emotions should be seen as dynamic and bidirectional, since it is likely to be influenced by social context and will probably vary over time.

Hope and Anger

Injustices are a constant feature of society, and even though people may be aware of them, they do not necessarily mobilize themselves (Goodwin & Jaspers, 2006). One of the ways to counter apathy is through anger which grows out of a perception of the illegitimacy of the status quo and the discrepancy between the actual and desirable situation. According to Gamson (1992), anger fuels the injustice frame in order to counter the legitimacy frame. Group emotions of anger are also activated when people perceive threats and identify with the disadvantaged group. Directing their anger towards another group has been shown to be associated with a tendency for aggression towards that group (Smith & Mackie, 2008; Fischer & Manstead, 2008). Anger has been seen to reinforce mobilization, for example, in the case of farm workers in Holland and Spain (Sabucedo, Durán, Fernandez, Romay, & Dorna, 2007). Anger about injustice and moral indignation can also motivate people who are not so strongly affected by a crisis to mobilize themselves out of solidarity with their more severely affected fellow citizens (Tangney, Stuewig, & Mashek, 2007). Moreover, it has been widely acknowledged that anger can act as a bridge between sensitivity to social problems and active commitment to a social movement (Traïni, 2009; van Stekelenburg et al., 2011; Van Zomeren et al., 2004; 2012).

Despite all the empirical evidence, it seems like anger may not always be enough to “fire up” the energy necessary to act. Certain positive emotions can also prompt people to fight for a better future. According to Jasper (1998), anger, indignation and fear are transitory responses which are shaped by

underlying affects which can lead people into collective action or drive them away. Pearlman (2013) suggested that emboldening emotions which promote optimistic assessment, acceptance of risk and feelings of personal efficacy may encourage people to prioritize dignity and increase their willingness to engage in action. The motivational role of positive emotions was examined by Sabucedo and Vilas (2014) in a survey of university students carried out in a setting of cut-backs in education. This study found that positive emotions, such as hope, pride and optimism, were fundamental in explaining the relationship between anger and intention to participate in a protest action. Furthermore, social movement scholars emphasize the coexistence of positive emotions and anger in real-life collective actions. Castells (2012) claims that the movements of 2011 were triggered by emotions of outrage and hope. More specifically, Pearlman (2013) argues that pride, anger and solidarity played an important role in the 2011 uprisings in Tunisia and Egypt. Davou and Demertzis (2013) underline the importance of hope and perceived political efficacy in motivating Greek citizens to become involved in political action. These findings highlight the fact that negative and positive emotions must act jointly in order to inspire engagement in collective action. Of all the emotions that can help people to find the courage to overcome fear and apathy, perhaps the most important is hope. As stated by Ahmed (2004), “hope is what allows us to feel that what angers us is not inevitable, even if transformation can sometimes feel impossible”. Therefore, we argue that anger without hope leads to resignation, as alone, it lacks prospects for future change. The study by Aminzade and McAdam (2001) suggests that both anger and hope are necessary for the mobilization of individual and collective forms of protest. These authors assert that: “[I]n and of itself, anger is not likely to produce organized collective action, but rather other (usually individual) forms of resistance [...]. It is only when anger gets joined with hope that the forms of action we normally associate with social movements and revolutions are apt to take place” (Aminzade & McAdam, 2001, p.31-32). Despite the theoretical associations between hope and anger, to our knowledge, no previous empirical study has directly assessed the relationship between these two constructs. In the present study, we seek to redress this situation by examining both the direct effect of anger and hope on the intensity of participation in socio-political movements, and the indirect effect of anger through feelings of hope.

In our view, hope is crucial to the act of protest. The role of hope in political behavior has been the subject of a substantial amount of recent research on social movements. From a philosophical perspective, the mere act of hoping is already an initiation of “a new beginning”. In this sense, hope is not only a belief that the present circumstances can be different, but also that they should and will be different (O’Brien, 2008). In a similar approach, Billias (2008) defines hope “as a futural orientation of ongoing agency”, implying that one cannot act without hope (Billias, 2008, p. 17). Social scientists define hope as more than a simple desire for a certain outcome. Rather, it is a desire that is inseparable from agency (McGeer, 2004, p. 103). More importantly, hope is necessary for social change as it sustains action and prevents disengagement in the face of difficulties or lack of control. According to Larsen et al. (1993), a belief that the present or future can only have negative outcomes would make people to act according to these expectations, thus proving themselves correct. When there is no hope, agency is relinquished, resulting in a belief that action will not make any difference. Furthermore, hope requires anticipation and expectation that the desired outcome will be achieved (Drahoš, 2004), and therefore provides a plan of action. Thus, hope could be seen as “a renewable resource for social change” (Courville & Piper, 2004, p.58), as it turns individual hopes into group hopes, while at the same time spreading from the group to the individuals in that group, increasing the probability of successfully altering the status quo. Collective hope has the power to move people towards a “social script [...] in which we are expected to be active and responsible participants contributing to vibrant civil society” (Braithwaite, 2004b, p.7).

Hope has been the object of considerable empirical research in psychology, yet little attention has been paid to its relationship with collective action frameworks and participation in social movements. Some scholars have begun to theorize on the role of collective hope in overcoming adversity, emphasizing particularly that it is linked to the aspiration and expectation that, with a reasonable degree of probability, certain negative circumstances can and will be changed (Bar-Tal, Halperin, & De Rivera, 2007; Fredrickson, 2009). Hope has been positively associated with moral emotions and negatively correlated with shame (Williamson, Sandage, & Lee, 2007) and distress (Scioli, Ricci, Nyugen, & Scioli, 2011). Hope has also been identified as an important element of the coping processes, as it arises in situations in which people expect the worst but

still try to make things better anyway (Lazarus, 1991; Snyder, Rand, & Sigmon, 2005). As such, hope was found to be associated with cognitive flexibility and creativity, which in turn facilitate planning, goal setting and further action. Accordingly, hope was found to be crucial for achieving favorable recovery outcomes after trauma exposure and to forge resilience to adversity in the long term (Hobfoll et al., 2007). Moreover, it was found to foster social inclusion (Braithwaite, 2004a) and empowerment among marginalized groups (Courville & Piper, 2004). Similarly, researchers have begun to investigate the role of hope in intergroup contexts. More specifically, Haplerin and Gross (2011) found that emotion regulation and cognitive positive reappraisal were positively associated with hope that motivated humanitarian support for others. These findings are especially important as they provide evidence of the positive effect of hope in a context of intractable conflict. Recent studies have confirmed that hope and positive emotions, even when coexisting with negative ones, are an important predictor of the endorsement of positive social beliefs and feelings of conflict malleability (Cohen-Chen, Haplerin, Crisp, & Gross, 2014; Halperin, Porat, Tamir, & Gross, 2013). Furthermore, research has shown that as an emotion, hope is associated with social engagement and cohesion (Gee, Khalaf, & McGarty, 2007), as well as with collective efficacy and social mobilization (Páez et al, 2013; Sabucedo et al., 2007). Therefore, as Sabucedo and Vilas (2014) point out, sharing the same objectives and believing that they can be accomplished fosters both hope and a sense of pride at being a part of a movement capable of making the desired change possible.

Hope and Efficacy

The importance of hope that the current situation can be improved cannot be underestimated. As mentioned above, the most important features of hope are positive expectations about the possibility of achieving certain objectives in the future and positive feelings of outcome anticipation, regardless of the negativity of the present situation. Therefore, hope implies goal setting, planning and actual mobilization (Cohen et al, 2014). Hope has the power to encourage people to successfully overcome adversity, or as Snyder puts it: “hope is more than distancing oneself from and delimiting the impact of failures; hope is the essential process of linking oneself to potential success” (1994, p. 18). Although, the concept of hope is closely related to the concept of collective

efficacy, each focuses on different aspects. According to Bandura (1986), efficacy is related to the belief that certain goals “can” be achieved, while hope focuses on the belief that “yes” the goals “will” be achieved in the future. Recent research shows that group efficacy beliefs increase collective action tendencies and group identification (e.g. van Zomeren et al., 2004; 2008), pointing out that “can” leads to “we”. Likewise, empirical evidence (Magaletta & Oliver, 1999) suggests that the essential components of hope: “will” and “ways” are related to efficacy and optimism, but are not identical constructs. In our view, the belief that certain goals can be achieved has the power to instill the will to achieve them and therefore leads to increased engagement in protest. Given that hope concerns future goals and the plausibility of achieving them, we suspect it may be seen as a potential key element for understanding engagement in collective action. In this sense, we conceptualize collective efficacy as the perception of the collective capacity to gather the necessary recourses (McCarthy & Zald, 1977), for example the capability to organize and execute the specific actions required to enforce social change through joint effort. However, being capable of changing the current situation does not necessarily imply being optimistic about the future. It is the belief that the group is capable of changing the current situation through organized action (van Zomeren et al., 2004), coupled with the expectancy of success and positive feelings, which characterizes hope, which in turn fosters stronger commitment to norms for action. Evidence from previous research supports this pathway: a study on the 15-M movement (Páez, et al., 2013) found that the effect of collective efficacy on participation was mediated by hope, whereas it was collective shame (feeling shame at the behavior of others who are responsible for the negative situation) which mediated the relationship between perception of injustice and participation. In short, given that hope often serves as the spark that triggers action, we hypothesize that it fuels the collective efficacy framework and transforms it into actual mobilization.

The Present Study

Based on the above considerations, the present study seeks to make headway regarding the identification of the predictors of participation in collective mobilizations, such as 15-M, highlighting the importance and coexistence of positive and negative group emotions (Halperin et al., 2013; Páez

et al., 2013, Sabucedo & Vilas, 2014) and their relationship with collective action frameworks (Thomas et al., 2009a; van Zomeren et al., 2008). On the basis of the theoretical and philosophical sources cited earlier, we hypothesize a mediator effect of hope in the positive relationships between anger, collective action frameworks and participation in collective action. Thus, the general aim of the study is to test the role of hope and anger, triggered by perceptions of injustice, collective efficacy and identity, as drivers of participation and involvement in the collective actions of the 15-M movement. We seek to integrate collective action models and emphasize the role of the emotional component, especially hope.

The present study extends collective action research by (a) analyzing relations between collective action frameworks, comparing the SIMCA and the EMSICA in a specific context (namely the emergence of the 15-M socio-political protest movement), (b) examining the mediating role of emotions in the relationship between those frameworks and collective participation, and (c) directly exploring the association between anger and hope.

Methods

Participants

Participants in this study were 638 individuals (43.4% men) aged between 18 and 73 (Mean = 31.66, SD=11.39), of whom 48.7% were in paid employment, 33.4% were university students, 14.4% were unemployed or retired, and 1.1% were housewives. Around half (52.8%) had a university degree, and roughly 70% had some kind of higher education. Spanish nationals accounted for 90.4% of the sample. Participants were residents of Madrid (37.2%), Barcelona (20.3%), San Sebastián (19.2%), Bilbao (11.1%) and Vitoria (7.7%). A total of 61% of those in the survey claimed to have participated in activities related to the 15-M movement on one or more than one day (see Table 1 for descriptive data).

Measures

Socio-demographic and socio-political variables. Data was collected on participants' sex, age, nationality, employment situation (Employed, Unemployed, Student, Other), educational level (with three categories: 1)

Primary and Middle School Education only, 2) Further Education, 3) Diploma or Graduate level) and ideological position: “Please circle a number (from 1 to 7) indicating your political views”, the range being from (1) *Extreme left*, to (7) *Extreme right*. We also inquired about how they voted in the elections held on May 15th 2011 (see Table 1).

Perception of Injustice. As indicators of injustice and deprivation in relation to the current social situation we developed four items which assess endorsement of the specific goals and grievances of the 15-M movement. We asked participants to what extent they agreed with the need to protest against: “the current political, economic and social scenario”; “corruption among politicians”; “corruption among bankers and business people”; and “the vulnerability of ordinary citizens vis-à-vis the “powers that be” in general and the holders of socioeconomic and political power in particular”. Response options ranged from (1) *Not at all*, to (7) *Very strongly*. Cronbach’s alpha coefficient of reliability was high ($\alpha=.88$).

Perception of the Efficacy of Collective Action. We inquired about the perception of group capability for changing the current situation through the organized action of the 15-M movement, via the following statement, created ad hoc: “We realized we were perfectly capable of achieving our aims” (response range 1=*Not at all*, to 7=*Very strongly*).

Group Identity. Three items were used (based on Páez et al., 2013) to assess the extent to which respondents shared beliefs of group unity, satisfaction and empowerment: “We acted as a single person. We experienced and shared a moment of unity”, “We felt proud to belong to this group”, “We felt transformed and much more convinced of our ideas”. The response range was 1=*Not at all*, to 7=*Very strongly*. Cronbach’s α coefficient was .90.

Emotions. Respondents were asked to evaluate to what extent they felt anger and hope when thinking about the current social situation. Respondents were asked: Indignation, righteous anger “Do you feel indignation or anger about the current social situation?” Hope: “Do you have high hopes that the current social situation will improve?” (Response range: 1=*Not at all*, to 7=*A great deal*).

Personal Participation. To measure the intensity of participation we asked: “How many days did you spend in the demonstration?” This continuous

variable, which ranged from 0 to 24 ($M = 3.75$; $SD = 5.74$), was used for all subsequent analyses described in this study.

Table 1
Socio-demographic Characteristics of 15-M Participants and Non-Participants

		Participants		Non-participants	
		W (114)	M (135)	W (269)	M (120)
Age	Mean	31.2	32.6	30.1	33.5
	(SD)	(10.6)	(11.0)	(10.7)	(14.5)
Education (%)	Low	2.0	6.6	7.1	8.9
	Medium	18.2	29.0	25.8	28.9
	High	79.8	64.5	67.1	62.2
Employment situation (%)	Employed	53.7	47.3	43.3	47.1
	Unemployed	10.8	19.8	12.2	14.0
	Student	32.0	28.6	40.0	36.9
	Other	3.5	4.3	4.4	1.9
Marital status (%)	Single	80.2	82.6	72.6	71.1
	Married	12.4	14.1	22.9	25.6
	Separated	7.4	3.3	3.8	2.2
	Widow/widower	.0	.0	.6	1.1
Voted (%)	Yes	78.9	61.5	61.8	73.3
	No	21.1	38.5	38.2	26.7
Abstained from voting (%)	Yes	19.6	38.5	37.5	38.5
	No	80.4	61.5	62.5	61.5
Changed their vote (%)	Yes	32.7	25.5	15.0	7.4
	No	67.3	74.5	85.0	92.6
Blank vote (%)	Yes	19.0	22.7	5.2	9.5
	No	81.0	77.3	94.8	90.5
Ideology	Mean	2.4	2.5	3.2	3.1
	(SD)	(1.0)	(1.1)	(1.3)	(1.3)

Procedure

Participants were either people who were interviewed directly in the 15-M movement camps or during demonstrations in different Spanish cities (San Sebastián, Vitoria, Bilbao, Madrid and Barcelona), or individuals interviewed at universities and in the areas surrounding the 15-M camps during the month of June, 2011 (N=638). The interviews were carried out by psychology PhD students who were instructed to spread out through the camps or protest areas once the crowd had deployed fully and select every n-th participant in order to guarantee that every person had an equal chance of being selected. This ratio was based on the estimated number of people gathered in the camps or protest areas, and determined how many rows of respondents were skipped before every n-th participant was selected (see Klandermans et al., 2011). Next, a short face-to-face survey was administered to those who voluntarily agreed to participate in the study. Written informed consent was obtained from all study participants. The registered data was alphanumerically coded, ensuring anonymity. All procedures were approved by the University of the Basque Country (UPV/EHU) Ethics Committee for Research Involving Human Beings (CEISH).

Results

Analytical Strategy

With the aim of exploring the relationships between the frameworks of collective action and the mediating role of emotions, we used structural equations modeling (SEM) analyses with Mplus 6.11 (Muthén & Muthén, 2010). The estimation procedure applied was maximum likelihood, which tests the hypothesis of equality in covariance matrices of the theoretical and empirical models. Considering the lack of multivariate normality, we applied the bootstrap method, which consists of the repeated extraction of samples from the dataset and the estimation of the desired statistic in each of the resampled datasets. It is a non-parametric approach to parameter estimation, and hence free from assumptions about the normality of the variables' distribution or the sampling distribution of the statistics (see Efron & Tibshirani, 1993). Standard errors and confidence intervals based on a bootstrap sampling distribution are calculated for each of the parameters or statistics. If the values of the estimated

effect within the confidence interval include zero, this indicates a non-significant effect. In addition to the chi-squared test, the following indexes were used to check the fit of the models: the CFI (*Comparative Fit Index*) and the TLI (*Tucker-Lewis Index*), for which values above .90 are considered acceptable, as well as the SRMR (Standardized Root Mean Square Residual), for which values close to .08 indicate a relatively good model fit (Bentler, 1990; Joreskog & Sorbom, 1993). Of these models, particular attention was paid to the CFI (Schermelleh-Engel, Moosbrugger, & Müller, 2003), both nested and non-nested. A Δ CFI value of -0.01 or less means that the null hypothesis of invariance can be rejected (Cheung & Rensvold, 2002). Finally, we also included the Akaike Information Criterion (AIC), which is useful for comparing non-nested models; the lower its value, the better and more parsimonious the model (Ullman, 2001). In the presentation of the results, the standardized solution is shown. All the coefficients represented by continuous arrows in the graphs are statistically significant, while the dashed lines indicate effects that are not statistically significant for $p < .05$.

Construct Validity

In order to ensure that the model fit of our structural models was not affected by measurement problems and to confirm that the indicators used are really measuring different concepts, we first tested a pure measurement model. Perception of injustice was composed of four items that measured agreement with the need to protest about different aspects of the current situation; likewise, the group identity factor comprised three items. Efficacy, anger, hope and intensity of participation were measured through one item. In this model all the latent (perception of injustice, group identity) and manifest (perception of efficacy of collective action, anger, hope, intensity of participation) variables were specified as correlated exogenous constructs. Each item was allowed to load only on its designated latent factor and no errors were allowed to correlate. Each latent factor and manifest variable was allowed to correlate with the other latent factors and manifest variables. The complete measurement model obtained a very good fit [$\chi^2(638, 33) = 75.578, p < .001, CFI = .989, TLI = .981, SRMR = .023$]. All items loaded highly on their designated latent factor (all factor loadings $> .74$) and were significant based on 99.5% bootstrapping confidence intervals. In light of the above, we concluded that our measures had

adequate construct validity. The correlations, means and standard deviations of all the latent and manifest variables included in the model are presented in Table 2. Correlations revealed strong positive associations between the measures of efficacy and group identity. The efficacy measure was positively and strongly related to the measure of hope, as were the measure of injustice and the measure of anger. Moreover, the measure of hope was also positively related to the measure of anger. Finally, intensity of participation was positively related to identity, efficacy and hope, as well as to anger and injustice, although to a lesser extent. In the next step, we developed structural models in which hope and anger mediated the relationship between injustice, efficacy and identity frameworks and collective action, operationalized as intensity of participation. As regards the measurement part of the models, all the factor loadings were significant based on 95% bootstrapping confidence intervals. To test the mediation hypotheses, we computed the indirect effects (standardized estimates are presented) and tested their significance based on bootstrapped (unstandardized) confidence intervals.

Table 2

Correlations and descriptive statistics of the variables included in the models

	P	E	IN	ID	A	H
Intensity of participation	1					
Efficacy	.32***	1				
Injustice	.16***	.15***	1			
Identity	.35***	.77***	.25***	1		
Anger	.21***	.20***	.52***	.28***	1	
Hope	.33***	.50***	.23***	.44***	.28***	1
<i>M</i>	3.75	4.54	6.58	5.07	6.46	4.80
<i>SD</i>	5.74	1.84	0.87	1.67	1.00	1.72

N = 638, ****p* < .001

In the light of the findings reported by the studies outlined earlier, we set out to compare two alternative models, including the emotional component (anger, hope) as a mediator between the frameworks of injustice, efficacy and collective action. In the next step we compared two alternative hypotheses in relation to the mediating role of identity (SIMCA - EMSICA), hope and anger. The models developed were: first, a model based on the SIMCA (van Zomeren et al., 2008), in which identity predicts collective action both directly and indirectly (via the frameworks of injustice and efficacy); emotions were also included, so as to evaluate their mediating role between collective action frameworks and intensity of participation. And second, a model based on the EMSICA (Thomas et al., 2009a), in which identity mediates the relationship between the frameworks of efficacy and injustice and collective action, with hope and anger being included as mediators, just as in the previous model. We also allowed a separate path from anger to hope.

Table 3. shows the fit indexes for the proposed models. The TLI and CFI fit indexes and the SRMR index are highly satisfactory for both Model 1 and Model 2. The AIC is quite similar for both models, suggesting that neither of them can be considered clearly superior in terms of representing the relationships posited. We now report the results for both models.

Table 3

Fit Indexes for the Alternative Models

	χ^2	df	TLI	CFI	SRMR	AIC
Model 1 SIMCA + emotions	50.610	34	.988	.992	.023	21626.194
Model 2 EMSICA + emotions	49.098	33	.988	.993	.022	21626.722

All χ^2 : $p < .001$

As can be seen in Figure 4, identity acts as a predictor of perceived efficacy and injustice. Moreover, the direct effect of identity on intensity of participation did not quite reach conventional levels of statistical significance ($p = .086$), however it was significant based on 95% bootstrapped confidence intervals ($B = .10$, $SE = .06$, $Est./S.E = 1.71$, $p = .086$, 95% CI [0.004, 0.193]).

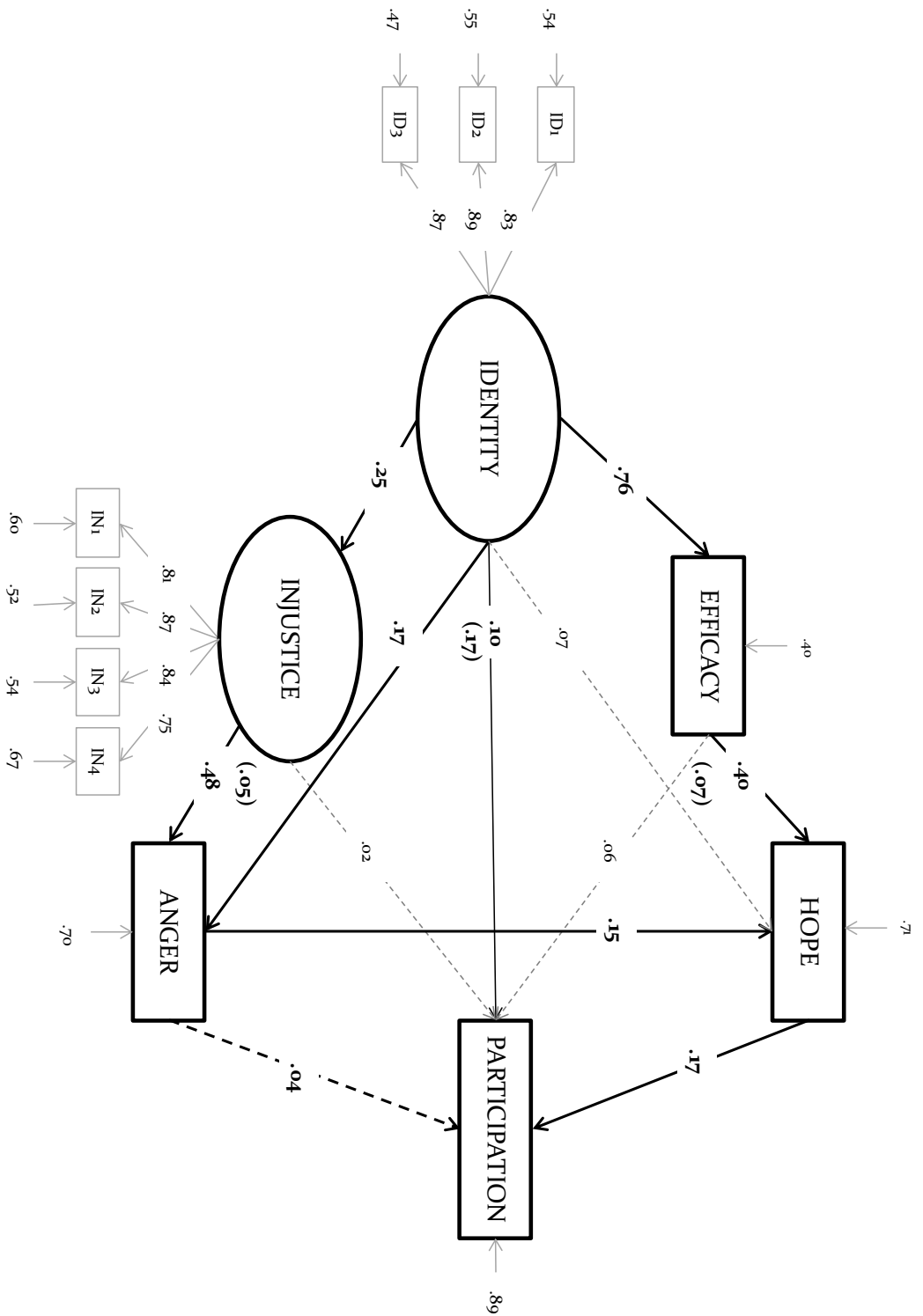


Figure 1. Model 1 – Relationships between the frameworks of identity, injustice and efficacy and emotions as mediators between the frameworks and 15-M participation

The direct effect of the frameworks of injustice and efficacy on intensity of participation did not, as had been postulated, emerge as significant. On the other hand, the effects of efficacy and injustice on the intensification of emotions are significant and large; there is also a direct relationship between hope and intensity of participation. The lack of any direct effects of efficacy and injustice on intensity of participation confirms that there are substantial indirect effects. Efficacy was observed to have a significant indirect effect on intensity of participation through hope ($B = .07$, $SE = .02$, $Est./S.E = 3.78$, $p < .001$, 99.5% CI [0.052, 0.398]) and injustice was observed to have the same effect through anger and hope ($B = .01$, $SE = .01$, $Est./S.E = 2.28$, $p = .023$, 97.5%CI [0.010, 0.177]). We also found a significant indirect effect of identity through efficacy and hope ($B = .05$, $SE = .01$, $Est./S.E = 3.77$, $p < .001$, 99.5% CI [0.048, 0.371]) and through injustice, anger and hope ($B = .01$, $SE = .01$, $Est./S.E = 2.08$, $p = .038$, 95%CI [0.001, 0.033]). Furthermore, the results confirmed an indirect effect of anger on intensity of participation through hope ($B = .03$, $SE = .01$, $Est./S.E = 2.55$, $p = .011$, 97.5%CI [0.029, 0.265]).

As proposed in Model 2, which was based on the EMSICA model, there is covariance between injustice and efficacy, indicating that they are related concepts ($B = .15$, $SE = .05$, $Est./S.E = 2.95$, $p = .003$, 99.5% CI [0.013, 0.417]) (see Figure 2). According to the present model, for the formation of identity the perception of efficacy is more important ($B = .74$, $SE = .03$, $Est./S.E = 29.66$, $p < .001$, 99.5% CI [0.678, 0.808]) than the perception of injustice ($B = .13$, $SE = .03$, $Est./S.E = 3.80$, $p < .001$, 99.5% CI [0.043, 0.223]). Moreover, the indirect effects in this model are especially interesting, with the results revealing an indirect effect of efficacy through hope ($B = .07$, $SE = .02$, $Est./S.E = 3.78$, $p < .001$, 99.5% CI [0.023, 0.120]), through identity ($B = .07$, $SE = .04$, $Est./S.E = 1.70$, $p = .090$, 95% CI [0.002, 0.144]) and through identity, anger and hope ($B = .01$, $SE = .01$, $Est./S.E = 1.75$, $p = .080$, 97.5% CI [0.001, 0.007]). On the other hand, and contrary to our expectations, the indirect effect of injustice through identity did not reach significance based on bootstrapped confidence intervals ($B = .01$, $SE = .01$, $Est./S.E = 1.55$, $p = .121$, 95% CI [-0.001, 0.027]). Nevertheless, we did find significant sequential indirect effects for injustice on intensity of participation through anger and hope ($B = .01$, $SE = .01$, $Est./S.E = 2.28$, $p = .023$, 97.5% CI [0.002, 0.023]), as well as through identity, anger and hope ($B = .01$, $SE = .01$, $Est./S.E = 1.66$, $p = .096$, 99.5% CI [0.000, 0.001]).

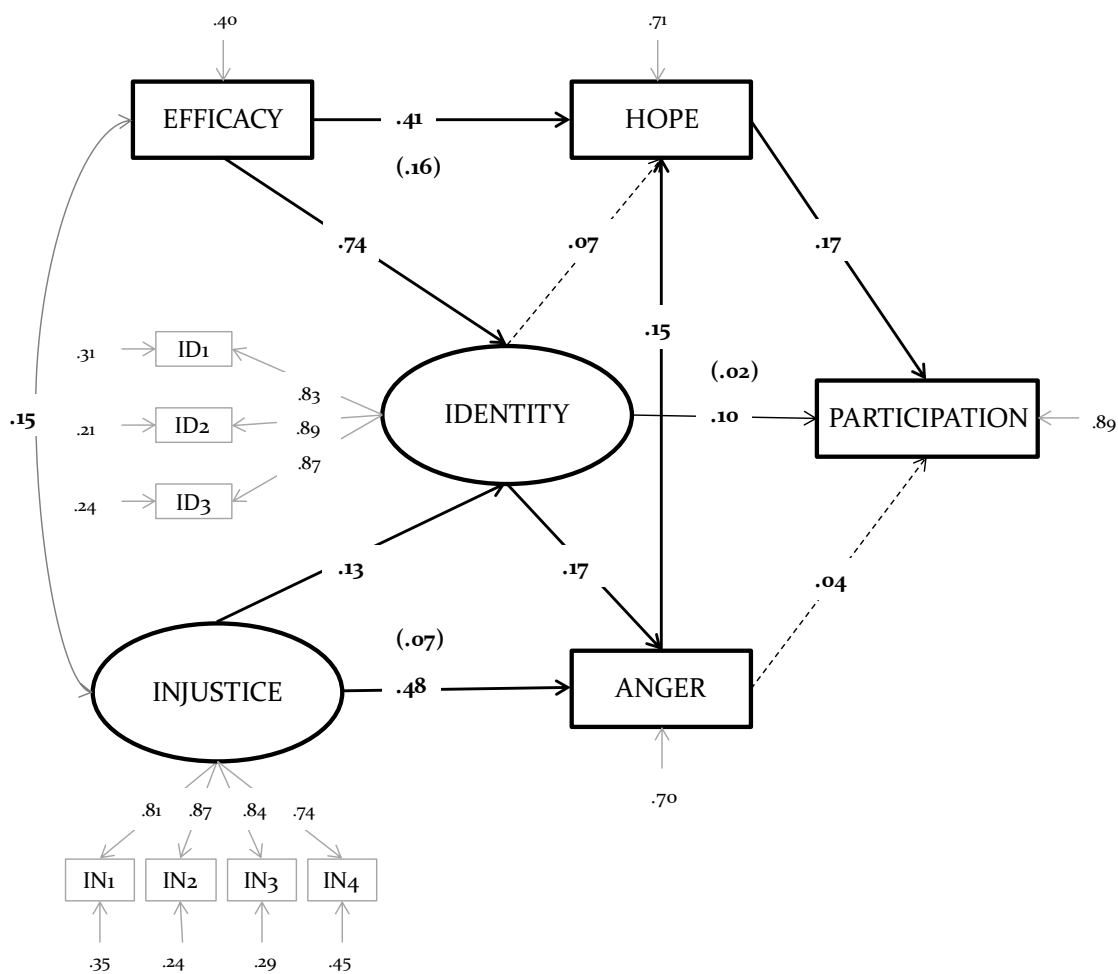


Figure 2. Model 2 – Relationship between the frameworks of identity, injustice and efficacy and emotions as mediators between the frameworks and 15-M participation.

The direct effect of identity on intensity of participation was marginally significant, as in the previous model ($B = .10$, $SE = .06$, $Est./S.E = 1.71$, $p = .086$, 95% CI [0.004, 0.193]), and identity was indirectly associated with intensity of participation through anger and hope ($B = .01$, $SE = .01$, $Est./S.E = 1.76$, $p = .076$, 97.5% CI [0.000, 0.009]). As in the previous model, anger had an indirect effect on intensity of participation through hope ($B = .03$, $SE = .01$, $Est./S.E = 2.55$, $p = .011$, 97.5%CI [0.000, 0.052]).

The results reveal that identity partially encapsulates the effect of the perception of injustice and efficacy on participation, although the indirect effect through hope in the case of efficacy, and sequentially through anger and hope in

the case of injustice and identity, suggests that hope is the best predictor of intensity of participation and mediates the effect of collective action frameworks on participation.

In the two models, both injustice and efficacy have substantial effects on the intensification of the emotions of anger and hope, respectively, and hope completely mediates the effect of anger on intensity of participation. Furthermore, in both the proposed models we found indirect effects of the predictor variables, suggesting that it is hope that is the key to explaining the relationship between the collective action frameworks, anger and the intensity of participation.

Discussion

The results of the present field study with a large sample of individuals contacted directly at either the 15-M movement camps or their surrounding areas generally support theoretical claims about the crucial role of hope in mobilizing individuals to take part in collective action. Hope triggers participation by framing the social issue as a solvable problem (Cohen-Chen et al., 2014; Páez et al., 2013). These findings contribute to the limited yet growing body of empirical literature on hope in collective action and, to our knowledge, offer the first empirical test of associations between collective action frameworks, anger and hope, and actual participation in protest movements. The results also provide scientific support for the theoretical works of Ahmed (2004) and Aminzade and McAdam (2001), and the empirical findings reported by Sabucedo and Vilas (2014), illustrating that both anger and hope are necessary to evoke protest participation.

Furthermore, our study replicated the findings of previous studies in other socio-cultural contexts (Thomas et al., 2009a; van Zomeren, Leach, & Spears, 2010; van Zomeren et al., 2008). Thus, the results support the dynamic, multifaceted and interactive conception of identity (Thomas et al., 2012), which is also in line with the neo-Durkheimian model. Collective action can be seen as both the product of some shared beliefs and identities, and as causing the emergence of a shared collective identity. Nevertheless, in the particular case of 15-M, as pointed out by Thomas and colleagues (2009a), when people experience a strong reaction to injustice and at the same time believe that group

efforts can help achieve goals and combat the injustice, it is highly likely that an identity will emerge based on the shared reaction (Mazzoni, van Zomeren, & Cicognani, 2013). Indeed, the comparison of recently proposed models of collective action (Thomas et al., 2009a; van Zomeren et al., 2008) permitted an evaluation of the facilitating and encapsulating effect of collective identity in collective action. Although the two models in question fit the data well, we can conclude that group identity motivates participation not only directly, but also indirectly through feelings of anger and hope. When shared grievances are translated into shared identity and a vision that involves prospects for social change, hope is what inspires people to achieve their goals (Ahmed, 2004; Cohen-Chen et al., 2014; Snyder, 1994; Snyder et al., 2005).

Our study extended previous findings by introducing emotions of hope and anger as amplifiers of collective action frameworks. And it is precisely here that the mediating role of emotions is highlighted; this is why the present study aimed to integrate the emotional component into models of collective action. Both models proposed show that hope acts as a mediator reinforcing participation and (partly at least) explains the influence of a shared framework of injustice, collective efficacy and identity on intensity of participation.

These results were congruent with evidence from a field study conducted by van Stekelenburg et al. (2011), who found that emotional response and group-based anger mediated between instrumental motives and motivational strength, whereas identity and ideological motives had a direct effect. Furthermore, the importance of affective variables upon non-affective ones in predicting collective action was confirmed (van Zomeren et al., 2008). More importantly, our findings revealed that hope needs to be taken into consideration when explaining relationships between motives and actual participation. On the one hand, we found that hope, together with identity and indirectly with efficacy, are the best predictors of collective participation. On the other hand, anger and hope are intensified by both injustice and efficacy, respectively. Moreover the indirect effect of efficacy through hope and identity is greater than that of injustice through anger and hope. Hope fosters participation more than anger, suggesting that hope is necessary to form the basis for social mobilization. Therefore, we can conclude that increased engagement in collective action is not possible without anger, but anger must be fueled by hope in order to be an

effective agent of change. These results confirm and extend recent claims by Sabucedo and Vilas (2014) that anger and positively valenced emotions must interact in order to facilitate collective action.

In the case of the present study, we confirm the role of hope as a mediating and predictor variable of participation, underlining at the same time that its effect on participation is stronger than that of indignation. Therefore, we found empirical evidence for Castells' (2012) idea that the movements of 2011 were triggered by networks of outrage and hope. Moreover, such results may contribute significantly to recent literature on the effects of hope in conflictive contexts (Cohen-Chen et al., 2014; Halperin et al., 2013, Halperin & Gross, 2010; Sabucedo et al., 2007; Páez et al., 2013).

This study sets out to help clarify the explanatory mechanisms of collective action and stresses the role of group emotions of different valence in shaping actual protest participation. We based our study on the assumptions and models developed within the frameworks of theories of collective action, social identity theory and the neo-Durkheimian perspective (Rimé, Basabe, & Páez, 2005, Páez et al., 2015). Overall, we argue that despite the recognition of the importance of emotions in collective action, the current body of existing literature still does not sufficiently account for the role of positively valenced emotions. Whereas Thomas, McCarthy and Mavor (2009b) have argued the importance of advantaged groups' prosocial emotions in transforming apathy into action for social change, we believe that protest participation is encouraged not only through emotions of a negative nature but also through coexistence with positive emotions, such as hope. In our view, hope is crucial in order to facilitate engagement in political protest, since it constructively channels the mobilizing force of negative emotions (arising from adverse social situations) into organized action (outlets for political change).

Furthermore, it is important to underscore that the study explores the dynamics of action in relation to social issues that are of defining significance within the recent contemporary social context. Moreover, it points to the vitality of collective action models developed in social psychological experiments, and extends the SIMCA and EMSICA models by highlighting the role of emotional reactions as mediators of action and mobilization.

In spite of its important contribution, the present study also has some limitations that need to be taken into account when discussing the implications of our findings and designing new research directions. First, our measure of social identity was based on situational identification with other demonstrators or the group, rather than on identification with a specific categorized identity. We argue that the identity which emerges from interaction with a specific group elicits similar outwardly focused action tendencies aimed at overcoming an obstacle or injustice. That said, social interaction has been found to be crucial for identity formation (Postmes, Haslam, & Swaab, 2005; Postmes, Spears, Lee, & Novak, 2005) and help identities become a powerful tool for promoting social change (McGarty et al., 2014). Accordingly, and in line with the predictions of self-categorization theory, intense interaction with the group of demonstrators would be associated with enhanced identification and positive emotions (Novelli, Drury, Reicher, & Stott, 2013; Páez et al., 2013). Thus, although we asked our participants about situational group identity or perceived unity with the group of participants, we believe that our measure accurately assesses the construct. Second, collective efficacy and hope were measured with a single item. In view of the fact that the collective efficacy measure showed no collinearity with the affective measure of hope (the correlation between the two variables was only moderate, see Table 2), we are confident that there is a difference between the affective and non affective measures of predictors of collective action.

We should also note that the cross-sectional design and correlational nature of our data prevents us from making strong claims about the causal direction of our results. For example, shared identity, perceived injustice and collective efficacy and emotions were postulated as predictors of collective action. However, participation in a demonstration may have consequences for the emotions and perceptions involved (Novelli et al., 2013; Valdesolo, Ouyang, DeSteno, 2010) and may motivate engagement in future actions (Becker, Tausch, & Wagner, 2011). Although a reverse causal model (in which the effects of intensity of participation in collective action on group identity, perceived efficacy and injustice are mediated by hope and anger) did not produce a better fit and showed fewer significant mediation effects, a longitudinal study of the role of positive and negative emotions in the relationship between collective action frameworks and participation would surely be a more convincing

assessment of causality. Therefore, given that the main aim of this study is to explain intensity of participation, we decided to follow our theoretical framework which postulated the role of hope and anger as amplifiers of collective action frameworks (Sabucedo & Vilas, 2014; Van Stekelenburg & Klandermans, 2007; van Zomeren et al., 2004).

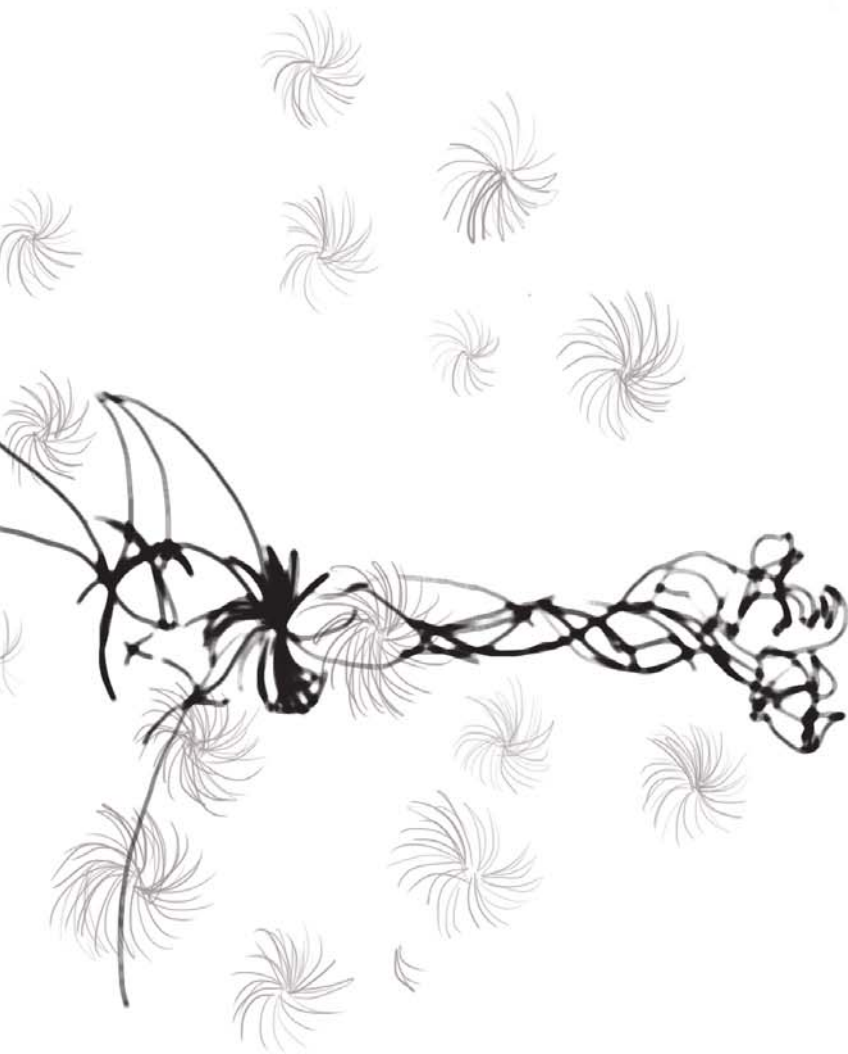
We acknowledge that we have necessarily limited our analysis to collective action frameworks and the emotions of anger and hope. In particular, we have limited our analysis to the positive emotion of hope. Despite the theoretical associations between hope and action tendencies directed towards achieving desirable goals, empirical evidence is still scarce. A recent study by Greenaway et al. (2014) confirmed the motivating potential of hope, over and above the effect of other emotions, and illustrated the power of this emotion in increasing support for social change, although the authors did not focus their analyses on actual political behavior. We are aware that there may be other positive emotions that encourage participation. Pride, for example, may have the power to prompt individuals to act in accordance with their principles, irrespective of their perception of the efficacy of group actions (Tausch & Becker, 2013; Vilas & Sabucedo, 2012). In this sense, the pride generated by doing what one believes to be morally correct may transform apathy into action. In this case, we would be speaking of a moral obligation. Future research should determine the specific role of individual moral convictions, moral social identity and group-based pride on motivating political engagement.

Finally, it is also important to mention that we tested our hypothesis within the context of the emergence of a specific movement. Although the 15-M protest movement is an example of a new type of political participation that spread rapidly throughout the world in 2011, future studies should determine the role of hope, or positive emotions in general, in the mobilization of political action in different mobilizing contexts.

Conclusion

In conclusion, this study provides initial evidence that positive constructs such as hope are indispensable to motivating political participation. Future research may uncover other positive constructs and determine the possible political applications of the present findings.

Discussion



DISCUSSION

This dissertation has analyzed the role of communal coping and social rituals in different social contexts, emphasizing the importance of collective and self-transcendence emotions. For this reason, this dissertation has adopted the neo-Durkheimian perspective and examined the social functions of collective emotional gatherings. Correlational and longitudinal results of the present investigation have provided convincing evidence to support the claim that communal coping and participation in collective gatherings, including religious and secular rituals as well as social movements generates important psychosocial outcomes.

Furthermore, we have proposed that the perceived emotional synchrony experienced during collective gatherings and rituals stimulates collective feelings and leads to an increased social cohesion and integration among participants of such events. That is, individuals feel transported out of themselves and shared feelings and beliefs take over. Participants thus experience a blurring of self-other boundaries, a sense of union with others, openness to others – all together, a feeling of self-transcendence - and a sense of empowerment accompanied by positive affect. Consequently, in the aftermath of such collective participation individuals display a renewed sense of confidence in them selves, in life and in the others.

In this dissertation we confirmed beneficial effects of communal coping strategies and participation in religious and secular collective gatherings on posttraumatic growth and well-being in the context of collective trauma at micro social level of interaction between community members. Furthermore, a remarkable contribution of this work resides in demonstrating that perceived

emotional synchrony and self-transcendence emotions are the processes underlying the positive effects of communal coping at micro social level and of collective participation at macro social level. Finally, it was shown that self-transcendence emotions, like hope, motivate involvement in collective action at macro social level in the context of social conflict. The principal findings corresponding to each of the proposed sections of this dissertation are outlined below.

SECTION 1 - FINDING INDIVIDUAL AND COLLECTIVE BENEFITS AFTER A COLLECTIVE TRAUMA: COMMUNAL COPING, POSTTRAUMATIC GROWTH AND WELL-BEING

Relevance of Communal Coping and Construct Validity of the Proposed Scale

Overall, the results of studies included in **Section 1 (Chapter 1 and 3)** provided evidence that in the context of natural disasters people do engage in joint actions and communal coping, in line with previous literature (Hobfoll et al., 2002; Kaniasty & Norris, 1993; Lyons et al., 1998). We defined and operationalized communal coping as a collective response to a stressor that is appraised and acted upon within a group or a community (Lyons et al., 1998). Considering the scarcity of tools for measuring communal coping strategies, we developed a multidimensional scale that emphasizes collective agency and we aimed to provide a broader understanding of responses to collective problems. The results of confirmatory factor analyses described in **Chapter 1** provided sound evidence for construct and structural validity of the proposed communal coping scale. , embracing five main communal coping strategies:

- communal distraction by participation in organized collective activities,
- shared emotional expression,
- positive reappraisal,

- a process of searching for and providing social support to other group members or altruistic prosocial behaviour,
- self-control or inhibition and group isolation.

The dimensions listed above are not exhaustive although they are in line with the main categories of coping strategies and affect regulation in the existing literature (Skinner et al., 2003; Web et al., 2012). Furthermore, we proposed a differentiation between micro social or group oriented strategies (interpersonal communal coping), and macro or collective behavioural oriented strategies, such as mass demonstrations, commemorations and ceremonies, religious and secular rituals. The five forms of communal coping were found to correlate positively among each other, suggesting that they are related and probably interchangeable. Additionally, we confirmed their satisfactory reliability as well as predictive validity.

Importantly, in the present investigation we analyzed communal responses in the aftermath of collective disasters (e.g. an earthquake). Such responses would include micro social strategies, such as, for example, distraction at community level which involves organized activities such as eating and drinking together (Smithe et al., 2014; Villagrán et al., 2014); searching for understanding through religion (Chan & Rhodes, 2012); or searching for and giving social support (Salloum & Lewis, 2010; Smithe et al., 2014), reported by seven to nine out of ten participants. However, participation in macro social secular and religious gatherings was less frequent, being reported by three to four out of ten participants.

Collective Gatherings and Communal Coping

Group and community's participation in different kinds of collective gatherings and rituals seem to play an important role in the way people cope with collective trauma. Previous studies have found that participation in celebrations (McRae et al., 2011) or demonstrations (Páez et al., 2007) was related to adaptive coping strategies such as low suppression, high reappraisal, high altruism and direct coping. Following from this, we considered macro or collective behaviour like participation in secular and religious gatherings to be a source that reinforces personal and micro-social or communal adaptive coping strategies. While confirming our assumptions, the findings described in

Chapters 1 and 3 indicated that participation in spiritual rituals was related to communal-level distraction, emotional expression, positive reappraisal and social support. Accordingly, participation in secular collective gatherings was associated with communal-level distraction and social support but surprisingly also with self-control, inhibition and group isolation.

Communal Coping and Well-Being

In accordance with our predictions, communal coping and participation in collective ritualized activities was positively associated with growth and social well-being (**Chapter 1 and 3**). Indeed, communal coping was previously found to be significantly associated with lower psychological distress (Koehly et al., 2008; Wells & Malek, 2002), better recovery and increased well-being (Hobfoll et al., 2008). In the same vein, participation in commemorations of the victims of a massacre predicted higher cohesion after a collective trauma in Northern American context (Hawdon & Ryan, 2011). In the present dissertation, we found similarly that adaptive forms of coping such as communal reappraisal, regulated shared emotional expression, communal distraction and communal searching for social support were associated with social well-being. Another study indicated that participation in both religious and secular rituals was correlated with positive affect and social integration in Spanish context (Páez et al., 2007). Our results indicated that participation in spiritual rituals was specifically related to communal reappraisal and indirectly predicted social well-being. On the other hand, participation in secular collective gatherings was directly associated with social well-being, yet no mediational effects were found. This suggests that there are other mechanisms underlying positive effects of participation in rituals that are not necessarily related to the cognitive process of positive communal reappraisal.

Trauma Intensity, Communal Coping and Individual Posttraumatic Growth

Highly intense and negative emotional response might result in a positive reappraisal when the traumatic event is strong enough to challenge the basic beliefs of the victim (Tedeschi & Calhoun, 1996; 2004; Triplett et al., 2012; Vázquez et al., 2008). The results of our studies clearly support the hypothesis that trauma intensity fuels posttraumatic growth. In fact, trauma intensity was

positively related to individual posttraumatic growth in studies presented in **Chapter 2** and **3**. Still, it is important to remark that differences in trauma intensity did not explain differences in level of posttraumatic growth between nations, since we found higher level of posttraumatic growth in Chile than in Spain, even though Chilean sample was characterized by the lowest level of trauma intensity.

As for the collective responses, studies on natural disasters point out that a greater religious involvement increases psychosocial resources and consequently enhances posttraumatic growth (Chan & Rhodes, 2012; Rhodes & Tran, 2012). Accordingly, in the aftermath of genocide and mass violence, participation in religious and secular rituals was found to be associated with posttraumatic growth (Gasparre et al., 2010; Kanyangara et al., 2007). Our study expands these findings by analyzing a broader range of communal coping strategies that enhance each of the domains of posttraumatic growth. Moreover, correlational findings described in **Chapter 3** indicated that different forms of communal coping were positively related to posttraumatic growth. More specifically, mediational analysis revealed that the effect of trauma intensity on individual posttraumatic growth was partially mediated by participation in spiritual rituals and communal reappraisal in Chile and Spain, whereas in Colombia only communal distraction appeared to play a mediational role between trauma intensity and growth.

Collective Posttraumatic Growth: its Structure and Validity

One of the central goals of the present dissertation was to examine the perception of communal and societal growth in the aftermath of collective trauma as well as its consequences for personal and social well-being. We tried to fulfil this objective by developing an instrument assessing both personal and collective levels of growth in the context of a collective traumatic event. The results of confirmatory factor analysis presented in **Chapter 2** confirmed multidimensional structure of The Individual and Collective Posttraumatic Growth Scale (ICPTGS) composed of four main factors: 1) an intra- and inter-personal growth factor, including four of the five original dimensions of posttraumatic growth (Tedeschi & Calhoun, 1996); 2) a separate spiritual growth factor (García et al., 2013; Show et al., 2005), and two collective growth factors: 3) communal growth factor, operationalized as improved intra-group cohesion,

empathy and group strength, and, finally, 4) societal growth factor, understood as positive changes in social practices and cultural values in response to a collective catastrophe (Bonanno et al., 2010; Rhodes & Tran, 2012; Taku, 2011; Vázquez & Páez, 2011). More importantly, our findings from **Chapter 2** and **3** confirmed the importance of considering not only psychological but also psychosocial consequences of traumatic experience (Bonanno et al., 2010).

In considering the predictors of different domains of posttraumatic growth and in accordance with previous research, in **Chapter 2** we found that trauma intensity and perceived attainment of adaptive goals were associated with both individual and communal domains of posttraumatic growth. More importantly, whereas individual growth predicted life satisfaction, communal growth was linked to an increased trust in people. Confirming predictive validity of the proposed scale, individual growth was related to such facets of social well-being as contribution and coherence, while communal growth was a unique predictor of relatively more “relational” dimensions of social well-being as integration, acceptance and actualization. Moreover, in **Chapter 3**, communal posttraumatic growth was predicted by positive reappraisal in both Chile and Colombia, and by coping through social support in Spain and Colombia. In addition, the relationship between trauma intensity and communal posttraumatic growth was fully mediated by positive reappraisal in Chile, participation in spiritual rituals and social support in Spain, and by social support in Colombia. This confirms the idea that communal coping strategies as positive reappraisal and asking for and receiving social support are antecedent of posttraumatic growth, not only at individual, but also at communal level (Helgeson et al., 2006; Prati & Pietrantonio, 2009).

Globally, it is worth noting that the relation between communal coping strategies and communal posttraumatic growth was generally stronger than in the case of individual and societal posttraumatic growth. Importantly, though the findings from the studies described in both **Chapter 2** and **3** suggested the relevance of considering communal growth as an important mediator between negative experience and positive outcomes, societal growth was globally unrelated or very weakly related to the analyzed variables. This may be particularly the case in the context of natural disasters which involve communal coping efforts at micro social level of interaction between community members.

Perhaps these associations could be stronger in other contexts that involve processes related to more macro social factors, such as mass violence or social conflicts. Indeed, previous studies have shown that participation in religious and secular rituals was associated with collective posttraumatic growth in Spain in the aftermath of 2004 bombing (Páez et al., 2007). Taken together, the results suggest that collective posttraumatic growth potentially increases social participation, social cohesion and integration, prosocial beliefs and values, whereas the magnitude of these effects could be influenced by the context of the collective trauma.

Communal Coping, Posttraumatic Growth and Cultural Differences

Regarding cultural differences in experimenting growth in the aftermath of a natural disaster, the results described in **Chapter 3** suggest that perceived communal and societal growth were stronger in Latin American countries compared to Spain. In addition, individual growth was also more common in Latin American countries, being especially pronounced among Colombians. These findings are congruent with previous empirical evidence (Vazquez & Páez, 2011) and demonstrate that collectivistic cultures which emphasize a stoic ethos might be more prone to experience individual and collective posttraumatic growth. Regarding the use of communal coping strategies and, contrary to what was expected, searching for social support was less frequently reported in Spain compared to Latin American countries, however was more recurrently reported in Colombia than in Chile. These results partially confirm that social support is a more important predictor of communal growth in Spain than in more collectivistic nations. Specifically, a strong indirect effect was found in Spain, whereas the effect was weaker in Colombia, and in Chile this indirect relationship was not significant.

With regard to differences between more individualistic and secularized Spain and more religious and traditional Latin American countries, our results confirmed that collective religious forms of coping, as expected, were more frequent in more traditional and collectivistic societies like Colombia and Chile. Although religious coping was reported more frequently in Chile and Colombia compared to Spain (presenting the highest effect size differences among all coping strategies), it had a direct positive effect on the development of individual posttraumatic growth in Chile but also in Spain, in both countries

mediating the effect of trauma intensity on individual posttraumatic growth. Therefore, these association patterns confirm that religious coping is beneficial and enhance posttraumatic growth, even in a secularized context like Spain (Gerber et al., 2011; Pargament et al., 1998) what suggests that enhanced spirituality or feelings of self-transcendence might be explaining some of the positive effects of communal coping.

Taken together, the findings enclosed within **Section 1**, while extending earlier research in different cultural contexts, also highlight the importance of communal coping and participation in secular and spiritual collective gatherings as common responses to address the stressful implications of life circumstances, such as natural disasters (**S1-RQ1**, **S1-RQ3**). More importantly, our studies provide substantial empirical evidence that these responses are functional and beneficial (**S1-RQ2**). Furthermore, we propose that changes in one person affect the states of other group members and, therefore, when the stressor is perceived to be a collective problem, a cooperative problem-solving process is triggered and people perceive not only personal but also communal and societal changes and benefits (**S1-RQ3**). In consequence, such changes were found to be positively related to both personal and social well-being (**S1-RQ4**; **S1-RQ6**). Especially, the relationship between communal coping and communal growth should deserve a special attention from research into community events affecting whole populations. Interestingly, we found that spiritual coping is beneficial and enhances posttraumatic growth, even in a secularized context (**S1-RQ6**). The aforementioned results provide substantial evidence that participation in cooperative coordinated activities extends social networks and creates bonds between people while enhancing solidarity. In turn, community's capacity for problem-solving and finding benefit in the adversity is fostered, simultaneously, bolstering personal well-being of its members. Yet, there is still much we do not understand about the processes involved in the phenomena. The emotional aspects of social encounters, such as hope or sense of togetherness were not precisely emphasized in **Section 1**. Therefore, **Section 2**, by building on the neo-Durkheimian perspective, offers an insight into specific emotional mechanisms that *generate* and *sustain* the aforementioned outcomes.

SECTION 2 - MECHANISMS UNDERLYING THE POSITIVE EFFECTS OF MICRO SOCIAL OR COMMUNAL COPING AND COLLECTIVE BEHAVIOUR ORIENTED MACRO SOCIAL COPING

Perceived Emotional Synchrony

Communal forms of coping imply physical or virtual co-presence of other group members, synchrony of attention among group members, and some level of communication and social interaction among group members (Menges, 2015). Both our research and previous studies have found that communal coping and collective actions facilitate emotional expression and social sharing of emotions. Namely, our findings are in line with previous studies which proved that participation in collective gatherings or demonstrations and rituals increases well-being because it reinforces positive affect, self-esteem, perceived social support, fusion of personal and collective identity, as well as positive social beliefs (Páez & Rimé, 2014; Páez et al., 2015). Accordingly, communal coping strategies examined in **Section 1**, such as distraction (sharing meals and drinks), searching and giving social support and positive reappraisal imply interaction between group members which encompasses the processes of social sharing of emotions. Furthermore, one of the most important characteristics of the aforementioned communal interactions and their social arenas is that they unleash processes of adjustment of individual appraisals to bring them in line with appraisals of other group members. That is, individual appraisals and emotions are converged in the course of social interaction (Menges, 2015).

Based on the neo-Durkheimian perspective, we proposed in **Section 2** that the emotional synchrony that is generated among participants in these micro and macro social interactions, together with other factors like the synchronicity of behaviour, and potential optimal experience, elicits an increase in well-being (Collins, 2004; Páez et al., 2015). Through emotion elicitation, reciprocal emotional stimulation and the building up of mutual empathy, collective gatherings bring participants to a stage of emotional synchrony. Two longitudinal studies presented in **Section 2** confirmed the “collective effervescence” hypothesis proposed by Durkheim (1912), showing that ritualized gatherings enhance fusion of identity and solidarity, particularly during the

climax of enacting the ritual. We demonstrated that Durkheim's notion of collective effervescence is not merely a fuzzy, old-style concept from the early twentieth century but it is a measurable process of intense socially-shared emotionality and perceptions of similarity and unity which is parallel though qualitatively different to the mere experience of positive emotions. The core mechanism of the positive effects yielded by collective gatherings on psychosocial well-being rests on the intensification of socially-shared emotions, but, more importantly, on the strengthening of perceived similarity, unity and entitativity with the group that such intensification entails.

Perceived Emotional Synchrony, Transcendence Beliefs and Emotions

The results presented in the first study included in **Chapter 4** showed that spiritual rituals strengthen transcendence beliefs. More specifically, participants in religious rituals reported experiencing higher hope during the event and stronger transcendence beliefs after the event in comparison with non participants. More importantly, perceived emotional synchrony during Sunday activities reinforced self-transcendence emotions, and subsequently transcendence beliefs in general and not only in the case of spiritual rituals. More specifically, the perceived emotional synchrony (controlling for the type of activity) was associated with a broad range of self-transcendence emotions like: awe, wonder, or amazement; gratefulness, appreciation, or thankfulness; hope, optimism, or encouragement; inspiration, upliftment, or elevation; and serenity, content, or peace. All these emotions sustain human connection with a society and even universe (openness to others and openness to the world), helping to find meaning in life that requires attachment to something larger than the individual self (Vaillant, 2008). Experiencing self-transcendent emotions, such as awe, in response to something vast that transcends current frames of reference, inspiration for moral behaviours, love or closeness to others, gratitude, or hope for a better future, were all shown to be the keys to happiness (Diener & Biswas-Diener, 2008).

Our findings described in the second longitudinal study encompassed in **Section 2** confirmed that the perceived emotional synchrony is associated with self-transcendent emotions. As Durkheim (1912) asserts, in our ordinary lives we exist as individuals, normally focused on our individual needs and goals.

However, sometimes (for instance, during collective emotional gatherings) individuals unite into a team, a movement or a nation, which consequently becomes something more than the sum of its parts. As Durkheim proposes and as reflected in our results, intense collective emotions are making a group out of individuals (Haidt, 2014; Rimé, 2007).

Congruently with previous studies (Draper, 2014), we found that collective effervescence or the perceived emotional synchrony increases social solidarity through the experience of self-transcendence emotions. Moreover, self-transcendent emotions also increase transcendent beliefs or a feeling of connection with others and the world. Far from being only theoretically relevant, those findings confirm that collective gatherings and, secular or religious, rituals connect people not only to others co-present at the time of the event but also to the entire relevant group (a social movement, a nation, an ethnic group, or a religious tradition). Participants, even when a positively loaded non ideological ritual is concerned, are no longer atomised individuals but their selves gain significance by the connection to something larger than themselves, permanent and important, as a city or a community in the case of our study.

As Piff et al. (2015) posit awe produces specific cognitive and behavioural tendencies that enable individuals to fold into collaborative social groups, and engage in collective action. Action within communities, including collaboration, cooperation, and coactions, requires a diminished emphasis on the self and its interests and a shift to attending to the larger entities one is a part of, as social groups, or humanity. Enhanced prosocial tendencies, such as proclivity to share, to care, and to assist, enable individuals to be effective members of social groups, through shifting their attention away from themselves and through openness to the others. It is perhaps for this reason that awe is considered fundamental to the experiences and consequences of religion, spirituality, and political engagement. However, we did not find support for the pivotal role of self-transcendent emotions in fostering outcomes related to attribution of signification like meaning in life or social beliefs. Accordingly, we did not find a specific effect of self-transcendent emotions on incrementing openness to others such as fusion of identity or social support. Finally, self-transcendent emotions did not specifically predict enhancement in personal well-being

whereas the experience of emotional synchrony did. These results suggest that collective effervescence or perceived emotional synchrony may actually be a more important determinant of the positive outcomes than individual's subjective experience of self-transcendence emotions.

Taken together, **Section 2** of the present dissertation encompasses the results from two longitudinal studies on participation in both religious and secular gatherings which add robust empirical evidence to the social psychological literature confirming that collective rituals elicit intense and shared emotional state which increases empowerment, openness to the world (positive personal and social beliefs), and openness to others (fusion of identity and social integration) (**S2-RQ7**). More importantly, our findings offer important empirical evidence to suggest that the core mechanism underlying the positive effects of collective gatherings rests on the intensification of feelings of emotional connectedness with the other participants (“collective effervescence”). This perception of emotional synchrony impacts one's sense of belonging to the co-present and extended group, consequently enhancing connection to something greater like an abstract transcendent entity (**S2-RQ8**). Furthermore, perceived emotional synchrony reinforced self-transcendence emotions and beliefs in all types of social gatherings, what suggest that emotional and cognitive effects of collective gatherings are more general than expected, as they do not occur only in religious rituals. Importantly, emotional synchrony perceived during the climax of the ritual explained the enhancement of various positive personal and interpersonal outcomes above and beyond the experience of self-transcendent and positive emotions (**S2-RQ9**, **S2-RQ10**). Therefore, although it is important to consider that perceived emotional synchrony is related to the experience of self-transcendent emotions, our results suggest it has significant incremental explanatory power.

SECTION 3 - DETERMINANTS OF INVOLVEMENT IN MACRO SOCIAL COPING IN THE CONTEXT OF SOCIAL CONFLICT

Our theoretical approach and empirical contributions enclosed in **Section 1** and **Section 2** call attention to the role of shared emotions as an explanatory device of positive outcomes of communal and collective form of coping. Therefore, in **Section 3** we proposed self-transcendent emotions as a factor supporting social demonstrations; and our results corroborated the important role of hope. In our view, a positive self-transcendent collective emotion like hope could be seen as alternative or even more important predictors of involvement in social mobilization than the mere cognitive self-categorization as posited by Self-Categorization Theory or Elaborated Social Identity Model of crowd behaviour (ESIM; Drury & Reicher, 2005, 2009).

Approaches to social mobilization usually emphasize perceived injustice, social identity and efficacy as factors fuelling collective action. This socio-cognitive model posits that the collective action frameworks (efficacy, injustice and identity) are direct predictors of collective action, but at the same time social identity reinforces the perception of injustice, the emotions and the perception of efficacy (acting as an indirect predictor of collective action). According to van Zomeren et al. (2008), identity works as a bridge between efficacy and the perception of injustice, facilitating and boosting the group experience of injustice and efficacy.

Our study on 15-M movement presented in **Chapter 5** found that group identity can motivate participation directly, but also indirectly, through feelings of anger and hope. When shared grievances are translated into shared identity and a vision that involves prospects for social change, hope is what inspires people to achieve their goals (Ahmed, 2004; Cohen-Chen et al., 2014; Snyder, 2002; Snyder et al., 1991). Our results confirmed the role of collective emotions like anger and hope as a complement to these socio-cognitive models. While supporting the widely accepted view that collective emotions of anger are activated when people perceive threat to a group and identify with this disadvantaged group (Fischer & Manstead, 2008; Smith & Mackie, 2008) and subsequently motivate participation in social movements, our results indicated

that consideration of self-transcended emotions is also needed. Anger about injustice and moral indignation can motivate members of a directly affect group but also mobilize people who are not so strongly affected by a crisis because of feeling of solidarity with those more severely affected (Traini, 2009; van Stekelenburg, Klandermans, & van Dijk, 2011; Van Zomeren et al., 2004, 2012).

Different scholars of social movement already underlined the coexistence of anger, moral outrage and hope in the context of recent social movement like 15-M and Arab Spring (e.g. Castells, 2012; Davou & Demertzis, 2013; Pearlman, 2013). In our view, hope is an expansive positive emotion that relates or connects the self with a reality larger than the self. Furthermore, collective hope implies yearning for better future (Vaillant, 2008). Recently, scholars have focused on hope as a psychological tool for social change, and empirical evidence has confirmed that hope and other positive emotions, even when coexisting with negative ones, are an important predictor of endorsement of positive social beliefs and feelings of conflict modification (Cohen-Chen et al., 2014; Halperin et al., 2013). Furthermore, research has shown that the emotion of hope is associated with moral emotions, social engagement and cohesion (Gee, Khalaf, & McGarty, 2007) and, as also reflected in our results, with collective efficacy and social mobilization (Páez et al, 2013; Sabucedo et al., 2007). Our findings revealed that when the belief in collective efficacy (that the group is capable of changing the current situation through organized action), is coupled with an expectance of success and positive feelings that characterize hope, it results in a stronger commitment to norms for action. More specifically, in our study about 15-M the influence of collective efficacy on participation was mediated by hope, confirming that this self-transcendent positive collective emotion fuels collective efficacy and transforms it into actual mobilization.

Furthermore, our findings expanded previous scarce research on the relationship between anger and hope (Sabucedo & Villas, 2014) and corroborated that protest participation is encouraged through coexistence of negative and positive emotions. Therefore, our empirical results point out that hope is crucial in order to facilitate engagement in a political protest as it constructively channels the mobilizing force of negative emotions (arose from adverse social situation) into organized action (outlets for political change).

Furthermore, in the last **Section 3** we postulated that shared identity, perceived injustice, collective efficacy and emotions are predictors of collective action. Yet, a reverse causal model is also plausible, as indicated in **Section 2**, because intensity of participation in collective action reinforces emotions of hope and anger, collective identity, perceived efficacy and injustice. Accordingly, participation in social mobilizations may serve as an important generator of hope as well as other emotions and perceptions involved (Aminzade & McAdam, 2010; Novelli et al., 2013; Valdesolo et al., 2010) while simultaneously undermining participants' fears and empowering individuals to undertake future collective action (Becker et al., 2011). Therefore, we would like to emphasize that the relationship between these belief sets and emotions is dynamic and interchangeable, as we believe that the group emotional process is an upward spiralling pathway.

In brief, the results presented in **Section 3** expand existing collective action research by demonstrating that hope and anger, triggered by perceptions of injustice, collective efficacy and identity, are drivers of participation and involvement in the collective actions (**B₃-RQ₁₁**). To the best of our knowledge, this is the first study to show the mediating role of the emotions between collective action frameworks and actual participation. Importantly, our findings illustrate that self-transcendent emotional states have the power to transform beliefs and tendencies into actual action (**B₃-RQ₁₂**). Hence, organized action and social change can be successful if people's feelings of hope are strong enough to channel the mobilizing force of anger arose from an adverse social situation.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

In spite of its important contribution, research presented in this dissertation entails limitations to be taken into account when discussing its implications and designing future studies. Specific issues concerning empirical studies encompassed in this dissertation are presented and discussed in each of the former chapters. In the following section we will expose more general methodological and theoretical considerations.

The first important limitation concerns the correlational nature of data presented in **Section 1** and **Section 3**; this prevents us from inferring causality from our results. Furthermore, studies about natural disasters include convenience samples, mainly composed of volunteers and students, which reduces the level of representativeness. Moreover, another limitation is the retrospective nature of our data. In this sense, an important temporal distance exists between the occurrence of the disaster and the recollection of the data. Cross-sectional and retrospective design does not allow for causal claims about either the associations between trauma intensity and posttraumatic growth, or the impact of communal coping. Nevertheless, we would like to emphasize that research on natural disasters and real-world events in general is very difficult to carry out. First, events like earthquakes are unpredictable. In addition, immediately after a traumatic event people may possibly not want to take part in a research that assesses their traumatic experiences. In this regard, future research should test communal coping and growth responses in more heterogeneous samples and with longitudinal designs that incorporate measures before and after the occurrence of the disaster, as well as follow-ups in order to evaluate positive and negative changes over time.

Furthermore, one substantial question refers to whether the posttraumatic growth construct measures real or subjective growth (Frazier et al., 2009; Helgeson et al., 2006). In this sense, the incorporation of behavioural measures and longitudinal designs would help to clarify the difference between real and perceived growth (Frazier et al., 2009). Future research should intent to answer questions like: Is growth based on specific aspects of the traumatic event, the context in which it takes place or the individual's pre-trauma factors?; and, is growth related to coping strategies at the community level or the cultural form of understanding the adverse circumstances and the way they are overcome?

Finally, the generalizability of cultural comparisons reported in **Chapter 3** is limited by sample differences. Participants from Colombia and Spain were probably more directly affected by the disaster than those from Chile, who were mostly only indirectly affected by the earthquake. Another limitation is related to the effects of natural disasters in function of severity of their social and economic consequences in each specific context. That is, the emergence of communal coping may be more related to the social and organizational

resources previously available to a community (Benight et al., 1999; Hobfoll & Lilly, 1993), with these conditions enhancing or hindering the emergence of posttraumatic growth. Additionally, currently used concepts of collectivism and individualism seem to be too abstract and not accurately depict specificities and nuances that are important and that make a difference to a given community. In order to be able to design socioculturally adequate strategies that increase community resilience, concepts such as togetherness and related communal practices should be taken into account (Jacob et al., 2008; Schwarz, 2014).

Another substantial question derives from our studies on rituals. That is, how long do positive effects remain after the collective gathering has dissolved? Our results suggest that such effects are limited in time, with one week for common collective events and three weeks for more intense collective gatherings such as socio-political demonstrations (Rimé, et al., 2010; Páez et al., 2007; 2015). Furthermore, it is important to consider that others types of social rituals, like collective dysphoric rituals (i.e. painful or frightening - such as traumatic initiations and hazing practices), has also been linked to intense fusion with the group and parochial altruism (Whitehouse & Lanman, 2014). Therefore, future research should explore differences between euphoric and dysphoric rituals and theirs effects in terms of intensity, duration and mechanism implicated. Additionally, some rituals, especially the formal ones, may decay over time when felt as imposed rather than spontaneously joined (Collins, 2004). For that reason, future studies should specify circumstances under which rituals fail to produce collective emotional synchrony and result in a sense of decayed ceremonialism or incompatibility.

In the last **Section 3** we proposed that emotions are powerful explanatory mechanisms of intensity of participation in demonstrations. Therefore, we postulated the role of hope and anger as amplifiers of collective action frameworks (Sabucedo & Vilas, 2014; Van Stekelenburg & Klandermans, 2007; van Zomeren et al., 2004). Of course, as aforementioned, a reverse causal model is also plausible. On the other hand, we have necessarily limited our research to some emotions, and particularly hope, an emotion that was found to have an important contribution for social change (Greenaway et al., 2015). We are aware that there may be other positive emotions that encourage participation (e.g. pride) and future studies should determine the role of positive and negative

moral emotions in the mobilization of political action in different mobilizing contexts.

As a final point, a major limitation of some of the studied encompassed in this dissertation lies in the instrumentation used to assess certain variables. Performing real-world field studies of participants in 15M mobilizations or social rituals forced us to use simple and short adaptations of measurement instruments because of their ease and practicality. This might pose serious issues related to reliability or inability to tap the complexities that may comprise the mechanisms under study. This dilemma could be partially resolved replicating our findings with additional studies using controlled methods and captive samples.

MAIN THEORETICAL AND PRACTICAL CONTRIBUTIONS

This dissertation contributes an innovative approach to the study of micro and macro social processes of coping and their implications for personal and social well-being. More precisely, the proposed concept of communal coping is a substantial contribution to the field of collective positive psychology. In addition, building on the neo-Durkheimian perspective, we have tested empirically psychosocial effects of participation in collective gatherings and social rituals.

Furthermore, methodological strengths of the empirical research presented in this dissertation should be highlighted. First, this dissertation embraces five studies which were conducted in three different cultural contexts and were dealing with two different context of collective disadvantage, including both natural disasters and a social conflict. Further, we have presented cross-sectional and longitudinal studies that implemented correlational and quasi-experimental strategies and advanced data analysis.

Overall, the results of present investigation have confirmed that communal coping and participation in secular and spiritual collective gatherings are common responses to address the stressful implications of life circumstances and social change. Above all, the relationship between communal coping and

communal growth deserves special attention from research into community events that affect whole populations.

Importantly, we contributed to the existing literature on collective processes and emotions by simultaneous examination of the experience of emotional synchrony and self-transcendent emotions. More precisely, based on longitudinal data we demonstrated that the effects of participation on empowerment, openness to the world and others are explained by the perceived emotional synchrony accompanied by feelings of self-transcendent emotions generated during both religious and secular events. Even though the self-transcendent emotions and the perceived emotional synchrony were shown to be strongly associated, our results have revealed a greater explanatory potential of emotional synchrony compared to self-transcendent and positive emotions.

In sum, this research contributes and opens new questions to the study of the emotional collective gatherings and provides some practical implications by pointing out that intense shared emotional states generated during social encounters are a basis for building a sense of togetherness which can be translated into high community resilience.

THE FINAL OVERVIEW

Participation in collective activities, gatherings and rituals plays an important role in the way people cope with collective disadvantage as well as entails major positive effects for social cohesion, functioning and well-being. Across five studies we tested the hypothesis that collective disadvantage and participation in collective activities can increase coping potential and provide positive psychosocial outcomes through the experience of perceived emotional synchrony and self-transcendence emotions. In a context of a natural disaster (**Chapter 1**), participation in secular and spiritual rituals and communal coping was associated with enhanced social well-being and posttraumatic growth. Subsequently, we confirmed that collective traumatic experience such as a natural disaster can result in perceptions of benefits not only at personal but also at communal and societal levels (**Chapter 2**). Moreover, we examined the mediational role of different communal coping strategies in the relationship

between trauma intensity and posttraumatic growth in different cultural contexts (Chile, Spain and Colombia) (**Chapter 3**). Furthermore, based on longitudinal data we demonstrated that the effects of participation on empowerment and openness to the world and others are explained by the experience of emotional synchrony accompanied by feelings of self-transcendent emotions which are generated during both religious and secular events (**Chapter 4**). Finally, while aiming to contribute to a clarification of the explanatory mechanisms of collective action offered by theories of collective action and social identity, we set out to integrate a self-transcendent emotion of hope as a driver of participation and involvement in collective mobilizations, (**Chapter 5**). Together, participation in collective gatherings should be viewed not only as a communal coping strategy, but also as an upward spiralling pathway to and from self-transcendent positive emotions and emotional synchrony. Overall, the present dissertation offers an insight into the understanding of mechanisms which facilitate positive changes across different contexts.

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Participation in collective activities, gatherings and rituals plays an important role in the way people cope with collective disadvantage as well as entails major positive effects for social cohesion, functioning and well-being. Across five studies we tested the hypothesis that collective disadvantage and participation in collective activities can increase coping potential and provide positive psychosocial outcomes through the experience of perceived emotional synchrony and self-transcendence emotions. In a context of a natural disaster (**Chapter 1**), participation in secular and spiritual rituals and communal coping was associated with enhanced social well-being and posttraumatic growth. Subsequently, we confirmed that collective traumatic experience such as a natural disaster can result in perceptions of benefits not only at personal but also at communal and societal levels (**Chapter 2**). Moreover, we examined the mediational role of different communal coping strategies in the relationship between trauma intensity and posttraumatic growth in different cultural contexts (Chile, Spain and Colombia) (**Chapter 3**). Furthermore, based on longitudinal data we demonstrated that the effects of participation on empowerment and openness to the world and others are explained by the experience of emotional synchrony accompanied by feelings of self-transcendent emotions which are generated during both religious and secular events (**Chapter 4**). Finally, while aiming to contribute to a clarification of the explanatory mechanisms of collective action offered by theories of collective action and social identity, we set out to integrate a self-transcendent emotion of hope as a driver of participation and involvement in collective mobilizations, (**Chapter 5**). Together, participation in collective gatherings should be viewed not only as a communal coping strategy, but also as an upward spiralling pathway to and from self-transcendent positive emotions and emotional synchrony. Overall, the present dissertation offers an insight into the understanding of mechanisms which facilitate positive changes across different contexts.

