Journal of Community & Applied Social Psychology
J. Community Appl. Soc. Psychol., **15**: 368–382 (2005)
Published online in Wiley InterScience (www.interscience.wiley.com). **DOI**: 10.1002/casp.827

Post-traumatic Factors and Resilience: The Role of Shelter Management and Survivours' Attitudes after the Earthquakes in El Salvador (2001)

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ABSTRACT

A participatory research action was undertaken in the two largest shelters established after the earthquakes in El Salvador (2001). One hundred fifteen semi-structured interviews were carried out among refugees, which later formed the basis for a self-managed community plan. Comparisons between the two shelters—which differed primarily in whether the grouping of tents was made to reflect the community of origin of the survivors (shelter Santa Gertrudis) or not (shelter El Cafetalón)—showed that refugees in Santa Gertrudis participated more often in community activities, and had more positive emotional memories, fewer feelings of having been humiliated and less emotional discomfort than refugees in El Cafetalón. The results suggest that forms of organisation and management which consider elements of dignity, participation and respect for the capacity of the victims to control their own lives are relevant factors for effective individual and community coping after a catastrophe. Copyright © 2005 John Wiley & Sons, Ltd.

Key words: PTSD; resilience; vulnerability; disaster; shelter; attitudes; participation; community coping; refugee; displaced; community cohesion interview

INTRODUCTION

Disasters (natural or otherwise) appear to be on the increase with the passing of decades. From 1967 to 1991 the annual average number of people affected by disasters globally per decade was 117 million (Green, 1994); in the 1990s that number rose to 211 million and, according to the World Disasters Report (IFRC-RCS, 2002), in the year 2000 the expected average of affected people for the 2000–2010 decade was projected to be 256 million and increasing. The most likely reason for this increase is that the conditions of vulnerability

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 Accepted 18 May 2005

to disasters in which the affected populations live are endemic (Asia, Africa and Latin America count for 95% of the total affected). These conditions not only are not improving, but also are actually worsening over time. This fact should obligate governmental and non-governmental agencies working in humanitarian aid to re-think their plans of action.

Natural and human-made disasters produce profound damage to the basic belief system of the individual and of his/her social system (Burt & Katz, 1987; Janoff-Bulman, 1992). Processes of global and multiple losses are produced at the individual level (loss of home, belongings, work and loved ones) and, moreover, at the collective level (rupture of the social network, loss of community structure and mutual support networks)—(Eisenbruch, 1990, 1991). Natural disasters challenge the affected cities, neighbourhoods and communities to recuperate a sense of control over their lives and future. The success of this effort is directly related to the victims' capacity to rebuild their social and organisational structure (Hodgkinson & Stewart, 1998; Martín-Beristain, 1996, 2000).

For that reason, psychological and psychiatric research must give more attention to the analysis of group resilience factors in a community faced with a disaster, instead of adhering to the classical focus, which is almost exclusively based on necessities and damage (Anderson & Woodrow, 1998), as has been done, for example, in the case of refugee populations (Harrell-Bond, 1986; Muecke, 1992).

Post-traumatic factors as determinants of traumatic impact

There exists a notable consensus supporting the notion that the intensity of the traumatic response depends as much on the *nature of the stressor* (e.g. level of threat to life, long-term duration) as on concomitant *individual vulnerability factors* (previous psychiatric history, personality traits, traumatic antecedents, etc.) and on the local *culture* (general beliefs about the world, models of coping, community support response, etc.)—(Pérez-Sales, 2002, 2003; Saporta & Van der Kolb, 1992; Scott & Stradling, 1992).

However, although pre-traumatic factors are very important in predicting the intensity of the response, increasingly the importance of *post-disaster factors* as buffers or accelerators of response intensity is becoming recognised. For example, in longitudinal studies of refugees from Asiatic countries in Australia, it has been shown that difficulties in legalising their situation, isolation, chronic unemployment and dependency are factors that predict the extent and severity of post-traumatic symptoms, more so even than the experience of persecution and torture itself in their country of origin (Silove, Sinnerbrink, Field, Manicavasagar, & Steel, 1997; Silove, Steel, & Watters, 2000). The literature on responses to extreme situations seems to suggest the importance of six basic axes that, as a continuum, are related to the post-traumatic response (see Table 1): (a) sense of belonging/detachment, (b) validation and social recognition/rejection of one's situation, (c) conservation/reduction of the capacity to control one's own life, (d) sense of predictability/chaos and safety/uncertainty in daily life, (e) personal dignity/humiliation and (f) prospects for the future/hopelessness.

All these dimensions can act in either a positive or negative way. For example, the radicalisation of ethnic elements in the context of conflict may be understood as an element that gives meaning to the experience which arises from the security of being on a determined side of the conflict and which provides a sense of cohesion and belonging. All these are elements which constitute resilience factors against the enemy. Yet at the same time this radicalisation may become a barrier which impedes normalisation of social interactions and reconciliation afterwards and therefore constitutes a vulnerability factor that

Table 1. Relevant post-traumatic factors in resilience or vulnerability responses

Dimensions	Examples
1. Sense of belonging/detachment (identification with in-group—real or as a constructed personal narrative)	• The creation of a collective identity among Hutu refugees in Tanzania using an historical re-enactment to enhance cohesion. Newly created myths provide a sense of identity which motivates action and resilience in difficult conditions (Voutira, Benoist, & Piquard, 2000)
a. Sense of community *versus isolation* b. Construction of collective narratives based on stereotypes of survivors/strength versus *victims/vulnerability*	• *Strong attachment to a given role or identity may make it difficult to elaborate the mourning process in the families of detained-disappeared persons or of those executed for political reasons in Latin America (Pérez-Sales, Durán, & Bacic, 1998, 2000) or in Holocaust survivors (Bar-On, 1997)*
2. Validation and social recognition/rejection (relationship with out-group in question)	• Cultural beliefs are consistent predictors of Post Traumatic Stress Disorder (PTSD) among rape survivors (Lebowitz & Roth, 1994; Arzu & Cortina, 2002)
a. Visibility and recognition *versus dynamics of silence* b. Validation of suffering *versus social exclusion, stigmatisation or humiliation (Blaming the victim)*	• *After suffering inhuman combat conditions, around 10% of Argentinean veterans of the Malvinas Islands War attempted or completed suicides upon their return. Veterans suffered a social stigma through a depreciating media campaign from the military government, which labelled them as 'failures' (INJP, 1995)* • *Silence and isolation from family and friends secondary to the terror have been consistently shown to be the principle factor perpetuating pain and trauma among families of persons detained-disappeared or executed for political reasons in Argentina and Chile (Lira & Castillo, 1991; Pérez-Sales, Durán, & Bacic, 2000)*
3. Conservation/reduction of perception of control over one's own life	• Spontaneous self-management and self-organisation of the survivours of the Mexico City earthquake (1985) was related to one of the lowest prevalences of reported psychological consequences after a major natural disaster (Gavalya, 1987; Universidad Iberoamericana, 1997)
a. Self-efficacy and self-determination *versus Vulnerability and Dependence*	• The perception of socio-political control, defined as the belief in the individual capacity to influence the social and political system, is a powerful factor against depression in young Afroamericans (Zimmerman, Ramírez-Valles, & Maton, 1999) • *The survivors of the eruption of the volcano Nevado del Ruiz (Colombia, 1985) who were able to have extended access to, external and governmental aid programmes presented unusually high prevalence rates of PTSD in the decade following. In the first five years, all decisions aimed to reconstructing the city were made by external agents (Anderson & Woodrow, 1998; Saavedra, 1996)*

Continues

Table 1. Continued

Dimensions	Examples
4. Sense of predictability and safety in daily life versus *chaos and uncertainty*	• Comparison of the above-mentioned situation of the survivors of the Mexico City (1985) and *Nevado del Ruiz (1985)* disasters
5. Respect to personal dignity/humiliation	• In a sample of Iraqi political refugees in Sweden, the perceived social support is a better predictor of adjustment in the short term than the pre-exile traumatic events (Gorst-Unsworth & Goldenberg, 1998) • *In those soliciting asylum in Australia, the difficulties to legalise their situation, the interrogations, the rough treatment by authorities, the isolation and unemployment are better predictors of post-traumatic symptoms than are the experiences of detention or torture previous to the solicitation of asylum (Silove, Steel, & Watters, 2000)*
6. Optimism/hopelessness regarding the future	• Trait optimism has been found to accelerate the recovery and reduce days spent in hospital after coronary surgery (Scheier, Matthews, Owens, Magovern et al., 1989) • *The lack of political perspectives and the pessimistic vision of one's personal future have been consistently found associated to conduct disorders and post-traumatic symptoms in Palestinian adolescents (Qouta, Punamäki, & El Sarraj, 1995)*

Each factor may act in a positive (normal font) or *negative* direction *(in italics)*.

perpetuates the post-traumatic experience. Table 1 summarises some studies which support this schema, with examples from the literature of how each factor may act in a positive (normal font) or negative (in italics) way.

There exist two types of strategies for post-disaster work: those which are based on the detection of necessities of the population and whose final objective is to return to the state of things existent before the catastrophe, and those based on the detection of vulnerabilities and capacities, whose final objective is to analyse the pre- and post-disaster factors (structural, material, organisational or motivational) which constitute elements of fragility or resilience. Standard post-disaster strategies focused on needs which have as a sole objective the re-establishment of the previously existent conditions—something that is rarely achieved—may result in maintaining or even increasing pre-existing vulnerability processes for the community (Anderson & Woodrow, 1998).

The earthquakes in El Salvador (2001)

El Salvador was ravaged by two powerful earthquakes between January 13 and February 13, 2001 with multiple aftershocks daily for weeks together.

After the emergency of January 13, the population of the affected areas spontaneously grouped themselves in shelters. The biggest shelter was established near Santa Tecla (Nueva San Salvador), in a group of ill-maintained soccer fields known as El Cafetalón.

Table 2. Characteristics of the shelters at the time of the study (April 2001)

Characteristics	El Cafetalón	Santa Gertrudis[a]
Population (persons)	3500	2500
Time in the shelters (months)	3	1
Assignment of space and grouping of families	By order of arrival	By pre-earthquake community of origin
Leadership style	Leaders designated by the municipality or elected by every 20 shelter tents	Leaders elected by pre-earthquake communities of origin
Physical space	Soccer fields. Flat. Physically less dangerous. Very hot	Expropriated golf course Pronounced undulations Dangerous (risk of flooding and wash-outs in rain)
Presence of Governmental organisations and NGO's	Numerous	Scarce
	Competition and overlap	Possibility of coordination and support between institutions

[a]Moved from El Cafetalón.

In this shelter were grouped over 7000 people (some accounts describe over 12 000 people in the first few days) coming from different municipalities. After a month and a half some 2500 of those were relocated to another shelter, named Santa Gertrudis. There was a series of notable differences between the two shelters, summarised in Table 2, which we believe may have affected the resilience responses of the sheltered population.

As a part of a process of a participatory action research to develop a psychosocial and community diagnosis, a naturalistic study was designed to analyse whether some structural and procedural characteristics of the shelters, related to self-efficacy and self-determination domain of the affected population (see Table 1), might modulate individual and community responses to the disaster. Furthermore, the impact of these characteristics was assessed by measuring not only psychopathology but also factors related to resilience and positive emotions (see Vázquez, Cervellón, Pérez-Sales, Vidales, & Gaborit, 2005). To accomplish this, semi-structured interviews were conducted using a random sample from both shelters. This process took place in April 2001, 3 months after the first earthquake, at a time of restructuring and decision-making. A team was conformed composed by one psychiatrist and seven psychologists (mostly Salvadorian) working in the shelters for Doctors without Borders (Holland)—and one Salvadorian professor and ten undergraduate students attending Community Psychology classes at the Faculty of Psychology of the Universidad Centroamericana.

METHOD

Instruments

The team developed a semi-structured interview, the Community Cohesion Interview (CCI, Pérez-Sales, 2001), which collected information related to 18 key personal and community resilience factors from a psychosocial perspective (e.g. giving meaning to the experience, the search for community solutions, participation in group tasks, access

to information, procedures for decision-making within the shelter, etc. see Appendix A) as well as a single index of global clinical impression based on the apparent psychological status of the participant during the interview. The items covered in the CCI were derived from the theoretical dimensions shown in Table 1. The CCI was complemented by another questionnaire including more instrumental psychosocial aspects (opinions and proposals by the sheltered population about water and sanitation, nutrition and food preparation, security, leisure time, function of the shelter school, health services, etc.).

The instrument was constructed in four phases as follows: (a) a list of psychosocial aspects considered basic for the coping of the community faced with disaster situations was made from research in the literature and from the experience of the team; (b) a question was developed for each aspect, alternating positive and negative directions of the phrasing to reduce response biases; (c) the results were contrasted by two focus groups of community leaders from El Salvador who made suggestions to change, eliminate or add items; and (d) content validity, comprehensibility and feasibility of administration were evaluated in a pilot phase with 10 interviews which helped to provide a final version.

Procedure

The interviewers were subjected to a training process and consensus procedures to reduce possible discrepancies. Two interviewers were present in each interview (one read the questions and the other took literal notes of participants' answers). Each item was read to the interviewee who responded with agreement or disagreement in a yes/no format. To explore the meaning of their answers and to get information for further qualitative analyses, participants were systematically asked to provide specific examples and clarifications supporting their responses. Following standard procedures, verbal responses recorded during the interview were coded into categories, previously discussed with a group of four independent judges, for further quantitative analyses.

Interviews were conducted with a random sample stratified by sex, age and shelter (El Cafetalón *vs*. Santa Gertrudis). The interviews lasted for an average of 45 minutes. Once the interview was completed, the interviewers conducted a global clinical evaluation, considering three broad categories: (1) no evident disorder, (2) moderate anxiety or depression (that does not require further evaluation or individual attention), and (3) severe anxiety or depression (that does require further evaluation and attention). The interviews took place in the interviewee's own tent, usually individually, although on some occasions other family members were involved in the conversation. The entire process of data collection, conducted in an intense manner, lasted less than 3 days.

The process followed participatory action research principles. Participatory action-research is defined as a research process in which knowledge is gained through action and for action. In participatory research, strict scientific standards of collecting and analysing information are applied to act upon a problem in order to find solutions and to promote social transformation. Community participation in all the phases of the research process is therefore a basic recommendation of PAR. (Reason & Bradbury, 2001). In the process undertaken in the shelters a bi-directional process was established: (a) there was a period of immediate feedback and discussion after the interview during which the individual and community strengths spontaneously mentioned in the interview were commented on; (b) 36 hours after finishing the interviews the results were handed out and discussed by leaders in assemblies, and the short-, middle- and long-term plans of action derived from the conclusions were drawn through community *talleres* (meetings) during

the following week; and (c) a leaflet based on popular education principles was produced and shared tent by tent with all refugees, stressing strengths, weaknesses and proposals derived from the interviews and subsequent process. The researchers tried to act, thus, as a mirror in which the displaced population could see themselves, so as to gain more control over their situation and lives and take appropriate decisions regarding their future.

Finally, focus groups of community leaders, authorities and key figures in the shelter were established, where the results of the study were discussed and validated before the information was formally returned to the refugees, leaders, municipal authorities and aid organisations.

Participants

One hundred fifteen people were interviewed in total from El Cafetalón ($n = 63$) and Santa Gertrudis ($n = 52$)—approximately 2.5% of the total population—men ($n = 49$) as well as women ($n = 66$), across all age groups (19 elderly, 55 adults, 41 youths) and from all the communities of origin of the refugees. The selection was made by a randomisation procedure using tent numbers and interview schedules, and stratification was ensured through a Latin Square procedure. Of the final sample, 5 interviewees were community leaders, 28 participated in organised collective activities (sanitation, food preparation, security and health) and 82 did not. There were no statistically significant differences in sex or age between the two shelters.

RESULTS

Table 3 presents the results for the total sample and the two participating shelters. Individual positive coping and individual post-traumatic growth items have been discussed elsewhere (Vázquez et al., 2005). We present combined quantitative and qualitative analyses for each question.

Positive coping

Giving meaning to the experience. For nearly 75% of those interviewed there existed some explanation for what had happened. Of these, 57.3% attributed the earthquakes to a punishment from God for poor behaviour by man, for violence or for lack of prayer or respect. Only 31.4% attributed the earthquakes to natural causes.

Religion and coping. Congruent with the search for religious causal explanations, 87.7% of those interviewed considered religion to be the principle form of coping. Interestingly, when participants were asked their perception of the future, 20.2% responded literally that 'only God knows', and of those, 55.3% responded that they perceived the future to be better than the present. Upon examination of their responses, in the greater part, there stands a strong belief that God will protect them in the future.

Solidarity and mutual support. Nearly 8 of every 10 persons interviewed considered themselves to have made new friends in the shelter (item 9) and those friends constituted a good source of support. Many people expressed, in the qualitative analyses of the interviews, the desire to be relocated as a group to be able to maintain their neighbours from the shelter in their new place of residence. Most of the interviewees (61.7%) considered that the search for solutions was communal (item 2). Further qualitative analysis showed that,

Table 3. Positive coping and community living factors in both shelters

Items	First shelter El Cafetalón ($n = 63$)	Second shelter S. Gertrudis ($n = 52$)	Total sample ($n = 115$)
1. Find meaning in the catastrophe	76.2	67.3	72.2
2. Perception of having been able to find community solutions	58.7	66.7	61.7
3. Sense of having resources to control one's own emotions	73.0	62.0	68.1
4. Sense that leisure activities in the shelter were useful	90.5	98.0	93.9
5. Sense of learning and control in case similar experiences recur in the future	68.3	68.4	66.7
6. Feeling that one's own opinions were taken into account	54.0	58.0	55.8
7. Feeling of having been adequately informed in the shelter	51.8	62.0	56.6
8. Use of religious beliefs to cope with the situation	88.9	86.3	87.7
9. Ability to establish friendships in the shelter	79.4	80.4	79.8
10. Attribute importance to learning how to cope with the present situation from previous generations	46.8	56.9	51.3
11. Feeling of having been humiliated in the shelter	58.7*	38.0	49.5
14. Perception of having received support from the authorities	79.4	80.4	79.8
15. Long-term perspective of the future			
Worse than the present	11.1	17.6	14.0
The same as the present	9.5	11.8	10.5
Better than the present	54.0	56.9	55.3
More important to think of the present	25.4	13.7	20.2
16. Perception of self-efficacy	65.6	62.3	64.0
17. Recall of a moment of happiness after the tragedy	63.7*	82.3	72.5
18. Active in community activities in the shelter	17.4**	38.7	26.7
Global clinical index			
19. Need of clinical evaluation and/or support	32.7**	8.3	22.7

Comparison between shelters.
Percentages of response.
*$p < 0.05$; **$p < 0.01$.

for most of the respondents, in the beginning there was much solidarity but it diminished as the situation became more stabilised; for the majority, at the time of the interview that solidarity had ceased to exist altogether. There is much agreement that this change occurred 3 or 4 weeks after the earthquakes. The most frequently cited reason for the drop in solidarity was the manner in which donations were distributed, not so much for the existence of corruption on the part of the authorities (which no one cited) but for confusing rules of distribution which occasionally favoured those who most complained rather than those with more needs.

Sense of predictability and safety, and perception of control. The recovery of routines is a key element to obtain a sense of psychological safety and a sense of control over one's own life (Gavalya, 1987; Universidad Iberoamericana, 1997). In the qualitative analyses of the interviews, 60% of the refugees considered that occupational routines helped them the most to feel better, especially among those who had not lost their job and who could spend a few hours a day away from the shelter (items 12 and 13). In a similar proportion, the ability to reassume certain daily household tasks—cooking and washing clothes—was also cited, spontaneously, by 57% of the refugees, as a key element in emotional recovery. However, more important still were the Sunday evening leisure activities

(theatre, clowns and games for children) organised by the refugees themselves or by volunteers, which were considered by 93.9% of those interviewed to be a powerful positive factor for recuperation.

Life in the shelter

55.8% of those interviewed felt that their opinions were heard when decisions about life in the shelter were made (item 6) and 56.6% felt that they were adequately informed about the issues and decisions about the shelter (item 7) and about the negotiations with the authorities and international agencies. For nearly half of the refugees, the usual source of information was the informal commentary of their neighbours in the shelter, and there was much concern over the constant flood of rumours and general unrest that this source generated.

Although under these conditions one would expect much dissatisfaction with the managing authorities, open demands for a higher degree of self-management hardly appeared at all in the qualitative analysis of the interviews (less than 5% of those interviewed). The notion of *participation* in decision-making (but not involvement in community work within the shelter) was associated by the refugees only with being informed and trusting their leaders, and not so much with the ability to express personal opinions or the desire for more direct participation. In fact, some interviewees expressed reluctance to intervene in general assemblies where it might be embarrassing to speak in public.

In regard to humiliating experiences (item 11), 49.5% recalled at least one such situation, which was mainly related to the distributions of food (for 25% of the total sample, the manner in which this was handled was 'rude', 'condescending' or 'impolite'). Other humiliating elements cited were the lack of privacy in the tents (20%) or in the latrine area (18%).

Noticeably, 42% of the interviewees spontaneously mentioned security within the shelter (an issue that was not explicitly mentioned in the interview). The lack of space requiring that some belongings be left outside the tents at night, women's fears of going to the latrines (located at the periphery of the shelter area for technical reasons of water management and sanitation) or the prevention of the consumption of alcohol and violence within the shelter were the three most cited issues related to security. All that aside, there was a general contempt for the presence of military personnel in the shelter. In fact only 12% of the respondents were in agreement with this presence. The population preferred the formation of youth patrols (38%) or the elaboration of a system of internal codes and laws with economic sanctions for those who did not comply, arriving, on one occasion, to the proposal of expulsion of one particularly conflictive family.

No significant gender differences were found regarding these organisational or everyday aspects of shelter life.

Global clinical index

Although, in general, Chi-squared analyses showed no statistically significant relations between this clinical index and items from the semi-structured interview (CCI), there were two interesting exceptions. Compared to the participants whose mental status was judged as normal, refugees who were in need of further mental health assistance or evaluation felt less adequately informed within the shelter (item 7) $-\chi^2(1, 110) = 6.9$, $p < -0.01$, felt less supported by the authorities $-\chi^2(1, 110) = 11.0$, $p < -0.001$, and had fewer memories of positive events happening in the shelter $-\chi^2(1, 110) = 3.9$, $p < 0.05$. Yet no

Table 4. Level of participation of the refugees in community tasks

Level of participation	El Cafetalón ($n = 63$)	Santa Gertrudis ($n = 52$)	Total sample ($n = 115$)
Leader/administration	6.3%	6.1%	6.2%
Kitchen, security, cleaning	3.2%	26.5%	13.4%
Other participation	7.9%	6.1%	7.1%
No participation	82.5%	61.2%	73.2%

relationship was found between mental status and gender, level of participation, or involvement in activities inside or outside the shelters.

Comparison of the shelters. One of the objectives of this study was to test if some characteristics of the shelters might modulate individual and community responses to the disaster. Although there were similar characteristics among the shelters, there were also some appreciable differences that were likely related to the placement of the families within the shelters (see Table 2). Whereas in El Cafetalón the organisers arranged the families in order of arrival, in Santa Gertrudis they grouped the families according to their community of origin. This apparently banal difference significantly changed the dynamic of the shelter. While in El Cafetalón formally elected representatives frequently resigned, did not attend meetings or did not transmit information to those whom they represented, in Santa Gertrudis the system of leadership and representation functioned smoothly. The difference was that in the second shelter the representatives—who did not always correspond to community leaders prior to the earthquakes—were selected by people who already had confidence bonds.

The percentage of persons participating in community activities was doubled in the second shelter (17.4 *vs.* 38.7, $p < 0.03$). As Table 4 shows, the pattern of participation revealed that whereas refugees in Santa Gertrudis participated more in social and community activities within the shelter (e.g. participating in kitchen activities) than refugees in El Cafetalón, there was no difference in leadership or administration roles $-\chi^2(3, 113) = 13.06$, $p < 0.004$. Furthermore, there was a significant association between type of shelter and feelings of having been humiliated; in Santa Gertrudis the experiences of humiliation were significantly lower than in El Cafetalón (32.7 *vs.* 23.0) $-\chi^2(1, 111) = 4.80$, $p < 0.04$. There was also a significant association between type of shelter and recall of moments of happiness: a greater number of persons in Santa Gertrudis than in El Cafetalón (82.3 *vs.* 63.7) were able to recall positive emotions and moments of happiness in the shelter $-\chi^2(1, 111) = 4.68$, $p < 0.04$. In the rest of the remaining variables related to the life in the shelter a consistent tendency was found that did not reach statistical significance. In this tendency people felt they were living better in Santa Gertrudis than did those from el Cafetalón. Finally, the clinical impression index showed a prevalence of cases considered to be in need of further clinical assessment and emotional support four times lesser in Santa Gertrudis than in El Cafetalón (32.7 *vs.* 8.3) $-\chi^2(1, 110) = 13.4$, $p < 0.001$.

DISCUSSION

This study must be understood within the context of the current debate about the conditions of aid in emergency situations (Anderson & Woodrow, 1998; Pirotte, Husson, &

Grünewald, 2002; Saavedra, 1996; Sphere Project, 1998). Our perspective emphasises the role of the refugees not only as recipients but also as protagonists of the process. The results of this work support, in our opinion, the utility of this line of investigation and thought by demonstrating those forms of organisation and management which consider elements of dignity, participation and respect for the capacity of the victims to control their own lives are relevant factors for effective individual and community coping after a catastrophe.

Searching for meaning and explanations

One of the principal elements of individual and community strength, especially in human-made disasters, is to actively search for a logical explanation and to give meaning to the experience (Martín-Beristain, 1996; Maercker & Schützwohl, 1997; Meichenbaum, 1994). Consistent with that, our study observed that a majority apparently found some meaning for what had happened, mainly by providing religious explanations. For many respondents, what happened was explained in terms of God's punishment for social violence and delinquency. Yet, this explanation can be seen as a cultural stereotype (i.e. a socially desirable response) which does not pre-suppose real personal implications (proposal of personal change or the promotion of collective change to follow 'God's rules').

Items related to religion and the future show a certain fatalism among the refugees, in the form of a religiousness based in punishment and resignation and with scant belief in personal possibilities. Besides providing an explanatory framework to understand reality, religion is an essential element for the understanding of community processes. In the context of everyday life, other than the capacity of prayer to regulate emotions (Fabbro, 1999), religious rites create symbolic spaces for the sharing of emotions, increase a sense of belonging to a group and offer an efficient framework for social contention. In the case of El Salvador, where alcohol and violence constitute some of the principle community problems (IUDOP, 1999), adhesion to religious rules is perceived as an efficient way to cope with those problems within the family (e.g. the evangelical Christian churches, predominant in the shelters, impose very strict limits on alcohol use). Ignacio Martín-Baró spoke of fatalism as the cognitive identity of the Latin American in general and in the Salvadorian in particular. He based his opinion on sociological studies made in the context of the political violence of the 80s and alluding to a sociological attitude which he referred as being '*passive before destiny*', '*predeterministic and anhistoric'* (Martín-Baró, 1991, 1998a). Our data appear, at least in part, to confirm this idea. This fatalism may not be necessarily dysfunctional, as under certain circumstances it could favour adjustment to chronically adverse conditions where it may be more adaptive to live focused in the present than in an uncertain and unpredictable future.

Finally, the fact that a minority of respondents attributed the earthquakes to natural causes suggests a scarce culture of catastrophe prevention in our sample. Promoting community prevention plans should be a priority for community leaders, governments and non-governmental agencies in this and many other endemic areas of natural and human-made catastrophes in Latin America.

Organisational structure and community response

Our data show that after an initial attitude of mutual support and solidarity in facing adversity (items 2, 6 and 9), the stabilization of the situation, together with factors of

organisational management, appear to favour more individualistic behaviours. This phenomenon is consistent with previous studies on natural disasters (Pennebaker & Harber, 1993).

Fatalism is also present in many of the respondent's answers to items relating to shelter structure and organisation. Martín-Baró (1991) noted at least two reasons for this lack of involvement in community decision-making: (a) the attitude of hopelessness and resignation created by repeated frustration makes those affected believe that they will not be permitted, beyond words, to be *real* protagonists of their own lives, and (b) the inheritance of two decades of civil war in El Salvador, when verticalism and obedience were considered positive values by both factions. A way to overcome this process may be to promote changes in the control exerted by the members of the community (Hobfoll, Jackson, Hobfoll, Pierce, & Young, 2002; Javaloy, Rodriguez, & Espelt, 2001; Klandermanns, 1997). In the case of shelter organisation, that would require giving the affected people a real capacity to decide through legitimate representatives; not merely formal ones as was the case in El Cafetalón.

Our data stress the fact that participation also requires a process of bottom-up construction and not only the creation of the formal structures ('committees' or 'representatives') usually demanded by international assistance protocols. True participation requires procedures that are compatible with the culture and which respect the natural networks and leadership existing before the catastrophe (Universidad Iberoamericana, 1997).

The role of dignity and resilience in individual and community response to traumatic events

The testimonies of survivors of concentration camps have shown for decades that keeping personal dignity is key to avoid psychological vulnerability (Levi, 1986; Lindner, 2001). Half the people in our study made references to having been humiliated on at least one occasion, especially in relation to the distribution of food and donations and the absence of spaces of intimacy. This type of situation deserves special attention by national and international aid organisations.

The need to maintain routines and the great importance given to the ability to work or to attend to the necessities of the family (cooking, laundry) may be viewed as something related to dignity as well. For example, the existence of kitchens for groups of families instead of central kitchens, or the hiring of refugees for reconstruction activities instead of employing outside workers may not be the most cost efficient decisions for aid organisations, but could be instrumental to enhance people's empowerment, as well as being more cost efficient in the long term.

These results must be taken with caution, as they correspond to a naturalistic study in the context of a community strengthening action. Even though our data show significant relationships between global clinical impression and some shelter-related variables, future studies should employ more detailed measurements to assess in detail some dimensions described in this study—e.g. mental health and resilience (Hollifield et al., 2002).

The shelters, 3 years after the earthquakes, have been converted into other marginal neighbourhoods of New San Salvador, where tin cubicles intended for provisional use are now definitive dwellings for many people. A constant critical analysis of the work of national and international humanitarian aid organisations is required to finally achieve the breaking and prevention of the vulnerability spirals which envelope certain areas of the globe to which catastrophes are endemic. That analysis should be accompanied with new ways of working in these contexts, which will contribute to a better sense of dignity and

control over one's own life. Our data suggest that there are ways to promote resilience (i.e. successful adaptation to stressful situations despite risk and adversity) to mitigate individual and community post-traumatic sequelae and to prevent future vulnerabilities when these factors are fully taken into account.

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APPENDIX A. COMMUNITY COHESION INTERVIEW (CCI, PÉREZ-SALES, 2001)

Items
1. Giving meaning to the experience
Do you think there is a reason why earthquakes occur?
2. Search for community solutions
Do you consider that you have been able to unite in order to find a solution to things?
3. Emotional self-control
When you did not feel well, did you find a way to feel better by yourself?
4. Leisure activities
Do you feel that the Leisure activities organised in the shelter for children and adults helped you?
5. Community prevention of future catastrophes
After what you have lived through, do you feel better prepared for facing another disaster?
6. Participation. Maintaining control of one's own life
Do you feel that your opinion was taken into account when decisions were made?
7. Information support
Have you felt well informed about the things that were happening?
8. Religious confrontation
What role have your religious beliefs played in how you have faced this situation?
9. Developing confidence bonds. Sharing the experience
Have you been able to make new friends in the shelter?
10. Previous learning/ Oral tradition
Has what you had learned years ago or what older people have taught you about their experiences in other disasters been important for you?
11. Respect for personal dignity
Have you felt humiliated or that you weren't respected any time in the shelter?
12. Normalisation of daily life
What activities that you have done have helped you most to normalise your life?
13. Work. Economic vulnerability and dependence
Are you presently working?
14. Perception of external sources of authority
Do you feel that the authorities have supported the needs of the community?
15. Confidence in the future
How do you see yourself and your family in two years?
(Worse than we are now, The same as we are now, Better than we are now)
16. Re-evaluation and positive learning
With everything that we have talked about, do you think that after the earthquake you have found new things in yourself to face situations such as this one?
17. Positive emotional experiences
In spite of everything you have lived these past . . . . Months, can you remember a moment when you felt happy?
18. Community involvement
Have you been involved in community tasks? (Member of the kitchen, security or cleaning communal teams)
Have you been involved as a community representative or leader?
19. Blind Global Clinical Assessment

