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The Impact of the Madrid Bombing on Personal Emotions, Emotional Atmosphere and Emotional Climate

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This article analyzes the personal emotions, emotional atmosphere, and emotional climate in Spain both one week and two months after the terrorist attacks that took place in Madrid on March 11, 2004. It also examines the relationship among these variables and their effect on various behaviors. Participants consisted of 1,807 people from seven autonomous regions in Spain with a mean age of 27.64 years. Personal emotions were significantly affected by degree of Spanish identification. These personal emotions and the general emotional atmosphere were characterized by high levels of sadness, disgust, anger, and contempt, as well as (to a lesser degree) fear. Personal emotions, emotional atmosphere, and the nation's emotional climate improved after two months, although a high degree of sadness persisted in the atmosphere. The emotional climate was relatively independent and stable. Personal emotions had a low but significant capacity for predicting avoidant and altruistic behaviors. Measures of emotional climate added to this ability to predict specific avoidant and altruistic behavior.

The concept of emotional climate can be distinguished from the concepts of personal emotions and emotional atmosphere, but can we create measures that distinguish them? Could these different measures add to our ability to predict responses to social trauma?

On March 11, 2004, Madrid suffered a terrible terrorist attack that resulted in 191 deaths and more than 1,500 injuries. This event had an enormous emotional impact on the Spanish population, as evidenced by the massively attended

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demonstrations that took place in the days following the attacks. In line with numerous studies that have analyzed the response of citizens to the New York attacks of September 11, 2001 (Ford, Udry, Gleiter, & Chantala, 2003; Pratto, Lemieux, Glasford, & Henry, 2003; Wayment, 2004), this article aims to analyze the emotional impact of the tragic events of March 11 on the Spanish population.

When we consider the impact of events of this magnitude, we can distinguish between personal emotions, the emotional atmosphere, and the perception of emotional climate. *Personal emotions* refer to the emotions felt or experienced by individuals; *emotional atmosphere* alludes to the emotions that arise when members of a group focus their attention on a specific event that affects them as a group (de Rivera, 1992). Such an atmosphere appears when those who identify with a group celebrate a collective success, lament a tragedy, or suffer a common threat. *Emotional climate* refers to the set of emotions perceived in society that are relevant to its sociopolitical situation. Thus, in times of political repression, people are afraid to express their ideas in public; in times of ethnic tension, there is hate and/or fear toward other groups, and so on. Emotional climate is more stable than emotional atmosphere (de Rivera, 1992; Páez et al., 1997) and may be a useful construct for analyzing social dynamics in contexts of political violence (Ellgring & Otto, 2001; Páez, Asún, & González, 1994).

When trying to analyze the emotional impact of the 11 March massacre, we wondered about the impact of the Madrid bombing on personal emotions, emotional atmosphere, and emotional climate. How could these constructs be measured, what is the relationship between them, and how might measures change over time? Would measures add to our ability to predict behavior?

Answering these questions, especially the last one, will enable not only a better understanding of social responses to trauma but will also help us to design positive policies in countries experiencing conflictive situations and peace-building processes. As regards emotional climate, it seems that in addition to affecting political life, it can also be influenced by the actions of political leaders and thus be particularly relevant to the development of the culture of peace advocated by the General Assembly of the United Nations (de Rivera, Kurrien, & Olsen, in this issue).

An extremely common response during collective traumatic events, such as the September 11 attacks in New York, is to feel upset, seek social support, and talk with others (social sharing and emotional arousal); moreover, most of the people reported isolated symptoms of reaction to stress (Schuster et al., 2001; Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002). This article aims to identify more specifically the personal emotions felt most intensely by individuals in relation to the events which took place in Madrid.

Furthermore, it aims to analyze the evolution of the intensity of these emotions over time, with an expected decrease in the intensity of negative emotions. This decrease or lessening is a natural process and has also been studied in other

contexts of political trauma (Raviv, Sadeh, Raviv, Silberstein, & Diver, 2000). The impact of shared traumatic events on collective mood—that is, on the general population's mean level of anxiety and depressive symptoms—usually tends to increase during the first month. Examples of this increase were documented one month after September 11 in the United States (Knudsen, Roman, Johnson, & Ducharme, 2005) and one–two months after the Lebanese War massacres in Israel (Hobfoll, Lomranz, Eyal, Bridges, & Tzemach, 1989). The mean level of anxiety and depressive symptoms then begins to decrease.

We also aim to analyze the relationship between group identification and negative personal emotions, a variable we have termed *personal negative emotional response*. We expected that the intensity with which negative personal emotions were felt would show a significant association with the degree of group identification. In this sense, as the victims of the attacks were mainly Spanish citizens, and the attacks themselves took place in the capital of Spain, we hypothesized that those who identified more with the Spanish population would also experience a more intense personal negative emotional response.

In relation to this, we believe it is interesting to study the specific relationship between identification with the Basque people and personal negative emotional response in the Basque autonomous region. In this region, where there is a strong nationalist sentiment, a high level of identification with the Basques is often associated with a low level of identification with Spanish citizens. Also considering the prejudice of familiarity, which makes people empathize less with members of other groups than with those of their own group (Hoffman, 2000), and the negative relationship between empathy and conflictive social relations (Davis, 1996), we hypothesized that a high level of identification with the Basque people would be associated with a less intense personal negative emotional response to the Madrid attacks. Yet in the other autonomous regions of Spain, in which regional identification and identification with the Spanish population are more closely paired, we expected to find a positive relationship between regional identification and personal negative emotional response.

Secondly, along with personal emotions, this study analyzes the emotional atmosphere following March 11 and the evolution of this over time. In relation to this question, we supposed that the emotional atmosphere would improve as more time passed since the tragedy, but we also wondered whether certain emotions were particularly persistent. Finally, we analyzed the perception of the emotional climate and its evolution over time. Although we expected the climate to be more stable than the atmosphere, we expected it to improve somewhat as time went by. However, we anticipated a decline in the perception of solidarity. Studies on responses to collective trauma have found a higher level of solidarity responses, social sharing, and thinking or rumination for two to three weeks, followed by a sharp drop (Pennebaker & Harber, 1993; Penner, Brannick, Webb, & Cornell, 2005). After two months, solidarity, spontaneous bonding, and sharing decrease

(Collins, 2004; Steinert, 2003), whereas rumination about the collective trauma diminishes and an adaptation stage commences (Gortner & Pennebaker, 2003).

In addition to studying the impact of the attacks on personal emotions, emotional atmosphere, and emotional climate, we were interested in the relationship between personal emotions and emotional atmosphere on one hand and between personal emotions and emotional climate on the other.

A consideration of the effect of false consensus led us to expect high correlations in the relationship between personal emotions and the emotions perceived in people or emotional atmosphere. According to this effect, we tend to overestimate the degree to which others agree with our vision of the world (Smith & Mackie, 1995). As a result, this tendency may have led individuals to believe that other people felt the same emotions as they did concerning the March 11 attacks. Nevertheless, we expected to find a greater intensity in the emotions perceived in other people (emotional atmosphere) than in individuals' own emotions. This is because the bias of false uniqueness, which leads us to overestimate our own capacities and abilities (Páez & Zubieta, 2003), leads people to believe that they possess more emotional control than others. **Q1**

We supposed that the correlations between personal emotions and emotional climate would be lower than the correlations between personal emotions and emotional atmosphere. Emotional climate is relatively more stable and is not influenced by social and political events until after a certain time has passed and a certain consensus has been reached, whereas emotional atmosphere is much more changeable and sensitive to social occurrences (de Rivera, 1992; Páez et al., 1997).

To provide additional support to the idea that emotional climate is more stable than emotional atmosphere, we tested the hypothesis that the changes observed over time in the emotional climate would be less intense than those observed in the emotional atmosphere.

Finally, this study aims to analyze the effect of the three emotional constructs considered on a series of behaviors.

Diverse studies have shown the relationship between emotion and behavior in contexts of political violence. In Chile, a climate characterized by a high intensity in anger and a low intensity in fear among those opposing the regime was associated with collective social violence (Páez et al., 1994). Also, natural anger (and anger induced by experimental manipulation) related to the September 11 attacks decreased risk perception and precautionary behavior (Lerner, González, Small, & Fischhoff, 2003). In another study, feelings of anger after the attack predicted two months later a sense of moral outrage, derogation of outgroups (Arabs), and coping by means of sharing thoughts about aggression and war as a correct response (Skitka, Bauman, & Mullen, 2004). Feelings of fear related to the September 11 attacks increased risk perception and precautionary behavior (Lerner et al., 2003).

Based on these studies, as well as on those showing an increase in solidarity in this kind of situation, we expected that personal emotions would show a

certain predictive power in relation to diverse behaviors, specifically avoidance and altruistic ones. Furthermore, we hypothesized that these individual behaviors would not only depend on personal emotional responses, but also on the way in which people perceive the emotional atmosphere and the country's emotional climate.

Method

Participants

The sample comprised 1,807 people from seven autonomous regions in Spain: the Basque Country, Galicia, Castile and Leon, Catalonia, Madrid, Valencia, and Andalusia. Most of the participants were university students; 29.3% were men and 70.7% were women. The mean age of participants was 27.6 years with a standard deviation of 11.74.

Measures

To measure personal emotions and emotional atmosphere, we used Izard's *Differential Emotion Scale (DES)*, adapted by Echebarría and Páez (1989).

For *personal emotions* we asked participants, "To what extent did you feel [each of nine different emotions]" regarding the Madrid bombing. The emotions measured were enjoyment, sadness, disgust, guilt, anger, contempt, fear/anxiety, shame/shyness, and pride. However, it should be noted that the words used to translate disgust (*disgusto/asco*) have a meaning that ranges from displeased to loathing. Participants answered on 7-point scales. The mean of the scores for the seven negative personal emotions was defined as *personal negative emotional response* (*Cronbach's alpha* (time 1) = .67).

To ascertain the *emotional atmosphere* we asked, "To what extent do you think people felt [each of the same nine emotions]" regarding the attack. Participants answered on 7-point scales. *Negative emotional atmosphere* was obtained from the mean of the scores in the negative scales included in the DES; *Cronbach's alpha* (time 1) = .56, *Cronbach's alpha* (time 2) = .73.

Emotional climate was measured using the *Emotional Climate Scale (ECS)* (Páez et al., 1997). This scale consists of 10 items that ask respondents to evaluate the current state of their nation. Two items ask for an assessment of the economic situation and the general affective climate; three items inquire about a negative ambiance (fear, anger, and sadness) and five items ask about a positive emotional climate (enjoyment, hope, solidarity, trust in societal institutions, and freedom to speak openly). The extent of a *negative emotional climate* was calculated as the mean of the scores for the negative items. *Cronbach's alpha* (time 1) = .70, *Cronbach's alpha* (time 2) = .74. The degree of *positive emotional climate* was

defined as the mean of the five positive items, together with the general and economic items. *Cronbach's alpha* (time 1) = .66, *Cronbach's alpha* (time 2) = .74. See the articles in this issue by Páez, Ubillos, & González, and by Kayangara, Rimé, Philippot, & Yzerbit for scale reliabilities in other contexts.

In order to measure the level of *group identification*, we asked all participants to rate the extent to which they identified with Spanish people on a 5-point scale. Participants from some regions, specifically the Basque Country, Castile and Leon, Andalusia, Galicia, and Catalonia, were also asked to state the extent to which they identified with their regional group on a similar 5-point scale.

In order to study *avoidance behaviors*, six items were created relative to this type of conduct. For example, the items read: “[In relation to the events of March 11, you avoid . . .] “Going out,” “Catching a plane,” and so on. There were four possible responses (never, sometimes, often, and always). The *avoidance* variable was calculated from the mean scores for avoidance behaviors; *Cronbach's alpha* = .86.

We also included two specific items related to *intergroup avoidance*. Participants were asked whether, in lieu of the events of March 11, they avoided dealings with either Muslims or Basques. The response scale was the same as in the previous case. The *intergroup avoidance* variable was calculated from the mean scores of these items; *Cronbach's alpha* = .73.

In order to measure *altruistic behaviors* in relation to the attacks, we used five items. Participants were asked about the way or degree to which they had dealt with the March 11 attacks. An example of an item is “I came forward as a volunteer to help.” The response scale was the same as in the previous measure. The *altruism* variable was calculated from the mean scores for altruistic behaviors; *Cronbach's alpha* = .67.

Although the reliability indexes are rather modest for some variables, they are acceptable for the aims of this study.

Procedure

Three questionnaires were compiled that were administered at three different times. The first questionnaire was administered one week after the March 11 attacks, the second, three weeks afterwards. The third questionnaire was administered two months after the event. Efforts were made to ensure that the same participants were used in all three cases. In this article we analyze only the first and third administrations (time 1 and time 2, respectively). The design was necessarily quasi-experimental. It would have been improved by having data for the same measures dating from an initial point of time prior to the attack but, unfortunately, this was not possible.

In time 1—that is, one week after the attacks—the sample comprised 1,409 people, of which 30.1% were men and 69.9% women. In time 2, or two months

after the attacks, the sample consisted of 940 people, of which 28% were men and 72%, women.

The DES and the ECS were applied at both times. Although some of the other measures were applied also at both times, only their results in time 1 will be considered here.

Results

Impact of the Attack on Personal Emotions at Times 1 and 2

The dominant personal emotions in response to March 11 at time 1 were sadness, disgust, anger, and contempt. Although fear/anxiety was also fairly intense, a *t* test for related samples showed that the intensity of this emotion was significantly lower than that of sadness, $t(1280) = 24.07, p < .001$, disgust, $t(1276) = 22.80, p < .001$, anger, $t(1273) = 18.33, p < .001$, and contempt, $t(1269) = 17.89, p < .001$. Upon analyzing personal emotions at time 2, we found the same predominant emotions and the same pattern in relation to fear/anxiety.

A *t* test for related samples carried out to compare the personal emotions at times 1 and 2 showed that all negative emotions were less intense at time 2; by contrast, pride was more intense at time 2. The results are presented in Table 1.

Relationship Between Personal Negative Emotional Response and Group Identification

Taking the sample as a whole, we found a significant positive correlation between the level of identification with the Spanish population and the personal negative emotional response, $r(1344) = .34, p < .001$. As might be expected, the correlation was less with negative emotional atmosphere, $r(1328) = .18, p < .001$, and nonsignificant with negative emotional climate.

As we had hypothesized, in the Basque Country the relationship between identification with the Basques and personal negative emotional response was negative, $r(230) = -.14, p < .03$. We also found that the correlation between identification with the Basques and identification with the Spanish population was negative, $r(232) = -.17, p < .008$. Subsequently, we analyzed the partial correlation between the level of identification with the Basque people and personal negative emotional response, controlling for the level of identification with the Spanish population. As expected, when the influence of the level of identification with the Spanish population was eliminated, the correlation between identification with the Basque people and personal negative emotional response was not significant.

Upon analyzing the relationship between personal negative emotional response and the level of identification of participants of Castile–Leon, Andalusia, Galicia, and Catalonia with the people of their respective autonomous regions,

Table 1. *T* tests for Related Samples of Personal Emotions, Emotional Atmosphere, and Emotional Climate at Times 1 and 2

	Time 1			Time 2			<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>		
Personal emotions (7-point scale)								
Enjoyment	1.27	1.00	685	1.22	.72	685	.98	.33
Sadness	6.56	1.12	686	5.80	1.52	686	11.80	.001
Disgust	6.38	1.21	682	5.12	1.76	682	17.51	.001
Guilt	1.88	1.55	681	1.66	1.14	681	3.51	.001
Anger	6.09	1.47	650	4.58	1.96	650	19.54	.001
Contempt	6.09	1.52	677	4.64	2.08	677	17.62	.001
Fear/anxiety	5.12	2.02	651	3.34	1.86	651	20.49	.001
Shame/shyness	2.16	1.87	677	1.85	1.38	677	4.17	.001
Pride	1.47	1.28	678	1.69	1.44	678	-3.77	.001
Emotional atmosphere (7-point scale)								
Enjoyment	1.32	.98	672	1.31	.85	672	.22	.82
Sadness	6.63	.95	671	6.01	1.34	671	10.61	.001
Disgust	6.57	.94	667	5.50	1.57	667	15.97	.001
Guilt	2.38	1.74	659	2.15	1.31	659	3.22	.001
Anger	6.42	1.08	643	5.18	1.64	643	17.98	.001
Contempt	6.42	1.12	662	5.33	1.68	662	15.37	.001
Fear/anxiety	5.96	1.45	639	4.50	1.67	639	18.78	.001
Shame/shyness	2.38	1.92	664	2.15	1.50	664	2.81	.005
Pride	1.70	1.49	664	1.96	1.59	664	-3.76	.001
Negative emotional atmosphere	5.25	.70	677	4.40	.95	677	21.52	.001
Emotional climate (5-point scale)								
Climate of solidarity	3.70	.94	692	3.54	.87	692	4.25	.001
Climate of trust in the institutions	2.69	.85	690	2.82	.84	690	-3.30	.001
Climate of fear/anxiety	3.33	.97	662	2.94	.91	662	8.82	.001
Climate of anger	2.91	.93	689	2.74	.91	689	4.03	.001
Climate of sadness	3.13	1.03	686	2.69	.85	686	9.65	.001
Climate of enjoyment	2.87	.84	690	3.00	.73	690	-3.58	.001
Climate of freedom of speech	3.35	.93	692	3.42	.94	692	-1.69	.09
Economic situation	3.35	.76	695	3.34	.70	695	.34	.73
General affective climate	3.22	.80	690	3.24	.72	690	-.71	.48
Climate of hope	3.30	.90	690	3.34	.80	690	-1.00	.32
Negative emotional climate	3.12	.78	685	2.78	.72	685	10.01	.001
Positive emotional climate	3.21	.49	698	3.24	.50	698	-1.76	.08

we found a positive relationship in Castile and Leon, $r(383) = .20$, $p < .001$ and Andalusia, $r(291) = .16$, $p < .006$; while no correlations were found in the other two autonomous regions. When the influence of the level of identification with the Spanish population was controlled, the positive correlation between identification with the people of Castile–Leon and Andalusia, and personal negative emotional response ceased to be significant.

Impact of the Attack on Emotional Atmosphere at Times 1 and 2

The results showed the same predominant emotions both one week and two months after the March 11 attacks. At both times, the emotional atmosphere was

mainly characterized by sadness, the triad of hostility (disgust, anger, and contempt) and, to a lesser extent, fear/anxiety (See Table 1).

A *t* test for related samples comparing the emotional atmosphere one week and two months after the attacks showed an improvement in practically all the emotions studied. As with personal emotions, perceived pride was more intense at time 2. When we compared the “negative atmosphere” variable of both times, we found that the level had dropped at time 2.

Upon comparing the decline in sadness between times 1 and 2 with the corresponding decline in the hostility triad and fear/anxiety by using a *t* test for related samples, we found that the decline in sadness was significantly less acute than the decline in fear/anxiety, $t(632) = -9.90, p < .001$, disgust, $t(661) = -7.21, p < .001$, anger, $t(636) = -8.51, p < .001$, and contempt, $t(655) = -6.07, p < .001$.

Furthermore, a *t* test for related samples showed that the decline in perceived sadness between times 1 and 2 was significantly less acute than the decline in personal sadness, $t(669) = -3.05, p < .002$.

Impact of the Attack on Emotional Climate at Times 1 and 2

As shown in the descriptive statistics presented in Table 1, the dimensions of the emotional climate that were most salient were those of solidarity or mutual aid, freedom of speech, fear/anxiety, and hope. A *t* test for related samples showed that at time 2, the perception of many emotional climate dimensions had improved. Nevertheless, the perception of the solidarity dimension was less intense and no significant changes were observed in the perception of the economic situation, the climate of hope, or, curiously enough, in the general affective climate.

Relationship Among Personal Emotions, Emotional Atmosphere, and Emotional Climate

The correlations between personal emotions and perceived emotions in others, or emotional atmosphere, were all very high at both times, with the lowest being .53. Yet as we had hypothesized, the emotions perceived in others were more intense than personal emotions. In other words, participants generally believed that others experienced more intense emotions—especially fear—than they themselves did. A *t* test for related samples showed that at time 1, relative to the respective personal emotions, all perceived emotions were seen as more intense: enjoyment, $t(1358) = -3.15, p < .002$; sadness, $t(1365) = -5.53, p < .001$; disgust, $t(1351) = -7.94, p < .001$; guilt, $t(1343) = -14.92, p < .001$; anger, $t(1264) = -11.39, p < .001$; contempt, $t(1354) = -11.92, p < .001$; fear/anxiety, $t(1255) = -19.91, p < .001$; shame/shyness, $t(1344) = -8.69, p < .001$; and pride, $t(1343) = -10.33, p < .001$. The same test also showed a similar pattern of results for time 2.

As we anticipated, in contrast to the correlations between personal emotions and emotional atmosphere, correlations between personal emotions and the items

of emotional climate were much lower, at both time 1 and time 2, with the highest being .40. Many failed to reach the required level of significance.

We also carried out a *t* test for related samples in order to compare the declines in negative emotional climate and negative emotional atmosphere between times 1 and 2. To conduct this analysis, we first converted the scores for these variables into zeta scores, since they have different response scales. The *t* test for related samples showed that the decline in the negative emotional climate was less dramatic than the decline in the negative atmosphere, $t(664) = 10.91, p < .001$.

Predictive Capacity of the Emotional Variables

In order to analyze the predictive capacity of the emotional variables, we carried out a multiple linear regression analysis for each of a number of personal behaviors. First, we introduced personal negative emotional response as a predictive variable. Next, we introduced the negative emotional atmosphere and, finally, we added both positive and negative emotional climate. By doing this, we hoped to find out whether the variables that referred to collective emotions increased the capacity of personal emotions to predict personal behavior. In order to see if the collective emotions made a significant contribution, we compared the determination coefficient of the models, following the formula by Cohen and Cohen (1983).

We found that personal negative emotional response could account for 5% of the variance in avoidance behaviors, multiple $R = .228, F(1, 1192) = 65.12, p < .001$. A backward analysis (not shown) found that, among the specific negative emotions, fear/anxiety was the most important predictor. After negative atmosphere was introduced into the analysis, it was possible to explain 5.6%. Finally, by introducing emotional climate, we were able to explain 6.4% of the variance. The final equation showed personal negative emotional response (standardized beta = .23, $p < .001$) and negative emotional climate (standardized beta = .062, $p < .05$) predicting avoidant behavior logged score, multiple $R = .253, F(4, 1134) = 19.36, p < .001$. When we compared the determination coefficient of the models, we found a significant difference between them, $F(4, 1128) = 4.22, p < .01$.

In predicting intergroup avoidance, we found that personal negative emotional response showed a multiple correlation of .174, explaining 3% of the variance, $F(1, 1195) = 37.49, p < .001$. Among the specific negative emotions, fear/anxiety was the most important predictor. When we introduced negative atmosphere, the multiple correlation only increased slightly. However, when (positive and) negative emotional climate were also included into the analysis, 4.3% of the variance in avoidance was explained, $F(3, 1163) = 15.39, p < .001$. Personal negative emotional response (standardized beta = .20, $p < .001$) and negative emotional climate (standardized beta = .08, $p < .05$) predicted avoidant intergroup behavior logged score, multiple $R = .21, F(4, 1139) = 12.75, p < .001$. When we compared the

determination coefficient of the first model with the coefficient of the last model, we found a significant difference between them, $F(4, 1157) = 3.93, p < .01$.

When we examined altruistic behavior, we found that personal negative emotional response accounted for only 1.1% of the variance, multiple $R = .11$, $F(1, 1215) = 14.60, p < .01$. Among the specific negative emotions, sadness was the most important predictor. When we introduced emotional atmosphere and negative and positive emotional climate, we could explain 1.6% of the variance, $F(4, 1165) = 4.44, p < .002$. Personal negative emotional response (standardized beta = $.093, p < .001$) and positive emotional climate (standardized beta = $.062, p < .05$) predicted altruistic behavior logged score, multiple $R = .12$. Backward analysis (not shown) found that collective hope was the most important specific predictor. However, when we compared the determination coefficient of the models, we did not find a significant difference between them, $F(4, 1159) = 1.47$.

Discussion

The March 11 attacks in Madrid had a huge emotional impact on the Spanish population. This study aimed to distinguish personal emotions, emotional atmosphere, and the emotional climate of that period, and it also aimed to assess their ability to predict relevant behaviors as a response to the attack.

All Spanish citizens experienced a complex mixture of emotions during the days and months following the attacks. According to our results, within this set of emotions, the most predominant at a personal level were sadness, disgust, anger, and contempt. Curiously, unlike what may have been expected, although fear reached a certain level of intensity, this level was significantly lower than that of the other emotions mentioned. This datum is in keeping with the wide-ranging research on positive illusions, which suggests that in situations of stress, people show a strong tendency toward illusionary optimism and tend to ignore dangers (Martín Beristain & Páez, 2002; Taylor, 1989). In any case, as time went by, all negative emotions became less intense.

One result worth highlighting and in accordance with our hypothesis is that the personal negative emotional response following the attacks was more intense in those who identified more closely with the Spanish people. In keeping with the Social Identity Theory (Tajfel & Turner, 1986) and consistent with research on the empathic prejudice of familiarity (Hoffman, 2000), sharing or not sharing an identity with the victims—feeling that you form part of the same country—is revealed as a decisive element in this sense.

This interpretation is further supported by the results obtained in the Basque Country, where there are strong nationalist sentiments. In this case, identification with the Basque people showed a small negative correlation with personal negative emotional response, a finding in keeping with the fact that the identification correlated negatively with identification with the Spanish people. Thus, when this

last variable was controlled, the negative correlation between identification with the Basques and personal negative emotional response disappeared. By contrast, in the rest of the autonomous regions, the contradiction between regional identification and identification with the Spanish population does not exist or is much less intense. As a result, the relationship between regional identification and personal negative emotional response was not negative. These results, similarly to those obtained in another study on collective guilt in relation to the responsibility for the March 11 attacks (Etxebarria, Conejero, & Ramos de Oliveira, 2005), highlight the fact that identification with a group of origin constitutes a basic variable for understanding the emotions experienced by individuals as a result of the tragedy.

Regarding the composition of the emotional atmosphere we found, as was true with personal emotions, that the most intense reactions were those of sadness and hostility rather than fear. This atmosphere was very similar at both time 1 (one week after the attacks) and time 2 (two months after the attacks), although a certain improvement was observed at time 2. It is interesting to note that not all the negative emotions decreased in intensity at the same rate. Our results show that sadness remained more intense for longer than fear/anxiety, disgust, anger, and contempt. This decline in perceived sadness was significantly less than the decline in personal sadness. Thus, in line with research studies analyzing the impact of the September 11 attacks (Ford et al., 2003), we can conclude that this type of tragedy leaves behind profound trace of sadness in the atmosphere.

Concerning the country's emotional climate, at a descriptive level we can say that it was characterized by the perception of a climate of solidarity or mutual aid, freedom of speech, fear/anxiety, and hope. Furthermore, as was true with the emotional atmosphere, many aspects of the emotional climate also improved after two months. The perception of solidarity dropped, but this is congruent with previous studies on the collective dynamic in the aftermath of a collective trauma (Collins, 2004; Pennebaker & Harber, 1993; Penner et al., 2005; Steinert, 2003) and follows from the high level of solidarity shown by many Spaniards immediately after the tragedy and the reduced perception of the need for aid as time passed.

Also, the analysis of the relationship between personal emotions, emotional atmosphere, and emotional climate provided a number of results that are worth mentioning here.

First, the analysis of the relationship between personal emotions and perceived emotions or emotional atmosphere showed a close relationship between both constructs, although the perceived emotions were more intense than the personal ones. This seems to confirm the fact that people project their own emotions onto others (Smith & Mackie, 1995), while at the same time perceiving them as being more emotionally affected (Páez & Zubieta, 2003). This suggests that the false consensus effect ("my emotions are typical of everyone") and the false uniqueness bias ("I have greater emotional control") occur at the same time.

Secondly, as we had predicted, the correlations between personal emotions and the perception of the emotional climate were lower than the correlations between personal emotions and the emotional atmosphere. This finding, in principle, supports the idea of a greater stability in the emotional climate. Of course, the high correlations between personal emotions and emotional atmosphere may also be due, in part, to an artifact effect: Although preceded by a different instruction, the items referring to personal emotions and those referring to the emotions perceived in others were identical, and all were measured on the same scale, one after the other. However, the fact that changes in the negative emotional climate between times 1 and 2 were less acute than the changes in the negative emotional atmosphere during the same period supports the idea that emotional climate is more stable than emotional atmosphere (de Rivera, 1992; Páez et al., 1997).

Diverse studies have shown the relationship between some emotions and some behaviors in contexts of political violence (Lerner et al., 2003; Páez et al., 1994; Skitka et al., 2004). In this study we aimed to ascertain whether collective as well as personal emotional variables could add to our capacity to predict specific behaviors following the March 11 attacks. With regard to the behaviors analyzed, the predictive power of personal emotions was lower than one might wish (between .11 and .23). The addition of emotional climate increased this power but still showed only moderate effect sizes. Unfortunately, this is commonplace in social psychological studies. According to Hemphill (2003), in this research domain meta-analytic studies reveal that one thirds of effect sizes are below .10 and two thirds are below .30. Regarding the moderate predictive capacity found in our own analyses, we should not forget that despite the fact that emotions may underlie the behaviors analyzed, such behaviors are also affected by many other factors.

It is noteworthy that after controlling for the influence of personal emotions, the multivariate coefficient between the criterion variables and the collective emotional variables were often significant. Although, negative emotional atmosphere did not show a specific influence, probably because of its strong association with personal negative emotions, the analyses show how the measurement of emotional climate can make a significant contribution to the prediction of personal behaviors. Regardless of the influence of the personal emotions, negative emotional climate reinforced avoidant behaviors and positive emotional climate reinforced altruistic behavior.

These findings suggest that in contexts where there is a threat of collective violence, more attention should be paid to collective emotions and the construct of emotional climate. This is especially important in regions (such as the Basque Country of Spain) that are experiencing different kinds of conflicts and peace-building processes and where attention to solidarity, confidence in government, and other aspects of emotional climate may be of great help in developing the culture of peace advocated by the United Nations (de Rivera et al., in this issue).

March 11, 2004 is a date that will not soon be forgotten by all those who, in one way or another, witnessed the tragedy that occurred in Madrid. Following the attacks, the whole of Spain felt a deep-rooted pain. Through this study, we aim to gain a better understanding of the emotional experience of the Spanish population in relation to those tragic events as well as to contribute to the theoretical development of the dynamics of collective emotions.

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Queries

- Q1** Author: Páez & Zubieta, 2003 or Páez & Zubieta, 2004 (as in reference list)?
- Q2** Author: Please cite reference Rogers, 1972 in text.