CHAPTER 3

A NEW LOOK AT TRAUMA: FROM VULNERABILITY MODELS TO RESILIENCE AND POSITIVE CHANGES

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Most of the research on the psychological consequences of trauma has been traditionally dominated by a clinical view that has underlined the negative effects (i.e., symptoms and problems in functioning) of facing adversity. Although it is undeniable that traumatic events may have a deleterious impact on some people, there is increasing evidence showing that most people are not only resilient but are also able to find some kind of personal or even societal benefits after having faced such events. Although we know much more about the positive sides of trauma than some years ago, we still need further research to advance our knowledge concerning psychological and sociocultural factors that promote either resilience or vulnerability. This new view of trauma is a paradigmatic example of how a positive approach can complement and expand our understanding of human behavior under extremely difficult circumstances. In fact, this positive view can ultimately provide us with better models to understand human nature.

Introduction

There have been three distinct stages in the history of research on psychological trauma (Vázquez, Pérez-Sales, & Ochoa, 2013). The first, from 1980 to the early '90s, was dominated by the definition of trauma in the DSM-III (APA, 1980) that recognized universal vulnerability to a stressor that "would evoke significant symptoms of distress in almost everyone" (APA, 1980, p.236, italics added). The second stage appeared in the mid '80s when it was found that serious life events do not necessarily cause mental disorders and that resilience was a common response (Bonanno, 2004). In the third (and current) stage, expanding on the idea of resilience, researchers have focused their attention on positive changes experienced after traumatic experiences (Joseph, 2011; Joseph & Butler, 2010).
Individual differences in the response to traumatic events

The clinical view of the impact of traumatic events continues to be relevant and important (McNally, 2003; Walter & Bates, 2012; Bonnano et al., 2010). Pathological reactions to traumatic events may lead to very complicated consequences. A condition such as PTSD typically shows high rates of comorbidity with disorders like Major Depressive Disorder (Kessler et al., 1995). Furthermore, the consequences of PTSD and related disorders on psychosocial functioning can be greater than those found in depression or in Obsessive-Compulsive Disorder (Malik et al., 1999). Thus, it is obvious that the negative side of trauma cannot be ignored. However, the classical conceptions of trauma and traumatic reactions did not pay attention to individual differences and did not consider that not all people react in the same way (Bonanno, Brewin, Kaniasty, & La Greca, 2010).

Research on the epidemiology of trauma indicates that around 60% of people are exposed to at least one traumatic event (e.g., a sudden or unexpected death of a close relative or friend, a serious car accident) in their lifetimes. Also, the data are quite similar in different geographic areas. For instance, research conducted in the general population in the US (Kessler et al., 1995) and Europe (Darves-Bornoz et al., 2008) has found that approximately 60% of the adult population has experienced potentially traumatic events as defined in the DSM.

Yet, although most people experience some kind of distress after encounters with potentially traumatic events, typically only a small subset of exposed adults develops stress-related disorders like PTSD. Again, epidemiological studies show that the lifetime prevalence rates of PTSD in the general American population are close to 5%, and 12-month prevalence rates are 3.6% in the US (Kessler et al., 1995) and just 1.1% in Europe (Alonso et al., 2004). Therefore, almost all of us are exposed to traumatic events in our lives, but it seems that not all of us succumb to such events. In other words, at least 9 out of 10 people experiencing severe trauma do not develop PTSD. The norm is that most people are resilient.

Trauma and resilience

In a review of the literature on trauma-related reactions, Bonnano (2004) found that, when facing a negative, traumatic situation, there is a relatively small set of possible outcome trajectories. Some people will show constant symptoms from that moment, while others will show a delayed negative reaction after having reacted normally for some time. Some people will have clinically significant symptoms and then they will return to normal functioning, whereas still others will have minor and transient symptoms, minimal impairment, and, in general, a stable pattern of healthy functioning even soon after the potentially traumatic event, showing a pattern of resilience or resistance (see also Norris, Tracy, & Galea, 2009). Therefore, not every-
one will develop a clinical disorder or even significant symptoms. In the past, resilience had been commonly assumed to occur only in people with exceptional physical or emotional strength. Rather, on the contrary, most people (between 35% and 65%) respond to even the most extreme stressors with minimal effects in their everyday functioning (Bonanno, Wetsphal, & Mancini, 2011).

Although resilience has been observed in distant observers of trauma (Matt & Vázquez, 2008), research has found that it is also a common response in people more directly affected by a traumatic event. In this respect, a good piece of evidence on the prevalence of resilience comes from a study by Bonnano et al. (2006). Six months after the September 11th attacks, they contacted more than 2,500 participants, who were interviewed about a diverse spectrum of potential trauma experiences both during the attack (e.g., being in the World Trade Center at the time) and in its aftermath (e.g., losing possessions). The authors found that the probable prevalence of PTSD for the New York metropolitan area during the first 6 months after the attack was estimated at only 6.0%, 28.9% had two or more trauma-related symptoms, and 65% of the respondents had one or no PTSD symptoms during the first 6 months. That is, almost two thirds of the whole sample showed resilience, which was defined by Bonnano and his colleagues, in perhaps a too simple way (see Almedon & Glandon, 2007; Levine et al., 2009), as having just one or no PTSD symptom. Even more remarkable was the fact that one third of people who were physically injured were resilient, as were more than half of respondents who were in the WTC at the time of the attack. Thus, even among the groups with the highest levels of exposure and highest rates of PTSD, the proportion that was resilient never dropped below one third.

A similar result was found in a study on the effects of an Al Qaeda terrorist attack that took place in Madrid on March 11, 2004, killing 200 people (Vázquez, Pérez-Sales, & Matt, 2006). Posttraumatic stress reactions were assessed in a representative sample of Madrid residents 3 weeks after the attacks, using multiple diagnostic criteria and various cut-off scores on the Posttraumatic Stress Disorder Checklist-Civilian (PCL-C; Weathers et al., 1993). The rate of probable posttraumatic stress disorder was quite high (13.3% of the total sample) but it dropped to only 1.9% when, in addition to stress-related symptoms, daily functioning difficulties as a consequence of the traumatic event were also included. Incidentally, this finding led researchers to be cautious about findings of probable PTSD and related disorders exclusively based on self-reports of symptoms (Pérez-Sales & Vázquez, 2007).
Trauma and positive emotions

The historical focus on the multiple negative sides of trauma neglected some important facts that, like resilience, may also surround a traumatic experience (Vázquez, 2005). However, resilience is not the last stop in the long, complex process of coping with traumatic situations. In addition to the absence of negative reactions, if we define resilience that way, as in the influential work of Bonnano et al. (2006), there are other important elements around trauma, like, for instance, the presence of positive emotions.

Is there a positive side to trauma? Can there be anything positive about having an accident, a serious illness, or being assaulted? Many studies have found that positive feelings may be present in the flow of emotions that a person may experience during and after trauma (Larsen et al., 2003; Vázquez & Pérez-Sales, 2003). For example, positive feelings and beliefs (e.g., feelings of solidarity or optimism) were found in community samples exposed to political violence (Vázquez, Pérez-Sales, & Hervás, 2008), natural disasters (Vázquez, Cervellón, Pérez-Sales, Vidales, & Gaborit, 2005), or heart attacks (Castilla & Vázquez, 2011). These findings are supported by the fact that positive affect and negative affect are relatively independent (Carver & Scheier, 1990) which has profound implications for understanding trauma as well as psychopathology in general (Watson & Naragon-Gainey, 2010; Carl et al., 2013).

One of the first pieces of empirical evidence came from research conducted by Camille Wortman and Roxanne Silver in the 1980s. In a series of innovative studies, they showed that people who had suffered serious losses (for instance, parents who had lost a baby to Sudden Infant Death Syndrome) displayed significant positive emotions after a few days or weeks. In one of their studies, these authors measured positive as well as negative emotions associated with coping with spinal cord injury (Wortman & Silver, 1982; 2001). They conducted interviews with individuals who became physically disabled as a result of a sudden, traumatic accident. Participants were interviewed 1, 3, and 8 weeks following their accidents and were asked to report how often in the past week they had experienced four different emotional states: anxiety, depression, anger, and happiness. They found that positive emotions at all three times were quite predominant. And even from the second-point time, which was just 3 weeks after the accident had happened, participants reported happiness more frequently than the rest of the emotions. Obviously, patients were not cheerful after their accidents. What these patients answered is that they felt happy “sometimes” during the previous week. Yet,

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1 Interestingly, the authors encountered extreme resistance among the hospital staff, who felt it was “ridiculous” to ask respondents about positive emotions, and even the interviewers were quite reluctant to question respondents about positive feelings. At that time, many colleagues thought that it was strange and morally inappropriate to ask victims about positive emotions. Fortunately, the situation has changed and this type of research has now become standard (e.g., Joseph, 2011; Joseph and Linley, 2006).
compared to a normative sample of nondisabled people of the same age, the sample of injured people was not significantly less happy than the normative sample at the 8-week interview.

Positive reactions in adverse situations are not exclusive to western societies. In 2001 our team conducted a study for Doctors without Borders-Holland three months after a devastating earthquake had destroyed the central part of El Salvador. That earthquake directly affected more than fifty thousand people and killed more than one thousand people. We interviewed a random sample of 115 survivors, who were living in shelters, about various aspects related to positive cognitions and emotions experienced during their stay at the camps and found a consistent pattern of positive reactions and emotions which is related to better outcomes in mental health and other psychological variables (Vázquez et al., 2005; Pérez-Sales et al., 2005). For instance, 67% said the events had produced some kind of positive learning, and, despite all the painful circumstances, 72% of the refugees could recall some moment of happiness during the 3 months following the earthquake.

The presence of positive emotions has been found in other conditions (see Folkman, 2008). For instance, there is evidence from a recent longitudinal study on people who have suffered a myocardial infarction, where patients were interviewed within the first 3 days after the infarction, and then at 5 and 13 months (Castilla & Vázquez, 2011). Even from the first hours, these patients considered that their condition was very serious (they rated the seriousness of the episode at 7.4 on a 1 to 10 scale). However, despite acknowledging the gravity of their situation, during the first 3 days after the coronary episode, the intensity of patients’ positive emotions was significantly higher than intensity of negative emotions (as measured by the PANAS), and this difference remained constant at the second assessment (at 5 months) and also at 13 months.

Beyond the resilience perspective: Positive changes after trauma

For many centuries, in diverse philosophical traditions, religions, and cultures, there has been a general belief in the value of suffering and the fact that you can achieve something good from bad experiences. This has been a recurrent topic in existential philosophy and psychology itself, as it can be found in the works of Victor Frankl or Aaron Antonovsky, just to mention a couple of relevant pioneers in the field.

Is there any satisfactory evidence showing that one can find some benefits from adversity? Unlike resilience, which connotes a stability of functioning in the face of adversity, research is now investigating possible positive changes after adversity (Joseph & Butler, 2010). Positive changes after facing adversity have been described in many different conditions: terrorist attacks, natural disasters, or serious medical illnesses. In these studies, it has typically been
found that over half of the individuals who experience a traumatic event report some degree of positive outcomes as a result (Helgeson et al., 2006). Different names have been used to describe this type of psychological phenomenon: perceived benefits, found meaning, experienced meaning, stress-related growth, adversarial growth, positive adaptation, positive by-products, benefit-finding, thriving, flourishing, growth following adversity, or posttraumatic growth (see Vázquez, Pérez-Sales, & Hervás, 2008). Not all of these terms have the same connotations and implicit meanings, and this is one of the issues that must be tackled in this area of research (Park, 2009). Yet, we will use the broad term “positive changes,” which can be considered more neutral than other terms (see Joseph & Butler, 2010).

What types of changes do these respondents describe? Across studies that have examined the positive changes that people perceive as resulting from severely stressful life events, several consistent domains of change have emerged, although the pattern of domains may depend upon factors like the type of traumatic experience suffered by the survivors (Tedeschi & Calhoun, 1996) or even the culture to which individuals belong (Weiss & Berger, 2010). Some individuals report a new appreciation of their own strength and resilience or may feel that they have become more compassionate or altruistic. Others report the identification of new possibilities for their lives or the possibility of taking a new and different path in life. Yet others report that their relationships are stronger and that they feel emotionally closer to others, especially family and friends, and the realization that other people were available to help and rely upon. Life philosophies may also change. Some people cite an enhanced appreciation of “the little things in life,” and restructure their values and priorities. Finally, some individuals note a new openness to spiritual experience or religious activities.

An important issue is whether perceived psychological growth is related to better psychological and physical health or is simply related to a reduction of symptoms. For instance, Helgeson et al. (2006) have shown in a meta-analytic study that benefit finding, or perception of benefits, is associated with better mental health outcomes when such outcomes are defined as less depression and more positive well-being. Although the effect sizes are small, this finding reveals that there are positive outcomes from trauma rather than just a mere lack of distress. And a similar pattern has been also found in children with serious illnesses (Chaves et al., 2013).

Are there specific emotions that are associated with the perception of positive changes? There is some research specifically showing that positive emotions are precursors to posttraumatic growth. One of the first pieces of evidence came from a study conducted by Barbara Fredrickson and her team (Fredrickson et al., 2003). A group of students from New York University were evaluated before and after the September 11 terrorist attacks, and results from this study showed that resilient individuals were most likely to suggest posttraumatic growth fol-
lowing September 11. Also, mediational analyses showed that positive emotions (e.g., gratitude, interest, love) experienced on the same day or immediately following the day of the attacks accounted for the relation between pre-attack resilience and post-attack growth. So, pre-crisis psychological resilience predicted increases in psychological resources from pre- to post-crisis, but this post-crisis change was fully mediated by participants’ experiences of positive emotions after the crisis.

In a similar study on the terrorist attack in Madrid, we assessed positive and negative emotions experienced in the immediate hours or days after the attack, and also the perception of benefits that participants had from that negative event (Vázquez & Hervás, 2010). Our results showed that positive emotion factors (i.e., strength, excitement, pride, and joy) were positively associated with perceived benefits. Yet, negative emotions were not significantly related to the perception of benefits. The only exception was “hate,” which was negatively related to perceived benefits. Thus, in general, it seems that experiencing positive emotions in the first moments (hours or even days) after a traumatic event may be related to perception of benefits or personal psychological growth.

The discussion of whether the perception of positive changes or benefits is related to positive or negative affect is also related to the discussion about the optimal dose of trauma for these changes to appear. Studies have found some support for the notion that a certain threshold of perceived threat is necessary for individuals to experience a sense of growth at some point. Data from different studies support the idea that either very low or very high levels of trauma may be associated with less positive changes (Kliem & Ehlers, 2009; Lechner et al., 2006; Chaves et al., 2013). For instance, in a study with a sample of four thousand Israeli adolescents exposed to terrorist attacks, regression analyses showed that the relationship between growth and PTSD measures was better represented by a curvilinear relation than by a linear one (Levine et al., 2008). The relationship was in the form of an inverted-U, and posttraumatic growth was greatest at moderate posttraumatic stress levels. This quadratic relationship may partly explain the mixed findings regarding the relationship between PTSD and growth found in the literature.

Positive changes after trauma: Psychological processes

There are different theories on the process through which perceived psychological growth occurs. Yet, in spite of variants in terminologies and details, most of these conceptualizations

2 One possible explanation for this result is that the nature of the traumatic event (in this case a terrorist attack provoked by an exogenous group, like Al Qaeda) may promote feelings of rage and hate towards an external enemy (Vázquez et al., 2008). This kind of negative emotion might narrow behavioural and cognitive responses, perhaps inhibiting psychological growth.
comprise a common set of processes (Park, 2009). Everything starts with an event appraised as a stressor. All theories also include a critical element, individual’s global meaning and beliefs prior to the event. If the event violates these life schemas or meaning systems, this creates stress and then a number of effortful strategies are initiated to handle that situation and to reduce its emotional impact. This can be done with active coping or meaning-making processes, for instance, which research has found to be moderated by several psychological and sociodemographic factors (e.g., age, personality factors, emotions experienced during the incident, social support, etc.; see Park, 2010). Finally, these processes may result in either assimilation (characterized by changing one’s view of the stressor so that it becomes consistent with one’s global meaning) or, if true growth emerges, accommodation (changes in one’s global meaning to incorporate the stressor; see Cho & Park, 2013).

Based on the work of Janoff-Bulman (1989, 1992), Tedeschi and Calhoun (2004) described posttraumatic growth as the rebuilding and reorganization of global beliefs and goals following “seismic events” that, according to their own words, threaten or shatter individuals’ “schematic structures that have guided understanding, decision-making, and meaningfulness” (p. 5). However, although there is general consensus on the notion that global beliefs and goals need to be shattered or violated to facilitate growth, the evidence of this causal relationship is not yet readily available. In fact, only a few studies have actually assessed worldviews prior to the advent of a potentially traumatic event (PTE).

The evidence in support of the role of pre-existing worldviews at the onset of psychological problems comes from studies like those of Bonanno et al. (2002) and Mancini et al. (2010), which have found that pre-loss measures of beliefs (in justice or self-worth) predict PTSD symptoms. In contrast, there is minimal evidence that worldviews, measured after the potentially traumatic event has occurred, predict later adjustment. Studies conducted with participants who suffered a spousal loss or a heart attack have found no relation between worldviews and severity of symptoms across time. So, although the idea that potentially traumatic events give rise to PTSD and other psychopathologies by “shattering” our worldviews is very attractive, the empirical support from methodologically strong studies is still weak. In fact, it is possible that most positive changes come from experiences where the individual’s overarching global meaning is probably challenged but not extensively violated or destroyed.

In regard to the meaning-making process, it is also possible that making efforts to provide meaning is not salutary of itself and may actually reflect a preoccupation with the stressor. As it has been recently proposed, arriving at a meaning (which does not necessarily involve effortful strategies), rather than meaning-making, may have positive effects on adjustment following a severe stressor (Park, 2010). Furthermore, the presence of complex emotional reactions (Hervas & Vázquez, 2011), something that typically occurs in traumatic situations, or a
tendency to chronically suppress distressing thoughts (Vázquez, Hervás, & Pérez-Sales, 2008) can precipitate rumination processes, which have been linked to worse psychological outcomes.

**Positive changes: fact of fiction?**

In all theories, growth is conceptualized as an outcome. Yet, the validity of the outcomes assessed has been debated (Sumalla, Ochoa & Blanco, 2009; Zoellner & Maercker, 2006). Some authors suggest that the perception of positive changes represents a critical phenomenon for understanding well-being following trauma (Aspinwall & Tedeschi, 2010; Cho & Park, 2013). Others, however, question whether benefit finding is simply a way to enhance self-esteem (Bonanno, 2012) or even a sort of self-delusion (Coyne & Tennen, 2010).

To respond to these opposite views, we need more complex research strategies. Most researchers assume that real change has occurred if there is perceived change, but this is only an assumption. Unfortunately, the vast majority of studies on perceived benefits were conducted exclusively with self-report measures, and this is a serious obstacle to build a solid scientific base (Park, 2009; Tennen & Affleck, 2009). Furthermore, scales used to measure growth probably tap different aspects or even constructs (Walter & Bates, 2010; Pérez-Sales et al., 2012).

Future research should be aimed at longitudinal and prospective designs, because evidence gathered from such studies may settle some of the issues in the debate over the validity of positive changes, as well as elucidate the way in which benefit-finding develops over time. Furthermore, research should pay more attention to effective changes in behaviour (Hobfoll et al., 2007) that may or may not accompany changes in perceptions of personal transformations.

There is an urgent need to improve our knowledge of the positive side of trauma, as most of the available research on positive emotions and trauma is still rather descriptive in nature. There are very few studies about the psychological processes that are deployed in traumatic situations, and there is little information about the relation between clinical variables and psychological protection factors, like positive emotions, that we already know exist.

**Conclusions**

There is little doubt that to perceive benefits and psychological growth is probably the norm, but we still need to know whether there are differences among different types of stressors, we need better measures of change, and we also need to include as many objective indicators of change as we can (e.g., health measures). Also, above all, we need longitudinal prospective studies to assess the trajectories of change (Bonanno et al., 2011; Hobfoll et al., 2011).
Furthermore, we need high-quality cross-cultural research, and we need to encourage researchers from different countries, cultures, and disciplines to disseminate their research (Calhoun et al., 2010). Most of the existing research comes from Western countries, primarily from the US, and this can be a significant source of bias. For instance, DiMaggio and Galea (2006), in a meta-analysis on the psychological effects of terrorism, found that most of the eighty-six well-controlled studies were conducted in the US (despite the fact that there were only 5 terrorist attacks documented in that country), whereas there are very few scientific publications from Latin America or the Middle East, where terrorist attacks have been very common. This cultural bias is a relevant issue because, just as it is important to take into account idiosyncratic posttraumatic reactions in diverse cultures (Goodman, 2004; Páez et al., 2007) one could assume that the same thing holds true for positive reactions (Weiss & Berger, 2010; Vázquez et al., 2013).

Furthermore, people have implicit theories of stability and change that, to some extent, may be shaped by cultural beliefs and norms. The idea of perpetual possibilities of change, which underlies concepts like post-traumatic growth or flourishing, although very common in the modern United States society, for instance, is probably not universal. So, it could be possible that a discourse of personal ‘psychological growth’ is more prevalent in western than in non-western societies (Vázquez et al., 2013) and this issue should be seriously considered in making statements on trauma and its potential positive correlates. Tennen and Affleck (2009) have convincingly argued that this cultural bias may lead people in the US to overestimate the amount of positive change that has occurred and also may lead to frustration and distress if changes, according to these expectations of psychological growth, are not perceived.

Finally, a cautionary note on the idea of positive changes after trauma must be offered. It is likely that emphasizing the positive side of trauma can also entail a cost. We must be cautious of becoming insensitive to pain and suffering, and we must avoid blaming those survivors who do not ‘thrive’ (see Wortman, 2004). In a very interesting paper, Tzipi Weiss (2005), a researcher on posttraumatic growth, related her own experience with a personal serious illness and warned about a new risk such that health professionals come to consider psychological growth not as a possibility, but as a necessary step in the process of adaptation. In her own words: “Since the crisis, I am less concerned with plotting my moves to avoid disasters and more willing to take risks. I am more optimistic and confident. I almost have a knee-jerk tendency to find benefits in negative experiences… But clinicians should never impose expectations of growth on clients” (p. 216).

To perceive benefits from trauma and to experience positive emotions is probably the norm for many different adverse circumstances. But, at the same time, we should not underestimate the suffering that a traumatic event creates. We must stay close to the experiences of the peo-
ple whom we seek to understand, and view these positive changes in the context of their suffer-
ing and struggle. Nevertheless, I am convinced that rather than trivializing human suffering, a complementary positive view of stress and trauma can offer a powerful tool to understand the nature of affliction and also how to alleviate that suffering.

References


Stress and Anxiety

Applications to Health and Well-Being, Work Stressors, and Assessment

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