In the memory of my mother and my grandfather, who turned banal days into Magic.
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Acknowledgements

The present volume is the result of a long interest in the way people react in crisis situations, in front of adversity. It is a rewritten form of my doctoral dissertation defended in 2006, in the sense that here I included only the analysis and synthesis of the literature on trauma and other posttraumatic reactions, as well as therapeutic approaches for prevention and intervention. (The studies included in the PhD thesis being already published, were left out).

I think that this is a good opportunity to express my appreciation to those who really contributed to my development as a person and as a scientist who has spent some time investigating and thinking about traumatic reactions.

First of all, I would like to express my profound gratitude to prof. Mircea Miclea, my PhD supervisor and mentor in my countless wanderings in the thick forest of posttraumatic reactions. He always advised me to approach things holistically, to see the entire picture, and not only the isolated details, even if this meant incomparably more strenuous work, than proceeding otherwise. It is absolutely clear that human suffering cannot be investigated if one does not understand most of the underlying mechanisms involved in the individual context of each case.

Secondly, he also advised me to reflect and think over everything I read, again and again, and approach everything critically (but not for the sake of unjustified fault-finding). This would bring me closer to the essence of my research topic. It is a risky road, because it is much easier to follow a trodden road, and repeat from the top of one's lungs presently accepted 'truths', than question their validity, and try to go further on. And he was right again. It was more difficult, but also much more rewarding.

I do not pretend that this volume contains the ultimate truth about this topic. It contains a thorough, though critical analysis of the literature, thus decanting and delineating what is known (and what might be rethought through a more critical filter), which is occasionally seasoned with personal opinions.

I would also like to express my warmest thanks to those of my colleagues who sustained my work and with whom I could discuss the topics of major interest to me.

Last, but not least, there remains only to thank my family for their endless support, and the lesson they taught me and I will never forget - how to love and respect someone without asking anything in return.
Foreword

Among all other species, human race has experienced the most unimaginable traumas: world wars, horrible pandemics, repressive regimes, global crises, prisons, slaving etc. No one of any other species has faced something similar. Despite all these traumas, and sometimes also because of them, we are the only one specie capable to build better and safer societies, to write poems, to compose music, to produce science and technology, to innovate continuously. We are the most traumatized and the most resilient specie. Our grandeur resides in our resilience and post-traumatic growth, not in our misery.

Eva Kállay’s book is a psychological inquiry into the world of trauma, posttraumatic stress, resilience, and posttraumatic growth. It relies on a comprehensive and critical review of the literature, from psychopathology to philosophy, testifying an impressive capacity of the author to find patterns and communalities there where an inexperienced researcher would find only epistemic relativism.

It is a book elaborated according to the real state of the art and knowledge in the domain of posttraumatic stress and posttraumatic growth. Theories and explanatory models are carefully exploited to draw relevant consequences for assessment and interventions. It is an obligatory reading for any student interested on the depths and heights of the human mind.

Prof. dr. Mircea Miclea
Steinbeck’s “East of Eden” contains an extremely interesting passage, which brings into attention the issue of human reactions in life-changing situations. Lee, Adam Trask’s highly educated Chinese cook, becomes intrigued by the real meaning of a simple modal verb in one of the Bible’s most powerful parts, namely the first fratricide in the Judaeo-Christian tradition. The fragment describing Abel and Cain’s story contains God’s indication for Cain’s future reactions. According to the American Standard translation, God ordered Cain (and people in general) to overcome and triumph over sin by “Do thou”. However, according to the King James translation, God promises that Cain would eventually triumph over sin – “Thou shalt”.

Puzzled by the implications these differences in translation might purport for the destiny of humanity, Lee turns to the family sages for advice. The old Chinese wises decide to dedicate serious amounts of time and energy to elucidate this conundrum. Thus, they start learning Hebrew, consult several local rabbis, become more erudite than these Jewish wises, all this in order to understand the real message of this story.

After two years of assiduous work, the old sages arrive at the meaning of the original verb: the Hebrew *timshel*, translated in English either as “you should” (order) or “you shall” (promise) actually means “you MAYEST”.

“Thou mayest! Why, that makes a man great, that gives him stature with the gods, for in his weakness and his filth and his murder of his brother he has still the great choice. He can choose his course and fight it through and win.”

Steinbeck (1979, p. 221)

The concept of *Timshel* – or you may, has had a huge effect beyond the narrative power of this particular novel. Besides endless philosophical and religious debates, choice both gives us the much desired freedom to act as we will, but also a huge burden – we have to accept and deal with the consequences of our choices.
The problem of choice becomes an extremely profound issue especially amidst adversity. The questions to what degree is the traumatized individual able to chose how to act and react, what reactions are predetermined (genetically, socially, culturally, by nurture, etc.), and what can be chosen by the person, what is socially and medically acceptable and desired (reactions chosen or un-chosen), etc. have persisted for a long time. Based on social norms and value systems, common sense tends to ‘prescribe’ desirable reactions in front of adversity, however failing to consider the specificity of the relationship between the individual’s characteristics and the parameters of the traumatic situation. Those who cannot live up to such expectations (e.g., do not mourn when mourning is prescribed; grow when succumbing is expected, or vice versa, irregardless if it reflects or not their internal experiences) may become stigmatized and blamed by the social (and occasionally medical) opinion. However, as we will see, traumatic encounters and the trajectory of the post-traumatic process is more than the problem of a series of personal choices.

Confrontation with adverse events is probably as old as mankind, trauma being a universal constant (Cash, 2006). Fossil specimens record the early history of human and animal suffering, though in lack of written testimonies, these are limited to suffering’s physiological reference, namely to physical pain. Archeological data sustain the existence of hardly bearable pain both in animals (tooth ache in dinosaurs) and humans (infections, abscesses, rigid limbs, etc.) (Amato, 1990). Humans have always had to face natural disasters and man-caused traumas, as iniquity, illness, personal losses, individual and mass-violence, to mention only a few. Unfortunately, we cannot say that humanity has learned through time how to be totally impervious to such events. Coming to know their effect, during our evolution we either tried to predict and avoid adversity (e.g., hiding in caves, building more effective weapons and defenses to annihilate all possible enemies, moving to safer geographic areas, searching for cures, asking for supra-natural protection), or, if inevitable, we tried to face it (sometimes even turn it to our own advantage). Since humans come in a myriad of different physical and psychological ‘forms’, the reactions to these highly stressful events are highly individualized. Some people get affected, significantly disorganized and distressed for a long time by certain traumatic events; others may recover reasonably soon, while still others show extraordinary buoyancy and resilience, and maintain stability in functioning during and after the confrontation (Bowman, 1997).

Even if the atrocities of the 20th century are “closest” to us, trauma and traumatic reactions have always played a central role in human life. History, literature, cosmologies, and mythologies, are partly collections of dramatic stories (trauma fables, adages), abounding in examples of different forms of traumatic confrontations followed by intense suffering (Boehnlein & Kinzie, 1992). Most recent data suggest that the first written evidence describing quite accurately the complexity of negative reactions to a traumatic event is over 4000 years old (Ben-Ezra, 2004). The fact that around 2100 BC people felt the need, and considered
worthy to preserve in cuneiform stone-carvings King Urnamma’s death, the destruction of the city of Ur and its consequences, is not only an evidence of the way people perceived personal and mass trauma in ancient times, but it also attests the eternal importance of human suffering. Another more complex description of negative reactions similar to what would we today probably diagnose as almost *genuine* Posttraumatic Stress Disorder (PTSD), dates back as early as approximately the 12th century BC, and is represented by the fragment in the Iliad, where Homer describes Achilles’ reactions and bereavement on his close friend’s, Patrocles’ death (Homer, 2006). Somewhat more recently, Pepys’ 17 century diaries describing the reminiscent symptoms of confrontation with the Great Plague and Fire of London, or documents relating individual reactions to the impact of an avalanche in Italy (Parry-Jones & Parry-Jones, 1994, apud Beveridge, 1997) continue the line of written narrations regarding negative posttraumatic reactions.

Interestingly, records do not exclusively relate of negative reactions, but recovery and growth after intense suffering and/or sacrifice, are also repeatedly mentioned. The possibility of “rebirth” frequently appears in different forms of cultural narratives. The myth of the Phoenix who, after being consumed by fire and reduced to ashes, is reborn anew from *its own ashes* to a new life, is a symbolic theme of the Egyptian mythology, and has been taken over by Phoenician and Greek mythology as well (Van den Broek, 1972). The theme of the firebird inducing its own revival also emerges in Christianity, simultaneously symbolizing immortality and resurrection. Recovery is not specific to individuals, but also to entire populations [for more see Vale and Campanella’s (2005) descriptions of resilient cities].

Even if people had to accept the inevitability of suffering, they have always asked themselves about its meaning and utility (Hayes, Strosahl, & Wilson, 1999). Once humans have started off the quest for finding meaning to suffering, in time they have found and allocated different significances to it. In older traditions and cultures, suffering and grief, even if unpleasant, came to be considered a part of the individual’s life, conveyed with certain, not exclusively negative functions. Most religious traditions, Western and Eastern, have deemed human suffering as being “the normal state of affairs for human adults” (Hayes et al., 1999, p. 8). Moreover, several oriental and pre-Christian traditions perceived hardships as ‘temptations’, occasions for testing the ‘maturity’ of the soul, suffering being a necessary condition for growth, for attaining wisdom.

Vedantic1 religions instilled suffering with the meanings of the *maya*. Namely, the *maya* is only an illusion from which people may get rid of by freeing themselves from the life-cycles of birth-rebirth (Aldwin, 2007). However, this specific circle one is supposed to disencumber is an absolutely necessary element in

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1 ‘Vedânta’ = Sanskrit word, referring to the Upanishads (also known as Veda) which contain the core teachings of Hinduism.
cleaning the soul from previous wrong-doings. Consequently, within these religions, even the illusion of suffering has its own superior purpose.

The Buddhist approaches establish a clear distinction between the sensation of pain and suffering per se (for more on this distinction, see Chapter 3). According to Zen tenets, one of the major sources of suffering is the human propensity of taking ourselves, our own importance too seriously (Hayes et al., 1999). The ability to detach from worldly, material desires (Aldwin, 2007), and start feeling less important, thus inducing the ability to laugh at oneself (the famous “all knowing smile”), might be the key element of attaining a sufferance-devoid state.

One of the major aspects implied in the capacity to accept suffering (with its collateral meanings) in the past eras may be attributed to some ‘unchallengeable frameworks’ of meaning (Taylor, 1989). People had to refer themselves, the attributed significance of the events they had to face, and their implications to a stable system of norms and values shared and respected by the majority (Crossley, 2000). These frameworks offered steady, pre-packed, somewhat prêt-à-porter meanings, tailored and adjustable to most situations a person could face.

Times have changed – cultural norms have changed, and the significances allotted to suffering have also changed. Contemporary societies, especially the Western ones have faced serious declines in the attitudes towards religious and institutional norms, not to mention the effects of modern capitalist values and economy (McLeod, 1997; Baumeister, 1991; Giddens, 1991), exerting a tremendous effect on ways of thinking and ways of feeling. The dissolution of traditional guiding systems determined the disintegration of interpretive meaning-systems as well. This phenomenon broadened the boundaries imposed by stable meaning frameworks inducing on the one hand the appearance of countless possibilities of interpretation and a new quest for finding the most suitable meanings. On the other hand, the tremendous freedom in assigning meanings has induced a “terrifying and awesome responsibility” (Crossley, 2000, p. 17). Without a stable framework that has proven its adequacy over time for large numbers of individuals across various contexts, it is extremely difficult to find an ‘internalized’ frame of interpretation and reference that would fit other frames of reference in an adaptive manner, both in the short and the long-run (Baumeister, 1991). This lack of reference to a well-delineated frame of interpretation of events and personal identities has encumbered the process of finding relatively stable and constant global and situational meanings, leading to elevated levels of emotional discomfort.

Thus, the first stages of modernity in the Western society (end of the 19th century – beginning of the 20th), have not only determined changes in the industrial and societal domains, but also led to the appearance of symptomatic mentality: secularization, individualism, alienation, accentuation of immediate gratification, etc.

Consequently, beginning with the 20th century, more and more people started feeling disturbed by the intensity, frequency, and disability produced by the confrontation with negative events, and their inability to successfully cope with
them, and turned to trained professionals for help. Somewhat later, with the concomitant increase in number of individuals disturbed by their emotional discomfort, by the unbearableness and meaninglessness of their existence and suffering, the *fear of fear* (regardless legitimate or not), fright of distress has become so inconvenient that an interesting cultural (and scientific) phenomenon has arisen — the excessive attention on the annihilation and/or avoiding of all that is 'negative', annoying, dismal, etc.

The seemingly logical reaction from the scientific community was to increase concern, thus speeding up the inquiry of this phenomenon (Larsen, Hemenover, Norris, & Cacioppo, 2003). Consequently, beginning with the second half of the 20th century mainstream research in psycho-traumatology has even more assiduously fixed its attention on pathology and beginning with the 1980s, research on anxiety disorders in general has increased dramatically (Norton, Asmundson, & Maser, 1995). The processes of healing have been approached mainly through *reducing* and *repairing* the negative (maladaptive cognitive and emotional reactions, environmental factors etc.), within the framework of the *disease model of human functioning* (Seligman & Csikszentmihalyi, 2000). The second, equally important mission of psychology, that of increasing the quality of life and productivity in healthy populations, has gradually fallen into oblivion.

From the possible posttraumatic reactions, the most spectacular and controversial negative posttraumatic syndrome — Posttraumatic Stress Disorder (PTSD), has become one of the most extensively studied mental disorders. For a long period of time it has been considered almost *normal* that certain events (considered *a priori* as being negative) would produce negative reactions (of variable intensity) in everybody, that could, with a great probability, lead to PTSD (or extreme negative reactions), or at least expose most of the affected population to high risks of developing this specific disorder. This excessive concentration on negative reactions and effects, and the ignoring of the importance of other (neutral and even moderately positive) reactions, has missed one of the most important aspects of human functioning: namely that even if traumatic events leave the person transformed on different dimensions of his/her functioning, the most frequent reaction to trauma is rather recovery than pathology (Christopher, 2004). In the same time, research has also neglected the idea that even if the general biological processes standing at the basis of stress responses are universal, the specific dynamics of *particular* processes are determined by a unique interplay between the individual's characteristics and the socio-cultural framework, which permanently shapes the individual and his/her reactions to traumatic stress and extremely stressful situations (Christopher, 2004).

A thorough scrutiny of the literature on posttraumatic reactions carried out at the end of the ‘90s has evinced a striking imbalance in the number of studies published on this topic. Studies investigating the negative impact and effects of adversity significantly exceeded in number those investigating positive reactions (Mayne, 1999; for more see Chapter I).
Noticing the shortcomings induced by the excessive research of negative posttraumatic reactions (especially pathology), a considerable number of scientists and clinicians of the 20th century have addressed within the framework of general psychology the possibilities of positive personal changes as a possible outcome of the encounter with extremely negative events (e.g., Caplan, 1964; Dohrenwend, 1978; Frankl, 1963; Maslow, 1970; Yalom, 1980). These harbingers of research on the positive (and mostly preventive) side of traumatic reactions have tried to promote research of the brighter side of human functioning in parallel with the negative, implicitly encouraging the study of healthy people as well. It was expected that thus more complete data might be gathered; beside risk factors protective ones would also be identified, and last but not least, the underlying mechanisms could more accurately be outlined. Nonetheless, in comparison with the study of pathology, the attempts to balance the study of the negative were feeble and with few exceptions fell outside mainstream psychology (e.g., Basic Behavioral Science Task Force of the National Advisory Mental Health Council, 1996).

The second half of the '90's has promoted more serious and systematic research on other than negative posttraumatic reactions. Interestingly (maybe compensatorily), one of the areas where research boomed was the field of Posttraumatic Growth (PTG), for long time considered as the opposite of Posttraumatic Stress Disorder (PTSD) (Tedeschi et al., 1998).

Until then, possible positive posttraumatic outcomes encountered in research investigating traumatic reactions have been dealt with as residual, accidental states. Later on, related experiences of posttraumatic growth were included into the category of illusory outcomes (Taylor, 1983). The intensified research within this filed has evinced two major types of positive posttraumatic outcomes: Positive Quantum Change (Miller & C’deBaca, 1994), and Posttraumatic Growth (Tedeschi & Calhoun, 1996).

In the beginning, posttraumatic growth has been considered as positive post-confrontation changes in one’s functioning, attributed to the direct effects of the traumatic event. Later on, it has been conceptualized as positive changes experienced on different dimensions, as a result of the struggle with the negative event and its multi-level consequences (Tedeschi & Calhoun, 2004). For a period of time, especially under the ‘spell’ of the tyranny of positive emotions (Held, 2004), the experiencing and relating of trauma-induced positive changes tended (mostly for the lay public) to become another compulsory posttraumatic reaction, disregarding the adaptive and maladaptive nature of genuine reactions.

Nevertheless, as discussed later on in more detail, the more research has been undertaken, the squeakier aspects related to posttraumatic growth have popped up. Even if positive outcomes in the aftermath of a negative event are highly desired, genuine growth is not that easy to be attained, and even less easy to assess and investigate. Several years of intensified research have elapsed till the scientific community came to the conclusion that self-perceived and related posttraumatic growth should not be taken at face value. Thus, research regarding
the validity, stability of posttraumatic growth, and its adaptive or maladaptive nature has become more intense. Beside interviews, more complex assessment tools have been constructed, more and more models and theories have been developed in order to identify the possible outcomes, underlying mechanisms, and benefits posttraumatic growth may bring both to the individual and the community.

Unfortunately, as we will see after analyzing and synthesizing the literature dealing with the apparently opposing poles of possible posttraumatic reactions (negative and positive) and other possible phenomena, none of the above-mentioned, unidirectional approaches has thus far produced a comprehensive and encompassing picture of posttraumatic responses. One of the main reasons for this failure is that most approaches investigate isolated posttraumatic phenomena, omitting the fact that trauma and posttraumatic reactions are not simple, one-sided phenomena, resulting exclusively in stable, either negative or positive reactions. Traumatic reactions are extremely complex, multi-faceted responses to intricate events, encompassing the potential for both pathology, and growth. Thus, posttraumatic reactions are not pure outcomes – for example, some who experience intense negative reactions may also report positive experiences that would later on contribute to adaptation; others who initially deal outstandingly well with the event and its implications may further on experience major impairments, and so on. As we will see, the trajectory of posttraumatic reactions is extremely complex and susceptible to further influences. Thus, none of these approaches by themselves has been able to capture the dynamic of the entire posttraumatic process.

As seen, the research within posttraumatic reactions has mostly inquired this far the two extremes of the possible reactions: PTSD and PTG, considering them as pure, stable outcomes. However, posttraumatic reactions may include, in varying proportions aspects of both positive and negative elements. Furthermore, adaptation to trauma and its consequences does not only mean the elimination of negative outcomes or the accentuation of positive. The process of adaptation to extreme negative events and their implications includes the adequate equilibrium of both positive and negative.

The present volume intends to offer the reader a brief inquiry in different posttraumatic reactions. The first chapter concentrates on the presentation of the most thoroughly investigated trauma-induced disorder: PTSD; risk and protective factors; most important theories trying to explain the underlying mechanisms of this disorder, etc.

Chapter II is devoted to the discussion of other possible posttraumatic reactions, as resilience, quantum change, etc.

Chapter III concentrates in more detail on the presentation of posttraumatic growth (PTG) as a concept, with its implications, strengths and shortcomings of the dominating approaches, factors that may significantly contribute to the impelling of some sort of trauma-related growth, etc.
The last chapter offers a concise summary of intervention and prevention programs for trauma-induced clinically diagnosable disorders (PSTD), subclinical conditions, as well as programs that intend to promote resilience and posttraumatic growth.

This volume may be read both as a continuum, chapter by chapter, gradually introducing the reader into the intricacy of posttraumatic reactions. In the same time each chapter may be read individually, thus offering information to those interested only in the specific topic.
Chapter 1

NEGATIVE POSTTRAUMATIC REACTIONS

"Who, except the gods, can live time through forever without any pain?"
-Aeschylus

Occidental common sense expects traumatic events to occur relatively rarely, with spectacularly intense reactions depending on the magnitude and gravity of the event itself (Bowman, 1997). Terror, troubling memories, anxiety, and avoidance are widely-known and recognized as specific reactions to highly stressful events (van der Kolk, 2007; Shay, 1994).

Notwithstanding, experiencing traumatic events appears to be not as uncommon as one would have expected. Most of the individuals in the general population have to face at some point in their lives, at least once, some kind of negative happening of extreme intensity (Elliott, 1997; Norris, 1992; Ozer, Best, Lipsey & Weiss, 2003; McNally, 2003). Anthropological data suggest that these extremely negative encounters usually elicit specific, cross-culturally stable reactions of anxiety, terror, intrusive thoughts and images, nightmares, depression, dysfunctional behaviors, etc. with varying intensity (Christopher, 2004; Parkes, 1997). These intense initial responses to posttraumatic distress are considered normal, transient reactions, from which the total recovery of the individual may be expected (Friedman, Resick, & Keane, 2007), symptoms usually subsiding in time. Such reactions have not only been observed at the level of the individual, but larger groups may also collectively experience resembling responses. For example, Roger Caillois (2000) described the population of an Amazonian village having almost identical, long-lasting nightmares after a natural calamity.
As already mentioned, some temporary reactions, even if discomforting, are considered (at last in and for the European and North-American cultures) normal (Turnbull, 1997). The problem becomes thorny when one would like to differentiate between normal and abnormal reactions. According to Parkes (1997), responses to a specific event become ‘abnormal’ when they are “infrequent (statistically deviant from the mean for this class of responses), unexpected, excessive, weak, pathological (denoting ‘illness’), bad (denoting culpability) or just plain obnoxious (meaning that we do not like it)” (p. 10).

Naturally, persisting negative reactions produce at least a downer discomfort, and most of the people assiduously try to get rid of them. The majority succeed to bounce back to previous levels of functioning by their own, some by appealing for help (e.g., appeal to social, emotional or instrumental support). However, there is still another category of people who seem to get stuck with high levels of debilitating distress. These individuals may struggle for a longer period of time with the event and its implications, as for example intense, recurring memories of the event itself, the generated negative emotions, the disturbances in general functioning, interpretation of sequelae, etc. (Ehlers & Clark, 2000). There are cases when this struggle and effort is not attended by success – the debilitating reactions install and persist, thus hindering the individual’s attempt to adapt and lead a relatively normal life.

The main topic of this chapter is the analysis and synthesis of the literature regarding negative posttraumatic reactions, extending our discussions for the case of the most complex and controversial of the negative posttraumatic reactions - Posttraumatic Stress Disorder (PTSD). Thus, we will briefly discuss the history of PTSD conceptualizations, epidemiology, alterations in functioning attributable to the confrontation with noxious events, risk and protective factors, and major psychological theories.

1.1. Short History of PTSD

Serious medical interest to investigate specific, highly debilitating negative reactions to traumatic encounters began in the 19th century (Beveridge, 1997). The phenomenon has been approached from several points of view, leading to a heated debate between psychiatry and psychology regarding the etiology of the posttraumatic symptoms:

(i) are reactions preponderantly organic or psychological?
(ii) are they produced by the event or by the subjective interpretation the individual assigns to the event?
(iii) is the result totally dependent on the characteristics of the event or on specific personal risk factors.

Similarly, issues of debate continue with questions as:
(ii) do patients diagnosed with PTSD fake their symptoms and malingering, or the suffering is genuine,

(iii) are traumatic memories authentic and accurate, or severely distorted and unreliable, and so on (van der Kolk, 2007).

This controversy may to some degree be cleared if one starts following the evolution of the Posttraumatic Stress Disorder. Thus, let us start with the beginning. Although the history of this specific cluster of reactions is temporally relatively short, it is also extremely complex. The brief presentation of the most important contributions to the actual state of affairs is important to the comprehensive understanding of the complexity and multiple implications regarding the course of studying reactions to posttraumatic events.

The second half of the 19th century has witnessed an increased interest of psychoanalytically oriented psychiatrists regarding the study and recuperation of trauma victims (Monson, Friedman, & La Bash, 2007). During the last decades of the 19th century and the beginnings of the 20th, the investigation of specific, war-related traumatic reactions became the most important factor propelling research within this domain. However, because of the attempts to understand the mind-body relationship (van der Kolk, 2007), the approaches bifurcated, resulting in theories trying to explain posttraumatic reactions from two points of view: organic and psychological. The organic approaches concentrated on bodily reactions and symptoms, such as changes in cardiovascular functioning (Da Costa’s – soldier’s heart syndrome), different forms of neurasthenia, severe modification in cerebral neurocircuitry, and so on (Monson et al., 2007). The psychological approaches within this period emphasized and investigated symptoms as: nostalgia, combat fatigue, neurosis, etc. (Hyams, Wignall, & Roswell, 1996).

One of the first and most famous representatives of the organic approach, Oppenheim coined in 1889 the term of “traumatic neurosis” for a wide range of negative post-traumatic reactions, simultaneously advancing a hypothesis according to which traumatic reactions are the results of molecular changes in the central nervous system (van der Kolk, 2007). On the other hand, in the late 1800 Kraepelin, in his attempt to classify psychological disorders, coined the term of Schreckneurose (fright neurosis) in order to outline and incorporate anxiety symptoms following accidents and injuries (Friedman, Resick, & Keane, 2007).

At that time, the major implications of the distinct approaches to traumatic reactions, namely the organic and the psychological, had serious impact on the shaping of attitudes especially towards war-behavior. The implications of sharply differentiated organic or psychological causalities of war behavior led to the attribution of differentiating labels to the same symptoms. Posttraumatic reactions would have reduced the impact of value judgments if imputed to organic (e.g., cardiovascular/neurological malfunctioning) causes. Thus, through organic approaches it could have been avoided the implicit meanings of malingering, evasion of combat, cowardice, attached to certain traumatic reactions, which could
seriously undermine the soldiers’ own self-respect, as well as the respect of others (van der Kolk, 2007).

Early manifestations of specific clinical interest in negative posttraumatic responses were those of John Ericksen (1866, as cited in Cash, 2006) who studied the reactions of railway victims, encompassed under the term of ‘railway spine’. He considered that the specific reactions of shock, intense fear, physical, emotional, and cognitive problems could be attributed to neurological damages produced by experiencing extremely intense emotions during the encounter. This approach has lead to the nerve-trauma hypothesis (Young, 1999).

Jean-Martin Charcot, besides accepting the idea that the posttraumatic symptoms of railway spine were produced by neurological injury, introduced one of the most significant aspects of traumatic reactions – the importance of the specific nature of traumatic memory. Charcot was also the first to approach the aspect of suggestibility in traumatized patients, called “hystero-traumatic auto-suggestion” (Charcot, 1887, as cited in van der Kolk, 2007).

During the last decade of the 19th century, Sugois suggested the aggregation of different terms depicting similar traumatic reactions (railway spine, railway brain, etc.) into the single, unifying term of traumatic neurosis. This period has also abounded in medical debates regarding the nature (physical and/or psychological) of traumatic reactions (Cash, 2006).

Pierre Janet approached traumatic and posttraumatic reactions from a psychological point of view, emphasizing the importance of dissociative processes and traumatic memories (Janet, 1904; Janet, 1925, as cited in Monson et al., 2007). Janet also emphasized the importance of pre-trauma meaning schemas that may assist people to cope with future confrontations. When the content of the confrontation does not match the embedded meaning schemas, the incorporation of the new (and hurtful) information is encumbered (van der Kolk, 2007). Janet hypothesized that if the new information cannot be integrated in the pre-existing schemas, and in the individual’s personal awareness, dissociation-like phenomena may occur. As long as the new information cannot be incorporated and the person cannot construct a personal narrative containing the new information, it if highly probable that memory traces of the event may linger on until the process is completed (Monson et al., 2007). According to Janet, those individuals who cannot incorporate the new, traumatic information into their pre-existing life-narrative “are unable to make the recital which we call narrative memory, and yet they remain confronted by (the) difficult situation” (1909/1925, p. 661). The major consequences on this level of functioning would be a “phobia of memory” which hinders the further integration of the traumatic information and cut them from ordinary consciousness (Janet, 1909, as cited in van der Kolk, 2007). These fragments of the unincorporated information intrude in the form of terrifying perceptions, obsessive preoccupations, and somatic re-experiences, accompanied by high levels of anxiety (see later descriptions of flashback memories) (Janet, 1889, as cited in van der Kolk, 2007). Janet supposed that these symptoms
interfered with the person’s adaptation and could lead to a serious decline in most levels of intra- and inter-individual functioning (van der Kolk & van der Hart, 1989).

Somewhat later, Freud and Breuer, studying adult hysterical reactions, as by-products of early childhood traumatic encounters, delineated their stand towards trauma and traumatic reactions. Thus “hysterics suffer mainly from reminiscences … The traumatic experience is constantly forcing itself upon the patient and this is proof of the strength of that experience: the patient is, as one might say, fixated on his trauma” (Breuer & Freud, 1955). An important aspect in this approach is based on the relevance of dissociated memories which cannot be incorporated, and remain outside conscious awareness, also mentioned by Janet (van der Kolk, 2007). Later on, Freud has emphasized the idea according to which the traumatic encounter (e.g., childhood sexual abuse) is answered by the individual by engaging primitive defense mechanisms that lead to later maladaptation (Freud, 1964; Freud & Breuer, 1895, as cited in Monson et al., 2007).

During World War I, Freud started approaching traumatic reactions influenced by Janet’s tenets, namely that the extreme intensity of the stressor and the unpreparedness of the individual determined the typical reactions (van der Kolk, 2007). The impossibility in some patients to reintegrate the traumatic information forced them, according to Freud, to compulsively repeat (re-live) the event; such patients would “regularly repeat the traumatic neuroses in their dreams, where … the attack conforms to a complete transplanting of the patient into the traumatic situation … as if the patient has not finished with the traumatic situation” (Freud, 1917, p. 112). Freud proposed that the compulsion to relive the trauma is actually the function of repression, and because of this the individual is forced to repeat the repressed memory as if it were actual experience, and not be able to treat it as a memory of the past (Freud, 1920, as cited in van der Kolk, 2007).

During the two World Wars, military psychiatrists have noticed that extreme events in combat could trigger acute stress symptoms in previously well-adjusted individuals (McNally, 2003). Negative reactions to war-experiences have been labeled “shell shock”, “combat fatigue”, or “combat neurosis”, etc. (Everly, 1995; Meichenbaum, 1994; Micale & Lerner, 2001). Medical staff generally liked to believe that these symptoms subsided soon after ending the military service (Wilson, 1994).

Nevertheless, in increasingly larger populations the symptoms did not subside after the end of military service, and in many cases it led to long-lasting severe disabilities. The psychological relevance of posttraumatic reactions and the possible disabilities it implied has intensified interest during and after the two World Wars. Abraham Kardiner, the founder of biopsychosocial approaches attempted for the first time to bring the two approaches (organic and psychological) together (Monson et al., 2007). Kardiner published the first major study of combat-related psychological sequelae (at that time still called
psychoneurosis) in 1941 (Ozer et al., 2003). In his innovative approach to traumatic reactions he emphasized that severe posttraumatic reactions might have been represented by an amalgam of both psychological and physiological reactions, coining for these reactions the encompassing term of “physioneuresis” (Monson et al, 2007). Kardiner (1941) also highlighted the importance of the investigation of changes within behavioral and cognitive functioning as a possible aftermath of traumatic encounters. Kardiner simultaneously detailed the nature of flashbacks and panic attacks in trauma patients.

During and after the Vietnam War, professionals have observed that the number of returning soldiers who continued to experience for a considerable period of time intensive, debilitating symptoms of distress, and found very difficult to continue their life (Scott, 1990) increased constantly. Others, who returned home apparently symptom-free, developed (months, years) later the specific posttraumatic symptomatology named “post-Vietnam syndrome”.

Thus, it has been noticed that even if anxiety, horror, shock, etc., are relatively common short-term reactions of trauma exposed people, these reactions may in time turn into a multitude of disorders (e.g., phobias, depression, personality disorders, etc.). The atrocities of the Second World War and the Korean War have intensified interest regarding the investigation of specific, differentiable aspects of traumatic encounters and their consequences. Under the pressure of increasing numbers of highly distressed war-survivors, when editing the first Diagnostic and Statistical Manual of Mental Disorders (DSM-I, American Psychiatric Association, 1952) the American Psychiatric Association has included among the diagnosable disorders the “gross stress reaction”, which basically represented specific reactions to encountering diverse traumas (Friedman, Resick, & Keane, 2007). This very first diagnosis did not comprise excessively elaborate criteria; however, it clearly referred to diagnose people who were healthy before the traumatic encounter, but who later continued to experience symptoms attributable to the encounter with the extreme stressor (e.g., civilian catastrophe, combat, etc.). For presumably social and political reasons (Bloom, 2000), the disorder of gross stress reaction was left out of the second edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-II, 1968).

During the time elapsed between the second and third edition of the Diagnostic and Statistical Manual of Mental Disorders (1969-1980) serious social changes have occurred both in the United States and around the world. Feminist movements started attracting attention on physical and sexual violence against women, and violence in family (Friedman, Resick, & Keane, 2007). Under the influence of these and other social movements, interest has intensified research regarding the effects of different forms of child abuse, generating a new constellation of partially related syndromes: child abuse syndrome, rape trauma syndrome, battered woman syndrome (Gray, Cutler, Dean, & Kempe, 1977; Schmitt & Kempe, 1975; Burgess & Holmstrom, 1974). Research has evinced a striking similarity between these responses to abuse and traumatic reactions
induced by war-experiences (e.g., ‘post-Vietnam syndrome’) (Friedman, Resick, & Keane, 2007).

Thus, terms encompassing severe posttraumatic reactions have officially entered both the International Classification of Diseases, in 1978 (ICD – 9, WHO), and the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) in 1980 (APA, 1980, Young, 1999). The ICD incorporated posttraumatic reactions in the subcategories of ‘acute reactions to stress’ and ‘adjustment reaction’, while the DSM-III under the term of Posttraumatic Stress Disorder (PTSD). The ‘acute reaction to stress’ referred to relatively transient disorders without a specifically established severity or nature, experienced by individuals presenting no mental disorders before the traumatic encounter (Turnbull, 1997). PTSD has covered a large range of disabilities, from chronic to those of delayed onset. It was included into the category of anxiety disorders, however it also encloses most of the hallmark characteristics of depression (Brewin & Andrews, 2000).

The introduction of the PTSD in the DSM-III (1984) has fired lots of controversies among specialists (Friedman, Resick, & Keane, 2007). Those who thus got a tool, a nosological category to work with on different populations exposed to extreme stress (e.g., Holocaust survivors, victims of rape and domestic violence, disabled combat soldiers), warmly welcomed this initiation. In the same time, it reassured the lay population that the effects of different forms of trauma started to be taken seriously, and its maintenance in the Diagnostic and Statistical Manual of Mental Disorders was not the result of a momentary whim (Friedman, Resick, & Keane, 2007). However, those specialists who objected to the introduction of PTSD in the DSM, argued against the unnecessary pathologization of traumatic reactions; against its legitimacy as a valid syndrome; expressed their doubts regarding the PTSD’s clinical purpose and its reliability, the validity of traumatic memories, just to mention only a few of the most frequent cons (Friedman, Resick, & Keane, 2007).

According to the DSM-III, PTSD is a constellation of specific reactions to a stressor “that would evoke significant symptoms of distress in almost every-one” (APA 1980, p. 238). The diagnosis comprised the following main symptom clusters:

1. existence of a recognizable stressor that would evoke significant symptoms;
2. re-experiencing of the trauma (thoughts, nightmares and ‘flashbacks’);
3. numbing (feelings of detachment from others, loss of interest in activities, constricted affect), and
4. miscellaneous symptoms (exaggerated startle, sleep disturbance, memory impairment, etc.) (McNally, 2003).
PTSD has become the prototype of negative posttraumatic reactions purporting strong beliefs about adversity and subsequent distress. Common sense and professional assumptions have considered that human experiences are directly dependent on the nature of the (negative) event. Thus, to elicit intense, long-lasting negative reactions, an event: has to be relatively rare and unexpected, has to have certain intensity, has to be negatively valenced and even more importantly, the event itself can be accounted for the development of reactions (Bowman, 1997). From the point of view of negative reactions (especially PTSD), these have been considered to be normal responses to overwhelming traumatic events (Brewin, Andrews & Valentine, 2000), directly dependent on the parameters of the event and not on individual characteristics.

The official introduction of PTSD into the DSM has determined an increase of the interest and an outpouring of research in the domain (Friedman, Resick, & Keane, 2007). Nevertheless, as data gathered, more and more controversies have piled up as well (Friedman, Resick, & Keane, 2007; McNally, 2004). One of the major controversies refers to an extremely interesting and particular aspect of the syndrome: it is the only disorder in the Diagnostic and Statistical Manuals of Mental Disorders (editions III, III-R, IV) where the diagnostic criteria specify an etiologic event. More specifically, even if a person presents all the symptoms and criteria required, but cannot identify at least a concrete exposure to a specific (arbitrarily and a priori established as being traumatic) event, is not eligible for being diagnosed with PTSD. Thus, the typical, originally considered range of traumatic events taken into consideration by the designers of the DSM-III (combat, rape, earthquake, etc.), got changed. Thus, the DSM-III-R (1987) has redefined the traumatic event; consequently, for several years traumatic was an event that “was outside the range of usual human experience” (p. 236).

As criteria refined with each re-editing of the DSM, more and more people within the American population seemed to present the specific cluster of symptoms, the incidence becoming higher and higher (Bowman, 1997). Consequently, the necessity of more and better elaborated research, the identification of the underlying mechanisms, risk factors has become more stringent. A considerable number of specialized societies, organizations (e.g., International Society for Traumatic Stress Studies), and journals (e.g., Journal of Traumatic Stress, launched in 1988) promoting the importance of PTSD, its study and protection of individuals fallen victims to it, came into being (McNally, 2003). In this period (after DSM-III-R but before DSM-IV), heated debates have governed the Task Force charged with the fate of PTSD, concerning whether an event was such an essential feature of the disorder. Field workers inclined to propose the ignoring of the stressful event as an essential feature of the syndrome, while the Task Force sustained the importance of an etiologic event, refusing to diagnose someone with PTSD only based on the specific symptoms without the existence of the toxic event (Bowman, 1997). Actually, within the study of post-
traumatic stress and possible post-traumatic reactions this dispute has ever since represented one of the core problems and sources of debate (and development).

The very deeply embedded and commonly accepted view, that of a traumatic event necessarily causing high levels of distress, has produced reactions in the scientific circles what nowadays would seem pretty perverted. Accordingly, many individuals who have faced an event, but have not produced the specific symptomatology, have been considered either to be in denial and/or at high risk for further psychological injury (Shontz, 1975). Thus, these individuals belonged to the category of symptomless pathology (Bowman, 1997). On the other hand, the prevalence of the adversity-distress model was thought to contribute to the victimization of individuals who did not conform to the expectations of exhibiting PTSD after experiencing a highly stressful event, since PTSD was conceptualized as a normal response to overwhelming psychic trauma (Brewin et al., 2000). People who not only omitted to produce the specific PTSD symptoms, but also dared to relate some sort of posttraumatic growth (or any kind of well-being), risked to violate strongly embedded cultural expectations (Wortman & Silver, 1989). Thus, the number of individuals reporting the typical PTSD symptoms grew systematically and alarmingly (Friedman, Resick, & Keane, 2007). Some researchers believe that beyond the natural and obvious causes, some hidden ones may also have existed. One of them concerns the phenomenon of malingering, when individuals fake symptomatology, for complying with expectations, and the requirements to be diagnosed (Rosen, 2004). The other aspect concerns the deliberate exaggeration and malingering of symptoms (till all the DSM criteria were fully met for a stable diagnosis), thus offering the individual the right to apply for a substantial, life-long financial aid – in the USA this amounts up to approximately $36,000 per year, tax-free and indexed to inflation (Frueh et al., 2000; Burkett & Whitey 1998). The problematic of malingering, of unusually high levels of over-reporting symptoms (typical for a considerable number of PTSD-suspect individuals) became so acute, that some researchers have proposed that dissimulations should be included as a typical symptom of the disorder (Hyer, Woods, Harrison, & Boudewyns, 1989; Bowman, 1997).

The fourth edition of the DSM has further distilled (and simultaneously made more intricate) the definition of the etiological factor, thus defining the traumatic exposure as the situation in which “the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others,” and which evoked “intense fear, helplessness, or horror” (APA 1994, pp. 427–28). According to this new definition, a person who presents the necessary number of symptoms or finds out about someone else’s direct exposure to a noxious event, may be as eligible to be diagnosed with PTSD as the individual who presents the symptoms and faced the event directly. Quite a large number of researchers have brought serious critiques to this permanently widening definition of what may be accounted for a traumatic event.
Since a traumatic event may not necessarily be directly life-threatening, serious complications in the dose-response model appear: for example, according to the DSM-IV- (TR), the repeated overhearing of self-esteem threatening jokes at the workplace may also qualify as an event that might provoke PTSD, equivalent to that of a life threatening illness for instance (Avina & O’Donohue, 2002). Direct confrontations with the event according to DSM-IV include: combat, violent personal attacks, kidnapping, being taken as a hostage, terrorist attacks, torture imprisonment, disasters (natural or man-made), accidents, life-threatening illnesses. Indirectly experienced traumatic events include the learning about unexpected or violent death, serious harm of family members or persons close to the individual.

The 2000 revised edition of the DSM-IV has introduced, beside PTSD, another clearly traumatic event related disorder, namely the Acute Stress Disorder (ASD). ASD highly resembles the PTSD (e.g., the same stressor criterion, re-experiencing symptoms, avoidance, arousal, etc.), however it also differs by the necessary presence of at least three dissociative responses (Friedman, Resick, & Keane, 2007).

At a more thorough scrutiny, it can be noticed that since the introduction of DSM-III, the criteria for PTSD have been revised for a few times – nevertheless, none of the versions has substantially modified the fundamental set of symptomatic criteria (Ozer et al., 2003).

Beside the core criteria of DSM-IV for PTSD: (a) re-experiencing the event (e.g., nightmares, intrusive thoughts); (b) avoidance and numbing (e.g., avoiding reminders, not being able to have loving feelings), and (c) increased arousal (e.g., difficulty sleeping, hypervigilance, exaggerated startle response; APA, 1994), the cardinal feature of PTSD, that of the linking of the disabling aspects of the phenomenology to the event, has persisted over time. This may mainly be caused by the fact that intrusive images or thoughts, specific to PTSD typically reflect some aspect (or relationship) of the actual event. These almost uncontrollable intrusive images and thoughts (which represent one of the major sources of discomfort in PTSD) do not have a distressing random content, and more importantly, they cannot be easily expelled once they have become conscious (Ozer et al., 2003).

As many researchers of posttraumatic reactions have suggested, the a priori definition of an event as traumatic does not explain why different people experiencing the same event would subsequently develop contrasting reactions. Moreover, these approaches do not explain why the same person, at different times, may experience the relatively same event in different ways, and consequently develop highly different reactions (Saakvitne, Tennen, & Affleck, 1998).

This is the cause why, when considering the factors that determine the specific, distressing reactions to the particular event one would find that even if the exposure to the traumatic event is a necessary etiological factor in the momentary and future development of reactions (disorders), it is still not sufficient per se (Joseph, Williams, Yule, 1995, 1993; Christopher, 2004).
As one could infer from the above-presented short historiographic incursion, controversial opinions regarding PTSD as a particular disorder have both propelled and obstructed research. As some researchers have mentioned, PTSD as a cluster of specific symptoms cannot be considered as a universally stable disorder, extensible to people from all over the world confronting traumatic events (Friedman, Resick, & Keane, 2007; Summerfield, 2004). The latest man and nature produced calamities (e.g., South Asian Tsunamis; September 11, 2001; wars in Iraq and Afghanistan, terrorist attacks), followed by cross-cultural investigations on traumatic stress (Osterman & de Jong, 2007) have once again drawn attention to the long-lasting debilitating effects of traumatic exposure, putting old questions in new 'fonts' - is PTSD a universally valid diagnostic category? Some researchers consider that the answer would be Yes; PTSD may be a natural kind. Other researchers consider that PTSD is socially concocted - even if there are basic, universally generalizable posttraumatic reactions, there may be complex, culture and society induced variations that may hinder their encompassing into one, general disorder (Summerfield, 2004). As McNally (2004) suggests, a more appropriate stand (which by the way reconciles the above-mentioned two extremes), would be the one considering PTSD an interactive kind (Hacking, 1999), affected by the process of classification itself. According to this approach, PTSD would be “not ‘discovered’ in nature, but co-created via the interaction of psychobiology and the cultural context of classification” (McNally, 2004, p. 11).

Leaving aside the heated debates regarding the levels of suitability of either approach, the importance of clarifying conceptual and syndromic validity of PTSD becomes imperative when one would like to develop prevention programs and treatment interventions (especially in populations with different cultural backgrounds), not to mention the fact that human suffering is irreducible to a well-contoured, nevertheless exogenously conceptualized disorder.

Until this controversy will be settled, one has to have a tool to work with. Thus, in the next subchapter, we will briefly present the most important aspects of PTSD as it is treated in the DSM-IV-TR (2000).

1.2. Diagnostic implications of PTSD according to DSM-IV-TR (2000)

1.2.1. Diagnostic criteria

Depending on the onset and duration of symptoms, PTSD may be:

- **Acute**: if duration of symptoms is less than 1 month.
- **Chronic**: if symptoms last three months or more.
- **Delayed onset**: if at least six months have passed between the traumatic encounter and the onset of symptoms (DSM-IV-TR, 2000).

---

2 entity in nature that exists independently of the individual’s attempt to describe it – (for more see Dupré, 2002)
Diagnostic criteria for PTSD according to DSM-IV-TR, 2000 are presented in Table 1.1.

**Table 1.1.**
Diagnostic criteria for PTSD (DSM-IV-TR, 2000)

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Exposure to an extreme traumatic stressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td><strong>Direct exposure</strong>&lt;br&gt;Actual or threatened death or serious injury; other threat to one’s physical integrity; Witnessing an event that involves death, injury, or a threat to the physical integrity of another person.</td>
</tr>
<tr>
<td>A2</td>
<td>Response to the event: intense fear, helplessness, horror.</td>
</tr>
<tr>
<td>B</td>
<td><strong>Persistent re-experiencing of the traumatic event as:</strong>&lt;br&gt;a. Recurrent and intrusive thoughts, images, perceptions about the event.&lt;br&gt;b. Recurrent distressing dreams.&lt;br&gt;c. Re-living of the traumatic event.&lt;br&gt;d. Intense distress at the exposure of stimuli similar to those of the traumatic event.&lt;br&gt;e. Physiological reactivity to internal/external stimuli similar to those of the traumatic event.</td>
</tr>
<tr>
<td>C</td>
<td><strong>Persistent avoidance of stimuli associated with the trauma:</strong>&lt;br&gt;Avoidance of: thoughts, feelings, activities, places, people involved in the traumatic encounter. Inability to remember some aspects of the encounter. Reduced interest in activities previously attended to. Feelings of estrangement. Sense of shortened future, etc.</td>
</tr>
<tr>
<td>D</td>
<td><strong>Persistent symptoms of increased arousal</strong>&lt;br&gt;Sleeping difficulties; high levels of irritability; concentration difficulties, hypervigilance, etc.</td>
</tr>
<tr>
<td>E</td>
<td>The full symptomatology must be present at least for 1 month.</td>
</tr>
<tr>
<td>F</td>
<td>Symptoms cause clinically significant impairment in social, professional, or other areas of functioning.</td>
</tr>
</tbody>
</table>
1.2.2. Associated Features and Disorders

According to the DSM-IV-TR (2000), besides the symptoms necessary for diagnosis, PTSD patients may also experience additional disturbing symptoms of: guilt, shame, hallucinations and paranoid ideation, impaired emotion regulation, dissociative symptoms, hopelessness, hostility against others, social isolation, constant threat, impaired relationships with others, etc.

1.2.3. Differential Diagnostic

As already mentioned, PTSD is an anxiety disorder with all the characteristics of the depressive symptomatology. Thus, the differential diagnosis (presented in Table 1.2) may have a crucial importance, and must take into consideration the following somewhat similar disorders:

Table 1.2.

<table>
<thead>
<tr>
<th>Disorders considered for differential diagnosis</th>
<th>PTSD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADJUSTMENT DISORDER</strong>&lt;br&gt;Stressor may be of ANY SEVERITY</td>
<td>Stressed must be EXTREME</td>
</tr>
<tr>
<td><strong>ACUTE STRESS DISORDER</strong>&lt;br&gt;Symptom patterns must appear within four weeks after the traumatic encounter</td>
<td>If symptoms persist over one month (and other criteria met), the ASD diagnosis is changed into PTSD</td>
</tr>
<tr>
<td><strong>OBSESSIVE-COMPULSIVE DISORDER</strong>&lt;br&gt;The experienced recurrent intrusive thoughts are NOT related to the traumatic encounter.</td>
<td>The experienced recurrent intrusive thoughts are related to the traumatic encounter.</td>
</tr>
</tbody>
</table>

- Hallucinations
- Illusions (Specific to)
- Perceptual disturbances (Schizophrenia (+ other psychotic disorders))
- Mood Disorder with Psychotic Features
- Substance Induced Disorders, etc.

≠ FLASHBACKS in PTSD
1.3. Epidemiology

In short, epidemiology is the branch of science that investigates the factors affecting both health and illness in a population, simultaneously “estimating and describing the prevalence and distribution of health and illness in the population” (Norris & Slone, 2007, p. 78).

Within the study of negative traumatic reactions, prevalence studies have produced strikingly different results, percentages ranging in PTSD populations seeking treatment from 14% up to 95% (Favaro, Maiorani, Colombo, & Santonastaso, 1999; Weine, Vojvoda, Becker, McGlashan, Hodzic, Laub, et al., 1998), lifetime prevalence between 9-13%, and 13-24% among individuals exposed to traumatic events (Cason, Resick, & Weaver, 2003). These coarse results become somewhat clearer when one considers several extremely important aspects of conducting rigorous epidemiological studies within PTSD. Thus, prevalence rates are usually estimated for longer (lifetime) periods of time, but prevalence for shorter periods are also done (both projections for future and past estimations). In the case of PTSD epidemiological research has targeted three interrelated but crucial aspects:

(i) prevalence of exposure to traumatic stress;
(ii) prevalence of PTSD in the general population; and
(iii) prevalence of PTSD within exposure to a specific traumatic event (Norris & Slone, 2007).

Consequently, in the light of the above mentioned factors, prevalence rates are dependent on several factors. For example, in the USA, where the lifetime trauma exposure ranges between 50-60%, the PTSD prevalence is about 7.8% (Friedman, Resick, & Keane, 2007). In war zones on the other hand, both exposure and prevalence rates differ quite a lot. For example, in Algeria, trauma exposure is about 92%, with a PTSD prevalence of 37.4% (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; de Jong, Komproe, van Ommeren, El Masri, Araya, Khaled, et al., 2001). These findings have sustained the inference that there may be a dose-response relationship between severity of the traumatic experience and the onset of the disorder (Friedman, Resick, & Keane, 2007). The effect of the dose-response relationship has been observed in different traumatic contexts (war, sexual assault, natural and man-made calamities, terrorist attacks, etc.) (Norris, Friedman, & Watson, 2002; Galea, Ahern, Resnick, Kilpatrick, Bucuvalas, Gold, et al., 2002). An extremely interesting intra-cultural aspect has been noticed. The nature of the toxic event leads to different prevalence. Thus, in US for example, over 45% of the sexually assaulted women will later develop PTSD, while less than 9% female accident survivors develop PTSD (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993).
Regarding disasters and calamities, research has revealed that the prevalence of PTSD is higher after man-made or technological disasters than after natural calamities. Nevertheless, there are some authors who attribute these findings to differences in sampling procedure (Galea, Nandi, & Vlahov, 2005).

There have also been identified age trends in PTSD prevalence, namely that as age increases the PTSD prevalence may decrease (Kessler, et al., 1995). In cumulative childhood traumas the lifetime conditional prevalence of PTSD varied depending on gender (35% for women and 10% for men), while for events encountered in adulthood (adulthood events), conditional lifetime prevalence for PTSD was 25% for women and 15% for men (Norris & Slone, 2007).

Another aspect connected to prevalence refers to the type of PTSD - chronic PTSD (lasts at least one year) or current. Prevalence of current (or recent) PTSD has repeatedly proven to be lower than in the case of chronic PTSD (Resnick et al., 1993; Kessler, Chiu, Demler, & Walters, 2005), with the corresponding variances depending on gender (Costello, Angold, Burns, Stangl, Tweed, Erkanli, et al., 1996).

Reiterating the ideas presented in previous subchapters, it would be erroneous to think that maladaptive post-traumatic reactions all lead to PTSD. Negative reactions that do not subside in time may result in depression, other types of anxiety disorders, alcohol, drug dependency, etc. (Gold, 2008; Galea et al., 2002), but not necessarily in PTSD.

A considerable number of studies have shown that depression is far more frequent in trauma survivors than PTSD (e.g., Carey, Stein, Zungu-Dirwayi, & Soraya, 2003). Simultaneously, studies have shown that there is a strong association between number of childhood traumatic encounters and later development of depression in adult trauma survivors (Felitti, 2002 as cited in Gold, 2008).

By the same token, a large proportion of those facing traumatic events may develop different forms of anxiety disorders (generalized anxiety disorder, agoraphobia, obsessive-compulsive disorder) (e.g., Maes, Mylle, Delmeire, & Altamura, 2000). However, the type of disorder developed in this case is highly dependent on the type the traumatic confrontation (Breslau et al., 1991).

Prevalence of substance and drug abuse in trauma survivors has shown a dose-response relationship (Dube, Anda, Felitti, Edwards, & Criffit, 2002; Dube, Felitti, Dong, Chapman, Giles, & Anda, 2003). Some studies have hypothesized that alcohol and drug use and abuse represents an attempt on the behalf of the individual to suppress traumatic-confrontation induced symptoms (flashback memories, intrusive images and thoughts, etc.) (e.g., Ross, Kronson, Koensgen, & Barkman, 1992).

On the other hand, there is a considerably large population who presents some of the symptom criteria but does not present all the criteria necessary to be diagnosed with PTSD. The issue of sub-syndromal PTSD has been addressed by several authors (e.g., Stein, Walker, Hazen, & Forde, 1997), nevertheless, it is still a relatively understudied domain. The implications of these findings are important,
since the number of people suffering of sub-syndromal PTSD is almost the double of those diagnosed with PTSD (Norris & Slone, 2007).

As a summary, we may conclude that there are several delicate issues within the epidemiology of the PTSD with serious implications. First of all, we would like to draw attention to the fact that the number of epidemiological studies conducted outside the Anglo-Saxon and American cultural space is heavily outnumbered by the studies conducted in these geographic areas. Even if the likelihood of trauma exposure ranges somewhere between 50-90%, and prevalence rates of PTSD between 8-12% for the North American population, as we have seen, cross-cultural variations are considerable. Secondly, we would like to mention methodological issues, as the accuracy and comparability of definitions (event, exposure), criteria, and assessment tools, etc. All these issues have a tremendous implication in the public health perspective (Norris & Slone, 2007; Keane, Brief, Pratt, & Miller, 2007), since the data offered would influence the development of prevention and intervention programs.

Trauma itself is neither an inherent quality of a particular situation, event nor an event as such. The uniqueness of individual responses to extreme situations is determined by a myriad of factors, all of which contribute to the process in which the person experiences the event “the individual’s experience of the self, age and developmental stage, biological and psychological resources, interpersonal experiences and expectations, and social and economic milieu” (Saakvitne, Tennen, Affleck, 1998, p.281). Factors, specific to the individual and factors, specific to the event, have to play in concert in order to produce the particular cascade of symptoms.

Research within the PTSD approach has focused most of its attention on the study of psychological structures affected by the traumatic event, the underlying mechanisms and the identification of risk factors that could predict the path of posttraumatic reactions.

The following sub-chapters will briefly discuss the above-mentioned aspects.

1.4. Psychological Structures and Processes Affected in PTSD

Taking into consideration the complexity and controversial nature of negative posttraumatic symptoms, research has attempted to figure out the structures affected by extremely negative events. Thus, it has been found that in patients diagnosed with PTSD, some (sometimes all) of the following structures have been challenged, or have evinced changed functioning: memory, attention, cognitive-affective reactions, beliefs, coping strategies, etc.

In the followings, we will shortly discuss the most relevant results regarding modifications in these aspects.
1.4.1. Memory and PTSD

As previously presented, DSM criteria consider PTSD as being characterized by: a high-frequency of distressing, intrusive memories on the one hand, and amnesia for the details on the other. Research on memory in PTSD has identified several modifications in the functioning of the traumatized individuals’ memory system. More specifically, an interesting, combined pattern of memory dysfunction, characteristic to patients with depression and anxiety disorders has been observed, namely: bias toward enhanced recall of trauma-related material, with simultaneous difficulties in retrieving autobiographical memories of specific incidents and aspects (Buckley, Blanchard, & Neill, 2000).

A very startling pattern of reactions, characteristic to traumatic memories, has been revealed: (a) some studies evinced high levels of emotions associated with vivid, long-lasting memories (e.g., Brown & Kulik, 1977; Pillemer, 1998; Rubin & Kozin, 1984); other studies have evinced (b) high levels of emotions associated with vague memories, lacking in detail, and liable to error (e.g., Koss, Figueredo, Bell, Tharan & Tromp, 1996; Loftus & Burns, 1982).

The dual nature of remembering-forgetting in PTSD (Brewin, 2007) has been confirmed by clinical observations and experimental investigations as well: individuals experiencing intense negative posttraumatic reactions may report confusion and forgetting (amnesic gaps) but in the same time, they do have vivid, long-lasting memories of the event (apparent inability to forget some aspects of the trauma material) (van der Kolk, & Fisler, 1994). Usually, these confusing, chaotic memories seem to clear up in time, get more and more organized, change in content, recall (and memory capacity/span) may improve within few weeks (Mechanic, Resick, & Griffin, 1998; Schwartz, Kowalski, & McNally, 1993; Southwick, Morgan, Nicolaou, & Charney, 1997; Harvey & Bryant, 2000). In chronic PTSD these anomalies persist.

One of the main concerns regarding the issue of traumatic memories refers to the clarification of the nature of these memories. More specifically, whether these memories have unique characteristics or involve special processes, other than normal memories do (Brewin, 2007). The core of this controversy lies in the “fragmentation hypothesis”, which intended to clarify whether trauma memories are qualitatively (e.g., processed and/or stored differently) or quantitatively (extremes in processing and/or storage) different from other types of memories (Zoellner & Bittinger, 2004).

Another very important feature of memory changes in PTSD is the presence of the so-called “flashbacks”, memories dominated by sensory details (vivid images, sounds, and other sensations pertaining to the event). Usually, these images are disconnected and fragmented, but of such intensity and temporal distortion, that the individual seems to “re-experience” (re-live) the entire traumatic event. This “re-experiencing” is not the result of a voluntary, deliberate search in memory. It seems to be triggered and activated by specific contextual
elements related in some way to specific aspects of the original trauma (sounds resembling noises during assault, visual aspects, smells, etc.).

Recent studies have established some degree of agreement regarding intrusive traumatic memories in PTSD. Thus, descriptive and experimental studies concluded that in most cases intrusive memories include preponderantly image-based information, rather than verbal ones. Regarding the underlying mechanisms, experimental research suggested that the chance of developing intrusive memories is enhanced by dissociations at encoding (Brewin, 2007). An extremely interesting aspect regarding the nature of intrusive memories refers to the finding that, even if less frequently, but such kind of memories may be induced by extreme positive emotions as well (Berntsen, 2001).

Within changes in the memory system in the aftermath of a traumatic confrontation, new interest has been manifested in studying individual differences in working memory capacity (WMC). WMC seems to be related to the ability to suppress unwanted, intruding material. Simply put, the greater the capacity of the working memory, the better it has to be the individual’s ability to keep off unwanted information from intruding and distracting attention, negatively affecting cognitive tasks, or producing extremely distressing emotions. Several studies have proved that healthy individuals, having a greater capacity of working memory better suppress unwanted material (both neutral and obsessive) under experimental conditions (e.g., cognitive load), than depressed, or trauma-affected patients (Brewin & Beaton, 2002; Brewin & Smart, 2002). These findings have a great importance since it might help determine the causal relationships underlying the relationship between PTSD and low intelligence observed in a considerable number of diagnosed PTSD patients (low intelligence has been considered a risk factor for PTSD – Brewin, Andrews, & Valentine, 2000). In the same time WMC is a necessary condition for the appropriate meaning making process involved in reframing and the successive reinterpretations of the event.

Briefly put, one of the basic characteristics of traumatic memories is their fragmented nature. Chronic PTSD patients may have a hard time in fitting together information into a coherent verbal narrative, using extremely frequently repetitions, speech fillers, in a haphazard temporal sequencing (Zoellner & Bittenger, 2004). Such patients seem to experience traumatic memories in the form of vivid but disparate images, sounds, etc. As van der Kolk, the proponent of the psychobiological theory of traumatic memories (1994, 1996, 1997) has put it, “Traumatic memories come back as emotional and sensory states with little verbal representation. This failure to process information on a symbolic level […] is at the very core of the pathology of PTSD” (van der Kolk, 1996, p. 296).

Within the research regarding the nature of traumatic memories, the issue whether traumatic and especially PTSD memories are different from non-PTSD memories, was given prominence to. However, one has to bear in mind that only complex investigation combining different approaches may produce more
clarifying responses regarding all the specific aspects implied in traumatic memories.

1.4.2. Attention and PTSD

Research data on attention in posttraumatic reactions has taken its bearing mostly on experimental paradigms originating mainly in cognitive psychology. In this approach, attention has been considered to represent the resources (available to the individual), which would allow the individual to “engage in a task(s) that requires executive control” (Ashcraft, 1994).

Humans have a limited capacity to process information, and to simultaneously engage in multiple tasks. Consequently, the more complex the task, the less attentional resources will be available for concurrent tasks (Buckely et al., 2000). Post-traumatic attentional processes have most successfully been investigated in research when approached separately: automatic processing and strategic processing.

**Automatic processes** are involuntary. They are effectuated without conscious effort, and are, more or less, capacity free (McNally, 1995).

**Strategic processing** involves a conscious-controlled effort, and is (more or less) capacity limited (Posner & Snyder, 1975).

It seems this far, that there exists an attentional bias with a very early onset in the processing of the traumatic material. Leastwise, there is a large number of theories sustaining that in the earliest stages of information processing, persons who exhibit some sort of anxiety disorder are more sensitive to the global valence effects (positive versus negative) than non-clinical controls (e.g., Mathews & McLeod, 1994; McNally, 1995).

Even if from an evolutionary point of view, the adaptive value of such differentiated processing system is high (MacLeod & McLaughlin, 1995), from the point of view of individuals’ exposed to potentially traumatic events, the importance of these specific processings has another face-value, and the problem is put in totally other terms: *Are some people at greater risk than others?*

There have been heated debates on the issues of attention (especially automatic processing) of the traumatic material, since convergent results could hardly been found. Theory has hypothesized, and research has evinced some empirical evidence, according to which anxiety patients process negative information much faster than neutral or positively valenced stimuli, while there are no differences in non-anxiety patients (Buckely et al., 2000).

Some studies (more precisely the two ones we will next refer to) have produced data that would sustain the thesis that attentional bias is operating at very early stages. The above-mentioned studies have used the method of slowed color naming following subliminal presentation of trauma words on a Stroop test (Harvey, Bryant, Rapee, 1996), and a speeded reaction time to trauma related
words on the dot probe (Bryant & Harvey, 1997). These studies produced data that sustain the above-mentioned hypotheses.

However, other methods could not reproduce the same results (auditory recognition task used with Viat wets, see Trandel & McNally, 1987). Buckley et al. (2000) sustain that attentional bias could be best indicated by methods studying post-recognition processes (e.g., Stroop tasks with supraliminal presentation times) (Bryant & Harvey, 1997; Foa, Feske, Murdock, Kozak, & McCarthy, 1991), thus producing data that would disconfirm data obtained by other methodologies.

As it could be seen, different methodologies have produced (slightly) different results. Since there could not be drawn very strong conclusions, further evidence is required to clearly state what really happens during this stage of attentional processing.

There are several shortcomings of both the methods used and the ecological validity of the data resulting from isolated experiments on changes in attentional processes in PTSD. One of the fiercest critiques to research in changes within attentional processes during and after the traumatic encounter, is brought by Buckley et al. (2000). On the one hand, they propose a shift of focus in research. They put forth for consideration a replacing of the above mentioned tasks with new ones that are meant to study sustained attention and repeated exposure to threat stimuli over an extended period of time. On the other hand, they would increase the ecological validity by effectuating research targeting patient’s daily experiences on vigilance in environments rich in threat cues.

1.4.3. Dissociation and PTSD

Normal individuals usually perceive the world, the past – present – future, their own identity, etc., in a mostly continuous, interrelated manner.

Dissociation is a failure in the proper functioning of the underlying processes of the above-mentioned phenomena. The most obvious result is the sense/feeling of temporary disruption of this continuity (Spiegel & Cardeña, 1991).

The most common symptoms of dissociation in traumatic encounters are:

(i) de-realization,
(ii) depersonalization,
(iii) emotional numbing,
(iv) ‘out-of-body’ experiences.

Usually, the more intense the trauma, the more severe the dissociation symptoms are (or at least some aspects of it). Intense traumatic events coupled with fear of death, helplessness produce more intense, complex, and longer lasting symptoms of dissociation (Holman & Silver, 1998).

Approaching the problem from the point of view of attentional biases, several researchers have suggested that some aspects of these dissociative reactions
may have a ‘defensive’ function similar to those found in animals (immobilization by “freezing”, see Nijenhuis, Vanderlinden, & Spinhoven, 1998), contrasting those met in posttraumatic reactions where heart rate increases (in dissociation heart rate decreases, see Griffin, Resick, & Mechanic, 1997; Brewin et al., 2003; Brewin, Andrews, Rose & Kirk, 1999).

Even if some aspects are adaptive, a very interesting phenomenon is related to its temporal onset: dissociation occurring peri-traumatically (during the event) has different consequences than dissociation with a later onset.

In the case of research conducted on peri-traumatic dissociation, a considerable number of studies have revealed the fact that peritraumatic dissociation is a very good predictor of later onset of PTSD (Ehlers, Mayou, & Bryant, 1998; Barton, Blanchard, & Hickling, 1996; Holeva, Tarrier, & Wells, 2001; Murray, Ehlers, & Mayou, 2002). However, at a closer look, one may notice that most of the studies sustaining this claim are retrospective, based on recounts recorded months after the traumatic encounter (Bryant, 2004). Such recollections are highly dependent on the individual’s psychological condition during the assessment, and may seriously distort the original experience, leading to inaccurate data (Marshall & Schell, 2002).

The prospective studies conducted to reveal the predictive power of peritraumatic dissociation on the development of pathology have evinced a non-linear relationship between acute dissociation and long-term PTSD (Bryant, 2004), in terms that some individuals experiencing dissociation during adversity develop PTSD while others do not. More recent research has highlighted that this association may depend on several other factors and mechanisms. For instance:

(i) people with dissociative tendencies may be more prone to peri-traumatic dissociation and PTSD (for more see Butler, Duran, Jasiukaitis, Koopman, & Spiegel, 1996; Atchison & McFarlane, 1994),
(ii) history of childhood trauma and dissociation tendencies increase the probability of peri-traumatic dissociation and later PTSD (for more see Keane et al., 2001),
(iii) hyperarousal during the traumatic encounter may also increase the probability of peri-traumatic dissociation (Bryant, 2004),
(iv) the appraisal of peri-traumatic reactions (how the individual thinks about his/her own reactions) may influence more the development of pathology than the individual’s actual peri-traumatic reaction (Ehlers & Clark, 2000), etc.

Thus, predictions regarding the development of PTSD based on peri-traumatic dissociation should be carefully stated.

Still, there has not been found a consistent association between dissociative symptoms occurring after the cessation of the traumatic event and risk
for later onset of PTSD symptoms (Brewin, Andrews, Rose, & Kirk, 1999; Harvey & Bryant, 2000).

1.4.4. Beliefs and PTSD

Several studies have evinced an accentuated negative general belief about the self, the relationship with others, attitude and expectancies towards the world in patients presenting PTSD symptoms compared to victims without PTSD symptoms (Dunmore, Clark, & Ehlers, 1999; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). An interesting aspect has been revealed by a study effectuated on tortured prisoners: political activists with pre-trauma expectations of the possibility of torture (the imminence of torture was not considered as impossible), have suffered less distress than tortured non-activists, who considered imprisonment and torture as a basic violation of personal human rights, and a crass trespassing of moral codes, thus developing severe and long-lasting dysfunctional posttraumatic reactions (Başoğlu, Paker, Paker, Osmen, & Marks, 1997).

The thwarting of one of the main functions of the global meaning system – motivation – has a direct relationship with the beliefs about the self and interrelated aspects of it (e.g., self-efficacy and the commitment to pursuing goals, etc.) (Dunmore et al., 1999; Ehlers et al., 2000; Janoff-Bulman, 1992; Joseph, Williams & Yule, 1995; Meichenbaum, 1994). Thus, an event interpreted as traumatic may bring about a permanent change in the self and relating to the self, thus reducing the probability of achieving previously cherished life-goals. A considerable number of studies have evinced that extremely negative interpretation of the event and of the resulting dysfunctions (sequelae), are good predictors of subsequent PTSD and precarious recovery (Joseph, Brewin, Yule, & Williams, 1991; 1993; Dunmore et al., 1999; 2001; Ehlers et al., 2000; 1998; Steil & Ehlers, 2000).

As a summary to the issue of beliefs and negative posttraumatic reactions, it is important to accentuate the fact that posttraumatic interpretations (assessments, appraisals, attributions) of the event, of the individual’s own reactions, of the implication of others is at least as important as those effectuated peri-traumatically. Thus, the following situation may occur: individuals who have not peri-traumatically appraised the event as being extremely negative, harmful, or threatening, but later on did so, are as much exposed/predisposed to maladjustment as those who initially appraise the event as threatening. The same situation applies also to those who initially do not appraise or interpret the situation as extremely negative, but later on interpret their own reactions as inappropriate (Ehlers & Clark, 2000).

Consequently, negative beliefs sometimes trigger and direct the evolution of the extreme negative posttraumatic reactions, in other cases they may be the epiresults of accompanying appraisal processes, which may begin after the effective
cessation of the event, being triggered by the reminders of the trauma (Grey, Young, & Holmes, 2002).

**SUMMARY**

PTSD, through its very complex nature has for a long time puzzled both patients exhibiting the specific symptoms, and the scientists who have studied the phenomenon. PTSD is an extremely debilitating posttraumatic reaction, classified in the DSM as an anxiety disorder, with the characteristics of affective disorders (Ehlers & Clark, 2000).

PTSD oftentimes results and may later on cause a wide range of disturbances in a wide variety of psychological functions: memory, attention, cognitive-affective reactions, beliefs, coping strategies, etc.

Compared to other psychological disturbances, the unusual, inconsistent memory disturbances are usually considered to be the hallmark of PTSD. On the other hand, research has evinced lots of commonalities with other disorders (depression, anxiety, panic attacks, etc.), which oftentimes might be comorbid with PTSD (Brewin, & Holmes, 2003a, b).

Even if in the Diagnostic and Statistic Manuals the main accompanying emotions are fear, helplessness, and horror, the actually experienced feelings are more complex and impact the subsequent trajectory of the disturbance.

**1.5. Risk factors for the development of PTSD**

As we have previously discussed, even if most of the general population will have to face at one point in life some kind of extremely stressful, traumatic event, only a minority will develop the specific symptoms of PTSD (Zoellner & Bittinger, 2004; Rothbaum, Foa, Murdock, Riggs, & Walsh, 1992). Even in the case of most severe traumatic encounters (rape), more than half of the victims will not develop PTSD three months after the encounter (Riggs, Rothbaum, & Foa, 1995). By the same token, not even 10% of the female accident survivors will ever develop PTSD (Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). A growing body of evidence suggests that most of the people confronting traumatic events will not develop PTSD, and distressing and debilitating reactions will subside in time (Vogt, King, & King, 2007; Brewin, Andrews, & Valentine, 2000). There are also cases when individuals have sufficient resilience that helps them maintain the levels of usual functioning, the traumatic event producing only insignificant changes in reactions (Bonanno, 2004). These evidences have naturally led to the questions: Who and How will develop PTSD, or other clinically significant long-lasting debilitating reactions? Research has for several decades tried to find the ‘magic bullet’ to answer once and for all these questions, however, the endeavor was barren (Vogt, King, & King, 2007; Bremner, Southwick, & Charney, 1995; Creamer & O'Donnell, 2002).
Results have however revealed that some individuals are more vulnerable than others to develop PTSD. However, sometimes even vulnerable individuals do not develop the disorder. This might mean that even within high levels of vulnerability, intra- and extra-individual factors have to play in concert to induce debilitating long-lasting disorders.

The next two subchapters (1.5. and 1.6.) will try to shed some light on these issues.

**Risk factors** are aspects associated with an increase in the likelihood of disorder emergence (McNally, 2003). Some of the risk factors are directly linked to the underlying mechanisms (influencing for example the way the information is processed during encoding), thus enabling the establishment of a certain degree of causality. Other risk factors are only to some degree related to the outcome (or its precipitation, hindering of recovery, etc.), allowing only the determination of a correlational relationship, without the possibility of stating causality (McNally, 2001).

Kraemer, Kazdin, Offord, Kessler, Jenesen, and Kupfer (1997) have completed the risk factor theory with several important observations. Thus, regardless the existence of positive associations between factors and PTSD symptomatology, a factor cannot legitimately become a risk factor until temporal precedence is established. “To the extent that temporal precedence can be demonstrated, as might be the case for a study employing longitudinal or experimental design, the factor can be appropriately labeled as ‘risk factor’” (Vogt, King, & King, 2007, p. 103).

Kramer et al. (1997) further categorize risk factors in:

(i) **fixed markers** (factors that do not vary within individuals over time, and cannot be changed to influence the effect)

(ii) **variable risk factors** (“change within the individuals naturally over time, or can be manipulated in some way”) (Vogt, King, & King, 2007, p. 103)

(iii) **causal risk factors** (if the risk factor is changeable, and the manipulated results lead to change in outcome).

Unfortunately, within trauma studies, only few risk factors may be considered actual causal risk factors (that they cause some level of change in the risk for PTSD). Since most of the studies are cross-sectional, and only a few are longitudinal or experimental, it is quite difficult to establish clear-cut causality.

Even if in many cases the uncovering of risk factors may put lots of people in awkward, uncomfortable situations (e.g., caused by the misconception of blame attributed to the victims), they may be extremely helpful in revealing the underlying mechanisms that subsequently would lead to the disorder. In this way
both the identification of those most exposed to develop the disorder becomes possible, improving both the prevention of the disturbance, and the process of intervention.

A meta-analysis taking under investigation 77 studies, conducted by Brewin, Andrews, and Valentine (2000) has identified five demographic factors (age, gender, socio-economic status, education, and race) and nine other variables, which can be categorized into three groups, which may play a major role in the development of PTSD: (a) historical or static person characteristics (e.g., family psychiatric history, intelligence, childhood adversity and trauma, other previous trauma); (b) trauma severity; (c) social support, completed with intercurrent life stress in the interval between traumatic exposure and measurement of PTSD symptoms or the presence of the disorder.

One of their main findings was, that every predictor produced a weighted average ES ($r$) that was statistically significant, but that the effect of the predictors was quite heterogeneous: race (the weakest) was associated with an average ES of .05, whereas the strongest, lack of social support, was associated with an average weighted ES of .40. Most of the other ESs were in the range of .10 to .19. There was no particular conceptualization offered to account for the different ESs associated with the different predictors.

Another key finding of Brewin et al. (2000) was evidence of considerable heterogeneity in effects for specific predictors, depending on which trauma group was being analyzed; predictors did not demonstrate consistent degrees of magnitude in every trauma group in which they were studied. Moreover, the heterogeneity of ES estimates within the studies for any individual predictor also showed wide variability across the set of predictors, leading to even less capability to draw generalizable conclusions. Brewin et al. (2000) also examined the effects of sample and study characteristics on ESs. As with the ESs themselves, these variables produced a conflicting pattern of results. As an example, consider the comparison of studies with a civilian sample with that of a military sample. The average ES for social support was significantly different for the two types of samples, but the average ES for life stress was not different in civilian and military samples. Similarly, whether PTSD was indexed by a dichotomous diagnosis or a continuous measure of symptoms made a significant difference on the average ES for trauma severity but not for social support.

The main conclusion of Brewin et al. (2000) was that the set of studies displayed remarkable heterogeneity. The heterogeneity was both in the range of ESs across studies, but also within individual predictors as well as within the sets of studies of individual predictors, as these sets were moderated by characteristics of the studies such as the type of sample method of measuring PTSD symptoms or diagnosis. As a consequence, Brewin et al. (2000) warned against attempting “to build a general vulnerability model for all cases of PTSD (p. 756)” , an approach that has been taken with other mental disorders such as schizophrenia or bipolar disorder.
Instead, they made the following suggestion:

“The data may be regarded as consistent with a model in which the impact of pre-trauma factors on later PTSD is mediated by responses to the trauma or, alternatively, with a model in which pre-trauma factors interact with trauma severity or trauma responses to increase the risk of PTSD. In either case [these data] suggest that it may be more productive to investigate more proximal links in the causal chain, such as the association between pre-trauma risk factors and immediate trauma responses” (Brewin et al., 2000, p. 756).

Another recent meta-analysis conducted by Ozer, Best, Lipsey, and Weiss (2003) has focused on seven predictors of PTSD symptoms or of PTSD diagnosis:

(a) history of at least one other trauma prior to the index traumatic event;
(b) psychological adjustment prior to the traumatic event;
(c) family history of psychopathology;
(d) perceived life threat during the traumatic event;
(e) perceived social support following the traumatic event;
(f) peri-traumatic emotionality – high levels of emotion during or in the immediate aftermath of the traumatic event;
(g) peri-traumatic dissociation – dissociative experiences during or in the immediate aftermath of the traumatic event.

The study conducted by Ozer et al. (2003), did not include as a predictor the exposure to the index traumatic event against which PTSD symptoms were measured because exposure to such an event is a necessary criterion for diagnosis of PTSD (in using the term predictor, these authors did not make a strong claim about causality – instead, their conceptual framework is more akin to risk factor than to a causal factor).

The results of Ozer et al.’s (2003) meta-analysis regarding history of prior trauma have evinced that those who have related experiencing a prior traumatic event, also reported somewhat higher levels of PTSD symptoms than those who have not remembered to be previously traumatized. The relationship between prior trauma and PTSD did vary by the type of traumatic experience studied as the target event. Accordingly, traumatic experiences involving non-combat interpersonal violence (e.g. civilian assault, rape, domestic violence) was more strongly related to PTSD than traumatic experiences resulted from combat exposure or accident (Ozer et al., 2003).

Ozer et al.’s meta-analysis, (2003) has revealed a positive correlation between prior adjustment problems and PTSD symptoms, meaning that individuals who reported problems in psychological adjustment prior to experiencing the target stressor reported higher PTSD symptoms, on average, than those who disavowed prior adjustment problems. Major adjustment problems associated with higher levels of PTSD symptoms included:
• previous mental health treatment (Carlier, Lamberts, & Gersons, 2000; Jeavons, Greenwood, & Horne, 2000);
• pre-trauma emotional problems (Ehlers, Mayou, & Bryant, 1998);
• pre-trauma anxiety or affective disorders (Blanchard, Hickling, Taylor, & Loos, 1995; North, Smith, & Spitznagel, 1994; Resnick, Kilpatrick, Best, & Kramer, 1992; Shalev, Sahar, Freedman, et al., 1998);
• antisocial personality disorder prior to military service (Cottler, Compton, Mager, Spitznagel, & Janca, 1992).

The relationship between PTSD and prior adjustment problems seemed to be a function of the type of the (i) target event, (ii) time elapsed, and (iii) method used to assess PTSD. Thus, findings evince that when traumatic experience involved non-combat interpersonal violence or accidents, PTSD symptoms were more strongly related to prior adjustment problems. When time had elapsed between the traumatic event and assessment of PTSD, stronger relationships were found between prior adjustment problems and PTSD.

The relationship between PTSD and family history of psychopathology was stronger when the type of traumatic experience was non-combat interpersonal violence.

The perceived life-threat during the traumatic event and probability of development of PTSD was higher when the traumatic experience was non-combat interpersonal violence, than when the traumatic experience was an accident.

Regarding peri-traumatic emotional responses, individuals who related having more intense negative emotions during or immediately after the event, reported later on higher and more disturbing levels of PTSD symptoms (fear, helplessness, horror, guilt, shame, etc.), than did those who experienced less intense peri-traumatic reactions.

On the other hand, peri-traumatic dissociation during and in the immediate aftermath of the traumatic event strongly correlated with appreciably higher levels of PTSD symptoms or rates of current disorder. The strength of the relationship between the intensity of PTSD symptoms and peri-traumatic dissociation varied as a function of:

• period of time elapsed between trauma and measurement of symptoms;
• type of assessed sample;
• type of measurement of symptoms (questionnaire or interview).

Nevertheless, the relationship between PTSD symptoms and peri-traumatic dissociation did not vary by the type of the event (Ozer et al., 2003).

Several meta-analyses on risk factors for the development of PTSD have identified social support as having one of the strongest effect sizes (Ozer, et al., 2003; Brewin et al., 2000).
Interestingly, in the study of PTSD, until recently, studies have mostly considered positive elements of support (emotional and practical support), disregarding the importance of aspects of negative support (indifference, criticism). Thus, recent investigations, assessing simultaneously both positive and negative aspects of support have found that negative environment is a better predictor for the subsequent development of PTSD and/or its later exacerbation than the lack of positive support (Ullman & Filipas, 2001).

Clearly related to the aspect of cognitive appraisal and belief (global and situational meaning) system, the negative appraisal of the support offered by others (in relation to the expectancies of the traumatized individual) seem thus far to be very good predictors for the development of PTSD symptoms within 6 to 9 month in the aftermath of the traumatic event (Dunmore et al., 2001). Especially, the perception of negative social support on the behalf of the partner is a good predictor of poor response to the treatment of PTSD (Tarrier, Sommerfield, & Pilgrim, 1999).

On the other hand, there seems to be a gender difference within the perception of social support: women report more negative social support (especially in the cases of special, stigmatizing, culturally debasing events: violent sexual assault, crime) than men do. As well, the relationship between the perception of negative social support and subsequent development of PTSD is stronger in the case of women than in the case of men (Andrews, Brewin, & Rose, 2003).

As Ozer et al.’s (2003) study indicated the strength of the relationship between social support and PTSD varied as a function of period of time elapsed between trauma and assessment. The issue of social support has proved to be a stronger predictor in the cases when the event occurred more than 3 years before than in the cases when less time has elapsed. This finding might lead on the one hand to the idea that social support may function well as a sort of secondary prevention and on the other to the idea that social support and its effects are cumulative over time, thus strongly influencing data obtained several years after the event (Ozer et al., 2003).

The contrasted data of Ozer et al.’s meta-analysis are briefly presented in Table 1.3.
Table 1.3.
Predictors of Posttraumatic Stress Disorder (PTSD) Diagnosis or Symptoms
(based on Özer et al., 2003, p. 66).

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$k$</th>
<th>$N$</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior trauma</td>
<td>23</td>
<td>5,308</td>
<td>.17</td>
</tr>
<tr>
<td>Poor adjustment</td>
<td>23</td>
<td>6,797</td>
<td>.17</td>
</tr>
<tr>
<td>Family history of psycho-pathology</td>
<td>9</td>
<td>667</td>
<td>.17</td>
</tr>
<tr>
<td>Perceived life threat</td>
<td>12</td>
<td>3,524</td>
<td>.26</td>
</tr>
<tr>
<td>Perceived support</td>
<td>11</td>
<td>3,537</td>
<td>.28</td>
</tr>
<tr>
<td>Per-traumatic emotions</td>
<td>5</td>
<td>1,755</td>
<td>.26</td>
</tr>
<tr>
<td>Per-traumatic dissociation</td>
<td>16</td>
<td>3,534</td>
<td>.35</td>
</tr>
</tbody>
</table>

Note. $k$= number of effect sizes, $N$=total number of participants in the $k$ samples, 
$r$=effect size estimate adjusted for sample size (positive values reflect that the correlate is positively associated with increased PTSD symptoms).

Most reviews and meta-analyses done on PTSD start from the assumption that different events may be equated to the purpose of determining relationships. Nevertheless, in very many cases an extremely important factor is overlooked: that the constructs taken under scrutiny are not as homogeneous as they are presumed to be – e.g., the predictor of previous trauma assumes that all types of prior traumas equally produce identical expected effects. When conducting research on establishing predictors of PTSD an annoying situation arises: researchers acknowledge that traumatic events are heterogeneous with respect to many aspects: potential lethality of the event, time elapsed between assessment and event, repetition of the event, developmental phase and state of the individual, nature of the event (natural vs. caused by humans, accidental or purposeful), differences in used methodology and may be responsible for the frequent contradictions in data. In spite of this, many researchers state that they are urged to continue their investigations in the field determined by the relative homogeneity of reactions to heterogeneous traumatic events. The study of risk factors implied in the subsequent onset of PTSD meets other obstacles as well. Studies are preponderantly retrospective in nature, thus heavily biasing the obtained results and giving place to misinterpretations. Similarly, PTSD is a typically chronic disorder (Bromet et al., 1998) with a considerably unstable symptomatology – the characteristic signs and symptoms of the disorder may wax and wane in time. The assessment of individuals diagnosed with PTSD but also presenting such a fluctuating symptomatology may severely bias the interpretation of data.

The recent findings according to which peri-traumatic reactions might be one of the strongest predictors, have important implications. As discussed somewhat earlier, the fact that many individuals who meet the necessary diagnostic criteria for PTSD and report high levels of symptom-intensity, did not experience peri-traumatic dissociative phenomena raises question about the real value of these
findings. On the one hand, the appraisal and the peri-traumatic interpretation of the event may have a huge importance in the development of peri-traumatic reactions, which further on lead to the reinterpretation of the event and interpretation of the peri-traumatic reactions, it offers a more complex path to follow in research. Peri-traumatic reactions may be influenced by arousal, temperament, prior experience, genetic and contextual factors, and so on (Ozer et al., 2003). On the other hand, even if it is possible and relatively easy to assess peri-traumatic dissociation retrospectively (Shalev et al., 1998), it is extremely difficult (if not impossible with the momentarily available instruments) to assess peri-traumatic reactions as they really are occurring in the context of the event, i.e. online.

The identification of “statistically significant predictive relationships” (Ozer et al., 2003, p.70) between different factors, which may put a person at risk to later on develop PTSD has an unquestionable importance. Nevertheless, taking these factors separately and individually, may not be of utmost help in establishing the underlying mechanism of posttraumatic reactions of an individual and in the identification of factors that might mitigate or counterweigh negative reactions.

Based on Kraemer et al. (1997, 2001) and Rutter (2000) studies, Vogt, King, and King (2007) propose that instead of studying isolated factors, more or less eligible as real risk factors, future studies should better apply longitudinal designs, and identify risk pathways and risk mechanisms underlying the complex relationship between risk factors and outcomes.

1.6. Models and Theories of PTSD

As Cahill and Foa (2007) have stated, if one attempts to formulate a proper theory that might explain the development and persistence of PTSD symptoms, has to address the following major aspects:

(1) must explain the phenomenology of PTSD (specific and associated symptoms; e.g., specific cognitions, feeling of personal incompetence);

(2) must explain the “natural course of posttraumatic reactions” (Cahill & Foa, 2007, p. 56). Such a model must be able to account for the dynamic of the posttraumatic process, namely the dissipation in a relatively short period of time of the symptoms in some people, the persistence of and aggravation of symptoms in others (Riggs, Rothbaum, & Foa, 1995), or the subsyndromal cases;

(3) must explain the functioning of underlying mechanisms that assure the efficacy of different forms of psychotherapeutical interventions (especially cognitive-behavioral therapy).

Since negative posttraumatic reactions began to be seriously investigated, different approaches have attempted to explain the dynamic of the process. The most important approaches may be grouped in:
a. *psychoanalytical approaches* (e.g., Freud, 1896, 1926; Kardiner, 1941);

b. *conditioning approaches* (e.g., Keane, Zimering, & Caddell, 1985);


d. *emotional processing theories* (e.g., Foa & Kozak, 1986);


In the followings we will briefly review the most important theories and models dealing with PTSD divided in two major sections: early and recent approaches.

**EARLY APPROACHES**

1.6.1. Psychoanalytical theories

Freud’s interest for different forms of traumatic events repeatedly surfaced during his work. The necessity of the existence of a traumatic event also appeared in his first theory regarding the development of neurosis (1896). Later on, Freud maintained his interest in the topic of trauma, especially in “war neurosis”, becoming an advisor of a special committee investigating soldiers diagnosed with shell-shock (Freud, 1920, as cited in van Velsen, 1997).

In his later theories, Freud (1920) considered traumatic events as factors that affected a protective shield of the ego. This breakage would lead to a massive disturbance hindering the normal functioning of the individual on several levels. Simultaneously, this breakage in the protective shield of the ego would activate the individual’s defense mechanisms. Freud also discussed the phenomenon of intense re-experiencing of the traumatic event, through which the individual tried to control the event and its implications and adapt to the changes.

A later version of Freud’s vision on the mechanisms implied in the development of debilitating posttraumatic reactions (1926) emphasized that the core aspect of the anxiety for instance in posttraumatic reactions could be attributed to the helplessness of the ego (van Velsen, 1997).

1.6.2. Approaches based on conditioning

Based on Pavlovian fear conditioning, Mowrer’s (1960) two-factor theory of fear and anxiety, determined the contouring of several theories attempting to explain
the mechanisms underlying posttraumatic reactions. One of the basic tenets of Mowrer’s theory is that fear is acquired through classical conditioning, while avoidance through instrumental conditioning (Cahill & Foa, 2007).

One of the most influential theories within these approaches is Keane, Zimering, and Caddell’s (1985) theory of PTSD following war experiences. According to this theory, in complex life-threatening situations (e.g., sounds, visual effects, odors, temperature, etc.) a person, through classical conditioning may become conditioned to wide array of these stimuli. In time, through generalization and higher order conditioning, stimuli similar to those encountered but not present in the traumatic encounter may elicit the same intense negative reactions.

The same model intended to explain the presence of anger and high levels of irritability oftentimes encountered in combat veterans diagnosed with PTSD (Cahill & Foa, 2007). According to this approach, anger and irritability were acquired during training, and maintained either by positive or negative reinforcement.

Even if considerably influential at its time, several aspects of Keane et al.’s (1985) theory were criticized for not explaining the entire range of negative posttraumatic reactions specific to PTSD. One of these criticisms were brought by Foa, Steketee, and Rothbaum (1989), who, for instance, suggested regarding anger and irritability that this model would not explain the high frequency of aggressive symptoms in war veterans elicited by other types of trauma.

Other influential theories based on conditioning are: Becker, Skinner, Abel, Axelrod, and Chichon’s (1984) theory attempting to explain the dynamic of the development and persistence of sexual disorders in rape victims, and Kilpatrick, Veronen, and Best’s (1985) model regarding the development of post-rape reactions.

**Summary and Comments to Early Approaches**

Conditioning theories in PTSD have tried to accommodate the principles of conditioning theories developed for other anxiety disorders.

With all its practical implications, these approaches do not clearly distinguish between the etiology of PTSD and other anxiety disorders (e.g., phobias), and do not account for the much wider range of reactions met in PTSD (Brewin et al., 2003b). In the same time, conditioning theories of PTSD do not clearly explain the nature of re-experiencing symptoms, the event’s effects on attention and declarative memory, the emergence and influence of emotions other than fear, the role and importance of appraisals and coping strategies.

Taking into consideration their practical implications and theoretical drawbacks, conditioning approaches are nowadays supplemented by observation and theory drawn from more recent findings in the fields of cognition and emotion (e.g., Pitman, Shalev, & Orr, 2000).
1.6.3. Schema theories

The next important wave of theories trying to explain the complexity of posttraumatic processes originates in personality and social psychology (Horowitz, 1976, 1986; Janoff-Bulman, 1992, etc.). The main common tenet of these approaches is represented by the concept of schemata, defined as core assumptions and beliefs that determine the way new information is perceived and interpreted (Cahill & Foa, 2007). Other important commonalities of these theories are:

(i) the underscoring of the discrepancy between the parameters of the traumatic event and the individual’s core beliefs and basic assumptions regarding self, others, life in general, justice in the world, etc.;

(ii) when the new, traumatic information is processed, adjustments in these core beliefs and basic assumptions have to be done in order to assimilate and accommodate (Piaget, 1971) the incoming information.

The most influential theories in within this approach are Horowitz (1986), and Janoff-Bulman’s (1992). Next, we will briefly present both theories with both their contributions in explaining the dynamic of the posttraumatic event, and their shortcomings.

In a nutshell, according to Horowitz’s (1976, 1986) approach, the main cause that would lead to negative posttraumatic reactions lies in the individual’s predisposition to process trauma relevant information in a special way. Accordingly, traumatic and posttraumatic reactions may be roughly divided into two parts: (i) when faced with a traumatic event, people’s initial response to the encounter is an outcry at the realization of the event, and (ii) the attempt to assimilate the new trauma information into prior knowledge.

Following these processes appears the ‘fundamental psychological need’ to make the old information compatible with the new one. The memory of the traumatic event is in most cases extremely different from the already accommodated memory structures; thus, sometimes the process of integration is difficult. Consequently, trauma memories will pop into consciousness in different forms: intrusions, flashbacks, and nightmares. Even if these memories are in most cases extremely unpleasant, they provide the individual the opportunity to fit new information into the old one.

One of Horowitz’s main contributions, which further influenced research, has probably been his observation that trauma has a tremendous impact on different kinds of beliefs: self, world, future - nowadays, his theory is considered to be a “social cognitive” approach of traumatic reactions.
With all its contributions, this approach has left certain important aspects of negative posttraumatic reactions as: individual variations in response, differences between normal and traumatic (e.g., flashbacks) memories, the role of environmental factors (e.g., trauma cues, social support), differences in the paths of recovery (e.g., determined by remission or successful avoidance) etc., uncovered.

Continuing under specific aspects Horowitz’s work, Janoff-Bulman (1992) developed the theory of shattered assumptions according to which, people who hold the most positive assumptions about themselves (self as worthy), the world and life in general (as benevolent and meaningful), should be most affected by negative events (events that would shatter their belief system), and consequently predisposed to negative, maladaptive reactions (Cason, Resick, & Weaver, 2002).

The strength of this approach lies more in outlining long-term adjustment following trauma than the clarification of the way trauma impacts the individual in the short term, or the way trauma is represented in the memory system. Another important aspect of this approach is the identification of the common themes in schema changes (the accent falls on the role of the individual in social and interpersonal context, thus facilitating or blocking the subsequent process). This is one of the first approaches that have laid some accent on the possibility of positive reframing of the trauma and of posttraumatic growth.

This theory has been commented by several authors (e.g., Resick, et al. 2001; Brewin et al., 2000). As previously presented, according to the theory of assumptive worlds, people with most positive schemas (self, others, world) are most exposed to develop negative posttraumatic reactions. Nevertheless, the above-mentioned authors have found exactly opposing evidence, namely that previous traumatization is the major risk factor, and not previous positive life experiences (e.g., Resick, et al. 2001; Brewin et al., 2000). By highlighting further complementary elements, the paradoxicality of traumatic reactions, the complexity of individual reactions to the same event, the immensity of intra-psychic, behavioral, somatic, interpersonal and subjective responses have been pointed out.

Regardless the obvious shortcomings of this theory, the role of previously held beliefs in processing traumatic information has proved its usefulness, especially in clinical practice (Brewin & Holmes, 2003a).

1.6.4. Information Processing Theories

“Information-processing” theories mainly encompass early cognitive theories of PTSD. The main characteristic of these approaches was represented by exclusive focus on the traumatic event itself, regardless the possible role played by personal, interpersonal and contextual factors (Creamer, Burgess, & Pattison, 1992; Foa, Steketee, & Rothbaum, 1989).
The central idea of the cognitive, information processing approach is that there has to be something specific about the way individuals, who subsequently develop pathology, process and represent the event in their memory system.

The most relevant theories within this approach are based on Foa and Kozak’s (1985, 1986) approaches of emotion processing intended to explain anxiety disorders, and the way psychotherapy exerts its effects. The major premises on which the emotion processing theories are based, are:

(a) normal fear structures are formed by interrelated representations of feared stimuli, fear responses, and meanings associated to feared stimuli/fear responses. Anxiety disorders are an expression of the existence of pathological fear structures in memory (Cahill & Foa, 2007). The basic characteristics of pathological fear structures are:

(i) associations between the stimulus elements are not and accurate representation of the real world;
(ii) even harmless stimuli may evoke escape/avoidance responses;
(iii) extremely intense responses to stimuli hinder adaptive responses;
(iv) harmless stimuli and aspects of responses to such stimuli come to be mistakenly imbibed with meanings of threat.

(b) appropriate psychotherapeutic intervention may modify the pathological fear structures in such a way as not to induce any longer reactions typical to anxiety.

One of the main strengths of these approaches (for details see Foa et al., 1989; Chemtob et al., 1988) lies in the fact that these approaches have more thoroughly investigated the memory and attention processes, leading to successful forms of intervention, based on theory.

Nevertheless, as any approach, this one too has its limitations: for example, it does not explain how disorganized, chaotic, oftentimes incomplete memories may concomitantly produce such rapid responses as flashbacks. As previously stated, not even these theories, thoroughly studying very minute parts of extremely fine mechanisms, could not establish the distinguishing characteristics between flashbacks and ordinary trauma memories, or the different other types of trauma memories and their connections to beliefs that would expose the individual to risk. In the same time, they are not able to account for the importance of emotions other than fear and of beliefs extending beyond issues of danger to the wider social context.
RECENT APPROACHES

Most of the cognitive models of PTSD are derived from classical cognitive theories (Beck, 1972; Beck, Rush, Shaw, & Emery, 1979). The main principle of the cognitive theories is that not the event itself, but the way in which the individual interprets the event is responsible for the reactions produced. At the core of interpretation are thoughts – specific thoughts leading to specific emotions (e.g., anxiety is produced by thoughts of impending threat; thoughts of loss, lead to sadness). According to cognitive theories, emotional reactions that encumber a person’s adaptation to a situation are unusually produced by dysfunctional thoughts.

In the following, we will very briefly present the most important recently developed theories of PTSD both with its strengths and weaknesses.

1.6.5.1. Dual Representation theory (Brewin, Dalgleish, & Joseph, 1996)

The Dual Representation Theory of PTSD, proposed by Brewin et al. (1996), continues in a particular way previous approaches according to which traumatic memories are represented in fundamentally distinct ways (van der Hart & Horst, 1989; van der Kolk & van der Hart, 1991). In their opinion, in order to understand the complex relationship between cognition and emotion, there has to be “more than one type of representation of an experience of single or repeated trauma” (Brewin, Dalgleish, & Joseph, 1996, p.676). According to these assumptions, pathology (e.g., re-experiencing of the traumatic event) arises when the traumatic memories become dissociated from the ordinary memory system; recovery implies the transformation of these separately stored memories into normal or narrative memories.

Consequently, these authors state that there are two distinct memory systems: the verbally accessible memory (VAM) and the situationally accessible memory (SAM), which function in parallel, but mostly, at different times.

The verbally accessible memory can deliberately be recalled from the autobiographical memory; it contains elements of sensory features, emotional and physiological experiences, and the appraised meaning of the event. Nevertheless, the amount of information in VAM is restricted to the information that is consciously attended to (the diversion of attention during encoding restricts the volume of VAM). Further on, VAM, encoding conscious evaluations of the traumatic event as well, contains both memories of “primary emotions” (encoded during the traumatic event), and memories of “secondary emotions” (generated by secondary, conscious appraisals) (Brewin et al., 1996).

The situationally accessible memory cannot be deliberately accessed, but when the person faces internal or external physical elements or meanings that are similar
(to a certain degree) to those of the traumatic event, it is accessed automatically. Consistent with this approach, the trauma-content specific, extremely impairing flashbacks, are considered to be the results of the SAM system. The ease with which these involuntary memories are triggered by situational cues (reminders of the trauma), are apparently caused by the characteristics of the SAM system of containing information resulting from extensive, but lower level information processing, including trauma relevant, sensory data (sounds, smells, images, etc., characteristic to the event). In the same time, SAM contains information of the individual’s physiological state during the traumatic event (elevated heart rate, pain, modifications in temperature, etc.), which similarly, can become (internal) cues. Taken all these into consideration, the authors state, that SAM mostly contains memories of “primary emotions”, as they were experienced during the traumatic event.

Compared with the VAM system and because the SAM does not use verbal codes, the individual faces difficulties in relating, communicating, and even conceiving them, thus, these types of memories are extremely difficult to monitor and measure.

This theory has brought important specifications regarding PTSD, emphasizing its hybrid character of separate pathological processes, bringing elegantly together the associative and automatic features of these phenomena. Because of focusing on specific, targeted aspects of traumatic reactions, the value of this model in improving trauma theories cannot be contested; nevertheless, this theory seems to be far from offering a more integrative and ample picture of the underlying mechanisms and specific outcomes.

One of the major shortcomings attributed to the Dual Representation Model of PTSD, is that it does not specify whether these representations take the form of schemata, mental models, distributed networks, etc. In the same time the model does not exceed the study of fear and anxiety reactions to trauma (embedded in memory), not to mention the specification of the ways trauma produces changes in the self-schema, the individual’s interpersonal relationships, his worldview, etc.

1.6.5.2. Ehlers and Clark’s cognitive model of PTSD

A very important and influential theory and model of negative post-traumatic reactions is Ehlers & Clark’s Cognitive Model of PTSD (2000). These authors approached PTSD from a more specific (predominantly cognitive) angle, namely that of the sense of serious, permanent threat, and a sense of general anxiety about the future, as regarded individuals feel subsequent the traumatic event.

The authors have proposed that this constellation of feelings mainly result as a consequence and co-occurrence of two specific processes:

(i) excessive negative appraisals of trauma and/or its sequelae, and
(ii) disturbances of the autobiographical memory (poor contextualization, strong associative memory).

According to this approach, it seems that there is a considerable number of appraisals that might further on lead to a sense of permanent threat, for example: (a) individuals may over-generalize the possibility of danger in the event “and as a consequence perceive a range of normal activities as more dangerous than they really are” (Ehlers & Clark, 2000, p.321); these overgeneralizations may not only cause a sense of over-generalised fear, but may also determine the appearance of avoiding behaviours as well; (b) post-trauma appraisals, and re-interpretations of the feelings and behaviors during trauma may as well lead to overgeneralizations, and subsequently to the sense of permanent long-term threatening; (c) excessively negative appraisals of trauma sequelae: “interpretation of one’s initial PTSD symptoms, interpretation of other people’s reactions in the aftermath of the event and appraisal of the consequences that the trauma has in other life domains” (Ehlers & Clark, 2000, p.322) may have similar consequences.

It seems that among the factors that increase the probability of negative appraisals the most important ones are some specific peri-traumatic thought processes, as well as pre-trauma belief systems and experiences. Ehlers and Clark (2000) have coined this individual frame of mind as “mental defeat”, thus emphasizing the individual’s inability to influence, and regulate his/her frame of reference. This fact also seems to explain the particular reactions of prior victimization, when some individuals, in a subsequent victimization feel helpless, appraise themselves as being unable to act appropriately, develop a great sensitivity to danger, see themselves as targets, etc (Brewin & Holmes, 2003a).

From the point of view of the poorly elaborated autobiographical memory, Ehlers and Clark (2000) have found that, patients presenting these symptoms do not have a context-bound (time and space), complete memory of the event, and in the same time, they cannot adequately integrate the memory of the specific event into their general system of autobiographical memory. This phenomenon would explain a series of symptoms that are characteristic to clinically distressing posttraumatic reactions. Because of the absence of specified retrieval routes, patients face difficulties when they are asked to intentionally retrieve aspects of the traumatic event in chronological order.

Furthermore, their research on maladaptive behavioral strategies and cognitive processing styles also completes the knowledge about the nature of negative reactions. Thus, they consider that the majority of the individuals who develop a sense of permanent threat use specific strategies that are linked to the way the individual appraises the trauma and/or its sequelae, and in the same time a relationship between the nature of appraisal and the individual’s pre-trauma belief systems. In these authors’ approach, there seems to be 3 basic maladaptive mechanisms that maintain the PTSD symptomatology:
• mechanisms that directly produce PTSD symptoms (e.g., thought suppression, behaviours that are meant to control some PTSD symptoms, selective attention to threat cues, etc.);
• mechanisms that prevent change in negative appraisals of the trauma and/or sequelae (e.g., safety behaviors, etc.) and,
• mechanisms that prevent change in the nature of trauma memory [evasive thinking, avoidance of trauma reminders, active worry/repetitive, maladaptive rumination (Wells & Matthews, 1996), dissociation etc.].

SUMMARY OF THEORIES ADDRESSING PTSD

As it could be seen, early theories of PTSD may be grouped in three main classes:

• social-cognitive theories: mostly lay accent on the way a traumatic event endangers already existing mental structures, and focuses on mechanisms that should reconcile incompatible information with previously cherished beliefs – offer good accounts of the emotions and beliefs challenged by the event and long-term adjustment (but do not clearly differentiate between PTSD and other types of disorders as depression, Acuter Stress Disorder, etc.)

• conditioning theories: these approaches accentuate the study of learned associations and avoidance behavior – how trauma cues acquire the ability to elicit fear, the role played by avoidance, etc.

• information-processing theories: focus on the encoding, storage and recall of fear inducing events and their associated stimuli and responses – in the same time they offer a clearer description of the cognitive architecture by which the traumatic event may be represented, its affect on attention, and sensitization of contents that may trigger long-lasting reactions.

All these early theories are consistent with most of the available evidence of PTSD and have provided important insights into the underlying mechanisms. One of the reasons for these deficiencies resides in the restricted amount of published research on the relationship between trauma, memory, and subsequent reactions available at the time (Brewin et al., 2003).

After reviewing and briefly presenting some of the most influential models of PTSD, we might conclude that most of them are based on the study of the most important mechanisms participating in the production of symptoms, and highlight the factors that are affected by the impact of the extreme event: encoding, the modified functioning of memory, appraisal, coping strategies, modifications in the belief systems, etc. (Brewin & Holms, 2003).
Simultaneously, most of these models consider the clinically significant symptoms of PTSD as being anxiety disorders affecting memory systems. The basic differences between these models and theories seem to reside in their account of how trauma impacts memory. Most models consider isolated phenomena and focus on only few of the negative, dysfunctional dimensions traumatic events affect. Even if the majority of these models seem very complex, few of them surpass the study of basic, isolated mechanisms involved in the production of negative outcomes; nevertheless newer attempts include higher order and multi-level cognitive architectures as well (e.g., Wells & Matthew’s Self-Regulatory Executive Function Model 1996).

1.7. Psychological interventions of PTSD

Based on the proposed theories and conducted research, it started to become common knowledge that PTSD may to some degree be treated. Thus, a plethora of therapeutic interventions have been developed, trying to improve patients’ general state, cure or ameliorate their pathological condition, expecting total or partial recovery (Cash, 2006). As Cash (2006) states, intervention for PTSD would generally mean “restring one’s sense of mastery, safety, and security in the world, from helping the brain break loose from fear conditioning to helping the mind break loose from its vigilant search for threat and to gain self-control” (p. 181).

However, the most important questions still remain unanswered: who and under what conditions would benefit most from these interventions (Resick, Monson, & Gutner, 2007).

After the first inclusion of the PTSD in the DSM, not only research exploded regarding the investigation of aspects implied in the development and maintenance of the symptoms, but also attempts to treat the disorder as efficiently as possible. In the beginnings, PTSD patients received treatment based on interventions successfully used in either anxiety or depressive disorders (Frank & Steward, 1984; Kilpatrick, Veronen, & Resick, 1982). As time passed and research developed, increasingly more attention has been allotted to develop specific forms of intervention for PTSD, which would produce maximum efficiency (Keane, Fairbank, Caddell, & Zimering, 1989; Resick, Jordan, Girelly, & Hutter, 1988). Nevertheless, these early forms of research would not meet the rigorousness standards required today (Resick, Monson, & Gutner, 2007; Foa & Meadows, 1997).

Methodological development has prompted the development of a staged model of behavior therapy research (Rounsaville, Carroll, & Onken, 2001), thus establishing the necessary steps for constructing efficient forms of therapy:

- **Step 1.** Basic research for treatment development (pilot studies, treatment manuals, etc.);
• **Step 2.** Randomized clinical trials (e.g., comparing the newly developed intervention to different forms of previously developed intervention);

• **Step 3.** Promotion of research investigating the generalizability and degree of implementation of the treatment.

Foa and Meadows (1997) have developed the most important aspects, regarding the basic methodological consideration when designing treatment. According to these authors, the 'seven gold standards' for a treatment outcome study (Foa & Meadows, 1997, p. 453) are as follow:

(i) **Clearly defined target symptoms** (i.e., ascertaining diagnostic status; specification of the threshold of symptom severity; the delineation of inclusion and exclusion criteria; identification of the target population).

(ii) **Reliable and valid measures** (i.e., instruments for establishing diagnosis and to assess symptom severity).

(iii) **Use of blind evaluators** (i.e., the evaluator should not be the same person who conducts the therapeutic intervention; patients should be instructed not to disclose their treatment condition during evaluation).

(iv) **Assessor training** (i.e., interrater reliability and the calibration of assessment procedures in order to prevent evaluator drift).

(v) **Manualized, replicable, specific treatment programs** (i.e., treatment should designed based on the target problem defined by the inclusion criteria).

(vi) **Unbiased assignment to treatment** (i.e., the assignment of patients to treatment conditions either randomly or based on a stratified sampling approach; this would enhance the more adequate observation of differences or similarities among different forms of treatment).

(vii) **Treatment adherence** (i.e., use of treatment adherence ratings).

For the special case of PTSD, Cash (2006, p. 182) outlined the following basic principles that should be the guiding principles of treatment:

a. encourage the patient access and discuss the traumatic material;

b. assist the patient in the process of integrating his/her - experience in a healthy behavioral and emotional framework.

Other basic aspects in the choice of the appropriate treatment of PTSD symptoms and the establishment of treatment goals was given by Shalev, Friedman, Foa, & Keane (2000). Consequently,

(i) the selection of intervention should be based on the needs, abilities, and propensities of the patient;
(ii) take into consideration the which goals and to what degree are attainable;
(iii) establish targets (what is intended to be achieved – e.g., symptom reduction, relapse prevention),
(iv) identify whether other issues should be addressed before treating PTSD symptoms (e.g., medical care).

When establishing their systems of psychotherapy Prochaska and Norcross (1994) have identified hundreds of different forms of psychotherapy, out of which Cash (2006) considered several major types being extremely appropriate to treat PTSD. The most important ones would be: cognitive-behavioral therapy, biofeedback, constructivist-narrative therapy, crisis intervention, exposure therapy, eye movement desensitization and reprocessing, family and couple therapy, group therapy, pharmacotherapy, psychodynamic therapy, psychological debriefing or critical incident stress debriefing, relaxation training, stress inoculation training, systematic desensitization, psychosocial rehabilitation, etc.

As considerable research demonstrated, cognitive-behavioral therapies have repeatedly proven their superiority (Folette & Ruzek, 2006) in treating different diseases, and maintaining their effect. According to Shipherd, Street, & Resick (2006), even if the underlying mechanisms that bring about change are not fully understood, within cognitive behavioral therapies, cognitive processing therapy (CPT; Resick & Schnicke, 1993), prolonged exposure (PE; Foa, Rothbaum, Riggs, & Murdock, 1991), and stress inoculation training (SIT; Foa, Dancu, Hembree, Jaycox, Meadows, & Street 1999) proved this far quite effective.

Briefly stated, the basic characteristics of cognitive-behavioral therapies for treating trauma (Monson & Friedman, 2006), are:

(i) the attainment of observable outcomes,
(ii) the amelioration of symptoms,
(iii) rigorously designed intervention, with clear, attainable goals,
(iv) limited time-frame, and
(v) the attainment of an active participation on the behalf of the patients.

Even if cognitive-behavioral therapies significantly contribute to the total or partial recovery of PTSD patients, efficiency studies have demonstrated that approximately 50% of the patients continue to maintain the PTSD diagnosis both after intervention and at follow-up Zayfert, Becker, & Gillock, 2002). On the other
hand, Resick, Nishith, Weaver, Astin, and Feuer (2002) have evinced that trauma-induced emotional disturbances are much more effectively addressed by cognitive-behavioral interventions (for more on intervention see Chapter IV). These results may be an indication of the fact that PTSD, the complexity of posttraumatic reactions is still not completely understood, and complementary research is needed.

SUMMARY AND CONCLUSIONS

Traumatic encounters and extremely negative traumatic reactions have always existed. Even if, according to the natural process of adaptation, most of the affected individuals recovered, those who could not bounce back had to live in a continuous state of suffering. Nevertheless, only in the 20th century did these phenomena receive constant and rigorous attention that did not recess in time.

Thus, the complex field traumatic studies attempted in the last century to answer both who and how develop maladaptive reactions, and to find remedies, that would comfort those who could not recover by their own, or prevent the development of possible maladaptive reactions.

Following this restrictive path of studying mostly negative reactions subsequent a negative event, one may uncover the alterations produced in the mechanisms that lead to the specific disturbances. But the answer to the main question: Why do some people succumb after experiencing a negative event, others do not report any kind of change at all, while still others report a sense of benefit after such an event, is far from being answered.

In our opinion, within the study of posttraumatic reactions, the one-sided approaches (e.g., only on extreme negative symptoms) highly reduce the probability of finding the predictable and/or possible paths of reactions and recovery. Thus, theories of negative posttraumatic reactions (PTSD), need to incorporate explanations of the processes that are both specific to PTSD and more general, as well as processes that are relatively automatic (such as helplessness and dissociation) or relatively strategic (such as individual appraisals and choice of coping strategy) (Brewin et al., 2000, p. 345).

As already stated, one of the possible causes of why, apparently unreasonably, trauma has been predominantly treated from the point of view of negative emotions is that in most cases, the persons who have sought treatment, could by no other means reintegrate, resume to their previous lifestyle. Nevertheless, this does not mean that only the persons diagnosed with PTSD (or Disorders of Extreme Stress not Otherwise Specified, Depression, Anxiety Disorders, etc.) have suffered after a negative event comparable to traumatic event.

Most of the people who face an extremely negative event, in the first phase present a state of some kind of imbalance, dysfunction at one or several dimensions of their overall functioning. Nevertheless, a considerable number of
survivors have been identified, who, after a variable period of time, seem to bounce back to their original state, or even more, report some kind of improvement of their lives. Thus has the branch of research, called posttraumatic growth, has been developed.

As we will further discuss in more detail (see Chapter III), this part of research has been undergoing almost the same definitional, conceptual struggle, as has the research of negative outcomes.

The purpose of this chapter was neither to discredit PTSD as a specific disorder, nor to mitigate the suffering of those who have been diagnosed with it. On the contrary, we acknowledge the possibility of excruciating psychological pain in the aftermath of a negative event. However, in our opinion, posttraumatic reactions in general are much more complex than seen through the approaches proposed to explain PTSD. Trauma, traumatic reactions and their interpretations are extremely subjective experiences, and are capable to produce intense, long lasting, not subsiding pain. Nevertheless, trauma in itself hides many possibilities of personal growth as well. The fact that within the framework of PTSD study the accent has almost exclusively fallen on the study of pathology, has on the one hand biased research and on the other influenced patients, to concentrate on disabilities. Thus, patients could tend to overlook that regardless the impact of the negative event, they still have remained with certain (not negligible) abilities they could capitalize on, thus compensate for losses suffered, and construct possible purposes.
POSSIBLE POSTTRAUMATIC REACTIONS

The intricacy of human functioning reveals unprecedented information when individuals have to confront significant life challenges (Ryff & Singer, 2003). These are times when we are being tested, moments when overt and covert strengths and frailties surface, moments when people are compelled to exploit all their resources to bounce back to their previous levels of functioning and continue to live their lives.

Our reactions to stressful encounters are extremely complex, sometimes even contradictory (Zautra, 2003). As presented in the introductory chapter of this volume, people react in myriad ways when confronting highly stressful events. These reactions unfold in time, following highly contextualized dynamics. Sometimes, initially negative reactions subside, occasionally get more intense, sometimes become accompanied by gradually intensifying positive reactions, while other times, changes occur instantaneously. As many people confront the same traumatic event, as many paths of posttraumatic reactions. Even if there are common, universally stable negative and positive elements within these reactions, individual reactions follow highly particularized courses both to possible long-term recovery or malfunctioning.

As previously discussed, most of the research regarding posttraumatic reactions was almost exclusively confined to the investigation of negative reactions, risk factors, and development of efficient prevention and intervention programs. Literature has repeatedly revealed the damaging effects of long-term negative reactions on both intra- (physical and psychological illness; see, Cohen & Tyrell, & Smith, 1993; Avison & Goetheb, 1994; Frazier & Schauben, 1994) and interpersonal
functioning (conflictual relationships, deficient reintegration into the society, etc.). Probably based on these findings, in time, clinical psychology began to consider any change occurring in an individual’s life as possibly health damaging (O’Leary, Alday, & Ickovics, 1996). Life events, regardless positive (e.g., job promotion) or negative (e.g., job loss), if purported any trace of inherent change that might have led to stress, were for quite a long time considered harmful for both physical and psychological health (Rahe & Arthur, 1978). However, taking into consideration the relatively low number of people suffering from long-term malfunctioning, the question whether this excessive focus on the negative was legitimate, has arisen.

Evolutionary approaches have proposed that people have a pronounced ‘negativity bias’ on several levels of their functioning, from different forms of perception to different forms of reaction (Cacioppo & Berntson, 1994). These negativity biases are hypothesized to have had evolutionary significances in the process of adaptation to adverse situations (Berntson, Cacioppo, & Gardner, 1999). A concrete example in this sense may be given within the realm of taste detection. Thus, for survival it is more adaptive to better detect the traces of possible toxins and poisons (which usually taste bitter), than sweets (usually implying pleasure). Consequently, it is no wonder that our taste buds can detect bitterness 1 part/2,000,000 while sweetness only 1 part/200. By the same token, we detect much easier, and process much deeper angry faces (that may represent possible confrontations with negative implications) compared to smiling ones (Zautra, 2003).

It seems that the same principle applies to some degree to the case of posttraumatic reactions as well. Negativity biases determine intense short-term negative reactions which propel the individual in his/her quest of searching acceptable solutions for the problem (problems) at hand. Positivity biases would probably hinder this search by deactivating the thrust for re-equilibrium. Nevertheless, as already mentioned, there are cases of severe maladaptation when struggle with the event and its implications does not lead to the expected adaptation. This is the reason why most of the initial, short-term negative reactions may be considered acceptable.

Consequently, taking into consideration the costs implied (impaired functioning followed by reduced personal and professional performances, seriously impacting national economies; for more see Overbeek, Vermetten, & Griez, 2001; Greenberg, Sisitsky, Kessler, Finkelstein, Berndt, Davidson et al., 1999) and even if theories of evolution and adaptation consider that changes are indispensable elements for the survival of the species, it is to some degree understandable the pronounced inclination for the study of negative reactions to traumatic events. As presented in the previous chapter, for a considerable amount of time, it has been considered (almost) normal that certain events (a priori considered as being negative) would produce negative reactions (of variable intensity) that could with a great probability lead to high risks, and induce severe malfunctioning on different levels of the human existence.
However, this excessive concentration on the negative effects, simultaneously ignoring the importance of the positive and neutral reactions, has missed one of the most important aspects of human functioning: namely that even if traumatic events leave the person transformed on different dimensions of his/her functioning, the normal reaction to trauma is rather recovery than pathology (Christopher, 2004; Friedman, Resick, & Keane, 2007). In the same time, it has also missed the idea that even if the general biological processes standing at the basis of stress responses are universal, the specific dynamics of the specific processes are determined by unique socio-cultural frameworks, which permanently shape the individual and his/her reactions to stress and stressful situations (Christopher, 2004).

A thorough scrutiny of the literature on posttraumatic reactions has evinced a striking imbalance in the number of studies published by the end of the '90s. Studies investigating the negative impact of events and extreme negative reactions have exceeded in number those investigating positive aspects by 11 to 1 (Mayne, 1999). The unfortunate consequence was that, until relatively recently (the second half of the 90's), the literature and research on stress and coping has predominantly and excessively been focusing on the study of negative, pathological, debilitating reactions to stressful events (anxiety disorders, especially PTSD and DESNOS; depression, etc.) totally marginalizing the study of other possible reactions, inquiry that might have significantly enriched knowledge, assisting the development of a more complex theory regarding posttraumatic reactions and recovery.

The imbalance and almost exclusive focus on the adverse sequelae in the study of posttraumatic reactions (Witmer & Culver, 2001) has been so great that at the end of the 20th century, in a keynote address at the annual meeting of the International Society for traumatic Studies, Norman Garmezy reproved trauma researchers for failing “to enrich and expedite their work by drawing upon the work of related fields” (Layne, Warren, Watson, & Shalev, 2007, p. 497).

As already mentioned, stressful events impact and influence people in highly different ways, individual reactions to traumatic encounters result from a complex interplay between psychological, biological, behavioral, and social factors (Layne, Warren, Watson, & Shalev, 2007), that do unfold in time. However, there exist some basic similarities in reactions as well. This fact is by excellence true for the case of traumatic encounters. The immediate impact of extreme stress is multidimensional (Pat-Horenczyk & Brom, 2007). Reports of total recovery, of different forms of almost instant adaptation, even better posttrauma functioning continued to be registered, however not too seriously taken under investigation, remaining in the realm of anecdotal recounts.

Nevertheless, beginning with the second half of the 90’s these findings have to a great deal contributed to the initiation of the more thorough research of other possible posttraumatic reactions, mainly integrable in the filed of positive psychology.
The main objective of this chapter is to review the available literature regarding the study of the other sides of the “coin”, and will attempt to address the topic of other possible posttraumatic reactions. Consequently, we will discuss in some detail the concepts of: resilience, recovery, quantum change, and posttraumatic growth. Since most of the literature regarding positive posttraumatic reactions is focused on the phenomenon of Posttraumatic Growth (PTG), we will dedicate more attention to presenting its main strengths and highlight its weaknesses in Chapter III.

POSSIBLE POSTTRAUMATIC REACTIONS OTHER THAN PTSD

Shortcomings in the research of posttraumatic reactions due to excessive focus on the negative, have already been noticed by a considerable number of scientists and clinicians by the mid of the 20th century. As compensation, these authors have addressed, within the framework of general psychology, the possibilities of positive personal changes as a possible outcome of extremely negative events (e.g., Caplan, 1964; Dohrenwend, 1978; Frankl, 1963; Maslow, 1970; Yalom, 1980). Evidence of positive effects (without excluding the possibility of negative ones) has abounded not only in universal literature, but also in the clinical literature as well (Finkel, 1974; 1975; Frankl, 1965). These specific instances have brought into attention the potential of psychological growth in the aftermath of a negative event of extreme intensity. These harbingers of research on the positive (and mostly preventive) side of traumatic reactions have tried to promote research of the brighter side of human functioning.

Thus, the second half of the ’90’s has promoted more serious and systematic research on other than negative posttraumatic reactions. Interestingly (and ironically), one of the areas where research bloomed was the field for long time considered to be at the opposite of Posttraumatic Stress Disorder – namely, that of Posttraumatic Growth (Tedeschi, Park, & Calhoun, 1998).

The end of the 20th century has been marked not only by the questioning of why has mainstream psychology been so excessively and almost exclusively interested in the course of maladaptive reactions and clinically significant pathology, but also by the enhancement of the need to focus on positive reactions as well (Larsen et al., 2003; Joseph & Linley, 2005; Tedeschi et al., 1998; Seligman, et al., 2005; Seligman & Csikszentmihalyi, 2000; Seligman, 2002, etc). Questions as: Could psychology, based on the scientific knowledge extracted from the studying and treating mental illness create a “practice of making people lasting happier?” (Seligman, et al., 2005, p. 410), or help people find strengths to ameliorate the impact of negative information? (Carver & Scheier, 2002), were meant to represent serious calls for re-balance by emphasizing the positive as well (Seligman & Csikszentmihalyi, 2000; Seligman, 2002, etc.).
As we have briefly discussed in Chapter I, cultural and anthropological data suggest that the experience of extreme, traumatic events usually elicits reactions that may be considered universal (Boehnlein, 2002; Christopher, 2004; Brewin, Dalgleish & Joseph, 1996). In moments of crisis, based on individual theories influenced by culture-dependent common-sense (folk-) psychologies (Bruner, 1990; Kelley, 1992), individuals resort to different types of more or less efficient self-psychotherapy (Honeck, 1997). If one takes into account that cultures are based on different central values, traditional belief and religious systems, different family and social structures, the above-mentioned issue gets a specific importance in the process of healing and recovery (Boehnlein, 2002). As Kirmayer and Young (1998) have emphasized, there are significant differences in the way cultures promote conscious and non-conscious ways of dealing and coping with distress. Consequently, the study of forms and contents of the events, of the (reactions) symptomatology, their representations, the way people construct and revise beliefs based on specific internal rules (Wells, 2000) and “subsequent healing processes within a specific culture may allow access to the core religious beliefs, sacred values and views of interpersonal relationships which are made more visible during times of stress” (Fabrega, 1974). These aspects would to a great extent improve the tailoring of both prevention and intervention programs.

Even if the gloomy predictions coming from the study of the negative reactions to traumatic events have left their fingerprints on attitudes and expectations towards posttraumatic outcomes, the overall situation does not seem to be as gloomy as it has been depicted. Curiously or not, the number of individuals and groups of people who survived, adapted to, and developed personally because of such taxing accounts outnumbers by far those who presented extremely disturbing negative reactions (Christopher, 2004). As hinted at in the introductory chapter, cross-cultural accounts of history, literatures, mythologies abound in ancient themes of physical and psychological rebirth or some other forms of positive life-altering responses to extremely negative events. These spectacular (however not unusual) come-backs have not only been evinced at the individual level, but at larger societal levels as well (e.g., rebirth of nations after major mass destructions, mass stigmatization, etc., Tedeschi, Park, & Calhoun, 1998).

With all the extremely valuable information provided by the minute accounts of these mechanisms and sub-mechanisms that would promote negative reactions, the actual individual trajectory of posttraumatic reactions is still difficult to approximate (Joseph & Linley, 2005). The subtlety of trauma and the underlying mechanisms of all possible traumatic reactions cannot be understood by taking into consideration only one (the negative) of the multitude of possible reactions. Based exclusively on the pathology-focused approach, it is to some degree possible to predict that people presenting risk factors (e.g., pre-trauma history of psychological disorders, childhood abuse, etc.) might later on develop clinically significant reactions. However, it is extremely difficult to predict why and how
some people (even ones purporting risk factors), who in the immediate aftermath of a traumatic event experience negative reactions are able to bounce back, some even reporting high degrees of posttraumatic growth.

Trauma and traumatic reactions still remain controversial issues that continue to awe. Research and literature have evinced lots of so-called ‘surprising’ cases when people, purporting the pathology promoting risk factors, have been describing unexpected patterns of reaction (Aldwin & Sutton, 1998; Masten & Reed, 2002). Have they been atypical? Or who has been atypical?

Ironically, in the last 10-15 years, researchers have suddenly been struck (again) by the long-known phenomenon, that only a relatively small part of the traumatized individuals have later developed clinically significant reactions. In the same time a large number of individuals confronting traumatic events have experienced minor, transient disruptions in their functioning (Bonanno, 2004; Christopher, 2004), still others have subsequently reported the perception of some form of benefit and personal growth in the aftermath of a negative event (Christopher, 2004, Larsen et al., 2003). It has also been observed that resilience, recovery and reports of posttraumatic growth may be much more complex processes than bare defenses or illusions, as they were initially regarded. Accordingly, more and more researchers (e.g., Tedeschi, Park, & Calhoun, 1998; Tedechi, Calhoun, 2004, Linley & Joseph, 2002, 2004a,b; Saakvitne, Tennen, & Affleck, 1998, etc.) have considered that a more profound account and understanding of different posttraumatic reactions may be attained by thoroughly considering individuals who have reported resilience and positive experiences (development beyond the previous level of functioning).

According to O’Leary and Ickovics (1995), after experiencing an extreme event the following major situations may arise: succumbing, survival with impairment, resilience (recovery), and thriving (a concept we will later on discuss under the term of posttraumatic growth – PTG).

Later approaches (e.g., Bonanno, 2004) clearly distinguish between resilience and recovery, considering them totally distinct constructs. Similar adaptational trajectories in time were proposed by Layne, Warren, Watson, and Shalev (2007). The processes delineated by these authors highlight the differences in stress-resistance, resilience, protracted recovery, and severe persisting distress referring to adaptation, nevertheless disregarding the possibility of trauma related growth (see Figure 2.1.).
Figure 2.1:
Approach resistance, resilience, protracted recovery, and chronic distress as distinct dynamic processes that are distinguished by different adaptational trajectories over time (Layne, Warren, Watson, & Shalev, 2007).

As seen, compared to the posttraumatic reactions proposed by O'Leary and Ickovics (1995), Bonamino's (2004), and Layne, Warren, Watson, and Shalev's (2007) conceptualizations emphasize the difference between resilience and recovery, nuancing crucial aspects that may influence the further unfolding of reactions. As we will see, the terms of stress resistance and resilience are sometimes used interchangeably; however, according to these authors the distinction is extremely important. Stress-resistant individuals are able to maintain relatively stable homeostatic (adaptive) functioning under highly stressful conditions, thus manifesting only transitory and non-significant changes in functioning before, during, and after the traumatic encounter. According to this conceptualization, resilient individuals exhibit transitory malfunctioning, followed by total recovery, bouncing back to their initial level of functioning. Thus, if stress-resistant individuals only experience insignificant changes in functioning, resilient individuals initially present significantly lower levels of functioning, after which they quickly return to their initial homeostasis.

Corroborating all the above-mentioned information, we would like to complete with another possible, nevertheless somewhat marginalized posttraumatic reaction, namely the phenomenon of Quantum Change (positive and negative) (Miller & C’deBaca, 1994). Thus, the basic possible posttraumatic reactions proposed by us are delineated in Figure 2.2.
An important aspect we would like to repeatedly emphasize is that Figures 2.1 and 2.2 represent basic, pure and stable outcomes, as if unchangeable in time. In reality, posttraumatic reactions are dynamic processes, significantly changeable in time, massive dysfunctions being recuperable, while seemingly stable tendencies towards growth may be thwarted by subsequent events, etc. Our warning is that the reactions presented should not be taken as static pathways. Each reaction is a dynamic process, with different slopes, levels, and trajectories referred to the focal stressor, and in each of these paths lay the possibility of change in time.

In the following parts of this chapter, we will briefly present the above-mentioned constructs, in Chapter III discussing in more detail the phenomenon of Posttraumatic Growth (PTG).

2.1. Succumbing

There are individuals who are crushed by such distress, who afterwards are not able to reintegrate, to go on with their lives, who report a dramatic change in most aspects of their functioning, a change that cannot be undone. As the term succumb suggests, the outcome does not only imply the possibility of a qualitatively damaged life. Literature has recorded cases when such intense reactions have lead to massive physical and psychological deterioration or even death (e.g., death.
resulted from the abandonment of fighting for survival; suicide as the result of irreparable psychological exhaustion; see “running into the wire” Frankl, 1963).

2.2. Survival with impairment

Other individuals, who after experiencing an extremely negative event do in the immediate aftermath experience extremely distressing reactions, later on recover to some degree, but cannot attain their previous (pre-event) levels of functioning. Such individuals may experience significant levels of distress, different forms of intra- and inter-personal malfunctioning (e.g., depression, anxiety disorders, alcohol and drug abuse, etc. for more see Chapter I or Gold, 2008).

2.3. Resilience and Recovery

Even if in their approach O’Leary and Ickovics (1995) have not taken separately the two terms, there have been heated debates in the literature regarding the fact that there are major differences between the concepts of resilience and recovery.

Since some aspects of resilience, recovery and posttraumatic growth overlap to some extent, in order to avoid unnecessary confusions, it is highly necessary to discuss these concepts in more detail, thus obtaining a clearer image of posttraumatic reactions.

2.3.1. Resilience

In extremely general terms, resilience is the branch of study dealing with processes underlying individual differences in reactions to stressful encounters (Jenkins, 2008). Resilience became an umbrella concept, encompassing distinct groups of phenomena related to different aspects of positive adaptation in adverse conditions (Masten & Obradović, 2006).

Presently, literature abounds in a plethora of definitions, and conceptualizations of resilience, which at their turn direct the approaches and investigations of the phenomena one subscribes to. This wealth of definitions and approaches has not only a positive side that enhances multisided knowledge, and evinces the complexity of the phenomena, but also a downside, namely that of leading to inconsistencies, ambiguities, and even controversies (Kaplan, 2006; Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003).

As Layne, Warren, Watson, and Shalev (2007) mentioned, mainstream literature works with a number of distinct meanings ascribed to resilience. The most notable definitions are presented in Table 2.1.
Table 2.1.
Major definitions of resilience

<table>
<thead>
<tr>
<th>Authors</th>
<th>Definitions</th>
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<tbody>
<tr>
<td>Garmezy (1993)</td>
<td>“under adversity, an individual can bend, lose some of his or her power and capability, yet subsequently recover and return to the prior level of adaptation as stress is reduced or compromised” (p. 132)</td>
</tr>
<tr>
<td>Cicchetti &amp; Rogosch (1997)</td>
<td>“the individual’s capacity for adapting successfully and functioning competently despite experiencing chronic stress or adversity, or following exposure to prolonged or severe trauma” (p. 797)</td>
</tr>
<tr>
<td>Hobfoll, Ennis, &amp; Kay (2000)</td>
<td>“the possession and sustaining of key resources that prevent or interrupt loss cycles” (p. 277)</td>
</tr>
<tr>
<td>Brooks &amp; Godstein (2001)</td>
<td>“the ability of the child to deal more effectively with stress and pressure, to cope with everyday challenges, to bounce back from disappointments, adversity, and trauma, to develop clear and realistic goals, to solve problems, to relate comfortably with others, and to treat oneself and others with respect” (p. 1)</td>
</tr>
<tr>
<td>Bonanno (2004)</td>
<td>“the ability to maintain a stable equilibrium” (p. 20) in the face of adversity (clinically insignificant degrees of modification in their overall peri- and post-traumatic functioning, which do not impair the person’s overall functioning – in other words, these persons maintain a relatively stable equilibrium, within the range of healthy levels of psychological and physical functioning)</td>
</tr>
<tr>
<td>Walsh (2006)</td>
<td>“the capacity to rebound from adversity strengthened and more resourceful” (p. 4)</td>
</tr>
<tr>
<td>Masten &amp; Obradović, Burt, &amp; Masten (2006)</td>
<td>“broad conceptual umbrella, covering many concepts related to positive patterns of adaptation in the context of adversity. … a class of phenomena where adaptation of a system has been threatened by experiences capable of disrupting or destroying the successful operations of the system” (p. 14)</td>
</tr>
<tr>
<td>Luthar (2006)</td>
<td>“positive adaptation despite experiences of significant adversity or trauma” (p. 742)</td>
</tr>
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</table>

As one could observe, resilience has been somewhat conceptually differently approached when research targeted children/adolescents, and adult population (Luthar, Sawyer, & Brown, 2006). In the case of research in children, researchers pursue different aspects of behavioral competences, while in the case of adults more emphasis rests on the emotional life and emotional well-being (happiness, absence of negative affectivity, hopefulness, etc.) of the individual during and after confronting adversity, as well as on the effect of the texture of emotional life on overall functioning. In the following, we will discuss in more depth both approaches: resilience in children/adolescents and adults, and their implications.
The initial interest for the study of resilience was kindled by the desire to understand the factors that determine certain children to become more vulnerable to stressful events than others. The study of resilience looks back on over 50 years of intensive research concentrating on the identification of factors implied in adaptive and maladaptive outcomes after confronting adversity (Luthar, Cicchetti, & Becker, 2000; Goldstein & Brooks, 2006). The roots of research in this domain started in the late 1960, when children of schizophrenic parents were observed regarding their reaction patterns during and after exposure to long-term, high risk factors. Garmezy’s (1974) results evinced that a part of the high-risk children have had a surprisingly positive (healthy) adaptive patterns (Luthar, 2006), in spite of the fact that research at that time would have (and did) labeled them as atypical cases. Regardless this *a priori* categorization, Garmezy continued his studies in this direction, trying to identify the factors and specific mechanisms that would significantly contribute to the unexpected adaptation and well-being. Somewhat similar to Garmezy’s work did run Anthony and Rutter’s investigations in the mid 1970’s on children with schizophrenic parents who resisted being overwhelmed by their living conditions (illness of the parent), still maintaining compassion and feeling empathy for the affected parent (Luthar, 2006).

The next major approach in the study of resilience is represented by Emmy Werner’s studies (e.g., Werner, 2000) who extended research beyond the effect of parental pathology on children, and included multiple forms of adverse conditions (socioeconomic disadvantage and associated risk factors). Werner’s most relevant studies targeted Hawaiian infants from Kauai, conducting a longitudinal study begun in 1954, with several follow-up assessments, continuing even in present times. One of the most notable risk pathways leading with high probability to maladaptation was found to be peri-natal risk factors in the presence of family poverty. More specifically, within disadvantaged family environments peri-natal risk factors lead more systematically to maladaptation if the care-giving environment and family cohesion was disrupted. Within high-risk groups, the most important protective factors that were identified were: affectional ties with the family, informal support systems, and sociability (Luthar, 2006).

Thus far, studies conducted under the encompassing term of resilience inquired the adaptive and maladaptive reaction patterns of children in time in a multitude of conditions: maltreatment (Beeghly & Cicchetti, 1994; Cicchetti & Rogosch, 1997), community violence (Luthar, 1999), chronic illness (Wells & Schwebel, 1987), catastrophic life events (O‘Dougherty-Wright, Masten, Northwood, & Hubbard, 1997), and so on.

Rutter’s 1987 article represents one of the most important cornerstones in the study of resilience, providing valuable information for clarifying the concept of resilience, proposing methods of investigation, in order to identify specific risk and protective factors (Luthar, 2006), especially “developmental and situational mechanisms involved in protective processes” (Rutter, 1987, p. 2). According to his observations, the results of confronting wit highly adverse events is partially
determined by the concerted interaction and relative balance between risk and protective factors (Rutter, 1994), the most adequate ways to understand resilience being the simultaneous consideration of developmental processes and transactional models (Jenkins, 2008). Since even in usual situations individuals are in an almost permanent interaction with social and physical systems (Sameroff & Mackenzie, 2003), resilience becomes a dynamic process implying processes that occur prior to, during, and after stress exposure (Rutter, 1999).

Rutter also provided possible pathways through which the effects of different risk factors may be reduced (e.g., altering the risk experience, altering exposure, warding off negative chain reactions, raising self-esteem, and identifying opportunities; for more see Luthar, 2006).

For several decades, the study of resilience predominantly targeted adaptational pathways in children and adolescents, later passing to the more controversial approaches of resilience in adulthood, and especially in the case of adults confronting traumatic events. In the following we will briefly outline the major aspects of research within these domains.

The investigations of adaptational pathways in children and adolescents may be grouped in three major waves (O’Dougherty Wright & Masten, 2006; Masten & Obradović, 2006):

(i) the **first wave** targeted and resulted in:

- the description of the phenomena,
- the contouring of basic concepts (identification of assets and protective factors),
- the delineating of methodologies.

(focusing on individual cases)

(ii) the **second wave** proposed a more dynamic approach of resilience, with

- the theory being mostly based on a developmental-systems approach;
- the research being focused on positive adaptation in the context of confrontation with negative events;
- the entire approach following the processes of adaptation as a series of transactions among individuals and collateral systems their development is embedded in.

(iii) the **third wave** that is nowadays getting a more definite shape, is using the information produced by the above mentioned two waves and is mostly focused on the development of preventive interventions through which one could enhance developmental pathways.
a. The first wave

The first studies of resilience have been initiated and conducted in the United States, under the impetus of a strong cultural ethos praising individualism (O’Dougherty Wright & Masten, 2006; Masten & Obradović, 2006), comprised in the famous dictum of succeeding through one’s own efforts, no matter how harsh the conditions be (Anthony, 1974).

The mass of studies conducted both in the USA and abroad in different socio-economic and cultural contexts (Glantz & Johnson, 1999), have led to the identification of key concepts, and the first attempt to define the still controversial term of resilience. The major concepts related to resilience identified during the first wave have been systematized by O’Dougherty Wright, and Masten (2006), selections of main aspects being presented in Table 2.2.

Table 2.2. Definition of key concepts implied in the investigation of resilience from a developmental point of view (selected from O’Dougherty Wright & Masten, 2006, p. 19)

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Adversity</td>
<td>Environmental conditions that interfere with or threaten the accomplishment of age appropriate developmental tasks</td>
</tr>
<tr>
<td>Resilience</td>
<td>A pattern of positive adaptation in the context of past or present adversity</td>
</tr>
<tr>
<td>Risk</td>
<td>An elevated probability of an undesirable outcome</td>
</tr>
<tr>
<td>Risk factor</td>
<td>A measurable characteristic in a group of individuals or their situation that predicts negative outcome on a specific outcome criteria</td>
</tr>
<tr>
<td>Cumulative risk</td>
<td>Increased risk due to (a) the presence of multiple risk factors; (b) multiple occurrences of the same risk factor; (c) the accumulating effects of ongoing adversity.</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>Individual susceptibility to undesirable outcomes; the diathesis in diathesis-stressor models of psychopathology.</td>
</tr>
<tr>
<td>Proximal risk</td>
<td>Risk factors experienced directly by the child.</td>
</tr>
<tr>
<td>Distal risk</td>
<td>Risk arising from a child’s ecological context but mediated through more proximal processes.</td>
</tr>
</tbody>
</table>
Table 2.2. (cont.)

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset/Resource</td>
<td>A measurable characteristic in a group of individuals or their situation that predicts general or specific positive outcomes.</td>
</tr>
<tr>
<td>Compensatory factor</td>
<td></td>
</tr>
<tr>
<td>Protective factor</td>
<td>Quality of a person or context or their interaction that predicts better outcomes, particularly in situations of risk or adversity.</td>
</tr>
<tr>
<td>Cumulative protection</td>
<td>The presence of multiple protective factors in an individual’s life.</td>
</tr>
<tr>
<td>Psychosocial competence</td>
<td>The adaptive use of personal and contextual resources to accomplish age-appropriate developmental tasks.</td>
</tr>
<tr>
<td>Developmental tasks</td>
<td>Expectations of a given society in a historical context for the child’s accomplishment of specific tasks at the appropriate stage development.</td>
</tr>
</tbody>
</table>

As a corollary of the above-presented key aspects, the hallmarks of a resilient pattern of adaptation to adversity are that, (i) there has to be a significant threat to the developmental or adaptational process of the individual, and (ii) “despite this threat or risk exposure, the current or eventual adaptation or adjustment of the individual is satisfactory” (O’Dougherty Wright & Masten, 2006, p. 18).

Regardless the vastness of research targeting resilience within the first wave, controversies concerning different aspects debouched. One of the major issues debated is related to the exact definition of resilience and the identification of criteria to which adaptation in adverse conditions should be compared to (Masten & Reed, 2002). Thus, should resilient children during the adaptational process elicited by adverse events be compared to children doing well within the normative developmental range, or to children excelling in different domains of functioning? Even if, based on highly mediatized (and sometimes exaggerated) stories, common sense inclines to identify resilience with cases of spectacular survivals and exceptional enhancements in functioning, research usually refer to normative levels of functioning. The next obvious question emerging is whether normative functioning means ‘well adjusted’ and ‘competent’ or simply ‘normal’? (Masten & Reed, 2002). Nevertheless, a major cognizance passed through the different waves of research was that from a developmental point of view,
normative experiences do not necessarily qualify a person for being labeled as resilient (Masten, Obradović, & Burt, 2006).

The next controversial issue is related to the above-mentioned shortcomings in the research of resilience specific to the first wave, and it refers to the way resilient ‘outcomes’ are assessed. Namely, in how many domains should the individual exhibit normal or ‘well-adjusted’ functioning in order to be considered resilient? (Luthar, 1991; Luthar, Cicchetti, & Becker, 2000; O’Dougherty Wright & Masten, 2006). Being the leitmotif of this volume, we repeatedly reiterate that traumatic reactions are multidimensional. One may excellently function in a specific domain after confronting a highly adverse event (e.g., excellent academic or professional functioning), however exhibiting maladaptive patterns of functioning in other domains (e.g., emotional functioning, social integration). On the other hand, since traumatic reactions unfold in time, the stability of both normative and maladaptive patterns of functioning became questionable. In a similar vein, within this period emerged the concern regarding the criteria to which normative functioning should be reported to, namely should it only refer to external functioning (academic achievements, getting along with peers, etc.), or to the internal, subjective functioning as well (psychological well-being, happiness, thriving, etc) (Masten, Obradović, & Burt, 2006; O’Dougherty Wright & Masten, 2006). One of the major contributions of the first wave of research in resilience was the attempt to identify the criteria to which positive adaptation would be referred to (Masten & Obradović, 2006). However, some investigators still relate resilient adaptation solely to external functioning, while more complex approaches when investigating and assessing resilient adaptation additionally to external functioning also consider the functioning of the internal milieu.

Thus, the investigation of the way domains of adaptation are linked to each other and interact in time became extremely important issues in the study of resilience. Manifestations of internal and external symptoms of adaptation across domains are related in time, and may interact and influence each other, further on impacting the process of adaptation (Masten & Reed, 2002; Masten & Curtis, 2003; Masten & Coatsworth, 1998). The symptoms resulting for maladaptive patterns of reaction may further on lead to the failure in fulfilling developmental tasks, thus conducting to new symptoms of maladaptation, “with snowballing consequences” (O’Dougherty Wright & Masten, 2006, p. 21), phenomenon termed developmental cascades (see more, Masten & Powell, 2003).

As already mentioned, research within the first wave concentrated on the identification of factors related to adaptation and maladaptation in children confronting adverse events (Layne, Warren, Watson, & Shalev, 2007; Rutter, 1987, Garmezy, 1985). Thus, investigations produced two major categories of factors (correlates) related to the process of adaptation in children:
(i) **promotive factors** (also known as protective assets or compensatory factors), represent measurable attributes of the individual, that regardless of the intensity of the adverse event of exposure to risk promote:

(a) movement *towards* or along pathways leading to adaptation, or/and

(b) movement *away from* pathways leading to maladaptation (Layne, Warren, Watson, & Shalev, 2007); and

(ii) **protective factors**, factors specifically related to positive adaptation in cases of high risk or extremely negative confrontations, thus increasing stress resistance and decreasing the likelihood of maladaptive responses (O’Dougherty Wright & Masten, 2006; Layne, Warren, Watson, & Shalev, 2007).

Since it is extremely difficult to clearly differentiate between promotive and protective factors, O’Dougherty Wright and Masten (2006) have put forth a selection of the most important correlates of resilience in children and adolescents, including several categories of concepts (selective presentation of resilience correlates based on the work of O’Dougherty Wright & Masten, 2006 are presented in Table 2.3). However, as the above-mentioned authors mentioned, there is a recurrent finding throughout most of the studies across all waves: one of the most important protective or promotive factors for a resilient development refers to good family relationships along development. Good family relationships refer to different aspects of inter-personal functioning along development, with different significances for adaptation. In infancy and early childhood for example, the warm, attentive, and responsive relationship between child and caregiver lays the foundation of a climate that assists the child in developing confidence (directed to self and others), learn adaptive ways to relate to others, establish secure attachments with others, develop adaptive emotion regulation strategies, etc. (Sroufe, Carlson, Levy, & Egeland, 1999). In the same time, a family able to foster the above-mentioned factors is usually also able to respond in an adaptive way when confronting adversity, thus offering models to imitate (O’Dougherty Wright, & Masten, 2006).

One important aspect that should be mentioned before presenting the table is that there is extremely difficult to consider risk and protective factors as pure constructs (Luthar, 1993). Even if it would be practical to operate with these factors as bipolar opposites of a continuum, it is quite complicated to imagine all contexts in which all these factors operate according to their pure, a priori established underlying functions. As previously mentioned, the intricacy of the way factors exert their effects in different contexts, the ways they influence one another, may occasionally change their momentary function.
Table 2.3.
Examples of assets and protective factors
(based on O’Dougherty Wright & Masten, 2006, p. 24)

- **Child characteristics**
  - Temperament in infancy.
  - Good cognitive abilities.
  - Effective emotional and behavioral regulation strategies.
  - High levels of self-confidence, self-esteem, self-efficacy.
  - Hopefulness.
  - Faith and meaning in life.
  - Specific characteristics valued by the individual and the cultural environment (e.g., attractiveness, humor, specific aptitudes and abilities)

- **Family characteristics**
  - Stable and supportive home environment (close relationship with a parent or caregiver, low levels of family conflict and parental discord, authoritative parenting, close and supportive relationships with extended family, etc.).
  - Parental involvement in child education.
  - Level of parental education (over postsecondary education).
  - Favorable socioeconomic status (prosperous and stable financial conditions).
  - Parental spiritual and religious life.
  - Intra-individual characteristics of parents (e.g., cognitive abilities, personality, confidence, self-esteem, self-efficacy, hopefulness, abilities in conflict management, decision making, hopefulness, humor, etc.).

- **Community characteristics**
  - Neighborhood (safe, low community violence, good living conditions, low levels of pollution, etc.).
  - School environment (professionally competent teachers, after-school programs, recreational programs).
  - Health care system.
  - Quality of peer groups.

- **Cultural and societal characteristics**
  - Protective child policy.
  - Quality oriented educational systems.
  - Low acceptance of physical violence, etc.

Masten (2001) called the concepts grouped in Table 2.3. the “*short list*”, containing fundamental aspects involved in the processes of positive adaptation.

In spite of the major contributions brought forth by the first wave in the study of resilience, the identification of specific risk and protective factors, specific methodologies proposed for increasingly complex investigations, attempts to attain a unified an comprehensive definition of the term, etc., began after a while to be considered as restrictive. Research and theory both needed the advancement of more complex and more sophisticated research that could both incorporate the
results obtained during the first wave, simultaneously explaining the controversial aspects of resilience.

b. The second wave

The major trends of research within the second wave focus on the uncovering of the delicate, sensitive, nevertheless extremely complex mechanisms underlying adaptational processes, the multi-dimensional interplay among factors and mechanisms (Masten, Best, & Garmezy, 1990; Yates, Egeland, & Sroufe, 2003), trying to explain both adaptation and pathology. Briefly put, research within the second wave intended to uncover the processes and regulatory mechanisms that would account for the individual and concerted effect of factors identified and included in the “short list” devised in the first wave (Masten & Obradović, 2006).

As several researchers have mentioned (e.g., Cicchetti & Garmezy, 1993; Masten & Powell, 2003), the second wave overlapped a serious scientific shift, leading to what nowadays is called developmental psychopathology. The result of this shift reflected in an approach that attempted to investigate the way in which biological, social, cultural, etc. interrelated processes fit into resilience models (Luthar, 2003; O’Dougherty Wright & Masten, 2006). Accordingly, since, resilience research oriented investigations toward the more contextualized inquiry of processes implied in positive adaptation, studying interactional processes between the individual and many other systems simultaneously at different levels along longer periods of time (O’Dougherty Wright & Masten, 2006). Consequently, the second wave transcended the basic questions of the first wave (“why is a child resilient?”), and started investigating the intricate multidirectional dynamic relationships between the individual’s attributes and contextual factors, trying to simultaneously find an explanation for both positive and negative forms of adaptation in a particular context.

Another important contribution of the second wave was the enhancement of the more nuanced and more complex assessment of the individual and contextual factors, simultaneously assessing multiple influences as well (Plomin, Asbury, & Dunn, 2001).

The investigations of the second wave warned about the qualitatively different effects of protective factors within different contexts (context-specific protective processes). In the same vein, these studies also highlighted the necessity of seriously considering in a differential way in which stability and change is perceived in the process of positive adaptation (O’Dougherty Wright & Masten, 2006). A child may be considered resilient in a moment of his/her development, and in a specific context, while at a different point of his/her development, or in a different context, this kind of adaptation may be annihilated by specific factors or by the specific interaction of some levels of functioning.
c. The third wave

The third wave of research in resilience focused on using the results obtained in the first two waves of research in order to conceive methods through which resilience may be promoted through prevention, intervention, and policy (Masten & Obradović, 2006). A major motivation of the third wave was the constantly growing number of children exposed to a constantly growing number of adversities. On the other hand, resilience prevention and intervention may benefit children with overt or covert vulnerabilities in the acquisition, development, and optimization of certain competences that may facilitate their transition from childhood to adolescence to adulthood (Masten, Obradović, & Burt, 2006). These interventions would seriously reduce the damaging effect of risk factors by ameliorating behavioral and emotional malfunctioning (Masten & Obradović, 2006).

As Masten and Powell (2003) have put it, research on prevention and intervention programs promoting resilience is mostly based on a new framework through which knowledge about risk and protective factors, underlying mechanisms, dynamic processes among factors, etc., are transmitted into programs through which youngsters may be better prepared for possible confrontations with adverse events. This new framework would necessitate a specific type of intervention based on cumulative competence promotion and stress protection (Wyman, Sandler, Wolchik, & Nelson, 2000). Intervention and prevention in competence development for a resilient adaptation has to have a specific, well-contoured agenda, with a motivated mission, valid models and measures, and adequate methods (Table 2.4. synthesizes the most important requirements for the development of prevention and intervention programs proposed by Masten and Powell, 2003).

<table>
<thead>
<tr>
<th>Table 2.4.</th>
<th>A resilience framework for policy and practice (based on Masten &amp; Powell, 2003)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mission:</strong> Frame goals in positive terms</td>
<td>Promote competence. Shift developmental course in more positive directions.</td>
</tr>
<tr>
<td><strong>Models:</strong> Include positive predictors and outcomes in models of change</td>
<td>Competence or health as well as problems or psychopathology. Developmental tasks. Assets as well as risk factors. Protective factors as well as vulnerabilities.</td>
</tr>
<tr>
<td><strong>Measures:</strong> Assess the positive as well as the negative</td>
<td>Assess strength in the child, family, relationships, school, community, etc. Evaluate change on positive as well as negative indicators.</td>
</tr>
<tr>
<td><strong>Methods:</strong> Consider multiple strategies based on resilience models</td>
<td>Risk-focused: Reduce risk exposure, prevent adversity. Asset-focused: Boost child’s resources or enhance key assets in child’s life. Process-focused: Mobilize the power of human adaptational systems.</td>
</tr>
</tbody>
</table>
d. The fourth wave

The first three waves in the research of resilience have dramatically enhanced knowledge regarding positive and negative adaptation of children in adverse conditions, despite the odds. The almost six decade long rigorous research has led to the identification of risk and protective factors, competences, underlying mechanisms, possible outcomes, identification of possible adverse events, and methods through which one may prepare children for possible confrontations, and also intervene on multiple levels in cases of already installed malfunctioning. However, both research and quotidian needs (multifaceted, community-based interventions) are on the way of giving rise of the fourth wave of research within resilience and positive adaptation studies (O’Dougherty Wright & Masten, 2006).

Waves one to three have produced not only knowledge on which the fourth wave to be delineated on, but also cautions that research should take into consideration. Based on Rutter (2000), Masten and Riley (2005), Yates and Masten (2004), Masten and Obradović (2006) have promoted a list of problematic issues, the research of the fourth wave should keep in mind when undertaking studies in resilience. Table 2.5. presents the major issues of this list.

<table>
<thead>
<tr>
<th>Cautions for fourth wave investigators (selection based on Masten &amp; Obradović, 2006, pp. 22-23)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Resilience is an umbrella term (family of concepts), those precise conceptual and operational definition is required when undertaking research.</td>
</tr>
<tr>
<td>2. Different definitions of resilience are embedded in cultural, developmental, and historical contexts (rather assumed than made explicit).</td>
</tr>
<tr>
<td>3. The importance of the time-frame in the definition of resilience.</td>
</tr>
<tr>
<td>4. Resilience is more than a trait or a process – it represents several attributes and processes.</td>
</tr>
<tr>
<td>5. The selection of the right pathways through which resilience exerts its effect within a specific time-frame.</td>
</tr>
<tr>
<td>6. The erroneous assumption of the fact that resilience may only occur form the interplay of internal factors (warning against ‘blame the victim for maladaptation’).</td>
</tr>
<tr>
<td>7. The importance of investigating transactional processes between organism and context on several levels of analysis.</td>
</tr>
<tr>
<td>8. No magic bullet has yet been identified in promoting large-scale resilience, thus prevention and intervention programs should be specifically tailored on the needs of the individual, his/her living environment, cultural norms and values, etc.</td>
</tr>
<tr>
<td>9. All children are to some degree vulnerable in the face of adversity. Consequently, well designed programs would assist and be beneficial to most benefactors.</td>
</tr>
<tr>
<td>10. The acceptance of the fact that there are cases when adversity exceeds all individual capacities for adaptation (and sometimes even recovery), and expectance of resilience and self-induced recovery may be illusory on the behalf of the researcher.</td>
</tr>
<tr>
<td>11. Prevention of maladaptation and assistance of harmonious development is far less expensive than intervention after the installment of the effects of maladaptive functioning.</td>
</tr>
</tbody>
</table>
The main mission of the fourth wave would be multifold, characterized by integration of knowledge across: (i) levels, (ii) species, and (iii) disciplines (Masten & Powell, 2003). Also, this complex integration of information may assist a more profound understanding of the processes through which resilience functions and exerts its effect within an individual, as well as across levels (Masten & Obradović, 2006). The fourth wave also promises the advent of novel, more suitable forms of prevention and intervention, which hopefully would lead to more profound improvements in the individual’s functioning.

2.3.1.1. Models of resilience

The identification of risk, protective, promotive, vulnerability, etc. factors, adverse events, etc., are fundamental aspects in the study of resilient functioning in adverse contexts. Nevertheless, the delineating of the mechanisms that would explain the dynamic of the patterns of reaction in time is an endeavor of different caliber. When trying to explain the processes that would to some degree elucidate the complexity of interactions involved in development that would lead to resilient outcomes, one of the most practical categorizations research has proposed grouping of research into:

(i) **variable-focused approaches**,  
(ii) **person-focused approaches**, and  
(iii) **pathway models**.

A. Variable-focused approaches

These types of approaches investigate the multilevel relationships between: (i) individuals, (ii) environments, and (iii) experiences (Masten & Reed, 2002) in **high risk conditions**, trying to explain positive adaptation. Such approaches are suitable for the identification of protective factors.

One of the landmark investigations in resilience, namely that of Norman Garmezy and colleagues (1984), was based on such a model, with two important aspects needed to be mentioned:

(a) risk gradient was established according to scores on cumulative life stress, and  
(b) competence was determined based on three domains of functioning: school performance (grades), and classroom behavior (with classmates and teachers, and classroom disruptiveness) (Luthar, 2006).
Within these approaches one may identify several more specific types of models, the most important ones being: (a) *additive*, (b) *interactive*, and (c) *indirect* models.

The simplest model within the variable-focused approaches, the *additive model* examines the way assets and risk factors contribute independently on the individual's well-being and positive adaptation (see Figure 2.3.).

![Figure 2.3.](image)

Example of additive model of resilience (extracted from Luthar, 2006, p. 78, also Masten, 2001, p. 229).

As seen in Figure 2.3., pure risk factors have a direct and negative effect on the process of positive adaptation, while pure assets a direct and positive effect. According to this model, these factors exert their effect only when they are present (e.g., the lack of positive factors does not have a negative effect on the process of adaptation). According to such models, a considerable number of assets may compensate for some risk factors (see "compensatory effects").

Despite their disputed simplicity, most important benefits obtained through additive variable-focused models are represented by the identification of factors that influence the process of adaptation (positive or negative). Thus, when designing prevention or intervention strategies, one may focus on the inversion of risk factors into assets, or on increasing the number of assets through which high-risk populations may reduce the probability of maladaptive reactions.

In the case of *interactive variable-focused models*, moderating factors are included that may modify the effect of risk/adversity factors on the adaptive process. Across studies, such variables may be found under the terms of 'vulnerability' and 'protective' factors. An example of an interactive model, based on Luthar's (2006) illustration, is presented in Figure 2.4.
Figure 2.4.
Example of interactive model of resilience (extracted from Luthar, 2006, p. 78)

In resilience studies, temperament/personality have been most frequently tested for moderating the effects of adversity in the process of adaptation (Luthar, Cicchetti, & Becker, 2000; Luthar, 2006), leading to the conclusion that these factors may to some degree predispose the individual to react in a certain way when confronting a specific negative event. On the other hand, these models also permitted the investigation and identification of factors that exert a buffering effect during adversity (e.g., effective parenting) (Masten, 2001).

This kind of approach is important in designing interventions, when one could focus on the alteration of already existing moderators, external or internal to the individual (e.g., type of social services or the individual’s coping mechanisms, etc. for more see Comas, 1998), thus ameliorate the possible impact of adverse events.

*Indirect variable-focused models of resilience* investigate other possible effects on outcome variables (resilience), such as mediated effects (see Figure 2.5. 1-2 for examples of indirect models).
Figure 2.5.
Examples of Indirect models of resilience (extracted from Luthar, 2006, p. 78, also Masten, 2001, p. 229).

An illustrative example of such models is the case of studies in which determinants of parenting are investigated simultaneously with parenting as outcome (Luthar, 2006).

From the point of view of intervention, these models are useful when trying to improve the quality of certain key-factors implied in the adaptive process (e.g., improvement of parental effectiveness).

Briefly put, variable-focused models investigate the relationships between competence, assets, adversity, and a number of factors (protective and vulnerability) related to specific outcomes, thus highlighting the differences in reactions in different high-risk populations (Masten & Powell, 2003).

Through multivariate statistics, variable-focused models permit the investigation of the "multidimensional nature of adaptation" (Masten & Obradović, 2006, p. 16). However, most of the models (as presented above) are static in nature, and do not capture the dynamics of the processes involved in resilient adaptation to adverse events, the multidirectional and multi-level interactions among factors and mechanisms (Masten & Reed, 2002; Masten & Obradović, 2006).

The most important findings obtained from testing variable-focused models of resilience resulted in the identification of several factors that in most cases are associated and/or predict adaptive or maladaptive reactions. Thus, for example, effective parenting (monitoring, emotional and instrumental support, authoritative parenting, etc.) has been repeatedly found to have preventive effect against antisocial child and adolescent behavior (Masten, Hubbard, Gest, Tellegen,
Garmezy, & Ramirez, 1999). These results have also been found in experimental interventions (e.g., Forgatch & DeGarmo, 1999).

On the other hand, these models by focusing only on isolated aspects of the resilience process (risk – protective factors, resilient outcomes), cannot capture overall patterns of resilience (Masten & Reed, 2002), and explain the way in which different factors (risk, protective/assets, etc.) may independently exert their effect on the outcome criterion variable (Masten, 2001; Masten, 1999). In most cases, such models do not permit the determination of causality.

Thirdly, variable-focused models are useful for designing appropriate forms of intervention. As already mentioned, some variable-focused models assert that a high number of resources (protective factors as for example efficient parenting, social support, parents’ problem and conflict solving abilities, etc.) may buffer the negative effects of the child’s confrontation with adversity. Thus, theoretically, if one could increase the number of the child’s competences and the number of protective factors in his/her living environment, one could improve the way in which the child reacts in negative events and optimize the adaptive process (Masten & Powell, 2003). Additionally, by testing the possible effect exerted by moderators, one may investigate the way in which different pre-event factors influence one-another, thus altering the impact of the event itself on outcome variables. Such results may also permit the design of more complex form of intervention, targeting not only the improvement of individual characteristics, but also involving the interaction of individual and contextual factors in order to reduce the impact of a specific negative event and promote adaptive reactions to the changed circumstances.

B. Person-focused approaches

Person-focused models of resilience attempt to complete the shortcomings of variable-focused models, mostly due to their tendency to study isolated aspects of the process, as well as to compensate for their static nature.

Literature has applied three major types of person-focused models in the study of resilience: (a) single-case studies, (b) studies investigating high-risk individuals with high levels of well-being, and (c) the comparison of individuals from the general population with low-risk, high-risk, and maladaptive individuals (Masten & Reed, 2002). Essentially, such models target the identification of individuals corresponding to the definitional criteria of resilience, and whose personal and environmental characteristics are thoroughly investigated in order to identify distinctive particularities as compared to individuals exposed to similar environments and levels of adversity, but with maladaptive patterns of reaction (Masten & Powell, 2003; Luthar, 2006). For a complete diagnostic model of resilience, such investigations have identified four major groups of individuals,
depending on their levels of competence\textsuperscript{3} and level of risk exposure: (i) high competence - high risk, (ii) high competence - low risk, (iii) low competence - high risk, and (iv) low competence - low risk (Luthar, 2006) (see Figure 2.6).

### Competence or Adaptation Level

<table>
<thead>
<tr>
<th>Risk or Adversity Level</th>
<th>Competence or Adaptation Level</th>
</tr>
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<tbody>
<tr>
<td>LOW</td>
<td>LOW Highly vulnerable</td>
</tr>
<tr>
<td></td>
<td>HIGH Competent/Unchallenged</td>
</tr>
<tr>
<td></td>
<td>HIGH Maladaptive</td>
</tr>
<tr>
<td>HIGH</td>
<td>HIGH Resilient</td>
</tr>
</tbody>
</table>

\textit{Figure 2.6.}  
Full Diagnostic model of resilience (based on Masten & Reed, 2002, p. 80).

This type of person-focused approach, synthesized in Figure 2.4., was used in the Project Competence study of Resilience conducted by Masten and her colleagues (1999). One of the most investigated aspects within this project was the comparison of resilience (high on adversity and adaptation), and maladaptive (high on adversity but low on adaptation), competent but unchallenged (good outcomes but no adversity), and highly vulnerable (low adversity low competence) children. The most important results of these investigations are the finding that there exists a considerable resemblance in personal assets and

\textsuperscript{3} Generally, \textit{competence} is an umbrella term encompassing different constructs related to the level of effectiveness of individual adaptation in developmental context” (Masten & Coatsworth, 1995, as cited in Masten, Burt, & Coatsworth, 2006, p. 698).  
More specifically: \textbf{Competence} refers to a family of constructs related to the capacity or motivation for, process of, or outcomes of effective adaptation in the environment, often inferred from a track record of effectiveness in age-salient developmental tasks and always embedded in developmental, cultural, and historical context (Masten, Burt, & Coatsworth, 2006, p. 704).
competences (e.g., intelligence) and family characteristics (effective parenting) between resilient and competent but unchallenged children. However, the results also reflected that both resilient and competent but unchallenged groups significantly differed from the maladaptive group in both types of assets and competences (personal and contextual) (Masten & Reed, 2002; Masten & Powell, 2003). These results also highlighted the importance of childhood resilience in development – resilient children continued their lives as resilient, competent, and happy young adults.

Regardless the complexity of results obtained through these models, problematic issues arose. One of the most delicate matters of these models is represented by the identification of resilient children when multiple aspects of competence are taken into consideration (for strategies offering alternative solutions to these issues, see Luthar & Zelazo, 2003).

As in the case of variable-focused models, person-focused models vary in complexity. However, the most complex person-focused models start completing their approaches by also investigating the possible effects of turning points in peoples’ lives on developmental pathways (Bergman & Magnusson, 1997; Cicchetti & Rogosch, 1997).

One of the main advantages produced by investigations based on person-focused models is represented by the identification of resilience patterns manifested naturally (Masten & Coatsworth, 1998; Masten & Powell, 2003). On the other hand, the implied shortcomings are also notable - for example, even if such models (mostly based on case studies) offer important indices regarding the process of positive adaptation, the generalizability of the results is highly limited (Masten & O'Connor, 1989).

The end of the third wave and the advent of the fourth offers complex statistical models through which one may obtain a more complex image of the developmental process when individuals are compelled to face adversity. Such models are intended to identify commonalities across cases in order to identify specific patterns of reaction in larger and more restricted subgroups of individuals, factors that contribute to patterns of adaptive and maladaptive functioning in high and low-risk situations. Such models may allow the examination of specific differences among such groups of individuals.

C. Pathway models

More recent approaches in the study of resilience have promoted the importance of delineating its dynamic character, and deemphasize its approaches as momentary, static phenomena with finite outcomes. Thus, as part of a larger trend within developmental approaches, interest shifted towards the systematic investigation of patterns of behavior over time through dynamic system models, which would explain specific patterns during longer periods of time (Masten & Reed, 2002).
These multi-assessment longitudinal studies follow pathways of reaction that may result from the concerted effects of a multitude of factors. The pathways are charted in time, while reactions being reported to outcome-indexes of different complexities. Masten and Reed (2002) illustrated a hypothesized pathway model of resilience over life course reproduced in Figure 2.7.

![Diagram](image)

*Figure 2.7.* Resilient pathways over the life course (based on Masten & Reed, 2002, p. 81)

In this model, *Pathway A* represents the theoretical model of a high-risk child with a constant well-being along life course. *Pathway B* represents an initially adapted child, whose well-being is transitorily impaired by a negative event (e.g., traumatic experience), however recovers in time to the pre-event level of functioning. *Pathway C* illustrates a child initially highly affected by disadvantage, but who recovers in time, and exceeds initial levels of functioning after improvements in his/her living environment (e.g., style of upbringing). Children manifesting patterns typical to pathway C are usually called ‘late-bloomers’, who spectacularly improve their functioning after living conditions are changed (Masten, 2001; Masten & Reed, 2003). Resilience literature cites as a very good examples in this sense the case of Romanian orphans adopted by families from Western countries (e.g., Gunnar, 2001; Rutter et al., 1998), or adolescents positively changed by “second-chance opportunities” (religious conversions, romantic relationships, military service, etc.) ( Werner & Smith, 1992; Masten & Reed, 2002).

As already mentioned, pathway models allow the investigation of the dynamic processes of development, taking simultaneously into consideration the concerted effect of multiple factors residing within and outside the individual. Nevertheless, one should acknowledge the difficulties implied in the investigation of the immensity of interactions among systems (Masten & Reed, 2002).
Summarizing the above presented information regarding resilience, we would like to emphasize its importance not only in research within developmental psychology, but also within the topic of possible posttraumatic reactions.

The last 20 years have witnessed an explosion of research in the domain of resilience both in children and adolescents, as well as in adults. This increase in interest is due to several factors. First of all, the number of youth and adults facing adversity is increasing systematically, this increase being partially attributable to the accelerated industrial and technological development (Goldstein & Brooks, 2001). Secondly, the type of adversities one is exposed to face is also diversifying, while the number of possible adversities one may face also steadily increasing. Thirdly, the interest in identifying risk and protective factors and pathways, underlying mechanisms is also needed for transferring such information into clinically applicable and relevant interventions, for developing prevention programs for vulnerable populations, and simultaneously develop a "resilient mindset" in the general population as well (Brooks & Goldstein, 2001).

As seen, resilience is a major aspect that may buffer the effects of stress in children and adolescents. Although, it is important to mention that even if resilient children do better as expected, they are not totally invulnerable to future stressors (Anthony, 1987). Some of these children, even if functioning well in some major areas of life, may pay the toll of adversity in other areas, exhibiting a changeable mixture of competence and vulnerability (Murphy & Moriarty, 1976)

An extremely important result of this intense research in childhood and adolescent resilience is the development of specific interventions intended to foster resilience, thus armoring individuals with the necessary competence and assets that may assist them in buffering the debilitating effects of negative encounters.

Results provided by research in resilience has profoundly affected the way in which prevention and intervention in general has been understood and applied, influencing the way in which intervention goals, strategies, assessments, etc. have since been approached (Masten & Coatsworth, 1998; Masten & Reed, 2002; Cicchetti, Rappaport, Sandler, & Weissberg, 2000).

In the case of the young population, research has evidenced that those negative events have the greatest impact which impair the functioning of basic protective systems (Masten & Reed, 2002). Thus, resilience interventions for children and adolescents should have the following targets:

(i) prevent damage,
(ii) restore damaged conditions (internal or external to the individual), and
(iii) compensate for the dysfunctioning of basic protective systems.

Usually, literature groups interventions into the major categories presented in Table 2.6:
1. **Risk-focused strategies**: these strategies are intended to either prevent or reduce risk and incidence of stressful events (e.g., ameliorative child care; e.g., Luthar, 2006; Luthar, 1999; Reynolds, 2000; Yoshikawa, 1994).

2. **Asset-focused strategies**: these strategies are intended to increase the number and improve the quality of resources (e.g., asset-building strategies, for more see Benson, Galbraith, & Espeland, 1995; Shure & Aberson, 2005).

3. **Process-focused strategies**: these strategies are intended to activate human adaptational systems (e.g., build self-efficacy, acquire/develop a repertoire of adaptive coping mechanisms; optimize skills to maintain appropriate relationships in order to assure emotional and instrumental support, etc. – Benard, 2004; Bolger & Patterson, 2003, etc.).

Consequently, nowadays, prevention and intervention has become multidimensional, focusing both on the promotion of competences and protective factors, and reduction of the effects of possible maladaptive reactions, simultaneously enhancing the functioning of basic human adaptational systems [also see Table 2.4. *A resilience framework for policy and practice (Masten & Powell, 2003)*]. The issue of promotion and intervention in the development of a ‘resilient mindset’ will be more thoroughly discussed in Chapter VI.

### 2.3.1.2. Resilience in adulthood and in trauma studies

Trauma and confrontation with negative events are not by far special *privileges* of adulthood. Trauma does not strike when one becomes ready to adapt to its requirements. Such events usually happen haphazardly, and the posttraumatic process will be shaped by the multiple and continuous interactions and transactions between individual and contextual characteristics. Thus, as research has repeatedly proved, building blocks of resilience may highly contribute to the delineation of the posttraumatic process, leading to mostly adaptive processes.

However, assets, protective, and promotive factors may not only be useful when confronting events qualifiable as index situations (usually developmentally unpredictable events), but also during major changes in life (even developmentally predictable events). One of such crucial moments is the transition from adolescence to adulthood. Masten, Obradović, and Burt (2006) have offered an extremely elegant explanation for the way in which factors implied in resilience may smooth this process and set forth positive adaptation to highly and
continuously changing situations. Figure 2.8. schematically illustrates such a process.

![Diagram of model of positive change in emerging adulthood](image)

**Figure 2.8.**
Moving toward resilience: A model of positive change in emerging adulthood (based on Masten, Obradović, & Burt, 2006).

As the model illustrates, positive change occurs as a compensated result of different factors: levels of brain development (strategic executive control), assisted by motivation to make use of the opportunities offered by the environment, in presence of catalytic factors as adult support, specific environments, positive perceptions of the changing self, etc. as seen, the central aspects of the capacity to change are: strategic executive control, motivation, and the ability to make use of the opportunities given. The factors that facilitate the relationships between these central aspects vary across individual contexts. The absence of certain factors may be successfully adapted and compensated by other factors.

Certainly, the transition from adolescence to adulthood even if not always exempted of difficulties, is in most situations incomparable to the impact of traumatic encounters. Nevertheless, as mentioned in the beginning of this chapter, resilient reactions are also relatively frequent posttraumatic reactions.
If literature on resilience in children and adolescents is still in the search of an overarching and more general working definition, the situation of what resilience exactly means in trauma research, and the way in which knowledge from the former domain is incorporated in the latter is an issue of a debate that needs clarification.

When considered a form of adult reaction to traumatic encounters resilience has been approached in two major ways: either as a finality, a result of the activation of several coping mechanisms, or as an ongoing dynamic process, resulting from the continuous interaction of inter- and intra-personal factors (personality, coping style, satisfaction with the obtained social and emotional support, etc.) (Bonanno, 2004; Luthar, Cicchetti, & Becker, 2000).

These different conceptualizations of resilience have led to different approaches. As Lepore and Revenson (2006) delineated, there are at least three major trends of approaches to resilience and implied processes (Lepore & Revenson, 2006), which direct the course and design of research: (i) resilience as a form of recovery, (ii) resilience as a form of resistance, and (iii) resilience as a form of reconfiguration. From our point of view, it is extremely important to clearly delimitate these concepts, since, at least in some of the approaches, the overlapping of resilience with posttraumatic growth is considerably massive and may lead to unnecessary confusions.

a. Resilience as a form of recovery

The major issue within these approaches is timing, namely the rapidity with which people return to their pre-event level of functioning. This approach roots in early theories of stress, according to which adaptation is represented by return to homeostatic functioning (Selye, 1956; Lepore & Revenson, 2006). Some approaches consider such reactions distinct from resilience. According to Bonanno (2004) such reactions would connote “a trajectory in which normal functioning temporarily gives way to threshold or subthreshold psychopathology (e.g., symptoms of depression or posttraumatic stress disorder [PTSD]), usually for a period of at least several months, and then gradually returns to pre-event levels” (p. 20).

Thus, if one would approach resilience through the definitions given to it in developmental psychology (e.g., resilience as the concerted effect of different protective factors), then recovery would indeed be differentiated from resilience. In case the individual experiences sub-threshold psychopathology after confronting highly stressful events for a longer period of time, one might say that the building factors of resilience did not sufficiently exert their buffering effect, and promote positive adaptation.

In a similar vein Harvey (1996) emphasized that recovery implies a change from a poor temporary outcome in one or several domains of functioning, while in
resilience specific domains of the self are not affected by the traumatic event, and may be used to assist adaptation in other domains.

From the point of view of a life-span developmental approach, Staudinger, Marsiske, and Baltes (1995) repeatedly emphasized the importance of differentiating between resilience as maintenance of development despite the presence of risk, and resilience as recovery from trauma.

On the other hand, Lepore and Revenson (2006) for example consider that even those who return to the previous (or even better) levels of functioning in a slower pace may be considered resilient, especially when compared to individuals who never recover.

**b. Resilience as a form of resistance**

Resilience as a form of resistance is one of the most controversial approaches of resilience, mostly because is does not totally coincide with present theories of posttraumatic reactions. In the same time, only a handful of studies sustain major aspects of this approach (e.g., Bonanno, Wortman, Lehman, Tweed, Haring, Sonnega, et al., 2002).

Bonanno (2004), one of the most influential researchers who subscribe to it, underscores that his approach is based on literature referring to resilience as a conglomerate of factors that would assist the individual in withstanding the devastating effects of a traumatic encounter. Consequently, he proposes an approach in which resilience is pertained to as the adult ability of “maintaining relatively stable, healthy levels of psychological and physical functioning” (Bonanno, 2004, p. 20), and refers to those factors and mechanisms that assist a person in maintaining a non-significant changes in functioning before, during, and after the confrontation with the traumatic event).

Bonanno (2004) also emphasizes that resilience is more than the simple absence of pathology. Even if such individuals occasionally experience momentary disturbances in normal functioning, they maintain a “stable trajectory of healthy functioning across time” (p. 21). An extremely important aspect in his approach is represented by the ability of such individuals to generate and experience positive emotions.

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4 Resistance is an analogous concept to psychological immunity to distress and different forms of dysfunctioning, "the ability of an individual, a group, an organization, or even an entire population to withstand manifestations of clinical distress, impairment, or dysfunction associated with critical incidents, terrorism, and even mass disasters" (Nucifora, Langlieb, Siegal, Everly, & Kaminsky, 2007, p. 34).
c. Resilience as a form of reconfiguration

The last approach to resilience in adulthood associated the phenomenon with the ability of the individual to bounce back from the confrontation with the traumatic event with enhanced resources, strengthened, improved abilities, etc. This approach would considerably well integrate resilience into Walsh’s (2006) approach, since it emphasizes the individual’s ability to bounce back and even attain better levels of functioning. Better post-encounter functioning may reflect enhancements in cognitive, behavioral, etc. abilities. As Revenson and Leopre (2006) suggest, such enhancements may be, at least partially, the result of appropriate assimilation (positive reappraisals of the traumatic event and its implications), and accommodation (adjustment of pre-event beliefs and attitudes to the conditions imposed by the changed situation) processes.

From our point of view, one of the most delicate aspects of this approach refers to the fact that resilience as a form of reconfiguration bears considerable similarities with Posttraumatic Growth (PTG), defined as the “experience of positive change that occurs as a result of the struggle with highly challenging life crises” (Tedeschi & Calhoun, 2004, p.1). The similarities between PTG and resilience as reconfiguration is striking. Both refer to better post-traumatic functioning on specific dimensions, without excluding possible aspects of malfunctioning on other dimensions (e.g., experiencing increased personal strength concomitantly with considerable persisting distress). As one may notice, neither reconfiguration resilience, nor PTG are global and finite phenomena. Both are multidimensional, simultaneously allowing less adaptive (and desired) orthogonal maladaptive reactions.

2.3.1.3. Factors contributing to resilient reactions in adulthood

As presented in the sub-chapters above, the investigations of resilience in children and adolescents are extremely complex, and resulted in the identification of factors, pathways, and intra- and inter-dimensional interactions that may contribute to adaptation in the aftermath of negative confrontations (e.g., temperament, good cognitive abilities, appropriate emotion-regulation strategies, high levels of self-confidence, self-efficacy, self-esteem, hopefulness, stable and supportive family environment, appropriate parental involvement, parents’ cognitive abilities, socio-economic status, school environment, etc.). Similarly, Chapter I presented the most important factors that contribute to long-lasting adult maladaptation and malfunctioning, especially the factors that may predict the development of PTSD (e.g., lack of social support, family history of psychiatric disorders, low levels of cognitive abilities, peri-traumatic reactions, etc.). Unfortunately, the amount of research targeting resilience in adulthood is not comparable to the above-mentioned instances. Even if transposing childhood resilience into adulthood, and
converting the valence of risk factors into possible protective ones might make some sense, rigorous research does not sustain such speculations (Bonanno, 2004).

One of the factors that withdrew advancement in this direction was the strongly embedded myth that resilience is extremely rare, and only well-adjusted individuals are able to attain resilient reactions (Masten, 2001). As previously discussed, adaptation to traumatic events and changed conditions is not as rare as previously assumed; moreover, adaptation and/or recovery are the normal posttraumatic reactions (Christopher, 2004; Friedman, Resick, & Keane, 2007). Thus, when trying to understand in more detail what are the factors and mechanisms that assure adaptation and/or recovery, one should take into consideration both the study of pathological and non-pathological outcomes.

As research, especially in developmental psychology has evinced, there is no *magic bullet* that would assure adaptation, recovery, and the maintenance of equilibrium during and in the immediate aftermath of traumatic encounters (Luthar, 1991; Luthar, 2003; Luthar, Doernberger, & Zigler, 1993). Investigations aiming adults has most frequently associated resilience with specific intrapersonal (personality traits), and specific inter-personal factors (types of environment: physical and mental health, normative development, and social cohesion/social capital promoting environments).

Within personality, the most frequently discussed traits in this regard are: (a) optimism, (b) hardiness, (c) sense of coherence.

a. Optimism

Optimism has been variously conceptualized along the years. From our point of view the most important ones are: optimism as a *generalized positive expectancy* (Scheier & Carver, 1985; Carver & Scheier, 1990), and optimism as a *specific explanatory type* (Peterson & Seligman, 1984). By definition, optimists are those individuals who see their prospects in a favorable light and continue pursuing their goals (Aspinwall & Staudinger, 2002).

Recent research has investigated the mechanisms through which optimists attain these results. Thus, Aspinwall, Richter, and Hoffman (2001) have highlighted two important properties of optimism:

1. it is not maintained by ignoring negative information (in fact, these studies found that optimists allocate greater attention to self-relevant negative information), and
2. optimistic individuals flexibly modulate their behavior in order to solve the problem at hand (when realize that the problem to be solved is unsolvable, they disengage more quickly and search for some alternative task that is attainable).

Regarding resilience, optimism may exert its adaptive effect in a way that combines its’ above mentioned properties. Thus, it seems that optimists invest
more effort in dealing with the problematic situation. Research evinced that optimists effectively use approach-oriented and problem-focused strategies in order to meet their goals (Carver, Pozo, Harris, Noriega, Scheier, Robinson, et al., 1993).

On the other hand, besides thoroughly processing negative information, optimists tend to re-frame the event from a positive point of view, thus changing appraisal and instilling meaning to it (Collins, Taylor, & Skokan, 1990).

A very important consequence of these problem approaching and solving strategies employed by optimists that may facilitate adaptive posttraumatic reactions and even posttraumatic growth refers to their ability to anticipate, find and, remind themselves of the benefits found in adversity (Tennen, Affleck, Urrows, Higgins, & Mendola, 1992; Lepore & Revenson, 2006; Tennen & Afleck, 1999).

The ability of optimists to disengage from unattainable goals, and shift towards or create new ones has repeatedly been found as a subcomponent of resilient reactions (Aspinwall, Richter, & Hoffman, 2001; Scheier & Carver, 2003). Optimistic individuals, by their ability to reduce maladaptive rumination (brooding versus reflective rumination; for more see Joormann, Dkane, & Gotlib, 2006), focus on benefits, and reduce complaining, pursue new goals and construct as actively as possible their post-event life, thus maintaining healthy and supportive relationships. In this way they are both able to receive the needed support and offer the support that offers them the satisfaction that they are useful and have the ability to go on.

b. Hardiness

The concept of hardiness, introduced by Kobasa (1979) emerged in psychology as a pattern of attitudes that assist the individual in turning the potentially damaging effects of highly stressful situations into opportunities for personal growth (Maddi, 2006). Hardiness, as conceptualized by Kobasa, Maddi, and Kahn (1982), is composed of three major dimensions:

(i) the ability of the individual to find meaningful purpose in life,
(ii) the belief that one can influence one’s living context and to some degree the outcome of the confrontation with events, and
(iii) that one has the ability to grow both from confronting with negative and positive events.

Hardiness has been repeatedly found to be related to better physical and mental health and functioning (Orr & Westman, 1990), nevertheless, results are not always consistent along the studies. One of the main reasons for this inconsistency seems to be caused by mixed approaches of hardiness itself. Some studies consider it a unitary dimension of personality, while others as being
composed by at least three above-mentioned dimensions (meaningfulness, control, possibility for growth), that individually, or by concerted action assist adaptation.

Briefly put, the most important implication of hardiness in the development of posttraumatic reactions is the way in which it modulates appraisal. Because of these three major dimensions, the individual high on hardiness tends not to perceive the event as threatening, thus reducing its impact. Thus, they widen the niche for efficient coping strategies and better social support (received and offered), thus buffering the negative impact of the stressful event.

c. Sense of coherence

Sense of coherence as defined by Antonovsky (1979) is “a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence” (p. 79), regarding the following three key aspects:

a. the stimuli derived from one’s internal and external environment are: structured, predictable, and explicable;

b. one has the necessary resources to fulfill the requirements imposed by these stimuli;

c. stressful encounters are to be considered as challenges, worth to engage effort in their solution.

In Antonovsky’s (1979) approach, the sense of coherence has three major components: (i) comprehensibility (the belief that things do not happen haphazardly, but they may be predicted and reasonably well-understood), (ii) manageability (one has the necessary intra- and extra-personal abilities and resources to solve the situation and mostly keep things under control), and (iii) meaningfulness (the belief that happenings in life do have a meaning, and it is worth investing effort in understanding and dealing with events).

According to Antonovsky (1979), and several other researchers, the meaningfulness aspect has a crucial importance both in normal, everyday situations and in critical conditions as well. Finding meaning in life and for life has proven to be salutogenic in all life-conditions, to be a positive psychological resource that promotes health and well-being (Skrabski, Kopp, Rozsa, Rethelyi, & Rahe, 2005).

Consequently, those individuals who do not believe that life, and the developmentally predictable or unpredictable events that constitute life have a meaning, experience significantly lower levels of mental health and emotional thriving, lower levels of self-efficacy, problem-focused coping, satisfaction with social support, etc. (Reker, Peacock, & Wong, 1987; Zika & Chamberlain, 1992). This aspect will be discussed in more detail in Chapter IV.
SUMMARY

The half-century long research on resilience in children and adolescents has evinced several major aspects that may direct the processes of adaptation in highly stressful situations. These factors may on the one hand buffer the impact of such events, as well as facilitate positive adaptation despite the negative implications of a confrontation with an adverse situation.

Early research has concentrated on the identification of risk markers (e.g., causal risk factors and proxies), vulnerability, protective, and promotive factors, etc. The most important protective attributes identified by research on children and adolescents include: easygoing temperament, high levels of intellectual ability, internal locus of control, positive social and emotional support, appropriate attachment with caregivers, family members, and peer group, and other adults (e.g., Masten, Best, & Garmezy, 1990; Rutter, 1987; Garmezy, 1985; Luthar, 1991; Richardson, 2002). The simple design and relatively reduced level of complexity of the early studies did not allow neither the generalization of data on larger populations, nor the understanding of the dynamic process of resilience (for example the multidimensionality of resilience, the waning of some positive functioning and waxing of others, etc.). The latest generation of research targets the investigation of the dynamics of the process, its’ unfolding in time, focusing on the transactions and interactions of factors and systems. Consequently, the understanding of the mechanisms through which one may tailor the most suitable form of intervention implemented in the right medium is continuously enhanced.

The results obtained have not only considerably enriched the knowledge base regarding the way children adapt functionally or disfunctionally to adverse situations and their consequences, but also offered tools for understanding the processes of adequate transition from adolescence to adulthood, as well as for understanding the multifaceted and dynamic nature of posttraumatic reactions.

Most recent studies have shown that adult resilience is at least as complex as resilience in childhood and adolescence, and that there are different pathways and trajectories that would lead to balanced peri- and posttraumatic reactions, and resilient adaptation (Frazier, Tashiro, Bergman, Steger, & Long, 2004; Helgeson, Snyder, & Seltman, 2004).

A central aspect that should be noted regarding resilience is that it is not as an extraordinary event as previously expected. Even if research set out as trying to understand a process attributed to extraordinary functioning in highly stressful life-conditions, it has proved that positive adaptation is not as infrequent as one would have presumed (Masten, 2001). Resilience occurs rather frequently, and may be considered as the result of dynamic interactions among a myriad of risk and protective factors immersed in specific contexts, at various points in one’s life (Lepore & Revenson, 2006).

As our major aim is the thorough discussion of posttraumatic growth, and since inconsistencies and overlapping in literature between this concept and the
reconfiguration approach of resilience we are compelled to disambiguate and affiliate to a better delineated trend of research. Consequently, we consider Aldwin’s (2007) distinction between posttraumatic growth and resilience as a form of configuration suitable. In her opinion, the subtle but major difference between the two concepts would lie in that posttraumatic growth occurs because of confronting and struggling with adversity, while resilience installs despite confronting with adversity.

However, one of the most important implications for future research of posttraumatic reactions is that such factors and their concerted appropriate functioning may be nurtured, and individuals may get equipped for future negative confrontations. The clear understanding of the way adaptive systems develop and function in adverse conditions (developmental, environmental), how protective factors may be developed, activated, and compensated is still an ongoing process, that would benefit from the appropriate combination of knowledge resulting from different areas of research (Masten, 2001).

2.3.2. Recovery

Since we have discussed in considerable detail the differences between resilience and recovery we will only highlight the major aspects implied. According to Bonanno (2004), those individuals who recover, must necessarily have presented some form of post-event dysfunction (experienced sub-threshold levels of symptoms) from where they could have returned to their pre-trauma functioning. In other words, their normal functioning is temporarily impaired, presenting threshold or sub-threshold psychopathology (e.g., symptoms of depression, etc.).

2.4. Quantum Change

As presented this far, we have seen that after confronting highly stressful reactions people experience a conglomerate of reactions. The most pregnant, cardinal reactions give the tone, the predominant valence of overall posttraumatic functioning. Some individuals experience overwhelmingly negative reactions that lead to long-term succumbing. Others recuperate to some degree in time, others maintain a flexible functioning both peri- and posttraumatically. However, it is crucial to reiterate that this blending of reactions is usually not absolutely pure neither in valence nor in adaptive nature. Even those who experience only transient malfunctioning, may still experience distress; those who cannot return to previous levels of functioning may experience significant distress on some dimensions of functioning, but also personal development and benefits on others. One would rarely encounter exclusively maladaptive reactions, or expect reactions that are not altered at all. These aspects emphasize the multidimensionality of
reactions one may experience in life-changing situations. The following phenomenon we will briefly discuss, though multidimensional, spreads more predominantly than the previously discussed ones, the valence it purports on the individual’s overall functioning.

Within the literature of posttraumatic reactions besides those discussed before, Quantum Change (Miller & C’déBaca, 1994) has also been documented, nevertheless allotted significantly less attention. The systematic interest in the phenomenon later named as Quantum Change dates back to the beginning of the 20th century. William James (James, 1902, cit. Miller, 2004), became fascinated by the different forms reactions to change may take in people’s lives. Thus, he distinguished between gradual change in which the volitional aspect is pronounced (‘educational variety’ of change), when the individual attains a goal in successive steps, and sudden, drastic, or discontinuous change (Miller, 2004). When presenting them, James compared these phenomena with religious conversions, oftentimes preceded by critical events accompanied by despair.

Carl Jung likens such sudden changes with ‘spiritual awakenings’, and “They appear to be in the nature of huge emotional displacements and rearrangements. Ideas, emotions, and attitudes which were once the guiding forces of the lives of these men are suddenly cast to one side, and a completely new set of conceptions and motives begin to dominate them” (as cited in Miller, 2004, p. 455).

Even if such phenomena were frequently recorded especially in the context of psychotherapy, they were approached as anecdotal. More attention and rigorous research began to be allotted to sudden changes after confrontation with crisis only during the last two decades of the twentieth century, and the cluster of these specific reactions were named Quantum Change. However, because its difficult conceptualization and measurement it has received little empirical evidence.

Quantum Change theory takes into discussion sudden, unexpected transformations (sometimes changes of 180°) in people’s lives, having a permanent and/or durable effect. In Miller and C’déBaca’s (1994) theory, Quantum Change results in new levels of normative functioning which, compared to the individual’s original, pre-trauma level of functioning, may be either higher or lower. Thus, in positive Quantum Change the aspect of outcome is that which dominates.

Quantum Change reactions have several major characteristics. Thus, the most important are: (i) distinctiveness, (ii) surprise, (iii) benevolence, and (iv) permanence.
2.4.1. Characteristics of Quantum Change

2.4.1.1. Distinctiveness
People experiencing Quantum Change suddenly realize that something extraordinary is happening to them in conjunction with the adverse confrontation (Miller & C’dé Baca, 2001). Since the initial moments are so lively, sometimes this characteristic is also called vividness. The timeframe of quantum development is usually almost instantaneous, however it may also unfold over few hours or days. Most of the individuals relating Quantum Change are able to remember the exact moment when they clearly experienced the change (Miller, 2004).

2.4.1.2. Surprise
Since Quantum Change is usually sudden, it is remembered as inducing high levels of unexpectedness – surprise. As Miller (2004) mentions, usually those who experience such changes did not intend to change – they were preoccupied with other issues (e.g., prayed), when the drastic modification in attitudes, beliefs, emotional state, etc. appeared. The change just happened. As Miller and C’dé Baca (2001) describe it, these experiences resemble to “waking up one morning to suddenly discover that your skin is a different color” (p. 14).

2.4.1.3. Benevolence
Most of the individuals reporting Quantum Change relate positive emotional states accompanying these modifications – the process is freeing, induced joy, however sometimes it is accompanied by distress. Some may for instance feel freed from worries, but also saddened (‘sadder but wiser’) (Miller & C’dé Baca, 2001). Occasionally personal relief over the confrontation with a serious problem is attended by empathy over understanding the feelings and sufferings of others.

Besides these liberating experiences, those who report Quantum Change also frequently report the feeling of being better accepted, loved, and experience the sensation of ultimate forgiveness.

As observable, most of the characteristics we referred to this far mostly depict positive change. Yet, even if literature does not abound in as many negative conversions as positive, as we will soon see, negative/dark epiphanies, even if much rarer, exist (Nowinski, 2004).

2.4.1.4. Permanence
Since permanence is characteristic to both positive and dark Quantum Change, we will discuss them together. Permanence refers to pervasive, in-depth transformative changes experienced by those who relate them. These changes were oftentimes compared with one-way doors – once one started the journey by leaving through that exit, there is no return to previous states (Miller & C’dé Baca, 2001; Miller, 2004; Miller & C’dé Baca, 1994). Another aspect connected to this
characteristic is that individuals perceive these changes at a general, individual level, and not specific to some aspect of their functioning (e.g., drastic change in some behavioral pattern – quit smoking).

The major mechanisms involved in inducing Quantum Change are represented by: (i) self-regulation (conscious and effortful behavioral control), (ii) perceptual shift (previously held world-view conflicts newly established/imposed worldview), (iii) value conflict (the valence attributed to the new value system may be incompatible with the old one), and (iv) transcendence (change attributed to external sources) (Miller & C’dé Baca, 1994).

2.4.2. Types of Quantum Change

Data on Quantum Change has mostly been obtained through interviewing people claiming to experience drastic changes. Based on these data, research has noticed some qualitative differences that allowed the distinction between two major types of Quantum Change: Mystical and Insightful changes. Regardless, it is important to mention that even if these changes differ in some regard (as we will shortly see), the resemblances and overlapping are still strong, and in some instances it is difficult to clearly categorize experiences in one type or another.

2.4.2.1. Mystical Quantum Change (positive and negative Epiphanies)

A specific characteristic of this type of quantum Change is that the person cannot and does not exert any kind of control to direct the change (Miller, 2004). The person experiences the more or less rapid modifications in a passive manner, and for a long time cannot put into words his/her experiences. The experiences are out of the ordinary, leaving distinctive traces in a relatively short period of time. Initially, the person may be filled with awe, however later awe is replaced by positive feelings, benevolence, and permanence.

The second major characteristic of this type of change refers to the noetic element of the experience – some relate that they have suddenly felt that knew a new truth (Miller & C’dé Baca, 2001).

Religious conversions with their specificities, are commonly compared to the mystical type of Quantum Change (for more see Mahoney & Pargament, 2004).

As we already mentioned, Quantum Changes are usually attributed positive and pro-social connotations. However, literature has also recorded negative Quantum Change (as dark Epiphany or dark visions), as the result of changes that imply destructions of the image of self and/or others (e.g., violent, destructive identities, malevolent world-view, etc.) (for more see Nowinski, 2004).
2.4.2.2. Insightful Quantum Change

Literature refers to such kinds of change especially in the context of psychotherapy, in which change usually pertains to more specific aspects of life-problems, ways of thinking, and understanding (Miller & C’de Baca, 2001; Bien, 2004). It is well-known that in-depth changes in psychotherapy usually develop slowly; such insightful quantum changes may occur more rapidly especially in brief interventions (Bien, Miller, & Tonigan, 1993).

Such changes seem to result from life experiences, folding on the persons’ development and not imposing change on it, thus maintaining the sense of continuity in one’s life (Miller & C’de Baca, 2001).

Quantum Change is not a prerogative of critical, life-threatening situations. It may occur in less stressful conditions as well, with usually long-lasting, endurable effects in which the person feels changed on several dimensions of his/her functioning. As one will see, Quantum Change has some resemblance with posttraumatic growth. Persons recounting Quantum Change relate transformations experienced on specific dimensions of their functioning, as sudden release in chronic negative affectivity, changed value-system, priorities, and worldview (some may distinguish more clearly what to consider as more important in life and strive for, and what to abandon), qualitatively better interpersonal relationships (e.g., fewer, but better friends).

The most important differentiating characteristics of Quantum Change refer to its relatively sudden installation, and durability. Posttraumatic growth on the other hand, may be reported in a particular moment as an outcome of long-lasting struggling with the adverse situation and its consequences. In the case of posttraumatic growth there is no assurance that the process of growth will or will not go on, and the results will be maintained. There have also been recorded less fortunate cases when after momentary upheavals of feelings of growth have receded in time; such accounts were considered as illusory, since did not lead to stable reports of growth (Calhoun & Tedeschi, 2004; Milam, 2004; McMillen, Smith, & Fisher, 1997). These aspects will be discussed in more detail in Chapter III.

2.5. Thriving

Thriving as defined by O’Leary (1998) delineates the individual’s ability to exceed pre-event psychological functioning, to grow ad flourish after confronting adversity. Because of transformative experiences, a large number of individuals, even if in the short run might experience significant negative or sub-threshold levels of functioning, in the long run not only recover and return to their pre-trauma functioning, but even exceed it on some dimensions. As we will later on see, the term thriving used by O’Leary & Ickovics (1995), is interchangeably used with slightly different meanings (flourishing, posttraumatic growth), more or less
describing in the same way superior posttraumatic functioning. Consequently, more attention and space will be devoted to these types of reactions in Chapter III.

**SUMMARY AND CONCLUSIONS**

Even if begun relatively recently, the serious, systematic and rigorous study of other possible posttraumatic reactions has already provided valuable data that would assist in fining down what is known and not yet known in psycho-traumatology (e.g. Linley & Joseph, 2004b; O'Leary & Ickovics, 1995; Tedeschi & Calhoun, 2004a; Tedeschi, Park, & Calhoun, 1998). Within the study of other than negative possible posttraumatic reactions, posttraumatic growth and resilience have received the largest interest (e.g., Bonanno, 2004; Bonanno & Field, 2001; Bonanno, Field, Kovacevic, & Kaltman, 2002; Bonanno, Papa, & O'Neill, 2001; Fredrickson, Tugade, Waugh & Larkin, 2003; Karapetian Alvord & Johnson Grados, 2005, Luthar, Cicchetti, & Becker, 2000). Ironically, initially intended to re-balance the excessive attention allocated to the negative, one trend in which PTG has been studied fell into the same trap as the ‘phenomenon’ of PTSD did. Sustained by the development and quick spread of positive psychology and positive thinking promoted by popular literature and media, growth in the aftermath of trauma became as normative in contemporary America as PTSD has been in the 80’s. The *tyranny of positive thinking* (Held, 2004), the prescriptions dominating not only common-sense of avoiding suffering (and if avoiding is not possible, denying it would also do), has shadowed rigorous research, and PTG became as threatened to be exactly as controversial and contested as PTSD once was.

The idea of growth in the aftermath of crisis is extremely enticing, and no wonder why people would like to find comfort in its possibility. Nevertheless, excessive ‘longing’ for good (positive) trying to balance the bad (negative), may have negative repercussions on the accuracy of undertaken methodology, thus biasing data, and determining the appearance of false opportunities lying within an artificially created illusion. People are repeatedly told to “Look on the bright side”, “Every cloud has a silver lining” (Mieder, 1993), but rarely are they told *how and when exactly to do it.*

The danger of conforming to social norms, even at the expense of involvement in long term, maladaptive processes (e.g., denial) may paradoxically produce more harm than bring benefit. Reports of subjective, though illusory reports of feeling (functioning) better may actually be accompanied by feeling (and functioning) worse not necessarily because of the event, but because of the inability to react in agreement with cultural and social norms. Thus, people will have to put up not only with their persisting negative reactions, but with their shame and guilt of not being able to deal either with the situation or the outcome in a proper, culturally accepted and demanded way.
One of the major implications of this perplexing shift of attitudes and possibly cultural norms is that these debarrings of the negative (in some cases their more or less conscious negation) might represent a risk of losing the natural propensity of learning to solve critical situations by one’s own or recognize when asking for help becomes necessary.

On the other hand, this style of excluding the negative by any means, might lead to a sense of instantaneous or somewhat delayed “feeling better”, instead of “getting better” (Ellis, 1991, 1996, 1999, 2000), similar to passive therapeutical techniques where warm, understanding relationships replace the more painstaking but effective focusing on specific dysfunctions and their successful change.

The potential to grow in the aftermath of crisis has been recorded for very long time and the chances that it could really happen do exist. Nevertheless, reports of positive functioning should not be taken at their face value. More importantly, this possibility should not determine research to consider that every traumatic situation should induce growth in everybody.

Consequently, in order to clearly establish what is known, what is accurate, what are the inherent limits and limitations influenced by the avoidable methodology, etc., it is absolutely necessary to critically overview the literature dealing with this phenomenon, and winnow reliable data from speculations. In this way, it may also be possible to more precisely identify the domains and aspects where growth (its specific sub-types) may occur, how it may be prompted, and the domains where it may be best benefited from. In the following, we will briefly present the main aspects of posttraumatic growth; the main approaches, theories, models, and implications in well-being and psychological adjustment.
It is enough to read the previous chapters on negative and other possible forms of posttraumatic reactions, to consider the enormous amount of research and publications, to realize the relevance of distress and malfunctioning in human life. Since negative posttraumatic reactions have a terrible impact on the individual’s overall functioning, no wonder health care has invested fortunes in the treatment of different debilitating reactions resulting from confrontations with traumatic/adverse events, and developed massive, more or less successful programs for prevention and intervention, thus trying to control their prevalence. If we consider that the past five decades of intense psychological research has focused almost exclusively on the negative effects of stress, it would to some degree be natural to have the impression that the topic of this chapter, that of Posttraumatic Growth might after all be an oxymoron.\(^5\)

Growing after trauma? - Growing due to trauma?

However, we all have read, heard of, or personally met people who ‘miraculously’ recovered, or were reborn from their own ‘aches’ and then flourished (at least form some points of view) after, and sometimes exactly because of the

\(^5\) Oxymoron = a figure of speech in which opposite or contradictory ideas or terms are combined (Webster’s New World College Dictionary)
confrontation with a noxious event. Still, we cannot help asking ourselves Is it real? Is posttraumatic growth per se possible, and if it is, what exactly is it, how could it be attained, and what would its additional benefits in the posttraumatic process and generally to the quality of human life be?

The present chapter is devoted to discussing in more detail the most relevant aspects implied in this extremely elegant, luring, but elusive possibility of reacting to adversity, highlighting both its complexity as a phenomenon, and its conceptual and methodological shortcomings, as well as its purported implications. We hope that we will be able to offer the reader a reasonably complete image of the present state of affairs regarding this issue.

3.1. Beginnings

In a lifetime, we encounter different forms of intense stress that may be necessary for our natural development and through which we may increase our abilities to adapt to future stressors, become wiser, etc. However, due to ideas promoted by the mental health industry, the general opinion among lay people shifted toward a fright for anything that may be perceived as change and may elicit reaction (and adaptation) on behalf of the individual. “People are educated into accepting that experiences like bereavement, receiving the diagnosis of a serious medical condition, marital problems, bullying, sexual harassment (even if only verbal), an overbearing employer, giving birth, and many others (the list grows) may well require professional intervention even when the person concerned has lived a competent life to date and has never demonstrated vulnerability to mental disturbance (Summerfield, 2004, p. 234)”.

Popper Péter’s, famous question: “Would you like to live the stress-devoid life of a worm?” (translated by the author; for more see Popper - Mesterkurzus) concentrates not only the essence of the function stress may have in the developmental process, but also the extremely negative contemporary attitude towards stress – people tend to get rid of all forms of stress, irregardless their functional utility. Obviously, stress and confrontation with distressing events may have a strong developmental aspect – people may gradually acquire more competence, more mastery and coping skills, empathy, etc. However, as we will see, posttraumatic growth due to stressful confrontations has a specific quality – it is rather transformational and not exclusively developmental (Aldwin, 2007). We can learn from our or others’ previous stressful confrontations how to deal best (or not to deal at all) with an event and its consequences, however the individuality and particularity of each struggle bears the trademarks of subjective and highly nuanced suffering.

Humans have an inborn need to find meaning for everything that happens to them (Bruner, 1995). This need becomes even more accentuated in the case of
suffering induced by stressful or traumatic encounters: Do our afflictions have a sense, or are we suffering in vain?

“We rebel against the idea of purposeless suffering. It seems unjust and intolerable” (Amato, 1990, p. xviii). As Baumeister (1991) stated, we spend significantly more time in trying to find meaning for our suffering and discontent, than in trying to attribute sense to our happiness. The truth is that we rarely spend time reflecting on why and how unexpected fortune, happiness and contentment overwhelmed us, and why did it happen exactly to us, and not to someone else. Such occasions are usually taken for granted, accepted as a matter of natural happening, without too much rumination on its origins and further implications (unless we want to find out how to prolong the specific state of happiness).

Contrarily, people have always spent huge amounts of time and invested energy in finding the reasons and implications of suffering. After the initial shock of traumatic confrontations abases and survival is not at stake, we keep asking ourselves the typical questions: “Why did it happen?”, “Why did it happen to me and not to someone else?”, “Why did it happen to me, who does not deserve it, and not to those who would have deserved it?”, “How did it exactly happen?”, “How long will it last and what will happen next?”, and so on.

In an attempt to make all the trials we have to face bearable, and in order to give them a sense that would grant us the means to live our life as well as we can to its natural end, humans have constructed highly structured frameworks of meaning systems that would assist such processes. Reflecting the importance of this struggle, even an ‘institutionalized’, official term has been coined, that of Theodicity for explaining the existence of evil and the reasons for suffering in the world (Baumeister, 1991).

On the other hand, in order to facilitate this process, an extra impetus was socially instilled – adversity is unavoidable, thus either try to resist it (for example by accepting the bare facts), or turn it into your own advantage by growing personally, for instance.

As briefly presented in the Introductory chapter of this volume, reports of growth because of suffering, unexpected recoveries, themes of rebirth can be frequently encountered in the universal literature, world mythologies, cosmologies, and historical accounts (more frequently than common sense would have believed). One of the major underlying ideas is that life is a process of constant changes to which one has to restlessly adapt. Actually, as mentioned above, this is one of the very basic conditions of the biopsychosocial development (Ford, Tennen, & Alfred, 2008). These processes also imply massive and adapted usage of self-regulatory mechanisms (conscious control over automatic biopsychosocial mechanisms, coupled with self-reflective processing). However, as we will see

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6 Theodicity = “philosophical/theological attempts to reconcile the presence of evil and suffering in the world with the idea of an all-powerful and good creator God” (Hall & Johnson, 2001, p. 5)
along this chapter, these types of reactions are qualitatively different from the development experienced in Posttraumatic Growth. Both are the results of reacting to change, but PTG implies specific changes to extreme situations that surpass the individual's initial, pre-trauma functioning.

For centuries, suffering and growth by means of suffering have been considered inter-related. Different Eastern and Western philosophies and religions confer suffering a central role in life, and consider it either the catalyzer for personal growth and transcendence of individual conditions (Calhoun & Telech, 2006; Richards & Bergin, 1997; Bowker, 1970; Pargament, 1997), or the sine qua non prerequisite of growth, that might help people attain wisdom, come closer to truth and divinity (Teideschi et al., 1998). Trauma, tragedy have been seen as quintessential life-lessons to be learned from (Krook, 1969).

Plato for instance, sustained that pleasure and pain do not represent two inseparable dimensions of human existence. On the contrary, they are intertwined and cannot exist one without the other (Aldwin, 2007) – both pleasure and suffering may be experienced only by comparing one state to the other – stance similar to the beliefs promoted by Taoism (see below).

Religious and philosophical traditions usually provide people with frameworks through which one may interpret all kinds of encounters, thus helping the individual in modulating the perceptions and effects of such encounters (Aldwin, 2007). These frameworks not only offer specific pre-established meanings, but also offer a range of possibilities for appraising, coping and/or attributing significance to events. In the same time, such religious or ideological frameworks offer not only means to construct personalized meanings for the events one encounters, but also offer sets of beliefs and value systems that guide one’s quest in finding meaning for post-event life in general (Baumeister, 1991), issue discussed in more detail in Chapter IV.

Returning to the meanings attributed to suffering through religious and ideological frameworks one could observe that these meanings do not exclusively refer to inducing relief and emotional comfort after traumatic encounters, but also the possibility of growth, of sublimation, and transcendence of earthly misery.

For instance in Buddhism, suffering per se is a collateral side of human life, and a core aspect of human experiences (Exline & Rose, 2005), suffering also being an inseparable accessory of the attainment of wisdom (Kalupahana, 1987). Though generally, suffering and pain are almost synonymous concepts, in Buddhism they came to be seen separately. Pain is imminent – most of the individuals would experience comparable discomfort in the same situation, however suffering has distinct dimensions, functions, and implications. In the Buddhist approach, suffering does not only refer to intense distress caused by external circumstances, but also by the spiritual vacuum and disillusionment experienced by the individual (Chen, 2006a). What we do with suffering depends on us, depends on the attitudes we develop towards this experience (theme
repeatedly surfacing in different therapeutic approaches as well, e.g., Frankl’s logotherapy, for more see Chapter IV). By modifying attitudes towards life and existence, one may modulate his/her own reactions towards misfortune. In an oversimplified form, one of the basic tenets of the Buddhist philosophy is represented by the individual’s ability to adopt a more detached stance towards earthly goods, desires, possessions, etc. In this way, loss (the probability of which is relatively high in a lifetime) would have lost most of its impact.

The Buddhist approach associates life with a “boundless sea of suffering” (Chen, 2006a, p. 76), which may, to some degree, be short-circuited by using appropriate active and proactive coping strategies (Chen, 2006a). However, the major goal of coping is not the reduction of stressful reactions, but their transformation into enlightening experiences. This is mostly attainable through meditation, mental discipline, etc., which not only leads to the liberation from suffering and distress, but also leads to the attainment of an inner state of calmness, serenity, and compassion (Chen, 2006a).

The major tenets of Buddhism are concentrated in the Four Noble Truths enounced by Buddha, the Awakened One. Simply put, according to the Four Noble Truths:

(i) suffering (Dukkha) is ubiquitous, since life is filled with suffering.
(ii) suffering is the result of the automatic tendency to cling to phenomena and things; the result of craving and aversion (Tanha). Craving and aversion always come together – when we crave for something, this desire may consume us, and gradually extends from one specific object of desire to other objects as well. Craving for something always is accompanied by the aversion (rejection) of its opposite. According to the Buddha, the couple of craving and aversion stem from the “primordial ignorance of the truth of human existence” (Chen, 2006a, p. 75).
(iii) the cessation of suffering is possible through the acceptance and recognition of the truth (Nirvana). Suffering may be ended by transforming the Tanha into a state of perfect peace, serenity, and compassion – the Nirvana, which would thus break the cycle of reincarnation, of birth and rebirth (Aldwin, 2007; Chen, 2006a).
(iv) this can be achieved by practicing the Eightfold Noble Path (Magga) (Kumar, 2002, p. 41).

In a summarized form, the Eightfold Noble Path encompasses the following recommendations. One should have the:

(i) right view,
(ii) right intention,
(iii) right speech,
(iv) right action,
(v) right livelihood,
(vi) right effort,
(vii) right mindfulness, and
(viii) right concentration (Laumakis, 2008).

This will lead “to vision, which gives rise to knowledge, which leads to peace, to direct knowledge, to enlightenment, to Nibbana” (Samyutta Nikaya, as cited in Laumakis, 2008).

On the other hand, Hindu approaches (see Bhagavad Gita, e.g., Zaehner, 1969) to suffering emphasize the importance of predetermination. According to this framework, people do not have a free will, and everything is predetermined. Therefore, any attempt to change the predetermined course of actions is futile, and would be the source of useless stress. This possibility to invest fate with responsibility for everything that happens (good or bad) has a soothing quality – why should one struggle to change the unchangeable? This approach seems to reduce significantly the levels of anxiety experienced, and the calm acceptance of reality could be used as an efficient coping mechanism (Aldwin, 2007).

One of the most complex Eastern approaches to stress and coping is offered by the philosophical and religious tradition of Taosim7 (Chen, 2006b), which has had a noteworthy influence on western thinking, especially after the 19th century. Literally, Tao meaning “way” or “path”, Taoism becomes the philosophy of the “Way of nature”, the major tenet of which is to live in harmony with the Tao (Ellwood & Alles, 2007). According to the Taoist philosophy, by living in harmony with nature and oneself, one may prolong life and simultaneously enhance the quality of one’s life.

Taoism is oftentimes categorized in either two or three major branches (Kohn, 2000; Ellwood & Alles, 2007): (i) philosophical Taoism, (ii) religious Taoism, and (iii) folk Taoism.

The religious and ethical approaches of this philosophical approach, propose the Three Jewels of Tao by which one may live in harmony with nature, namely: compassion, moderation, and humility (Chen, 2006b). All these fundamental principles are based on the ability to detach from things, properties, wishes, and desires, and thus attain equilibrium, which would be an essential element in the process of development and maintenance of harmony.

However, Taoism is much deeper than it is usually perceived by present vulgarized, lay-approaches. It promotes the specific perception of life (and “everything”) as a polarity (duality), with the two opposites complementing each

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7 Taoism (also be encountered under the name of Daoism), was founded (at least from a philosophical point of view) by Lao-Tze (also Lao-Tsu, Laozi, etc.), probably somewhere around the 6th century BC in ancient China.
other, simultaneously allowing and conditioning the existence of each other (Chen, 2006b); e.g., “Fortune owes its existence to misfortune, and misfortune is hidden in fortune” (Lao-tzu, 2000, p. 58, as cited in Chen, 2006b). By accepting the fact that nothing can exist without its counterpart, the individual may significantly reduce the impact of any possibly traumatic event, because he/she is aware beforehand about its potential existence. As Ajaya (1997) underscores, “In Taoism it is believed that when one is unaware that the two sides of a polarity support one another to form a whole, he identifies with only one side of the polarity. This in turn leads to suffering and self-destruction. But understanding how the two poles support one another leads to a peaceful and integrated life” (p. 75).

Taoism also brings into discussion the dynamic existence of this unified polarity. Thus, in Lao-Tze’s conception, there is a cyclicality in life – when misfortune peaks, it stops and is replaced by fortune, which after peaking is substituted by misfortune, and so on (Chen, 2006b). By accepting these tenets, one is not only capable to cope with the hardships to which he/she is or might be exposed, but also to prepare to confront them with equanimity. In addition, the Taoist approach also shows the individual how to attain happiness in amidst of crisis (Chen, 2006b).

The Taoist wisdoms teach the person how to develop and maintain a flexible thinking, to approach problems (positive and negative as well) from different angles, to interpret and reinterpret situations from different perspectives, thus broadening the repertoire of possible solutions. Several contemporary therapeutic approaches have been massively influenced by the major principles of Taoism. An excellent example in this sense is REBT, which similar to Taoism subscribes to the fact that emotional reactions (and most importantly dysfunctional emotional ones) are highly dependent on the way the person interprets the specific situations. Thus, by reducing the rigidity of thinking patterns, developing a flexible thinking style, promoting “unconditional self-acceptance” (highly connected to polarized thinking, determined by the self-commitment to one of the poles), etc., the functional adaptation of the person to different situations may be significantly enhanced (Chen, 2006b).

In short, the Taoist tradition not only offers ways by which one may reduce tension and stress, but also suggests possibilities through which one may optimize appraisal mechanisms in order to buffer against the noxious effects of intense stress by developing an appropriate mind-frame, as well as coping and management skills (Aldwin, 2007). One of the major tenets of Taoism is that suffering and stress are not necessarily produced by external factors, but are determined by the individual’s perception and interpretation of the event: “Good and bad thoughts are the cause of events, receiving blessing and bringing on misfortune are the effect of events” (Liu, translated by Cleary, 1988, p. 10, as cited in Aldwin, 2007).

Another important Taoist observation underscores the importance of balance between positive and negative. Since we do not subscribe either to
normative negative posttraumatic stress reactions or to normative posttraumatic
growth reactions (as we will later on more specifically delineate), but to context,
individual, and dynamic-specific adaptive reactions, we consider that the Taoist
stance concentrated in Watts’ (1969) writings captures the time-resistant gist of this
philosophy: “Virtue and harmony coexist, not in accentuating the positive, but in
maintaining a dynamic balance” (p. 54, as cited in Chen, 2006b).

Taoism has long been considered as an inspiring knowledge-base on
which positive psychology has developed. However, unlike positive psychology,
which is almost exclusively dealing with development and maintenance of positive
states, the Taoist approach advocates life lived in harmony with nature and oneself,
which does not exclude the co-existence of positive and negative states.

The next religious-philosophical halt in our journey of understanding the
history of attitudes towards suffering would be represented by the Judeo-
Christian perspective. According to the teachings of the Old Testament, suffering
is a consequence of the original sin, thus becoming a ubiquitous part of human
existence. Because of its primordiality, humans are born with it – born in and from
sin that would translate in different forms of suffering for each individual.
Accordingly, we all have to bear our crosses in this lifetime. However, the Judeo-
Christian tradition also offers its followers the possibility for salvation, the
supreme hierophany, through God’s incarnation into Jesus (Eliade, 1957). One of
the metaphysical explanations in the New Testament of Jesus’ mission on earth is
that of offering people the possibility of atonement. Even further, according to
Paul, Jesus would be the one undoing the original sin of Adam (Corinthians, 15,
22-45, as cited in Ellwood & Alles, 2007). One of the basic messages is that one
cannot avoid suffering in earthly life, but by attaining the right attitude towards
suffering one may obtain eternally happy life in Heaven.

“… we rejoice in our sufferings, because we know that suffering produces
perseverance; perseverance, character; and character, hope. And hope does not
disappoint us, because God has poured out his love into our hearts by the Holy
Spirit, whom he has given us”.

(Romans 5: 3-5)

The teachings of both the Old and the New Testament emphasize the role
of suffering. Pain, misfortune, and sorrow come with a sense, they are not
meaningless. Sometimes these represent a form of testing the strength and
maturity of one’s faith, on the other hand, only those chosen by God are tested
through suffering (Calhoun & Tedeschi, 1999). Job’s example is eloquent in this
sense. Job, a “blameless and upright” man, who “feared God and turned away
from evil” (Job 1-2) is unjustly afflicted by God in order to test his faith, and
demonstrate Satan of Job’s adamancy and faith (Ellwood & Alles, 2007). After
God deprives him of every earthly good he has owned (children, family, wealth,
health), Job begins a journey of finding an explanation for his disastrous fate,
regretting even the day he was born, and questioning God for the sense of his misfortune, knowing that he has lead a righteous life. God does not give Job a clear, definite answer, but after withstanding the test, overwohms him, and reveals his greatness to Job, who repents his questioning and acknowledge is greatness.

“For I know that my Redeemer lives, 
And at last he will stand upon the earth; 
And after my skin has been thus destroyed, 
Then from my flesh I will see God”

(Job 19:25-26)

Finally, after withstanding the test, God restores Job’s life, and Job’s book has a relatively happy ending.

“So the Lord blessed the latter end of Job 
More than his beginning”.

(Job 41:12)

One of the main messages of Job’s book refers to the eternal human question: “Why do good people suffer?” Even if Job does not obtain a definite answer to such an apparently unfair suffering, the answer may be read within the lines – worshiping God even in unimaginable misery will help one to find the necessary strength to endure suffering (Ellwood & Alles, 2007), and attain salvation.

Another famous act of absolute fate in God’s will is that of Abraham. He was commended by God to sacrifice his only son, Isaac. Regardless the imminence of the life-shattering tragedy, Abraham is resolute, and without doubt would sacrifice his son’s life to express his adoration. Seeing Abraham’s total, unquestioning devotion, God spares Isaac, and expresses his contentment

“I will indeed bless you, 
And I will multiply your descendants as the stars of heaven, 
And as the sand which is on the seashore”.

(Genesis, 22, 17)

On the other hand, the New Testament offers sufferers the spiritual support needed in confrontations with hardships

“Come unto me, all ye that labor and are heavily laden, 
And I will give you rest. 
Take my yoke upon you, and learn of me; 
For I am meek and lowly in heart; 
And ye shall find rest unto your souls. 
For my yoke is easy, and my burden in light”.

(Matthew, 12: 28-30)
As we have seen suffering is thoroughly debated in all religious traditions. However, these doctrines also contain guidelines that comprise the conditions of a proper living; if one follows these prescriptions, may avoid unnecessary and futile suffering. A somewhat similar approach to the proper living expressed in the Eightfold Noble Path may also be found in the Old Testament. The Ecclesiastes condenses the major tenets of the secret of a good life in the willingness and wisdom to respect the followings:

“For everything there is a season, and a time for every matter under heaven;
A time to be born, and a time to die;
A time to plant, and a time to pluck up what is planted;
A time to kill, and a time to heal;
A time to break down, and a time to build up;
A time to weep, and a time to laugh;
A time to mourn, and a time to dance;
A time to cast away stones, and a time to gather stones together;
A time to embrace, and a time to refrain from embracing;
A time to seek, and a time to lose;
A time to keep, and a time to cast away;
A time to rend, and a time to sew;
A time to keep silence, and a time to speak,
A time to love, and a time to hate;
A time for war, and a time for peace”.

Ecclesiastes 3: 1-8
Holy Bible, 1952

Disobedience or the transgression of these principles would lead to frustration, dissatisfaction, confusion, and thus to suffering (Baumeister, 1991).

The Qur’an (Koran), the Islam's sacred book, also takes over the theme of suffering as a trial through which God tests people (Aldwin, 2008).

“Be sure we shall test you with something of fear and hunger, some loss in goods or lives or the fruits of your toil”

(Qur’an, 11: 155-157,

However, as a supplementary impetus for keeping faith and continue struggle, also recognizable in Christian scriptures, is the idea that testing would never exceed one’s abilities and resources.

“God does not compel a soul to do what is beyond its capacity”

(Qur’an, 11: 285,
translated by Cleary, 1993, p. 18
as cited in Aldwin, 2007).
Through these tenets, one would also understand why good people suffer — in order to be tested faith-wise and to prove their strength, as well as because they can handle the testing, they have all the necessary resources to struggle and demonstrate their belief.

As seen, many religious and philosophical traditions emphasize the necessity and the possibility of good outcomes after struggling with enduring life-difficulties (Aldwin, 2006). An excellent example in this sense would be the Chinese ideogram of crisis, which in itself is combined of two distinct ideograms:

\[
\textbf{危} \quad = \quad \textbf{危} + \quad \textbf{急}
\]

\textit{Wei} = \text{Danger} \quad \quad \textit{Ji} = \text{Opportunity / Crucial point}

To summarize these religious and philosophical approaches, starting from oriental doctrines (Buddhism, Taoism, Hinduism, Islam), to Judeo-Christian faith system, we may say that all of them recognize the existence and imminence of human pain and growth. In the same time, all of these approaches subscribe to a specific attitudinal framework to these extreme experiences. While Buddhism and Hinduism proclaim the change in the way traumatic (or highly stressful) encounters are appraised, especially by learning how to detach from earthly material possessions, desires, wishes, etc., the Judeo-Christian tradition focalizes not on how the event is appraised, but on the way the individual copes with the event, “how one deals with the inevitable” (Aldwin, 2006, p. 312). From a psychological point of view, Taoism seems to have the most complex approaches of all these philosophical and religious traditions; it focalizes on

(i) adaptive appraisal,
(ii) active and proactive coping mechanisms, and
(iii) the promotion of serenity and contentment by the attainment of wisdom.

Throughout history, these views have periodically lost and gained in importance. Thus, existential philosophy (e.g., Kierkegaard, Nietzsche) and later psychology have once again recognized the chance for growth through crisis and suffering as an opportunity of creating new, higher meanings with propelling effect.
Søren Kierkegaard, the famous Danish philosopher and theologian for example, emphasized the necessity of despair (intense suffering) for adult development (Aldwin, 2007). In his approach, there are three major phases of development: (i) aesthetic, (ii) ethical, and (iii) spiritual (faith), and despair would be the fuel that helps one to evolve on this developmental ladder (or Stages on Life’s Way).

Reports and descriptions of PTG may be found within existential and humanistic psychology as well (Jaffe, 1985). Within these approaches mostly descriptions of identity and spiritual transformations, changes in interpersonal relationships and meaning systems abound. For example, Frankl (1963) developed logotherapy based on these premises – namely that people find meaning for living after trauma through creativity, love and suffering. The first empirical attempt to measure the existential effects of trauma was effectuated by Ebersole in 1970 (Tedeschi, Park, & Calhoun, 1996).

Confronted with chapters I and II, one may roughly conclude that the investigation of posttraumatic reactions has at least trifurcated: (i) the first one (and the major branch) investigating pathological reactions (e.g., PTSD, depression, panic attacks), (ii) the second one studying resilience and the way maladaptive reactions may be prevented, and (iii) the third ramification inquiring the possibility of growth due to traumatic encounters.

Even if the phenomenon of posttraumatic growth has been quite frequently encountered, its study fell outside mainstream psychology. Before the ‘80s researchers have rarely set out to purposefully, specifically, and systematically investigate growth in the aftermath of suffering (Calhoun & Tedeschi, 2006). Studies that have noticed the possibility of stress induced personal development were those where the main focus has fallen on the study of coping within particular traumatic events (Tedeschi et al., 1998), or growth was described as a secondary, residual, usually less important outcome (as already mentioned, such outcomes have oftentimes been considered as being illusory rationalizations).

Discussed in more detail in Chapter I, negative posttraumatic reactions became almost normative, thus forcing their study within the frames of clinical psychology, heavily grounded in the illness ideology (Joseph & Linley, 2008). Thus, research in this domain (including negative posttraumatic reactions as well), fell under the spell of “the uncritical acceptance of the medical model, the organic explanation of psychological problems, with psychiatric hegemony, medical concepts, and language” (Albee, 2000, p. 247).

The basic assumptions of the medical model and illness ideology in psychological research have been described by Maddux (2002), as:

1. exclusive concern with psychopathology, focusing on the palliation of behavioral, cognitive, emotional symptoms. One of the implications of this extremist orientation resulted in the treatment of diagnosable disorders, excluding
the study and enhancement of those who manifested moderate or sub-syndromal reactions.

2. introduction of the categorical model, clearly delimitating between clinical and normal populations. Regarding possible posttraumatic reactions, this approach sharply separated pathological reactions to trauma (PTSD by excellence), and the possibility of growth. Consequently, these apparently distinct reactions have been forced to be studied in different frameworks. This forked approach had both benefits and costs. On the one hand, in-depth research has been facilitated in both domains (though positive reactions being more recent, literature is also more rudimentary). On the other hand, the development of an integrative approach necessary for the holistic understanding of this highly context and person dependent phenomenon has been (and still is) seriously thwarted (Joseph & Linley, 2008; 2003).

3. psychological disorders were considered to originate exclusively within the individual, simultaneously disregarding the importance of the permanent bidirectional interaction between person and context. Specifically to negative posttraumatic reactions, the research within PTSD has for instance concentrated on the biological, physiological, neurological, neurochemical, etc. aspects involved in this specific disorder.

4. the fourth aspect derives from those presented above, and refers to the role of the professional who intends to: (i) diagnose the illness within the person, (ii) prescribe intervention aiming to alleviate the specific symptoms of the disorder, and (iii) deliver the intervention.

These specific developments in major psychological approaches have massively caused a deviation from psychology’s original missions (Seligman, 1999), which included the research of the ways in which human life may become increasingly more prosperous, productive, fulfilling, simultaneously investigating human strength, creativity, and talent. After the Second World War these missions have been ignored, and mainstream psychology has mostly been encompassed within the framework of medical ideology.

Thus, the phenomenon of posttraumatic growth did not fit into these frameworks, and its research has been undertaken outside central tendencies. However, as interest regarding this phenomenon intensified, research expanded, and relevant data emerged, it came to be included into the framework of positive psychology, the agenda of which mostly overlaps the major research objectives in this domain.

As opposed to the medical model and illness ideology dominated psychological research, positive psychology’s major tenets as proposed by Maddux (2002) are:

1. interest in everyday problems of human functioning, and not exclusively the diagnosable disorders (psychopathology). Positive psychology is also concerned with the enhancement of well-being in all those individuals who do not fulfill the
necessary criteria to be diagnosed with any disorder, but who would benefit from such interventions - to palliate distress, enhance adaptation to daily hassles, promote flourishing, etc.

2. opposed to psychopathology’s *categorical model*, positive psychology has adhered to a *dimensional model* of human functioning. In this conception, clinical problems and populations differ *in degree* but not *in kind* from normal population manifesting non-clinical problems, etc. Thus, in clinical and non-clinical populations, problems are considered to be situated at different points of the same continuum of functioning. In this perspective, in order to understand the complexity of each case, one should simultaneously focus on both the health and the illness dimension, since these are interrelated constructs. In this approach, normality-abnormality, health-illness, etc., are “considered to be extreme variants of normal psychological phenomena” (Joseph & Linley, 2008, p. 7).

3. unlike clinical psychology that considers that illness and disorders are rooted exclusively within the individual, positive clinical psychology considers that these problems derive from the deficient interaction between the individual and his/her environment. This conception underscores not only the fact that the problems may have multiple origins, but also highlight the fact that prevention and intervention would be most efficient if conducted on all dimensions implied (i.e., individual, social, cultural, etc.)

4. in positive clinical psychology, the psychologist’s main aim is to identify the strengths of the client, and thus promote mental health, and not to offer treatment that would focus on the amelioration of symptomatology. In this approach, those who appeal for help are called clients instead of patients, and the professionals who provide assistance may be coaches, teachers, consultants, etc.

If the study of pathological reactions was almost exclusively investigated and is best understood within the frame of medico-psychiatric context (Joseph & Linley, 2008), the study of PTG came to be most frequently included into the agenda of positive psychology. This division has also both its advantages and drawbacks. On the one hand, it helps us to understand the enormous delay and neglect in the rigorous study of a phenomenon (PTG) at least as often encountered as its negative counterpart (PTSD), and which may purport serious practical implications. On the other hand, its almost exclusive inclusion within the boundaries of positive psychology limits not only the complex understanding of the entire phenomenon (since again, by focusing on the investigation of one single phenomenon – PTG in this case – one risks to miss the entire dynamic of posttraumatic reactions), but also the message sent to common sense may be easily misinterpreted, as it unfortunately already has (e.g., Calhoun & Tedeschi, 2006; for more see the myths of PTG, Chapter IV).

The first rigorous studies that purposefully mention the possibility of experiencing growth in the aftermath of a negative event were those of Taylor (1977) on the effects of natural calamities, and Hamera and Shontz’s (1978) on life
threatening illness. Since then, the number of studies has rapidly mushroomed, covering a large range of traumatic events, and the methodological rigor has been improved as well.

3.2. Posttraumatic Growth Terminology

Along the years, there has not been a single, commonly accepted term for the phenomenon of interest - PTG. Positive reactions following a negative (traumatic) life event have been variously termed as: positive psychological changes (Yalom & Lieberman, 1991), perceived benefits or construing benefits (Calhoun & Tedeschi, 1991; McMillen, Zuravin, & Rideout, 1995; Tennen, Affleck, Urrows, Higgins, & Mendola, 1992; Aldwin, Sutton, & Lachman, 1996), flourishing (Ryff & Singer, 1998b), stress related growth (Park, Cohen & Murch, 1996), thriving (O’Leary & Ickovics, 1995), positive illusions (Taylor & Brown, 1988), positive reinterpretation (Scheier, Weintraub, & Carver, 1986), adversarial growth (Linley & Joseph, 2004); drawing strength from adversity (McCrae, 1984), etc., to mention only a few.

The term of posttraumatic growth was used for the first time in print by Tedeschi and Calhoun in 1996, in an article where the authors presented the development of an inventory (Posttraumatic Growth Inventory - PTGI) that attempted to measure this concept. The authors’ justification of choosing and persisting in the usage of the term is worth a short explanation. For starters, the expression of posttraumatic growth incorporates the more distinct focus on not random stressful events, but on exclusively traumatic ones. The reason for this is that it has been observed that mostly events of high severity and extreme magnitude are able to promote such growth, while minor stressors would not (as e.g., stress related growth would imply). It is acknowledged that related, nevertheless different processes as natural maturation, acquisition of new or more refined abilities would lead to similar reports of growth, but PTG is considered to be both qualitatively and quantitatively different from this type of development (Tedeschi & Calhoun, 2005). In the same time, terms as thriving or flourishing do not purport the necessity of an extremely threatening, fundamental schema-shattering experience, as usually and by definition traumatic events do. Secondly, in Tedeschi and Calhoun’s opinion the term growth excludes the connotation and possibility of positive, nevertheless illusory posttraumatic changes (as the term positive illusions for example would imply). Thirdly, growth bears the connotation of both an ongoing process and an outcome in comparison with other terminologies where PTG is considered to be a stable outcome or a coping mechanism (e.g., perceived benefits, or positive reinterpretation).

This far, PTG has been considered as one of the most encompassing, though not perfectly suitable terms for the targeted phenomenon. It draws attention to the fact that the individuals experiencing it have significantly developed beyond their previous levels of functioning and adaptation has occurred
in the aftermath of an undesirable, extremely stressful, negative event. In conceiving the term of PTG, the authors have also taken into consideration the significant positive changes in cognitive and emotional functioning, and the subsequent behavioral implications (Tedeschi et al., 1998). Nonetheless, with all its advantages over other terminologies, we consider that the term has some major shortcomings. The most evident one is that it might falsely direct attention to the idea that PTG is a pure (and desired) outcome of a traumatic event. More specifically, it implies that those who experience posttraumatic growth might be devoid of any kind of distress, which stance is false. As we will further on see, it is not unusual that persons reporting posttraumatic growth on different dimensions, do for a considerable period of time, in parallel experience distressing symptomatology as well. Growth and distress may co-exist, and do not exclude each other.

Recent specifications of the authors to the 1996 definition and terminology improve the understanding of the phenomenon. In a recent article they accentuate the idea that a traumatic event should not be considered as a precursor of growth (Tedeschi & Calhoun, 2004). A traumatic event in itself does not produce PTG. It is the struggle in the aftermath of a negative event and its multi-level consequences that may, or may not promote posttraumatic growth (Tedeschi & Kilmer, 2005). Thus, PTG may be a fortunate, but not a compulsory outcome (as PTSD may be an unfortunate, but not compulsory outcome either).

Another imprecision of PTG derives from the fact that the majority of the literature dealing with it describes and actually measures the subjective perceptions of growth (Zoellner & Maercker, 2006). With very few exceptions that try to remedy the subjectiveness of these self-perceived reports of growth, it is extremely difficult to objectively establish and measure growth. This issue also brings into question another problem – that of establishing how much experienced (and more importantly related) positive growth should be considered as significant posttraumatic growth? (Calhoun & Tedeschi, 2006). Since prevalence rates of PTG differ significantly from one traumatic context to other, and are highly dependent on the investigation methodology, the clarification of this problem still awaits rigorous research. This is one of the reasons why, most recent studies propose the embedding in the term of PTG the connotation of ‘self-perceived’ posttraumatic growth (Zoellner & Maercker, 2006), since in this way one may partially cover both the subjective nature of the experience (e.g., patients may say “I think/feel that I function better on different dimensions because of struggling with this event and its implications”), and its reference to internal, person related standards of growth (e.g., “I consider that my relationships are significantly better since and because of the traumatic encounter, regardless the experiences of others”).

In spite of all these shortcomings, for brevity’s sake and since it best suits our purpose, we will use this term throughout this volume as representing the self-reported “experience of positive change that occurs as a result of the struggle with highly

3.3. Theoretical conceptualizations of Posttraumatic Growth

During its progress, PTG has been differently conceptualized by different theorists, mainly either as a stable outcome of the encounter and struggle with the traumatic event (e.g., Schaefer & Moos, 1998; Tedeschi & Calhoun, 1996; 2004), or as a coping strategy, incorporated in the posttraumatic process, that continuously manifests its effect, and may be assessed as an outcome of self-perceived better post-event functioning (e.g., Affleck & Tennen, 1996).

Within the first approach (PTG as the outcome of the coping process), growth denotes a significant beneficial change in both the cognitive and emotional life of the individual (Zoellner & Maercker, 2006), which has long and erroneously been considered as the ‘antithesis’ of PTSD. As we have already mentioned, and will return to its more elaborate debate, positive and negative posttraumatic reactions are not the two opposite ends of the same continuum, but are independent outcomes and results of independent processes, that have a common etiology. For example Zoellner and Maercker (2006) consider that there are conceptual differences between the different domains of growth and general emotional adjustment. PTG does not mean an increase in well-being and reduction of negative affectivity. Moreover, some authors consider that individuals who report very high levels of self-perceived posttraumatic growth without accompanying negative affectivity (or other signs of malfunctioning) are highly suspected to fake positive reactions, or be in denial. On the other hand, in the case of those who report growth and some sort of malfunctioning (usually negative affectivity), the probability of authentic growth on some dimensions is much more plausible (Park, Cohen, & Murch, 1996). Therefore, it is very important to (re)emphasize that growth and distress may coexist. Besides, as we will later on discuss in more detail, it seems that a specific degree of distress is a necessary element in the promotion and maintenance of growth (Larsen, McGraw, & Cacioppo, 2001).

3.4. Domains where PTG was recorded

Research within PTG uses the term trauma (traumatic event) in a much broader sense than it is encountered in the DSM-IV (APA, 1994). The definition of traumatic events include those encounters that may shatter a person’s conception about the realities of the internal and external world. Thus, it includes a wider variety of events, and sometimes also events of lesser intensity than those mentioned as traumatic in the DSMs (for example, a considerable number of research has been undertaken on people having severe, life-threatening or terminal diseases).
In the PTG approach, traumatic events (used interchangeably with the terms of major life crises, extremely stressful encounters) are considered those extremely intense experiences which have a shocking impact, disrupting the individual’s biopsychosocial homeostasis.

Consequently, overwhelming amounts of evidence of growth have been recorded in a wide variety of difficult (stressful, negative, etc.) circumstances. Some of these domains where growth has been investigated, are: rape (Burt & Katz, 1987; Veronen & Kilpatrick, 1983); cancer patients (Collins, Taylor, & Skokan, 1990; Taylor, 1983; Cordova, Cunningham, Carlson & Andrykowski, 2001); survivors of lightning strikes (Dollinger, 1986); childhood sexual abuse survivors (McMillen, Zuravin, & Rideout, 1995); victims of incest (Silver, Boon, & Stones, 1983); participants of combat (Elder & Clip, 1989; Sledge, Boydstun, & Rabe, 1980); bereavement (Calhoun & Tedeschi, 1989-1990; Schwartzzenberg & Janoff-Bulman, 1991; Edmonds & Hooker, 1992; Hogan, Morse & Tason, 1996; Lehman, Ellard, & Wortman, 1993); persons infected with HIV (Schwartzzenberg, 1993); parents of ill and high-risk children (Affleck, Allen, Tennen, McGrade, & Ratzan, 1985); burn patients (Andreasen & Norris, 1972); survivors of a ship sinking (Joseph, Williams, & Yule, 1993); heart-attack patients (Affleck, Tennen, & Croog, 1987; Laerum, Johansen, Smith & Larsen, 1987); victims of disasters (Thompson, 1985); Holocaust survivors (Kanhana, 1992), etc.

3.5. Types of Growth Outcomes

Briefly put, throughout literature, PTG is considered to be the experience of positive change that occurs as a result of the struggle with highly challenging life crises (Tedeschi & Calhoun, 2004). As already mentioned, it is not only a measurable outcome, result of the reactions following a negative event, but an ongoing process as well (Tedeschi et al., 1998). People experiencing it at a certain moment as an outcome, may further struggle to maintain it. Others on the contrary, may loose it – these being one of the instances that lighted up debates about the illusory aspects of posttraumatic growth. Nonetheless, there have been recorded situations when PTG as outcome dominates (that may or may not be identified with the occasion of future assessments), and other cases when PTG was a significant part of the posttraumatic process, following its dynamic, sustained or thwarted by the intricate relationship between the individual and his/her context.

Thus, within the literature of life-crisis major forms of positive reactions, besides Posttraumatic Growth, positive Quantum Change (Miller & C’deBaca, 1994) have also been documented. Both phenomena may occur as an aftermath of an extreme event, both are positively valenced (determining superior post-event levels of functioning on some dimensions), but are characterized by several distinctive features.

Quantum Change theory takes into discussion sudden, unexpected transformations (sometimes changes of 180°) in people’s lives, usually perceived as positive, having a permanent and/or durable effect. In Miller and C’deBaca’s
theory, Quantum Change results in new levels of normative functioning which, compared to the individual's original, pre-trauma level of functioning, may be either higher or lower. In the case of forms of posttraumatic growth, positive Quantum Change is of interest. Quantum Change has been quite frequently recorded (especially in the case of religious conversions). However, because its difficult conceptualization and measurement it has received little empirical evidence. Thus, in positive Quantum Change the aspect of relatively stable outcome is which dominates (for more on Quantum Change, see Chapter II).

On the other hand, PTG may be reported in a particular moment as an outcome, but this does not offer the assurance that the process will or will not go on. Less fortunate cases have also been recorded, when after momentarily upheavals of growth feelings of growth have receded in time; such accounts were considered as illusory, since did not lead to objectively measurable or stable reports of growth (Calhoun & Tedeschi, 2004; Milam, 2004; McMillen, Smith, & Fisher, 1997).

3.6. Dimensions of Posttraumatic Growth

Posttraumatic growth is a multidimensional construct (Calhoun, & Tedeschi, 1998). Different people experiencing growth in the aftermath of the same type of negative life-event have reported different types of growth. These manifestations on different dimensions may or may not all together be present within the experiences of the same person. The first qualitative inquiries of PTG research have identified three main domains of positive growth: (i) changes in perception of self, (ii) changes in interpersonal relationships, and (iii) changes in philosophy of life (Calhoun & Tesdeschi, 2006; Tedeschi & Calhoun, 1995; Tedeschi et al., 1998).

However, factor analysis has yielded five major dimensions of PTG: (i) increased appreciation for life in general, (ii) more meaningful interpersonal relationships, (iii) an increased sense of personal strength, (iv) changed priorities, and (v) richer existential and spiritual life (Tedeschi & Calhoun, 2004).

Momentarily, thorough reviews of the literature have repeatedly identified reports on these dimensions within American and Western European populations. Research targeting PTG on other than American and Western European populations is scarce, but data from a recent study on Bosnian refugees (Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003) has prompted the question whether the same factor structure (dimensions) is maintained within different cultures (Maercker & Langner, 2001).

3.6.1. Increased appreciation of life in general

People experiencing extremely taxing events, oftentimes relate increased appreciation of life in general and/or of smaller, more particular aspects of it. Within this dimension most observable is the difference between persons who ruminate on the negative aspects of the implication of the event (e.g., “Why did this happen to me?”),
and those who try to find some sort of benefit in what the event has left them with (e.g., “I am so lucky for surviving”). It is not unusual to identify within such reports changed priorities as well. This typically happens in people who have experienced some sort of loss – former goals, purposes seem unattainable, and/or have not yet found more general, encompassing ones (Carver & Scheier, 2002), thus they concentrate on the now and here.

3.6.2. More meaningful interpersonal relationships

Reports of PTG on the dimension of changed interpersonal relationships usually refer to closer, more intimate connections with others. Within this dimension people may also report increased compassion, empathy for other sufferers (Calhoun, Tedeschi, Fulmer, & Harlan, 2000). This dimension is extremely important since it could promote the development and/or maintenance of social and emotional support, considered as one of the most important protective/preventive factors identified both in the study of negative and positive posttraumatic outcomes (e.g., Park, Cohen, & Murch, 1996; Brewin, Andrews, Valentine, 2000; Ozer et al., 2003). Nevertheless, it has to be acknowledged that not all sorts of social support are benefic, and even more, social support itself is not always beneficial (Wortman, 2004). Recently, more and more researchers agree that more attention should be paid to the differences between positive and negative aspects of social support and relationships (Ingram et al., 2001). More refined research has made obvious, that negative elements of social interactions have greater impact on mental health than positive elements (e.g. Manne, Taylor, Dougherty, & Kemeny, 1997; Morgan, Neal, & Carder, 1997).

Another important aspect usually discussed within this dimension is an increased ability of self-disclosure and emotional expressiveness (Tedeschi et al., 1998). Since it has not been explicitly targeted, it is yet unclear whether the pre-trauma ability to properly express feelings promotes better adaptation and growth, or that in those who report growth, the event itself initiated the development of this ability (Tedeschi et al., 1998). However, literature has repeatedly addressed the benefic effects of proper emotional disclosure and expressiveness both in speech and writing (Pennebaker, 1993, 1995, 1997; Park & Blumberg, 2002; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). Self-disclosure and emotional expressiveness did not prove to be benefic in all types of traumatic events, and has raised great controversies within the domain (Rachman, 1980; Moos & Schaefer, 1993; Lehman et al., 1986; Ingram et al., 2001). Thus, researchers have observed that for instance in the case of rape and incest, closer relationships have been attained through an increased sense of caution in expression (Frazier & Burnett, 1994; McMillen et al., 1995).

Most of these opinions stem from the assumption that the majority of the persons whom the patient discloses resent these kinds of “confession-like” discussions of negative life-events. Those who resent such a “confession-like”
approach adopt a distant attitude and later may prove to be unsupportive (the importance of which has already been discussed) (Kelly & McKillop, 1996; Kennedy-Moore & Watson, 1999). It is possible that people experiencing certain, culturally reprovable negative life events may have an intense desire to express, disclose and discuss them, yet, the confrontation with the results of social constraints determine them not to talk about their reactions (Lepore, Silver, Wortman, & Wayment, 1996; Lepore, Ragan, & Jones, 2000; Pennebaker & Harber, 1993). Pennebaker (1990, 2000) and Smyth (1998) have more exhaustively addressed these controversies. In general, it seems that the disclosure of emotions related to a negative event helps the individual to organize the experiences and make sense (find meaning, sometimes create meaning) of the event, its possible aftermaths and future possibilities (Neimeyer & Stewart, 1996; Park & Blumberg, 2002). Even if the underlying mechanism is still unknown, this might be the reason why disclosure studied within the paradigm of Expressive Writing has produced improvements in so many areas of functioning (Petrie, Booth, & Pennebaker, 1998; Antoni, 1999; Greenberg, Korman, & Paivio, 2001; Kelley, Lumley, & Leisen, 1997; Stanton et al., 2000; Smyth, 1998).

3.6.3. Increased sense of personal strength

A very often-met theme within the reports of PTG is that of an increased sense of personal strength (Aldwin, Levenson, & Spiro, 1994). People derive confidence (Carver, 1998) and develop feelings of security and strength expressed in utterances similar to “If I could handle/survive this I can handle/survive anything”. For many times this perception of increased strength may derive from either interpersonal (social) or intrapersonal (temporal) usually downward comparisons (McFarland & Alvaro, 2000), which will be discussed in greater detail in Chapter VI. Reports of an increased self-reliance and/or self-efficacy in the aftermath of a traumatic event come from studies on spousal bereavement (Thomas, Digiulio, & Sheehan, 1988), developmental studies on children (Aldwin & Sutton, 1998; Roberts, Brown, Johnson, & Reinke, 2002), life-threatening medical problems (Collins, Taylor & Skokan, 1990; Curbow, Somerfield, Baker, Wingard, & Legro, 1993). Paradoxically, some people, while identifying newly discovered strengths begin to simultaneously feel more vulnerable as well (Tedeschi & Calhoun, 2004).

3.6.4. Changed priorities (new possibilities or paths for one’s life)

Changed priorities and identification of new possibilities or paths for one’s life is the fourth dimension in which PTG might be related. The most important aspect within this dimension seems to be the recognition that some cherished goals, purposes should and are worth pursuing, while others on the contrary, should be given up, thus establishing a new path in life have a tremendous importance. As systematic research within the relatively newly established branch of positive psychology has
identified, human strength so necessary for overcoming hardships, is not always what common sense considers it to be. One of the characteristics of strength is that it does not always mean the sustained perseverance of obtaining something, of pursuing an unattainable goal by all means. Strength, inherent in the process of psychological growth (Carver & Scheier, 2002), is “partly about holding on and partly about letting go” (Pyszczynski & Greenberg, 1992, apud Carver & Scheier, 2002). Some researchers go even further, by highlighting the importance of giving up unattainable goals, and simultaneously find new, attainable ones, well incorporated in the model of Selection, Optimization and Compensation (SOC) (Baltes & Freund, 2002). According to this direction of research, PTG and wisdom seems to be highly related and the individuals who reside more flexibly to replace what cannot be accomplished with something more realistic and fit to the situation are more adapted than those who only give up and wait for something to show up, or pursue the unattainable. Thus, besides struggling forward, perseverance, and trying by all means to adapt and attain one’s goal, giving up the right goal in the right moment, and more importantly, replace it with another, more suitable one, is more adaptive (Carver & Scheier, 1998b; 2000; 2002; Wrosch, Scheier, Carver, & Schultz, 2003).

3.6.5. Changes in existential themes - richer existential and spiritual life

The dimension of changes in philosophy of life encompasses several sub-dimensions. These, not mutually exclusive sub-domains are: existential, spiritual and religious changes (Cook & Wimberly, 1983; Tedeschi & Calhoun, 1995; Yalom & Lieberman, 1991).

Changes in existential themes and sense of meaning of life in general are determined by the shattering of people’s fundamental, basic pre-trauma assumptions about existence and global meaning systems (Park & Folkman, 1997). Usually literature considers such changes as representing growth, although these processes are most frequently accompanied by uncomfortable distressing affective experiences. The highest levels of distress have been recorded in cases when trauma has triggered beliefs about the meaning of life and has determined the individual to confront the inevitability of personal death (Yalom & Lieberman, 1991; Tedeschi et al., 1998; Baumeister, 1991). These trauma-induced recognitions do not mean that the individuals will resolve the problem instantaneously. The formation of a new, acceptable meaning and its integration into the person’s global meaning system is usually a long-term process (except the cases described within the phenomenon of Quantum Change).

Spiritual and religious changes implied in the traumatic encounter and the posttraumatic process may have multiple functions. On the one hand, as we will see, religiousness may be either a (i) resource of posttraumatic growth, or
source of a struggle, that may have either positive (e.g., growth) or negative (e.g., distress, pathology) results (Pargament, Desai, & McConnell, 2006; Giesbrecht & Sevcik, 2000; Hawkins, Tan, & Turk, 2000; Matthews, 2000; Mungadze, 2000; Nisbet, Duberstein, Conwell, & Seidlitz, 2000; Patterson, Hayworth, Turner, & Raskin, 2000; Sowell et al., 2000; Weaver et al., 2000).

This ambivalent effect of religiousness/spirituality on individuals struggling with traumatic events has been thoroughly documented. For instance, Falsetti, Resick, and Davis’s (2003) study has evinced that even those individuals who experience maladaptive reactions, may report significant changes in either direction in comparison to their pre-trauma religious life. More specifically, 30% of the investigated PTSD patients have reported a significant decrease of their spiritual/religious faith, while 20% reported significant increase. On the other hand, religious growth may be the result of the posttraumatic struggle, enhancing religious/spiritual closeness or even inducing such experiences in individuals who have not previously been religious.

As Paloutzian and Park (2005) have stated, religion and spirituality represent one of the most important issues in human functioning, being both emotional comforters, by reducing anxiety, existential fears, offering a stable value-system and possible sources for the meaning of one’s life, but also sources of dysfunctional adaptation, by denying significant aspects of reality, different forms of maladaptive coping strategies, passivity in front of changeable situations, etc. (Pargament & Park, 1995).

Thus, it has been evinced that spirituality and religion may intervene to a great extent in the process of adaptation to negative life events and may even determine the experience of growth. In the posttraumatic growth literature, within the dimension of Spiritual and Religious Changes those cases are mainly discussed when the individual’s pre-trauma spiritual or metaphysical beliefs assist/guide the posttraumatic reactions.

In some cases, spiritual or religious pre-trauma core beliefs implied in the interpretation and coping with the negative event may initiate a sense of growth, strengthen former beliefs and determine further spiritual growth. In these cases, individuals feel a greater connectedness to something transcendent, a greater presence of God, a better understanding of the religious beliefs, and so on (Overcash, Calhoun, Cann, & Tedeschi, 1996; Calhoun, Tedeschi, & Lincourt, 1992).

In other cases, former belief systems may be replaced by new, more adaptive or comforting ones (Pargament, 1990; Weisner, Betzer, & Stolze, 1991, Calhoun, Cann, Tedeschi, & McMillen, 2000). Thus, the already mentioned sudden changes within Quantum Change represent a very good example in this regard (for more see Chapter II).

A third possibility describes persons who before the traumatic event have considered themselves as being non-religious. Even atheists may undergo conversion-like experiences and become devout believers thus finding relief and a
higher meaning for their suffering (Pargament, 1996) or may also experience growth (and not sudden, long-lasting changes), by more profoundly engaging in fundamental existential questions (Tedeschi & Calhoun, 2004).

Interestingly, some people may grow within a specific religious belief system (Tedeschi et al., 1998), while others may report spiritual growth outside any religious system and traditional religious doctrine (Kessler, 1987). It is worth mentioning that trauma may also unleash a quest-like process for clarification or conceptualization of existential issues mainly through the process of meaning making (Pargament, 1997). Thus the role of religiousness and spirituality played in human life should not be oversimplified, since their function in human suffering (either as a source or as a mean through which one may cope with tragedy), cannot be disregarded.

In order to better understand the complexity and implication of reports relating religious posttraumatic growth, we consider necessary to insert a very brief complementary presentation of the role played by religiousness and spirituality in human life, the way it has been approached this far, and their role in the posttraumatic process.

**Religiousness and spirituality**

Regardless its immense importance in human (dis)functioning, until quite recently, psychology has only sporadically accorded in-depth attention to the mechanisms underlying human spirituality (Wulff, 1998; Shaw, Joseph, & Linley, 2005). The last two decades of the 20th century have witnessed a considerable increase in interest regarding the relationship between religion and human functioning (Emmons & Paloutzian, 2003; Zinnbauer & Pargament, 2005), reflected in the explosion of research investigating the relationship between religion and well-being (George, Ellison, & Larson, 2002).

A frequently debated aspect in the study of religiousness within human functioning was the definition of the constructs implied in religion/religiosity, and the identification of the differentiating aspects of religion and spirituality (Paloutzian & Park, 2005). Since the underlying phenomena of these two concepts are not always clearly separable, they have been included in the more encompassing terms of religion/spirituality, frequently used interchangeably (Zinnbauer & Pargament, 2005). The most accepted and encompassing definition of religiousness has been given by Pargament (1997), as being: “a search for significance in ways related to the sacred” (p. 32). Nevertheless, a distinction between them has been offered by Emmons and Paloutzian (2003), who consider **religiousness** as being represented by the involvement of the individual with specific rituals and faith communities, while **spirituality** by the individual’s pursuit of the sacred within a religious context (Steger, Frazier, Oishi, & Kaler, 2006).
Based on the analysis of a considerable number of studies (e.g., Emmons & Paloutzian, 2003; Hood, 2003; Shafranske, 2002), Zinnbauer and Pargament (2005) offer a comprehensive image regarding the aspects implied in religiosity and spirituality, out of which we will present the most relevant ones for our study. Thus, religiousness and spirituality:

(i) are “cultural facts, not reducible to other processes or phenomena” (p. 29),
(ii) may be related both to mental health and emotional disorder,
(iii) may have their own dynamic, developing and changing over time both within an individual as well as in groups,
(iv) are multidimensional constructs (i.e., they are related to: biological, emotional, cognitive, moral, cultural, social, etc. aspects of human functioning).

Religiousness within individuals has been approached in several ways. Allport and Ross’ (1967) emphasized a differentiation within religiousness based on types of individual motivations, thus coining the terms of intrinsic religiousness for those who ‘live their religion’, and extrinsic religiousness, for those who use religion and religious resources for personal and/or social gains (even at the expense of others). Ryan, Rigby, and King (1993) differentiated between internalized (personally chosen religion) and introjected (religious involvement out of fear, guilt, or external pressure) forms of religion.

Pargament (1997) identified three major types of religious coping:

(i) the self-directive, with individuals relying in their “God-given resources in coping” (Pargament, 2002, p. 171);
(ii) deferring, with individuals delegating responsibility of solving the problem to God;
(iii) collaborative religious coping style being characterized by a co-operation with God in the solving of the problem.

Each of these coping styles is associated with special aspects of functioning. Thus the self-directive religious coping usually strongly correlates with higher levels of self-esteem and greater sense of personal control. Deferring religious coping is associated with lower self-esteem, lower control, lower problem-solving skills, etc. (Pargament. 2002), while collaborative religious coping with greater sense of control (personal and by chance), and self-esteem.

Cognitive approaches have considered religion and spirituality to be organized in cognitive schemata (or clusters of schemata) (McIntosh, 1995; Ozorak, 1997; 2005). Thus organized information has several functions, out of which we will only mention: organizers of new information, aspects involved in decision making, problem solving, etc. The framing and interpretation of information through the lenses of religious beliefs may have long lasting effects -
adoptive or maladaptive, depending on the context (Ozorak, 2005; Kállay, 2006). Spiritual or religious pre-trauma core beliefs implied in the interpretation of and coping with the negative event may initiate a sense of growth, strengthen former beliefs and determine further spiritual growth, or on the contrary, may induce distress and discomfort. In the first case, individuals feel a greater connectedness to something transcendent, a greater presence of God, a better understanding of the religious beliefs, and so on (Overcash, Calhoun, Cann, & Tedeschi, 1996; Calhoun, Tedeschi, & Lincourt, 1992). In other cases, former belief systems may be replaced by new, more adaptive or comforting ones (Pargament, 1990; Weisner, Betzer, & Stolze, 1991; Calhoun, Cann, Tedeschi, & McMillen, 2000). Another possibility describes persons who before the traumatic event have considered themselves as being non-religious. Even ‘atheists’ may undergo conversion-like experiences and become devout believers, thus finding relief and a higher meaning for their suffering (Pargament, 1996), by more profoundly engaging in fundamental existential questions (Tedeschi & Calhoun, 2004). Interestingly, some people may grow within a specific religious belief system (Tedeschi et al., 1998), while others may report spiritual growth outside any religious system and traditional religious doctrine (Kessler, 1987). It is worth mentioning that highly stressful situations may also unleash a quest-like process for clarification or conceptualization of existential issues mainly through the process of meaning making (Pargament, 1997).

When facing traumas, highly stressful or major life events, individuals are usually challenged on several levels of their intra- (e.g., emotionally, physically, cognitively), and inter-personal (e.g., socially) functioning (Pargament, Ano, & Wachholtz, 2005). Pargament et al. (2005) stated that from a spiritual point of view, crisis may be considered either as threat, challenge, loss or opportunity to individual growth. As already mentioned, meaning-making has a huge importance in recovering from the encounter with negative events and individual adjustment (Affleck, Tennen & Gerschman, 1985; Silver, Boon, & Stones, 1983). The creation of meanings “allow us to make sense of, and to make our way in the world” (Marshall, 1986, p. 125). Religiousness, especially in crucial situations provides individuals the means through which one may find meaning for his/her life (Baumeister, 1991). Thus, it becomes more and more evident that spirituality and religion have a huge importance in the process of adaptation and well-being (e.g., Giesbrecht & Sevcik, 2000; Hawkins, Tan, & Turk, 2000; Matthews, 2000; Mungadze, 2000; Nisbet, Duberstein, Conwell, & Seidlitz, 2000; Patterson, Hayworth, Turner, & Raskin, 2000).

However, the relationship between spirituality and meaning in life is not always as evident as one would like to believe. As Park (2005) has put it, “the relationship between religion and meaning is intimate and complex” (p. 295). Religion, religious beliefs represent an important framework through which individuals may explain and find sense for the events they are confronting with, and may find a fundament for the meaning of their lives (Stark, 1999; Fletcher,
2004; McIntosh, 1995; Diener, Suh, Lucas, & Smith, 1999; Park, 2005). But, it is not yet elucidated if religiousness enhances the individual’s need for meaning (and search for meaning in a highly stressful situation), or if the need for meaning gives rise to the orientation/quest towards religion (Park, 2005). Consequently, it seems plausible to assert that the relationship between religiousness/spirituality and meaning making is bidirectional, and context-dependent.

Considerable research evidence has accumulated on the possible effects of different forms of religious involvement on physical and mental health (George, Ellison, & Larson, 2002; Miller & Thoresen, 2003). McCullough, Hoyt, Larson, Koenig, and Thoresen’s (2000) meta-analysis conducted on over 40 independent samples has revealed the positive influence of religion on health. The social and psychological factors that might to a certain degree explain the positive effects of religious involvement on health have been distributed in four major groups:

i. **health practices** (e.g., religious prescriptions of health habits – e.g., prohibition of smoking and alcohol consumption, diet indications, etc.) (Hummer, Rogers, Nam, & Ellison, 1999; Strawbridge, Cohen, Shema, & Kaplan, 1997),

ii. **social support** (access and development of social ties – Rogers, 1996; Strawbridge et al., 1997),

iii. **psychosocial resources** (self-esteem, self-efficacy, and mastery) (George et al., 2002; Ellison, 1991, 1993), and

iv. **sense of coherence** (Antonovsky, 1980) or **meaning** (e.g., sense of coherence, religious motivations, existential certainty – the strength of one’s belief “about the importance of religion in providing meaning in specific life domains” (George et al., 2002, p. 196) (Ellison, 1991; Krause, Ingersoll-Dayton, Ellison, & Wulff, 1999).

If major life events are interpreted and reinterpreted through a positive, benevolent religious framework, usually the individual experiences less distress. The distress escalates if the individual’s frame of religious interpretation is negative (Exline & Rose, 2005). As Richards, Rector, and Tjeltveit (1999) have put it, the individual’s basic, core religious beliefs “may be especially influential in promoting client’s coping, healing, and change” (p. 141).

Research has identified three major types of religious struggle strongly associated with emotional distress in the posttraumatic process:

(i) **interpersonal spiritual struggle** – in this case, the struggle was cause by negative interpersonal interactions within the religious denomination to which the person is affiliated (e.g., conflict with the clergy, with other parishioners, differences in attitudes towards religious dogma, etc). Such conflicts have been found to lead to the experience of negative mood, high levels of distress, low self-esteem, etc. (Krause, Ingersoll-Dayton, Ellison, & Wulff, 1998).
This type of struggle is most frequently encountered in the case of individuals with extrinsic religiosity.

(ii) **intrapersonal spiritual struggle** – by the same token, high numbers of religious doubts, religious fears, guilt have been found to be positively associated with negative mood, higher levels of anxiety, and an increase in suicidal ideation (Exline, Yali, & Sanderson, 2000).

(iii) **struggle with the divine** – feelings of: ‘being punished by God’, ‘loss of confidence in God’s powers’, ‘being forsaken by God’, ‘attributing trauma to evil forces with the permission of God’, etc. have been repeatedly found to be strongly positively associated with anxiety and depression (Pargament, Koening, & Perez, 2000; Ano & Vasconcellos, 2005; Herman, 1997; Schwartzzenberg & Janoff-Bulman, 1991).

On the other hand, religiosity and religious beliefs have been found to be potential moderators of the relationship between growth and distress (Hobfoll, Hall, Canetti-Nisim, Galea, Johnson, & Palmieri, 2007). A more restricted amount of evidence has nevertheless identified the buffering role of religion – for example, religious beliefs have been found to buffer the effects of stress on depression (Maton, 1989; Williams, Larson, Buckler, Heckman, & Pyle, 1991; Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998).

Several empirical studies have evinced that in critical life situations the individuals’ levels of religiousness significantly intensify (Pargament, 1997). Nevertheless, according to Pargament (2002), the way people react in highly stressful life events may be qualitatively quite different.

As we will later see in more detail, Park and Folkman’s (1997) approach to meaning making within the context of stress and coping offers a complex and comprehensive approach to understanding the way meaning making and religiousness may modulate stress reactions. Accordingly, religious beliefs and spirituality may act both at the level of initial, primary appraisal, as well as at the level of secondary appraisals. At the level of primary appraisal, those individuals who for example believe that nothing would happen to them without God’s consent, or whatever happens to them is an attempt on God’s behalf to communicate with them (Park, 2005), by testing their faith for example, would perceive the event as having a lesser impact. At the level of secondary appraisals, religious beliefs may alter the significance of the primary appraisal through several mechanisms:

(i) **acceptance**,  
(ii) **religious re-attributions** (the understanding of why an event has occurred),
Briefly put, religious and spiritual beliefs have repeatedly been found to guide the posttraumatic process: either towards growth, recovery, or increase the probability of installation of distress and/or pathology. From the point of view of PTG, pre-trauma religious beliefs, or adaptive religious beliefs developed in the posttraumatic process, may fill the value gap produced by the shattering impact of the traumatic event. This would further on facilitate in the identification of a meaning for the event in one’s life and the development of a suitable trauma-narrative, thus creating the conditions for (re)constructing the meaning of one’s life.

At this point, we would like to emphasize an important aspect implied in the phenomenon of posttraumatic growth: even if literature has identified three to five major domains of growth, these dimensions are not interdependent. A person who has encountered a traumatic event may experience and/or report growth on all dimensions, or growth only on some of the dimensions, and recession on other dimensions. For instance, a person who has previously been religious, but because of the confrontation has lost faith in God, may report no development on the religious dimensions, but may experience and report greater closeness and appreciation of family members, of life in general. Since growth and symptomatology are orthogonal constructs, one may experience distress because of the event and loss of faith (in the case presented above), but simultaneously growth as well, on the dimensions of personal relationships.

Since PTG is multidimensional, and highly dependent on the relationship between the individual and pre-, peri- and posttraumatic context, one should carefully investigate these bidirectional relationships when considering the conditions under which growth may occur, and be wary when formulating the conclusions.

Even if this subchapter is dedicated to the treatment of possible positive posttraumatic experiences, we consider that it is necessary to mention again that posttraumatic growth in itself does not exclusively mean a final state of positive affectivity free from distress. Lots of individuals experiencing a devastating event may in parallel experience both struggle with the trauma, with its aftermath and growth arising from it (Tedeschi & Calhoun, 2004; Joseph & Linley, 2005). In the same time, even if there are cases when individuals report that the traumatic event was the best thing that happened to them (Tedeschi & Calhoun, 1988), most of those who experience growth on one or more of the above described dimensions, would prefer that the event had never happened to them. Thus, we would like to reemphasize, that the experiencing of a traumatic event is not a necessary or exclusive condition for growth. Growth may be attained in normal situations as well, for example by the acquisition of new abilities, knowledge, perfecting or

(iii) positive reinterpretation (identifying and focusing on the benefits or positive implications of the event), etc. (Park, 2005).
adapting already existing knowledge – aging in itself, by mere (even vicarious experiences) experience may promote growth. But, growth through suffering could trigger processes by which the individual may experience a qualitatively different, more or less stable sense of growth in the less expected conditions. Consequently, it is not the event itself that is valued, but the fact that it’s happening forced the individual to struggle and find the strength not to succumb.

3.7. Factors facilitating Posttraumatic Growth

As research within the study of negative posttraumatic reactions has uncovered several risk factors for developing clinically significant negative reactions, so has research within the study of other possible reactions evinced several factors that would contribute to the experiencing of posttraumatic growth. Even if research in this domain is relatively scarce, and data cannot be cross-culturally generalized, the following main pre-trauma factors have been found as possible predictors or triggers of growth: initial stressfulness of the event, demographic variables, intrinsic religiousness, social support satisfaction, coping strategies (e.g., reinterpretation and acceptance), number of recent positive posttraumatic life events, etc. (Park, Cohen, & Murch, 1996; Cadell, Regehr, & Hemsworth, 2003).

3.7.1. Intrinsic religiousness

As we have already mentioned, it is generally accepted that religious orientation is related to psychological well-being. Nevertheless, from the three main types of religious orientation: extrinsic, intrinsic and quest (Baerenveldt, Bunkers, DeWinter, & Kooistra, 1998; Beit-Hallahmi, & Argyle, 1997; Gorsuch, 1988; Wulff, 1997; Maltby & Day, 2003), only intrinsic religiosity has repeatedly been found to be related to a relatively stable perception of growth.

In the same time, quest orientation has been considered as a prompter of a mechanism that may lead in both directions, while extrinsic orientation has produced contradictory data, somewhat tilted to maladaptation. In this sense, literature abounds in data expressing significant positive correlations between extrinsic personal and extrinsic social religiousness and depressive symptoms, trait anxiety, and self-esteem (e.g., Genia & Shaw, 1991; Maltby & Day, 2000; Park, Cohen & Herb, 1990). On the other hand, research studying the relationship between psychological well-being and religious orientation (Loewenthal, 1995; Wulff, 1997), has consistently found significant negative correlations between intrinsic religiousness and depressive symptoms, trait anxiety and self-esteem (Koenig, 1995; Maltby & Day, 2000; Maltby, Lewis, & Day, 1999).

Intrinsic religiousness refers to the degree to which religion assists the individual in comprehending the event, finding meaning, significance and even benefits in it (Park & Cohen, 1993; Park, Cohen, & Herb, 1990). Such persons use
religion as a framework that guides their life-style, in the same time fulfilling the function of primary motivator (Allport, 1966). Thus, the more salient, stable and coherent this belief system is, the more the individual is able to make sense and interpret the event and his/her experiences in a way that would reduce its negative valence, and promote positive reinterpretations (Antonowsky, 1983; Krauss & Seltzer, 1993; McIntosh, Silver, & Wortman, 1993). As it will later on more profoundly be discussed, intrinsic religiosity intervenes in several aspects of the posttraumatic process, as optimism, attributions, coping style, etc. The reconstruction, or finding of meaning is a necessary aspect of the posttraumatic recovery (e.g., Gluhoski & Wortman, 1996; Janoff-Bulman & Schwartzzenberg, 1991). Thus, religious beliefs within the global meaning system probably modulate not only the pre-trauma attitude towards such negative events, but also the initial appraisal of the event (situational meaning), further integration of the meaning and significance of the event in the individual’s newly created (or altered) global meaning system, etc. (Park & Folkman, 1997).

3.7.2. Social support satisfaction

Pre-event perceived social support has also been found to be a buffer in the case of negative events (Cadell et al., 2003; Tedeschi et al., 1998). Some researchers consider it as having two major characteristics: environmental and personal (Lakey & Cassady, 1990; Park et al., 1996). This construct may to a considerable degree be related to the individual’s abilities regarding the establishment or maintaining of social network, emotional openness towards others, the willingness to find confidants, etc.

In the same time, the individual may be aware of the availability of supportive others, which may aid posttraumatic growth by offering the individual the possibility to create a narrative about the event, about the changes that this one has caused in his/her life (Neimeyer, 2001; Tedeschi & Calhoun, 2004; Singer & Bluck, 2001; Davis, Nolen-Hoeksema, & Larson, 1998). The formation of narratives of the trauma and subsequent survival are extremely important because it forces the individual to confront questions of meaning and possibilities of reconstruction. It is not unusual to encounter even massive changes within the story of the event and story of life as the new, more adaptive narrative is formed (McAdams, 1993; 2001; Bluck & Habermas, 2000; Crossley, 1999; Davis, Nolen-Hoeksema, 2001). The creation of a narrative does not in itself mean growth and the commensurate decrease of the experienced levels of distress, or increase in positive affectivity. In order to experience subsequent growth in the process of constructing the trauma narrative, the individual has to attribute it special meanings, mainly starting by finding some kind of benefit in it. As research has evinced, distress is to some extent much easier to deal with if one can ascribe an acceptable sense for its’ happening. In the same time, it is more difficult to live
with the negative consequences of trauma if one cannot find a justification for the event (Tedeschi & Kilmer, 2005).

A more specific issue within perceived social support is that of mutual support. In the case of those who have experienced and momentarily successfully tamed such an event, both the offering and receiving of support from fellow sufferers is particularly important. Usually, the credibility of those who ‘have already been’ in a similar situation is much higher than of those who are only supposed to ‘understand’ (but have not experienced) the situation. These discussions (sessions of oral narration) not only promote the process of meaning-making, but also unleash the addressing of the emotional implications, simultaneously determining the reduction of the negative valence of affectivity. In the same time, social networks and narrations within co-sufferers also give the individual the chance to effectuate interpersonal (social) and intra-personal (temporal) comparisons (McFarland & Alvaro, 2000). Both these comparisons may be important aspects of the processes implied in downward-comparisons. These comparisons on the one hand may enhance the individual’s perceptions of own attributes, and might also promote the motivation for development (Collins, 1996; Helgeson & Mickelson, 1995; Taylor, 1983).

3.7.3. Initial stressfulness of the event

As already mentioned, a traumatic event frequently determines individuals to experience a wide range of distressing symptoms: intrusions, avoidance, arousal, etc. on a continuum, with a variable frequency and intensity, which in many cases meet the criteria of PTSD or ASD (Acute stress disorder). But, as already mentioned, there is a considerable number of individuals who even if experience these extremely distressing symptoms, may subsequently recover by their own and report PTG, or may report both PTG and the above mentioned symptoms. Thus, the initial stressfulness of the event is both related to pathology and growth, namely, the more distressing the event is the more chances are for the individual to experience either PTSD or PTG (e.g. Aldwin et al., 1994; Joseph & Linley, 2005; Cadell et al. 2003; Park et al., 1996). It has repeatedly been observed that less intense stressors are not able to prompt PTG; they may determine variable levels of distress followed by more or less successful adaptation, but not the experiencing of massive changes resulting in posttraumatic growth. Linley and Joseph’s (2004b) systematic review of the literature has evinced that traumatic events which lead to an initial perception of life threat, high levels of uncontrollability and helplessness do more probably lead or precipitate growth. This might be due to the fact that minor (less intense) stressors do not disrupt the individual’s schemas, belief and meaning systems to such an extent that a thorough reconstruction be needed (Janoff-Bullman, 1992). Small threats and challenges produce small changes, while great ones may promote huge, positive or negative modifications.
3.7.4. Coping strategies (reinterpretation and acceptance)

Coping strategies (esp. reinterpretation and acceptance) have also been found to either promote growth or prevent the experiencing of extreme, long-lasting negative symptomatology (e.g. resilience, recovery). Especially positive reinterpretation produced high correlations with growth, possibly because this more conscious, effortful strategy represents in itself an attempt to achieve the desired growth (Park et al., 1996; Tedeschi et al., 1998). The desire to ‘learn from the experience’, ‘find the positive in it’, automatically enhances the likelihood that the individual will experience or report it. In several cases literature has evinced that acceptance coping is also related to positive changes in the aftermath of negative events (e.g. Brooks & Matson, 1982). Both reinterpretation and acceptance of the event (discussed in more detail in the subsection addressing optimal human functioning and wisdom) are fundamental to the growth process (Schaefer & Moos, 1992; Taylor, 1983).

3.7.5. Number of recent positive life events

Literature have also evinced that the number of recent or concomitant positive life events may also contribute to the experiencing of growth. Recent research suggests that those who in parallel with the negative event can also experience positive ones, or are capable to interpret minor events as positive (by assessing a particular situation through comparing it to other ones), are more likely to later on report growth (e.g. Cohen, Burt, & Bjorck, 1987; Park et al., 1996). Such encounters are able to buffer the experiencing of distress and harmful negative reactions.

In sum, research within posttraumatic growth focuses on finding out why and how some people even if deeply affected and marked by the event, not only recover to their previous level of functioning (bounce-back), but take advantage of the event and use it as a springboard (Tedeschi et al., 1998) for further individual growth. Initial approaches within the domain have left the impression that trauma should almost invariably lead to some sort of growth (this idea is met even in highly cited studies on PTSD: “Some people are able to see the trauma as a time-limited, terrible experience that does not necessarily have negative implications for the future, and may also be able to find some element of personal growth in it. These people are likely to recover quickly” (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999, p. 304).

This far, research within this domain sustains that, for those who subsequently report PTG, the suffering produced by the negative event represents an opportunity to build a new, superior life structure “almost from scratches” (Tedeschi et al., 1998) – they may perceive themselves as stronger, better, more empathetic, etc., but in the same time may also report variable degrees of distress along the posttraumatic process.
Regardless the advances within this domain, as from the above-presented brief synthesis may be noticed, there are considerable questionable issues. One of the most evident ones is the huge overlap between the dimensions posttraumatic growth occur and that of the protective factors. One of the reasons for this shortcoming may be the not always rigorous methodology. Since most of the studies are retrospective and/or cross-sectional, thus hindering the prediction of state evolution from one time/circumstance within the same group. Inter- and intra-individual research addresses different problems, the findings and their interpretation is oftentimes contradictory (Tennen, Affleck, Armeli, & Carney, 2000). The study of PGT has perforce been inter-individual (normative) rather than intra-individual. In most studies, people (and groups of people) have been compared with each other, assessed on a single occasion – thus, the possibility to state anything for sure about the “flux of variables being studied” (Lazarus, 2003, p. 98) is extremely reduced. In intra-individual studies, people are assessed and compared with themselves repeatedly, over time and across situations. Nevertheless, even if it would be more appropriate for studying PTG, the number of studies that systematically re-assessed and compared the same individual, or group are very rare (Lazarus, 2003). Thus, with few exceptions (Park, et al., 1996), most of the studies within PTG should be used only as a preliminary strategy to identify antecedent variables, important factors that might promote or prevent growth. In order to justify causal inferences, research methodology in the study of PTG should be more accurate and predictive, completed with in-depth intra-individual designs that would evaluate cause and effect by controlling participant variations.

Another unresolved issue within the study of PTG is that of the time-frame of assessment, in other words, when should PTG be assessed (days, weeks, months or years after the target event)? As the authors of the first book on PTG (Tedeschi, Park, & Calhoun, 1998) suggest, there are cases when PTG may occur soon after the encounter, being attended by considerably high levels of distress. For more rigor and assurance of stability (and to exclude the possibility of illusory experiences of growth) in the empirical literature, the most frequent time-frame for assessing PTG is usually months and years after the event (e.g. Joseph et al. 1993; Lehman et al. 1993).

3.8. Biases to Reports of Posttraumatic Growth

Reactions to trauma may be controversial and may lead to unexpected outcomes. Even if posttraumatic growth seems to be not as infrequent, there are several commentators who question the face value of such self-reports (Aldwin & Levenson, 2004; Campbell, Burnell & Foster, 2004; Park, 2004, etc.). These criticisms do not necessarily doubt the authenticity of individual reports (conscious vs. unconscious misleading), but the question of qualifying such reports as authentic growth – namely, are these instances of self-related-growth determined by cognitive biases, illusions (pseudo-growth) or are they real, stable, positive...
modifications in the individual’s functioning (Aldwin & Levenson, 2004; Campbell, Brunell, & Foster, 2004; Maercker & Zollner, 2004; Tedeschi & Calhoun, 1996)?

Some of the various ways in which biases may contaminate reports of growth, are: social desirability, biases in cognitive reconstruction, downward comparisons, and effects of subsequent events and interactions.

3.8.1. Social desirability

Social desirability is one of the factors that might induce false reports of positive posttraumatic change, may be highly influenced by what now is called the tyranny of positive thinking (Held, 2004). The advent of positive psychology, beyond the benefits it brought, has to a great extent influenced lay-people’s theories about the way the adapted individual should react post-traumatically. One of the major misconceptions is that a person should necessarily feel positive emotions, and the less negatives he/she feels the better. As Diener and Suh (2000) described, the dominant ethos of present American culture is that of a strong pressure to be happy, reflected in widely used idioms and expressions (‘Get over it and get on with it’; ‘Don’t worry, be happy’, ‘The winners laugh; the losers weep’; ‘Losers are always in the wrong’; ‘Finders keepers, losers weepers’; ‘First winner, last loser’, ‘A good loser never wins’, etc.), which may induce not only reports of pseudo-growth, but in cases of perceived inability to conform to social standards, high levels of secondary stress as well. Under the spell of such cultural incentives, many people feel the need to act accordingly, or do act as such without consciously intending to mislead.

3.8.2. Biases in cognitive reconstruction

Biases in cognitive reconstruction refer to the situations when the individual reports experiences of post-traumatic growth, as a result of a tendency to derogate past selves in order to maintain a favorable view of current state. Thus, by disparaging distant and complimenting recent past selves, the person is able to perceive a sort of personal growth (Wilson & Ross, 2001). One of the major types of such biases has been treated under the term of Downward Temporal Comparison (McFarland & Alvaro, 2000).

Literature dealing with posttraumatic reactions has for a long time noticed that in times of peril, people tend to compare their own qualities with that of other people experiencing the same situation. This type of social comparison is used in order to maintain or enhance self-esteem. The best way to attain improved self-esteem is by comparing oneself with less fortunate others (for review see Collins, 1996). For example, patients suffering of some kind of severe illness engage in downward social comparisons, in which they try to identify other patients in more severe condition, compared to whom they may consider themselves as being lucky and better of. This type of comparison has proven to have a great palliative power,
since it helps individuals to experience (even if by comparing to a worse case) an improvement in their own condition.

Interestingly, the voluminous literature on social downward comparison has confirmed that individuals compare their own qualities with those of others not only in extreme situations (Suls & Miller, 1977; Suls & Wills, 1991; Wood, 1996; McFarland & Alvaro, 2000). Interpersonal comparisons are a ubiquitous part of everyday life by helping individuals in the formation of personal identity. On the other hand, the way in which individuals compare themselves with the qualities of others exerts its influence by also shaping self-perceptions, affective states, and expectancies for the future.

More in-depth studies regarding social comparisons have identified that individuals do not only engage in interpersonal comparisons in order to develop or establish personality, or modulate affective states, but also in intra-personal comparisons. Namely, people oftentimes compare their current attributes with the attributes they themselves possessed in the past (Suls & Mullen, 1982). These intra-personal comparisons proved to be just as influential as social comparisons in shaping self-evaluations, moods, and expectancies (Levine & Moreland, 1987; Masters & Keil, 1987).

It has been found that people engage in these intra-personal comparisons usually during highly stressful situations in order to experience positive aspects of themselves. These findings have been repeatedly observed in the case of traumatized individuals, especially in situations where self-esteem has been threatened (e.g. Affleck & Tennen, 1991; Tennen & Affleck, 1997). More specifically, several studies conducted on cancer patients have identified the appeal to downward comparisons, both social and temporal (Wood, Taylor, and Lichtman, 1985).

Temporal comparison has been defined as the: thinking about how one’s current standing on an attribute relates to one’s past standing on that attribute, although it may also involve thinking about how one’s current standing relates to one’s potential future standing (Suls, Marco, & Tobin, 1991).

More specifically, temporal comparison has been used to deal with the negative feelings threatened by adverse events, within which people may engage in a variety of cognitive distortions or illusions that allow them to view themselves and their experience in a more positive light (Taylor & Armor, 1996; Taylor & Brown, 1988). In order to perceive positive changes, people are able to mitigate past characteristics, thus perceiving greater improvement in the present.

Consequently, people’s reports of personal growth in response to threatening events may represent, at least in part, motivated illusions or exaggerations of positive temporal change that are designed to help them cope with distressing thoughts and feelings. This is the reason why the assessment of temporal comparison has been considered as a proper way to assess the genuineness of self-reported posttraumatic growth. The underlying logic of this method is that if perceptions of improvement represent self-enhancing illusions of
change, victims should report greater positive change in themselves than should dispassionate observers of victims or controls.

3.8.3. Downward social comparison

Downward social comparison refers to the phenomenon when people compare themselves to others and conclude that they are better off than these (Calhoun & Tedeschi, 2004; Maercker and Zoellner, 2004). This type of comparison has frequently been encountered in trauma literature and it is considered either as illusion or the deliberate underestimation of the strengths of others (Calhoun & Tedeschi, 2004). Nevertheless, downward social comparison cannot be accounted for growth (Park et al., 1996; Weiss, 2002).

3.8.4. Effects of subsequent events and interactions

The single report of PTG does not mean by far that what the person experiences is authentic growth on the one hand, and it is not an assurance that it will be stable over time. More recent approaches to PTG have evinced that it may have different trajectories in time: there are cases when it is stable, other people/groups report its decrease, and others are able to increase it (or experience its increase) over time. The stability of growth is presumed to be partially determined by the effects of subsequent events, interactions (Calhoun & Tedeschi, 2004), and the way in which the newly constructed schemas can be enacted in new encounters (Weiss, 2002). Simultaneously, it is assumed that the ability to successfully use the new schemas in the long run, thus permanently maintaining or reinforcing the experience of growth, is highly dependent on: personality factors (especially extraversion), the ability to experience positive emotions, and distal and proximal socio-cultural factors (Bloom, 1998; Park, 1997; Tedeschi, 1999). The development of a stable sense of posttraumatic growth may have large implications in lots of life domains, but in most cases its influence is perceived in the improvement of health-related behavior.

One of the most important issues in the posttraumatic growth literature is the validity and stability of reports of positive changes and growth experienced in the aftermath of an extremely intense negative event. As already discussed, people may have the tendency to report high levels of un-experienced growth either to conform to social desirability, to reassure themselves or create illusory comfort, that in the long-run might prove to be maladaptive (Zoellner & Maercker, 2006).

Thus, the identification of methods through which the validity and stability of reported growth may be verified becomes a stringent problem in the PTG literature. If we presume the accuracy and genuineness of reported growth to be valid, it still remains the verification of its stability. This issue would be less difficult to assess, since multiple assessment methods are easier to develop. Thus, the most important issue, the genuineness of reported growth still remains debatable.
This far, the posttraumatic growth literature has identified two types of approaches through which the genuineness of self-reported posttraumatic growth may be verified:

A. Park (1996; 2004) proposed the verification of posttraumatic growth by comparing the reports of the directly affected individuals with the reports regarding the same changes observed by significant others. In cases when the scores on the assessed dimensions correlated strongly, it was presumed that the reported growth was genuine. If directly reported scores and observed reports did not strongly correlate, the reported growth was not considered as valid and/or genuine.

B. The second type of verification of reported posttraumatic growth was through the phenomenon of Downward Temporal Comparison, proposed by McFarland and Alvaro (2000), already discussed above in some detail.

3.9. Theories and Models of Posttraumatic Growth

Empirical and theoretical investigations within the framework of PTG have only recently received concentrated and serious attention (O'Leary & Ickovics, 1995; Tedeschi & Calhoun, 2004; Tedeschi, Park, & Calhoun, 1998). Thus, even if serious investigations have just recently begun, several theories of growth through adversity have been proposed. Yet, most of the proposed theories tend to be descriptive, incomplete, and rather speculative, being unable to explain the underlying growth processes and determine causality among factors, mechanisms, and growth as outcome.

Theories of growth mirror to a certain degree theories used to explain PTSD, or take these theories as a starting point, but concentrate instead of pathology on the positive outcomes and underlying processes that may occur after an extremely negative encounter.

In the following, we will present the main theories of growth grouped in different categories, namely: (i) theories that deal with growth as an outcome, and (ii) theories that consider growth as a coping strategy that may lead to a measurable growth outcome with unpredictable stability. On the other hand, models may also be grouped in clusters based on the criterion of growth as a result of (i) intentional or (ii) unintentional change processes.

3.9.1. Models of Growth as Outcome

These models usually lay accent on the already assessable growth, and try to describe it in as many details as possible. They usually offer a cross-section image of the phenomenon itself, of the factors possibly implied, and usually produce less
information about the underlying processes that lead to growth. A very good example of such kind of model is that of O'Leary and Ickovics (1995), where the main outcomes following a posttraumatic reaction (succumbing, survival with impairment, recovery and thriving) are presented and described in detail. Other models (e.g. Schaefer & Moos, 1992; Tedeschi & Calhoun, 2004), present PTG as an outcome of change, and try to simultaneously accentuate the mechanisms that lead (and might maintain) to growth (Zoellner & Maercker, 2006). Nevertheless, most of these models are descriptive, growth being conceptualized as a final-state, and the interplay of different actors and processes, the dynamic nature of the process are not clearly stated.

In the same time, some of these models consider that one of the crucial aspects in the process of growth is the nature of change: those models that consider change as intentional, emphasize its slow rate, and gradual increase, with periods of interpolated inertness and even occasional relapses. Other models consider that change in the posttraumatic process is unintentional, sudden, unexpected, and transformative, simultaneously influencing different aspects of human functioning (O'Leary, Alday, & Ickovics, 1996).

### 3.9.1.1. Models of PTG as life crises and personal growth (Schaefer & Moos, 1992)

In this approach, the main accent falls on the personal (socio-demographic and personal resources: self-efficacy, resilience, optimism, motivation, etc.), and environmental factors (personal relationships, family support, financial resources, etc.) that may play a role in the development of positive reactions. These personal and environmental factors play in concert and influence the processes of cognitive appraisal, coping strategies, and because they are connected by feedback-loops, permanently influence each other. Within the adaptiveness of different coping strategies, this model (see Figure 3.1.) emphasizes the importance of approach coping in the development of growth, and the negative effect of avoidance coping. This model may also be included in the category of models dealing with growth as the result of unintentional change.
Even if this model has solid empirical support (Tedeschi et al., 1996), and may be successfully adapted to different kinds of traumatic encounters (cardiac patients, cancer patients, patients diagnosed with depression, etc., Holahan, Moos, Holahan, & Brennan, 1995; Schaefer & Moos, 1992), it does miss the dynamic nature of the posttraumatic phenomenon.


The most comprehensive, yet in our opinion still incomplete descriptive model of the Posttraumatic Growth as an outcome, was developed on supporting empirical evidence and enhanced over the years by Tedeschi and Calhoun (1995; 2004; Calhoun & Tedeschi, 1999), is presented in Figure 3.2.

The model is constructed around the idea of growth through struggling both with the event itself and its multiple consequences (emotions, changed environment, loss of abilities and/or possibilities, etc.). Tedeschi and Calhoun (2004) stand high in favoring the use of the metaphor of 'seismic event' instead of traumatic event, since PTG is possible only if the event has had a tremendous (though not overwhelming) impact, or at least must be challenging enough to set in motion the specific mechanisms of cognitive processing indispensable for growth (Tedeschi & Calhoun, 2004). As the figure illustrates, besides the necessary existence of the negative event, the model is conceptualized on several levels:

- **pre-trauma person characteristics**;
- **level of perceived challenges**;
- core processes (rumination, self-disclosure, resorting for social support), and
- possible outcomes.

![Diagram of the revised model of Posttraumatic Growth](image)

Figure 3.2. A revised model of Posttraumatic Growth, Tedeschi & Calhoun (based on the original model of 2004, p.7; Calhoun & Tedeschi, 2006, p. 8).

**Personality characteristics**

There seem to be two basic personality characteristics that may influence the likelihood of growth in the aftermath of a traumatic event: extraversion and openness to experience. During the validation of the instrument (PTGI)
constructed to measure PTG, the authors have found modest but reliable correlations between scores on PTGI and extraversion (e.g., \( r=.15 \) between personal strength and extraversion, \( r=.28 \) between extraversion and better relationship with others). Stronger relationships were found between PTG and: activity \( (r=.31) \), positive emotions \( (r=.34) \) and openness to feelings \( (r=.28) \) (Zoellner & Maercker, 2006). Other studies have also found good evidence that positive affect facilitates the kind of information processing that might lead to growth (Aspinwall, 1998; Fredrickson & Losada, 2005).

One of the most interesting aspects within this level is the lack of relationships found between neuroticism and posttraumatic growth (Park, 1998), especially because there has repeatedly been found a strong relationship between pathology and neuroticism. Thus, as several authors have proposed, positive and negative aspects within posttraumatic reactions may not exclude each other, but instead may be independent and co-exist (Cacioppo, Gardner, & Berntson, 1997; Larsen, McGraw, & Cacioppo, 2001, issue discussed in more detail in the subchapter treating the Co-activation model of healthy coping). More elaborated studies have revealed that individuals who in the aftermath of a traumatic event experience both negative and positive changes, perceive more growth than those who report only positive ones (Taylor, Kemeny, Reed, & Aspinwall, 1991). On the other hand, several studies have found positive, but modest correlations \( (r=.23) \) between PTG and optimism (Tedeschi & Calhoun, 1996; Aspinwall, Richter, & Hoffman, 2001), which may be an indicator that optimism and posttraumatic growth are distinct constructs. A considerable amount of literature sustains the idea that optimists may better focus their attention and resources on tasks at hand, and simultaneously disengage from uncontrollable or unsolvable problems (Fredrickson, Tugade, Waugh, & Larkin, 2003). [This could be one of the reasons why positive psychology stands high in proposing (and sometimes imposing) that people should be optimistic in order to survive crises (one of the typical slogans being “optimism is good for you”, Fredrickson, et al., 2003). They only neglect to mention exactly how to do it].

Seismic event

The impact of the traumatic event has to exceed certain intensity in order to unleash the processes necessary for growth. This is why individuals with high levels of resilience are not expected to develop neither pathology nor growth. They experience only clinically non-significant modifications of their general functioning, maintaining equilibrium within the range of well-being (for more see Chapter II). Even if it seems at the first sight paradoxical, the most exposed both to pathology and growth are those who perceive either the event as exceeding their abilities to cope with or the generated reactions as untamable (Tedeschi, Park & Calhoun, 1996; Tedeschi & Calhoun, 2004). Thus, those who are well ‘armored’ against trauma are most likely to be resilient, while those who present risk factors,
are expected to develop pathology of different magnitude. The most likely to develop PTG in the aftermath of adversity are those who seem to be in-between. Nevertheless, researchers have reported many cases when traumatized individuals, who have fulfilled the DSM criteria for different pathology (mostly PTSD), spontaneously reported growth or maturity as an epi-result of the encounter (Maercker & Zoellner, 2004). Several studies, targeting different types of traumatic events have evinced the relationship between the impact of the event on subsequent likelihood of growth (e.g. Peltzer, 2000; Polatinsky & Esprey, 2000; Maercker & Langner, 2001; Weiss, 2000).

Level of perceived challenges

This level encompasses several components, as: (i) management of initial distressing emotions, (ii) challenges targeting core schemas, (iii) belief systems, (iv) the hindering of future goals, and (v) the momentous impossibility to incorporate or accommodate the event into the previous life-narrative (find it a suitable meaning). It seems that in the proximity of the peri-traumatic situation, the cognitive processing involved in all of the above mentioned sub-components is more likely to be automatic, producing intrusive thoughts and images, and determining the appearance of intense intrusive negative ruminations (very much resembling the symptomatology characteristic of negative posttraumatic reactions). According to the authors, within these processes, the individual arrives at a point of disruption between what once represented his/her representations of self, others and the world in general and the perspectives changed by the event.

This sense of disruption would lead to disengagement from previous assumptions and goals, and a strong feeling that the old ways of being have to be changed in order to survive. Depending on the type of the event, contextual factors and the individual’s personal characteristics, this process varies in length. Some people start to perceive besides debilitating distress indices of growth shortly after the cessation of the event. Others report it only months or years after the event. A considerable number of researchers sustain that it is extremely important that the processes involved in growth to be accompanied by distress, since this distress is what keeps the process active. A rapid resolution would end the underlying mechanisms of growth, thus inhibiting the possibility of growth.

Core processes

The level of core processes includes: rumination, self-disclosure, resorting to social support. The inclusion of rumination within the core processes that would lead to growth is to some degree surprising since the huge amount of evidence demonstrating strong relationships between different types of pathology and rumination (Wells, 2000; Lyubomirksy, Caldwell, & Nolen-Hoeksema, 1998; Nolen-Hoeksema & Morrow, 1991).
Since intense rumination has also been found in the case of those who developed posttraumatically, it has been presumed that there is not a quantitative but a qualitative difference between depressogenic rumination and that followed by growth (Robinson & Fleming, 1992; Nolen-Hoeksema, McBride, & Larson, 1997). Since treated largely within the literature targeting negative posttraumatic reactions, rumination has gotten negative connotations and was associated for a long time with either manifestation or sustainer of pathology (e.g., Wells, 2000; Updegraff & Taylor, 2001). Nevertheless, research conducted within the framework of possible positive posttraumatic outcomes has recognized the benefits lying in several types of intrusive, recurrent patterns of thinking (regarding meaning-making, problem solving, recollection and anticipation) (Martin & Tesser, 1996). Accordingly, it appears that those who later report growth frequently reflect on the discrepancy between the parameters of the event and their belief systems, motives, goals, etc. After recognizing the impossibility to attain and/or maintain what has pre-traumatically been thought as stable, they try to find new, attainable beliefs, values, goals, etc. In contrast to those who later develop pathology, it is supposed that during ‘adaptive rumination’, people repeatedly think of the possibility they have to actively rebalance the situation (e.g., McAdams, 1993; McAdams, Reynolds, Lewis, Patten, & Bowman, 2001; for more on brooding and reflexive rumination see Chapter II or Joormann, Dkane, & Gotlib, 2006).

Self-disclosure and the existence of supportive social environments seem to be at least partially interrelated, and have already been treated at the beginning of this chapter. Nevertheless, it is worth mentioning that both play independently a strong role in the development of PTG, but may influence each other, and assist each other. This relationship is especially valid in the case of social support. If the individual perceives a stable and consistent social support that gives the opportunity of disclosure, the disclosure itself is more likely to occur; if, for example, social constraints block self-disclosure of intrusive thoughts, the likelihood of the development of depression and anxiety rises (Lepore & Helgeson, 1998; Lepore, Silver, Wortman, & Wayment, 1996; Nolen-Hoeksema & Davis, 1999; Nolen-Hoeksema, & Larson, 1999). In the same time, both disclosure and a reliable social support may provide the possibility to form the narratives of the trauma, subsequent experiences, etc., simultaneously offering perspectives that could be incorporated into a schema that would support the effort to strive and find benefits necessary for growth (Neimeyer, 2001; Tedeschi & Calhoun, 1996).

Core outcomes

Possible outcomes – as presented, according to the authors, there are three main possible outcomes: enduring distress (with different forms of negative outcomes of clinical or sub-clinical intensity), wisdom, and Posttraumatic Growth (with the 5 main domains discussed in the beginning of this chapter). With this model, it is briefly touched the issue of general wisdom about life. The relationship between wisdom
and PTG is somewhat blurry, since there has not yet been coined a generally accepted definition of wisdom. Some authors (when conceiving the term of PTG, the authors of this model have considered wisdom as a possible direct outcome of the encounter with adversity, see Tedeschi, Park, & Calhoun, 1996) consider wisdom as a form of growth, especially within the domain of changes in life-philosophy. More recent approaches consider it as an outcome related but not identical to growth, sharing some common features with it (Baltes & Smith, 1990, p.21).

One of the major advantages of this model is that it does not exclude either the possibility of PTG to be an outcome or an ongoing process. The authors’ assumption is that a variety of factors interact, influence and are influenced by growth or the ongoing process of growth. The few longitudinal studies on PTG have evinced that there are different temporal patterns for different aspects of growth with significant inter-individual variations (e.g., Tedeschi & Calhoun, 2004; Frazier, Conlon, Tashiro, & Sass, 2000).

The model places a considerable emphasis on the influence proximal sociological factors may have on the individual, but only tangentially treating the influence of culture, sub-cultures, and shared meanings in general. In this regard, one of the shortcomings is the dearth of data considering for example the influence of the meta-narratives typical for specific cultures (Pals & McAdams, 2004). Since most of the research has been done on the American population, it is hardly believable that other populations will not have other paths of growth, or will experience growth more preponderantly on some dimensions, or possible totally other dimensions, outside the “American narratives” (Pals & McAdams, 2004; Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003).

Another important issue, that of the possibility of illusory PTG (pseudo-growth) that recedes in time is not incorporated in Tedeschi and Calhoun’s (2004) model. In defense of this model, many authors have appealed to the newly embraced idea that even if PTG is in some cases illusory in the beginning, it may be used in the advantage of the patient, and transform it into constructive growth. Thus, Maercker and Zoellner (2004) propose a two-dimensional approach to PTG – the Janus8 face model of PTG: a possible earlier illusory component, and a later constructive component. In this way, a new line for future research may be proposed: the investigation of the meta-cognitive aspects (and internal rules), by which people seem to construct and actively revise their beliefs [aspect studied within the framework of negative outcomes (see Wells, 2000), but omitted within the framework of positive].

Considering the shortcomings of the presented model, we have to mention the separation of the most important aspects involved in posttraumatic reactions: distress – growth- and wisdom are presented as discrete, separate

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8 Janus (also Ianus) = in Roman mythology, the God of gates, of beginnings and endings – often presented as having two faces, directed in opposite directions (past and future).
entities. This may have been caused by a sense of caution, since data on the relationship between PTG and distress are somewhat mixed. One part of the research has concluded that higher levels of growth are associated with lower levels of distress (Frazier, et al., 2001; Park et al., 1996), while others have not found any kind of significant relationship between distress and PTG (Calhoun, Cann, Tedeschi, & McMillan, 2000). Nevertheless, the problematic of co-occurrence of distress with growth, of positive affect with negative cannot be ignored, and will be treated in the next chapter.

3.9.1.3. Models of PTG as Organismic Valuing Theory (Joseph & Linley, 2005)

One of the main lines of theory-building and research has drawn heavily on the conscious, effortful activity toward meaning making, relying heavily on intrinsic motivation, engagement, and the importance of recovery and growth (e.g., Hager, 1992; Miller & C’deBaca, 1994). Psychosocial approaches of posttraumatic growth have usually built their models on the relationship and interaction between personality factors, cognitive appraisal and coping (e.g., Armeli, Gunthert, & Cohen, 2001; O’Leary & Ickovics, 1995; Tedeschi & Calhoun, 1995; Waysman et al., 2001; Calhoun et al., 2000), where, next to the effortful meaning-making, ruminative activity also gets attention.

One of the most recent theories, the Organismic Valuing theory of growth through adversity (Joseph & Linley, 2005) starts off from the premise that human beings are active, growth oriented organisms inclined to integrate their psychological experiences “into a unified sense of self, and to integrate themselves into larger social groups and structures” (Joseph & Linley, 2005, p. 20). In this approach, humans are characterized and determined by their needs, values, aspirations, which prompt them to strive in pursuing well-being and fulfillment (e.g., Ryan, 1995; Baumeister, 1991). One of the central tenets of the organismic valuing theory is the idea that each person possesses the innate tendency to ‘know’ the own, specific directions in life in achieving well-being and fulfillment. The permanent interaction between the parameters of the social environment and the individual’s needs, values, goals, beliefs, etc., determines the way in which the individual acts: in consonance or not with his/her own organismic valuing process. Those who succeed to manage this permanent interaction well, and act more according to this valuing process are characterized by more authenticity, self-knowledge, greater fulfillment, etc. According to these authors, the organismic valuing theory is very well illustrated within the process of growth through adversity. Thus, growth arises from the struggle in developing new models of the world, since the old ones were found unsuitable during the traumatic experience – in this way, the traumatic event is considered an extreme “shattering of previous self-identity” (Joseph & Linley, 2005, p. 21).
In Joseph and Linley’s (2005) model, during the posttraumatic process, the individual “moves through the cycle of appraisals, emotional states, coping and further appraisals” (Joseph & Linley, 2008, p. 12), thus trying to integrate the trauma-related information. According to these authors, this information is basically incorporated in two major ways – either by assimilation or by accommodation.

Through assimilation, the trauma-related material is adjusted to and incorporated into the persons’ existing beliefs, conceptions, and models about the world, while through accommodation the person adjusts and modifies these models to the trauma-related information. In the process of assimilation, the most important aspect is to preserve the initial, pre-trauma belief system, with minimal alterations, and mold the traumatic information in a way that would fit the original model. An extremely illustrative example in this sense is that given by Joseph and Linley (2008). In the attempt to preserve the model of a just, benevolent world, the victim may arrive to a state when he/she considers himself as being responsible to the traumatic encounter, and thus start experiencing guilt and self-blame “If people are to blame for their own misfortune, then the world remains a just one on which they get what they deserve” (Joseph & Linley, 2008, p. 12). In the process of accommodation on the other hand, the person appraises the parameters of the event and compares them with the characteristic factors of his/her pre-trauma models about the self, others, the world, justice in the world, etc. If the new information does not fit in the old belief systems, then the person starts altering his/her old views, and adapt them to the content of the new information. For instance, based on the above-mentioned example, if the person experiences something unjust, through adjustment starts modifying his/her incongruent models about fairness in the world. Thus, the person may arrive to the conclusion that the world is not as predictable, safe, and just as believed before, but may be random and occasionally unjust.

In this model, accommodation may be either positive or negatively oriented: (i) in case of positive accommodation, the result is a positive change in attitude and in reactions (e.g., positive changes in world-view, more flexible stance towards the self, life, and world); while (ii) negative accommodation may result in hopelessness, helplessness, thus accentuation the possibility of installation of negative reactions.

Thus, according to the Organismic Valuing Theory (OVT), the posttraumatic process may have three major cognitive outcomes:

(i) Return to pre-trauma baseline by assimilation of experiences. In this case worldviews remain unaltered, and the mental comfort of the traumatized person is maintained (though quite frequently accompanied by intense distress). One of the major drawbacks of this process (besides emotional distress) is that because the highly inflexible mental models about the self, others, the person becomes vulnerable to other possible traumatic or highly stressful events.
(ii) Deterioration in functioning through negative accommodation. Pre-trauma worldviews are altered in such a way that they incorporate the traumatic information, but exacerbate negative expectations and prospects, thus inducing helplessness, hopelessness, depression, etc. (Joseph & Linley, 2008). These processes lead to new, negatively loaded assumptive worlds.

(iii) Positive development – posttraumatic growth, through positive accommodation. Pre-trauma worldviews are flexibly altered, thus allowing the incorporation of the trauma-related information in such a way as to facilitate the parallel experience of positive states [enhanced appreciation of life, of relationships, (re)establishment of goals to be pursued, etc.], thus resulting in new, more adaptive assumptive worlds, that on one hand facilitate the posttraumatic process, on the other hand prepare the individual for a future traumatic encounter.

Schematical representation of the posttraumatic process in Joseph and Linley’s approach (2008), is represented in Figure 3.3.

Nevertheless it seems interesting, and many consider this model a promising one, the empirical work that would sustain it is extremely scarce.

The first two models of growth as outcome (Shefer & Moos, 1992 and Tedeschi & Calhoun, 2004), are complex, and take into consideration both the proximal and the distal factors that might intervene in growth. Nevertheless, beside the fact that they only briefly describe the interplay of underlying mechanisms, the vague (and sometimes incongruent) definition of certain predictors hinders to a great extent the empirical testing of the model. As Zoellner and Maercker (2006) state, these models may though serve as heuristic frames meant to guide and refine research, in order to improve future models.
Figure 3.3.
Organismic Valuing Theory of Growth through Adversity
(based on the original model of Joseph & Linley, 2008)
3.9.2. Models of PTG as Coping Strategy

As already mentioned, PTG has in many cases been considered as a specific coping strategy, resulting or assisting adaptive response. In the following, we will very briefly present the most important models of PTG as coping strategy.

3.9.2.1. PTG as a form of positive illusion (Taylor, 1983)

Within her theory of cognitive adaptation to threatening events, Taylor (1983) considers PTG as a form of ‘positive illusion’, having a highly adaptive value. Even if in this approach PTG is an illusion, its perception may change both self-appraisal but also consequent, modified appraisals of the event itself, consequences, and later possibilities, thus enhancing the more successful coping with the event.

3.9.2.2. PTG within the framework of a meaning-making process (Park & Folkman, 1997)

As we have repeatedly seen in this volume, processes of meaning making are fundamental and crucial constituents involved in the posttraumatic process. Posttraumatic meaning making is mentioned in most models and approaches, but rarely discussed to the extent that would justly illustrate its importance. Thus, in order to better understand Park and Folkman’s (1997) model that explicitly discusses these mechanisms in the context of highly stressful encounters, we consider necessary the broader discussion of the role meaning making and more specifically meaning in life plays in human existence.

Consequently, risking a deviation from the main topic of this chapter, we will briefly present these quintessential aspects of functioning, continuing afterwards with the presentation of Park and Folkman’s (1997) model of PTG within the framework of meaning making.
Meaning making before and after traumatic encounters

For millions, this life is a sad vale of tears, sitting round with really nothing to say, while scientists say we're just simply spiraling coils of self-replicating DNA.

Monty Python: The meaning of life

Most humans live with the conviction that everything that surrounds us has a meaning, and that life’s constituent parts connect with one another to form a consistent unitary whole. Furthermore, humans believe that this unity is organized in specific recognizable patterns, which would confer our existence stability, harmony, and guidance, helping us navigate through the intricate network of relationships, roles, desires, goals to be attained, etc. (Bracken, 2002; Baumeister, 1991).

Our ability to derive and attribute meanings to everything that happens to us, in and to our environment is a fundamental component of our general well being and daily adaptation (King & Napa, 1998; Ryff & Singer, 1998a). The belief that we can understand what is happening around us bestows us with the feeling that we are in charge, that we can, to some degree, control the sequence of events and their implications (Baumeister, 1991). Meaning enables us to interpret things, organize our experiences, achieve self-worth, establish goals to be pursued, and so on. Thus, meaning becomes an extremely valuable basic human tool in survival, while attributing meaning to everything that pervades our lives, and aggregating these meanings into a unitary, supreme meaning, comes to be a fundamental human need (Bruner, 1990; Baumeister, 1991). A relevant example that furthermore emphasizes this basic human need of finding and attributing meaning is the phenomenon of Horror vacui, which outstandingly captures the human dread of semiotic and semantic emptiness, and our need to infuse everything with meaning (Popper, 2009).

The ability to organize experiences and stimuli in a way that would help us ‘make sense’ out of them, starts to develop during the very early stages of an infant’s life (Flavell, Miller, & Miller, 1993a; Siegel, 1995), and accompanies us along our existence. “The broad history of superstition and primitive religious belief certainly seems to support the view that people want to believe they understand the world, even if their theories are weak or downright wrong. Even if you can’t do anything about it, it is preferable to feel that you understand it. […] If the world makes sense, there is less danger than if the world is a place of random, arbitrary misfortune.” (Baumeister, 1991, p. 261).

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9 Horror vacui = theory proposed by Aristotle (fourth book of Physica), according to which, nature abhors vacuum; extended to fine arts and human functioning, it represents the human fear of empty spaces, followed by the attempt to fill the entire surface of empty spaces.
More complex both in construction and repercussions than the connection between daily happenings, and building increasingly more intricate, higher meanings is the human quest for finding meaning in and for one’s life – a philosophical question regarding the purpose and significance of human existence: What is the purpose of our existence? What is life after all? What does it mean? Where do we come from? Where are we heading to? Do our joys and sufferings have a reason, or are they in vain? The ability to find meaning in and to one’s life is not necessarily quintessential for survival, however it significantly affects our psychological well-being (and physical well-being as well) (King, Hicks, Krull, del Gaiso, 2006; Scolon & King, 2004; Nolen-Hoeksema & Davis, 2002; Esterling, L’Abate, Murray, & Pennebaker, 1999; McAdams, Diamond, de St. Aubin, & Mansfield, 1997), and as we will later on see in more detail, it is based on our most fundamental abilities to construct and use meanings (Baumeister & Wilson, 1996).

The issue of finding meaning in/for one’s life has always been a central aspect of human functioning. World religions, ideologies, value systems, and philosophies from antiquity to modern perspectives reflect this basic human need. Even our scientific endeavors mirror our persistent interest in finding an answer to how and why we are what and where we are. Irrespective whether people believed that meaning in life would be offered by the sole purpose to serve and worship God and prepare for afterlife as both Judaism and the Islam (Islam actually meaning the submission of self-interest to the will of Allah) proclaims, enlightening and unification with the forces of the universe (Buddhism), attaining harmony with the universe (Tengerism), introspection (Taoism), seek divine salvation (Christianity), freedom from suffering by developing an emotionally detached, objective acceptance of facts (stoicism), act in a way that would ensure “the greatest good for the greatest number of people” (utilitarianism; Bentham, 1789), survival of genes (Dawkins, 2006), or the Big Bang (Ellwood, & Alles, 2007; Hoyle, 1955), the question still persists and most of us feel that it needs to be answered.

The importance of the individual’s quest of understanding the world, life and his/her adaptation by these means to the requirements of each situation has for very long time been a topic of investigation. Until recently, the issue of meaning in life and meaning of life has traditionally been one of the most important problems in philosophy, theology, pedagogy, sociology, literature, and psychology (Auhagen, 2000; Debats, van der Lubbe, & Wezeman, 1993), eluding however to occupy an important position in mainstream psychology (Debats, 1998). This was due to at least two factors: (i) even today it is extremely difficult to arrive to a unitary definition of this concept, and (ii) because of its ‘vague’, ‘boundless’ nature, theoretical and especially empirical approaches had difficulties in operationalizing the very concept of meaning in life (Debats, 1998).

At definitional level, psychological approaches to life’s meaning have not by far been unitary (Auhagen, 2000). One of the most recent major approaches
considers meaning of life as being the individual’s perception of what would be important to attain in life. This perception relies on the person’s value system, which subsequently orients his/her strivings, heavily depending on the established goals (Emmons, 2003; Ryff & Singer, 1998). Occasionally, this striving may refer to a single, overarching purpose, which gives a solid contour to one’s life (Frankl, 1963). A considerable peril to the meaning of life constructed on this premise is represented by occasional value gaps, especially when previously cherished values or belief systems are shattered, and the individual cannot find an alternative, equally viable value and motivational system that could orient his/her further endeavors towards the desired end (for more see Baumeister, 1991).

A second definition relies on semantics, approaching meaning of life from the identification of what the word ‘life’ means (Baumeister, 1991; Yalom, 1980). According to this approach, life would have meaning when it would signify something represented as worthy for the person, similar to what Bering (2002) coined as the “existential theory of mind”. Baumeister’s approach on meaning of life may be included among those theories that consider meaning as being a specific human need (Auhagen, 2000).

As one can see, the first two approaches are mainly motivation-, and significance-oriented. More recent approaches not only combine the above-mentioned two approaches, but also infuse it with an affective dimension (Steger, 2009). For instance, according to Battista and Almond (1973), as well as Reker and Wong (1988), meaning in life is represented by attaining one’s goals, thus perceiving coherence, which is accompanied by a feeling of fulfillment (emotion-side).

As we will see, finding meaning(s) for one’s life in everyday situations, and more importantly after traumatic encounters is an extremely important problem, which seriously contributes both to the general well-being, and to the process of adaptation. A plethora of research attests that those who believe that their life have a solid meaning and a clear purpose (inconsequential whether it is true or imagined; for more see Tennen & Affleck, 2002; Baumeister, 1991), are happier (Debats, van der Lubbe, & Wezeman, 1993), have lower levels of negative affect and depression (Chamberlain & Zika, 1988; Skrabski, Kopp, Rozsa, Rethelyi, & Rahe, 2005; Debats et al., 1993), higher levels of life satisfaction (Chamberlain & Zika, 1988), have higher levels of general well-being (Bonebright, Clay, & Ankenmann, 2000), have the belief that they have a better control over their lives (Ryff, 1989), better engagement in work (Bonebright et al., 2000), lower levels of suicidal ideation (Harlow, Newcomb, & Bentler, 1986), etc.

Irregardless its importance, the investigation of meaning in life is an extremely arduous task, especially if we take into consideration human reticence to talk about it. As Baumeister (1991), based on Freedman’s (1978) work, has wittily put it, when people are individually or in groups interviewed about the factors that make their lives happy, or make it meaningful, they “quickly became very
emotional and then clammed up. People were more willing to discuss intimate sexual matters than issues of life’s meaning and happiness” (Baumeister, 1991, p. 3).

The last decades of social and psychological research have recognized the psychological implications of meaning in/of the individual’s life both in usual situations—everyday functioning, and in extreme cases of loss, harm and trauma (e.g., Frankl, 1963; Yalom, 1980; Janoff-Bulman, 1992; Davis, Wortman, Lehman, & Silver, 2000; Wortman & Silver, 1992; Park & Folkman, 1997; Nolen-Hoeksema & Davis, 2004), thus intensifying both theoretical development and research in the domain.

The way people form meanings in general and the meaning of life in particular is a process that involves several levels, which are in a permanent interplay and lead to specific outcomes. Since the process of posttraumatic reactions is highly dependent on the individual’s abilities to construct and select meanings, all these mechanisms are profoundly employed not only in gradually finding or attributing meaning to the event, but also integrating it and its consequences in the individual’s life narrative, that may further on influence the process of finding meaning(s) to life after the traumatic encounter.

The following subchapter will discuss the way meaning and more specifically meaning in life is created in a multi-axial approach, at individual and societal levels, as well as in everyday and critical situations.

Meaning at the individual's level in usual situations

As we have discussed somewhat earlier, deriving and conferring meanings is a basic human ability without which life and survival would barely be possible. Neuroscience has already demonstrated that the establishment of meaningful connections between stimuli and/or events that are not necessarily and explicitly related is hardwired in the human brain (Gazzaniga, 1997), the left hemisphere being mostly responsible for interpreting incoming information.

Still, one has to be aware of the fact that meaning making is not an isolated process that is solely dependent on the person’s abilities to derive and manipulate meanings. Culture and society typically offer sets of beliefs, applicable to certain situations, with specific, expected results, that may frame the interpretation of the incoming information. There are cultures and sub-cultures that impose a limited number of very sharply contoured sets of beliefs, while others offer competing belief systems from which the individual may select and then extract the already available meaning of the situation (or of the life as a whole) that best seems to suit his/her existing sets of beliefs.

The meanings humans construct are to some degree personal and individual (best observable in the case of life-stories, where the meaning/or meanings of life is best revealed). Nonetheless, meanings in general may be considered as the result of relentless negotiations between the individual’s ability to construct meanings and the possible sets of meanings offered by society.
Simultaneously, the fact that society offers sets of meanings may reflect an important aspect of human functioning – by sharing common beliefs, values, ideologies, etc., it offers the individual the possibility to perceive him/herself as belonging to specific social groups (Bowlby, 1973; Baumeister & Tice, 1990; Buss, 1990).

As an accessible and functional definition for our purpose in approaching meaning at the level of the individual, we may use the one given by Baumeister (1991), according to which *meaning is the shared mental representation of possible relationships among things, events, and relationships.*

**Basic needs for meaning**

As for why do people need meaning, Baumeister (1991) has offered one of the most comprehensive descriptions of the situation. As he suggests, the four basic needs for meaning are: purpose, value, efficacy, and self-worth.

**i. Purposiveness**

Purposiveness refers to the individual’s need to orient his/her activities toward a precise goal, which may relate to future possible, attainable states. In this case, it has to be a *goal* which is supposed to be imagined and conceptualized. Next, options are evaluated, and considered whether it will lead to the desired goal state or not. Finally, the person has to make the actual choice in order to reach his/her goal. In this way, the individual connects actual states to future events, thus giving the individual the possibility of conferring meaning to seemingly meaningless actual events, through the meaningfulness of future outcomes.

**ii. Value**

Value expresses the individual’s need to feel that his/her actions of attaining the goal are not useless, and are perceived as being good and justifiable (Baumeister, 1991).

**iii. Efficacy**

Efficacy, the third need for meaning, expresses people’s need to exert control, a subjective side of it. In this sense, there have been attempts to classifying control:

*Primary control:* the individual’s attempts to change the environment in such a fashion as to match this/her needs.

*Secondary control:* the change of the self in order to fit the requirements of the environment.
iv. Self worth

Self worth refers to the individual’s need to feel that he/she has positive value. “People seek some criteria according to which they can regard themselves and convince others to regard them positively, it is a need to have some claim on respect – both self-respect and the respect of others” (Baumeister, 1991, p. 44).

**Functions of meaning-making at the individual level**

From our point of view, the main functions of meaning-making for the individual may be concentrated into two basic categories:

Meaning is greatly used to *discern patterns in the environment*, thus offering the individual the opportunity to anticipate events, to prepare for confronting them, to protect him/herself, or to take advantage of it – this would be of great use not only for the individual adaptation to the outer or inner environment, but also of finding out the way others respond to various situations, thus facilitating interpersonal relationships.

Simultaneously, meaning helps the individual to *control* himself, this including not only the behavioral aspects, but the cognitive and emotional states as well – in this way meaning offers people the possibility to make decisions (based on pondering the possible options), consulting values, etc. (Baumeister, 1991).

**Levels of individual meaning**

Thus, individual meaning is not a compact, uni-dimensional entity. Roughly speaking, it has two basic levels, referring to the quantity and the complexity of the relationships it conveys.

**Lower level meaning**

At the *lower level*, meaning consists of attaching labels to objects, events, and later recognizing the object, event through the associated label. At this level the use of meaning is factual, and time limited (having narrow time frames), leaving no possibility for elaborate interpretations (Baumeister, 1991).

**Higher level meaning**

On the other hand, at the *higher levels*, meanings surpass original relations which may address and represent more complex, abstract relationships. By this, the individual is given the possibility to offer several interpretations for the same,
original event, situation, act, etc. By the combination of several low-level meanings one may obtain increasingly more complex, higher-level meanings.

The connection between the two basic levels of meaning is very important. A particular act may in the beginning be described at a lower, concrete level in immediate terms. Later on, the same act (event) may surpass this basic level and get integrated into the system of higher levels, thus (re)integrating it into a more intricate story, or a ‘history’ (Vallacher, Wegner, & Frederick, 1987; Vallacher & Wegner, 1985).

The possibility of a more or less ‘free’ shift between the levels seems to have an extreme role in the process of adaptation of the individual to different, especially taxing situations, when one has to find an acceptable meaning for the happening. The construction, deconstruction and/or reconstruction of meaning and especially meaning of life becomes even more acute in situations when it is threatened or lost. The finding of an acceptable meaning appropriate for the situation has a special significance in maintaining the necessary motivation for not giving up (Frankl, 1963).

Usually, the construction of meaning, the movement, from the lower level to the higher one, helps individuals answer the questions starting with WHY? (Why me?, What for?). One of the situations this process is visible are the cases the individual tries to reduce the intensity of (mostly negative) emotions through interpretation and successive re-interpretations of the same event, until it reaches the variant that best fits his/her purpose. The process of construction of higher meanings helps the individual to build up broader, more integrative meanings, specify contexts, thus facilitating the process of interpretation.

On the other hand, the deconstruction of higher levels helps people analyze the HOW? This occurs especially in the cases when a given situation cannot be solved with the means at hand, and the individual seeks to find either the source of the problem or a possible, alternative, working solution to the problem (e.g., Carver & Scheier, 1982).

This deconstruction of higher-meanings (the downward shift) is many times used as coping mechanism for exactly avoiding the development of higher-level meanings. A very good example for its occurrence is the case of persons who commit a morally questionable deed. In most of these cases the person prefers not to construct higher meanings, and thus avoid the integration of the particular event in a broader system of significance. He/she rather focuses on the particular event, stripped as much as possible of its potential meanings, which would underscore the onerousness of the event. This deconstruction of higher meanings, or the prevention of its formation, is one of the coping mechanisms that are pre-eminently used by criminals. Some of them prefer to focus on the isolated event, avoiding broader implications, which would highlight the violations of the basic values, assumptions and norms of the society they come from (Wegner & Vallacher, 1986; Lifton, 1986). Thus, deconstruction, besides the devoing the
event of higher meanings, may through denial remove many of the emotional implications of the event (Baumeister, 1990; Pennebaker, 1989).

As we have already mentioned, finding meaning in and for one’s life has been found to have a salutogenic effect in all societies, helping people attain and maintain an optimal level of emotional equilibrium and motivation in order to pursue goals. Since meaning in life has been found to be a ‘positive psychological resource’ that promotes health in societies undergoing major political and economical changes too, its implications become even more serious (Skrabski, Kopp, Rozsa, Rethelyi, & Rahe, 2005). As Wong and Fry (1998) have stated, nowadays research has gathered “a critical mass of empirical evidence and a convergence of expert opinions that personal meaning is important not only for survival but also for health and well-being” (p. xvii).

Finding one’s life as meaningful was demonstrated to be positively related to general well-being in the sense that those individuals who could confer meaning to their lives had a higher level of self-efficacy, problem-focused coping, religiousness, high levels of social support, etc. (Reker, Peacock, & Wong, 1987; Zika & Chamberlain, 1992).

Traditionally, the concept of meaning in life was considered in a nomological network with a variety of concepts, as: fulfillment and self-actualization (Maslow, 1962); engagement, responsibility (Yalom, 1980), sense of coherence (Antonovsky, 1979), commitment and self-transcendence (Frankl, 1963), sense of wholeness and belonging (Weiskopf-Joelson, 1968).

In fact, meaning in life is a multidimensional construct. In earlier conceptualizations, the main dimensions of meaning in life were considered to be:

(i) satisfaction with “the network of people or things that comprise the immediate world” (Weisman & Worden, 1976, p.3);

(ii) the positive value one assigns to one’s own life (Reker & Wong, 1988);

(iii) the belief that “life, and human life in particular, fits into an overall pattern that exists superior to the individual” (Yalom, 1980).

More recent conceptualizations (e.g., Jim, Purnell, Richardson, Golden-Kreutz, & Andersen, in press) identified four major dimensions:

(i) feelings of inner peace and harmony;

(ii) feelings and thoughts of satisfaction with one’s life;

(iii) spirituality and a purposeful pattern in the universe;

(iv) absence or loss of meaning in life, producing negative emotions and confusion (Jim, Richardson, Golden-Kreutz, & Andersen, 2006).
Battista and Almond (1973) operationalizes the construct of meaning in life based on two major components, comprising most of the above mentioned dimensions: (i) framework, representing the degree to which individual considers his/her life within some perspective, or has established a set of life goals (the motivational aspect); (ii) fulfillment, considering the degree to which the person considers himself/herself as having fulfilled/or fulfilling his/her life-goals (Debats, van der Lubbe, & Wezeman, 1983).

A critical issue in the meaning of life is the problem of the human need to have a compact, overarching meaning for one’s life. In the past, when one could refer to solid and stable value systems, when higher meanings were readily available, it was relatively easy to find meaning to one’s life, or to find it a place in a broader narrative (Baumeister & Vohs, 2002). Sources from where one could select a meaning for his/her life were present in religious, ideological, philosophical, etc. frameworks.

Since modernity had to witness the unraveling of the most influential ideological systems as world-religions (for more see Baumeister, 1991), the relativization of morality, rapidly changing economic and living conditions, etc., the individual has come to face an extremely delicate issue, namely, that it is extremely difficult to condensate the meaning of one’s life in a single, all-encompassing statement. Research (Baumeister & Vohs, 2002; Baumeister, 1991) has revealed that in most cases, meanings of life are centered around several major themes, and not a single, unitary life-meaning (Emmons, 1997).

The major categories from where occidental life extracts its meaning are:

(i) relationships,
(ii) professional life (work),
(iii) self-actualization,
(iv) spiritual life,
(v) financial and decisional power, etc. (Debats, 1998).

This plethora of major themes for one’s life may on the one hand represent a huge blessing. For instance, when the individual has several major themes on which to construct the meaning of his/her life, and if a life situation thwarts one of the major sources of life meaning, it is much easier to compensate with another readily available source.

For instance, lots of people consider their works as primary sources of meaning for their lives. In the moment they retire, or have to give up what they cherished most (are forced to resign, either due to economic or health problems), appears a temporary gap of meaning in their life. As discussed before, the lack of a valid meaning for one’s life may have a negative impact on one’s physical and psychological well-being. In case this void is easily filled with another important one (e.g., the meaning next in the hierarchy), the equilibrium is restated - the person simply replaces the old source with another, quasi equally satisfying one; for
instance one may start investing increasingly more in relationships. Significant stress arises however in the moment when no suitable meanings are available, and the person cannot find or construct new and valid sources of meaning.

On the other hand, an extremely delicate issue is represented exactly by the fact that modern life furnishes us with a myriad of available sources for meaning in life, and with no solid value base, that would guide people in the selection of ‘good’ and ‘bad’ sources of meaning for life (Baumeister, 1991).

In normal situations, a redeeming meaning for one’s life is not a *sine qua non* condition for well functioning; People may live their lives quite well without an overarching, all-encompassing meaning for their lives (Baumeister, 1991). However, as we have already mentioned, finding meaning(s) for one’s life may significantly enhance the person’s quality of life, his/her performance in different domains of functioning, etc. Meaning, and more specifically meaning in life are crucial factors that facilitate attainment and maintaining of more stable states of happiness (Ryff & Singer, 1998; Lent, 2004; King, Hicks, Krull, del Gaiso, 2006), by facilitating increased perceptions of self-efficacy, development of more complex sets of problem-solving strategies, intrinsic religiousness, development of broader social networks that may offer the appropriate social support, and so on. (Skrabski et al., 2005).

On the other hand, during critical situations, people seldom deliberately meditate on the meaning of life (Baumeister, 1991). Interestingly though, finding meaning for the adversity, for it’s occurrence, and finding meaning for the life changed by such an event induced in most cases a fierce search for an acceptable explanation that would sustain the individuals efforts to construct or reconstruct a meaning (or meanings) for his/her life.

**Shared Meanings**

As Bruner affirmed, the meaning people construct is not something “*after the fact*” (Bruner, 1995, p.19), since everything we process has to be perused through the filter of our previous experiences. More precisely, experience in itself involves a high degree of interpretation. But, interpretation (interchangeably used with meaning-making) cannot be considered as a private, isolated act, something ‘nested’ in a single mind. Interpretation is dependent of sub-processes of inter-subjective information exchange, based on the existence of a concept that the outer world is common, and aspects of it are shared by lots of people (Bruner, 1995). It could simply be said that interpretation is a matter of processing things and events with meaning (Baumeister, 1991). Thus, as we have already discussed, the process of meaning-making and the already formed systems of meaning are substantially influenced by the culture (at large), and the specific sub-culture the particular individual belongs to.

Nevertheless, meaning is not something *before* the fact either, since without a frame of reference, nothing can mean anything stable in itself. Thus, as we will
later on see in more detail, meaning and meaning-making is intensely relational in nature (Overton & Palermo, 1994).

Analyzing these perspectives one may extract two major types of shared beliefs, behaviors, and normative structures within a culture: (i) biologically influenced shared beliefs, and (ii) beliefs shared by communication and interpersonal interaction.

Types of shared beliefs

a. Biologically influenced shared beliefs, appeared during the evolution of the human species; these are core beliefs, behaviors and normative structures specific to a culture (may transform into ritualized behaviors), which do not necessarily have to become individualized core beliefs, behaviors and normative structures. This type of shared beliefs is rather persistent in time; they are stable and not easily changeable “some beliefs and behaviors are better then others at solving adaptive problems, and these are the beliefs and behaviors that are likely to become and remain culturally normative” (Lehman, Chiu, & Schaller, 2004, p.691).

b. Beliefs shared by communication and interpersonal interaction, are influenced by communication and interpersonal interaction between the members of a culture are represented by local beliefs, behaviors and normative structures. These meanings are common for everyday life; we form, negotiate and re-negotiate them in groups, we communicate them, and so on.

The shared beliefs of this category are dynamic; they may change after a certain period of time because the social system that generates them is itself dynamic and in a permanent change.

By being used in different individual ways (as we will show later on) in the process of adaptation, all these culturally constructed beliefs and behaviors get a certain meaning for individuals. “By virtue of participation in culture, meaning is rendered public and shared. Our culturally adapted way of life depends upon shared meanings and shared concepts as well upon shared modes of discourse for negotiating differences in meaning and interpretation” (Bruner, 1990, pp.12-13).

Although the concept of "meaning" is a promontory in a variety of intellectual landscapes, for many scholars – psychologists included – it is preeminently defined in terms of individual meaning-making – or the internal symbolization (representation, conceptualization) of the external world (Overton & Palermo, 1994). As we have already said, when we speak about meaning we cannot exclude the group, the sharing of this meaning in a certain context, or a certain culture. Nevertheless, culture does not rigidly determine the responses of its group members; on the contrary, culture provides interpretative frameworks and prescriptions for making sense of reality (Choi & Nisbett, 1998; Hong et al., 2003; Ji et al., 2000; Kanagawa et al., 2001).
A certain set of shared meanings will more probably be adopted when they offer a consensually validated solution, conventionalized for a problem and when the one that solves this problem lacks the capacity, motivation and/or resources to take into account alternative solutions. Consistent with this idea, the probability to follow a set of culturally shared meanings grows when people need to adopt culturally validated motives to justify their actions and/or decisions (Briley et al. 2000), have a high need for cognitive closure (Chiu et al., 2000; Morris & Fu, 2001), they are cognitively ‘busy’ (Knoeles et al., 2001) or have to make judgments under the pressure of time (Chiu et al., 2000).

Brewer (1991), and Brewer and Gardner (1996) consider that one way people define themselves is in terms of their relation with others and with social groups. Dyads, larger groups (e.g., families) and informal social groups construct meanings and subsequently apply them in all kinds of social interactions. Such meanings (collective meanings and interpersonal meanings) transcend time and differ from interactional meanings that are more transient (specific to a certain meeting — like a group’s jokes that are understood only by group members).

Thompson and Fine (1999) propose a model concerning „socially shared meaning in groups” which contain three processes: motivation, social interaction and shared meaning.

Motivation refers to the factors that instigate the need for shared meaning. It is necessary to mention here the importance of goals as drivers of shared meaning. Motivations may range from a simple need to define the situation, reduce uncertainty, create common ground, and complete a joint task. In short, motivations are goal-directed processes that recognize and necessitate interdependence among people.

The second part of the model is represented by social interactions - these refer to the complex interaction that occurs between individuals who perceive themselves as interdependent. This interaction is the mechanism that creates perceptions of reality for the individuals involved. Meaning emerges from the local exigencies of participants rather than from patterned or ritualized behaviors (Thompson & Fine, 1999).

Finally, the actual shared meaning is the result of social interaction. The proponents of this model divided the grounding of meaning into three general classes: cognition, affect and behavior. The cognitive component reflects the mental models, shared mental representations, and distributed cognition, which presumably result from social interaction. This social understanding is negotiated by individuals, as they adjust to their social situations. In addition to cognition, people have affective experiences that can be shared with others, such as identification with a group (Thompson & Fine, 1999). The behavioral consequences of social interactions include coordination, creation of products and group decisions that are not reducible to individual-level processes or products.
As a form of shared meaning we may give as an example the case of social narratives, in the forms of tales, stories, legends, etc.

In sum we may say that, the process of making meaning of an act, event or situation basically consists of the process of immersing the information about the specific event in a framework and further on reporting it to other structured, related frameworks. It is evident that in this process of reporting the knowledge, ‘experience’ base of the individual, has a great importance.

**Types of frameworks (contextualization) involved in meaning making**

According to Bruner (1995), there are three main, primitive forms of frameworks (contextualization) involved in the process of meaning-making: inter-subjectivity, instrumentality and normativity.

**Inter-subjectivity** is represented by the process of “situating of events, interactions and expressions in the ‘symbolic space’ that human beings define as shared by them with others” (Bruner, 1995, p. 83).

**Instrumentality**: “the means-ends structure of human action: who does what under whose control to whom and with what end” (Bruner, 1995, p. 83).

**Normativity** is the framework “where events and expressions are situated in the ordered framework of obligations and commitments that lie at the heart of human culture” (Bruner, 1995, p. 83).

**The function of frameworks**

These primitive frameworks are coordinated by higher, second-order systems (e.g., the narrative system), that are able to work in parallel. In this way they may offer the individual the possibility to pass beyond the immediate perception of the particular event.

Consequently, one is offered the possibility to develop a time perspective, a chance to re-create meanings, and even to construct more complex meanings. This process facilitates the integration of the perceived or formed meaning of the event into the global meaning system. By this, it is possible to modulate the discomfort produced by eventual discrepancies between the initially perceived significance of the event and the person’s belief system.

These parallel frameworks did not only prove to be useful at the individual’s level. It’s usefulness may be observed at the societal level as well, one of the best examples being the narratives in forms of folk takes, legends, proverbs, by which people attempt to manage collective emotional states, offer possible scenarios for solving different problems, provide alternative solutions, etc. (Hiiumäe, 2005; Röhrick, 1984; Heath et al., 2001; Glassner, 1999).
In private narratives, people have the chance to organize events in a chronological fashion, to redistribute parts and functions of the partaking agents, and offer different significances to the event, depending on the individual (or societal) needs. Consequently, the basic function of these different forms of narratives is not to offer a valid explanation of the particular event, but more importantly, a possible interpretation, which may further be adapted, depending on the circumstances (Bruner, 1990). As already stated, narratives as means of meaning making do both function at the individual’s level and at the societal level too, but they have slightly different functions.

Narratives at the societal level have been used for centuries for controlling fears for which people did not have the actual means to effectively intervene. In this respect, narratives have functioned as a form of emotional coping in situations where the society did not possess any kind of instrumental coping strategy, thus being unable to effectively change the given unfortunate situation. In many cases the relief has been produced by the fact that the solution has transcended the rational possibilities, thus offering a fictive solution, which at the emotional level usually did have the expected result (Hiemäe, 2005; Kerbelite, 1998; Jeggle, 1990). One of the typical and most often used examples is the fear of the plague, where the individual could not be instructed by any means how to change the situation (the epidemics has been a permanent threat, uncontrollable by the ordinary, mediaeval person) (Delumeau, 1986). Nevertheless, these narratives have contained ways in which the person could reduce the produced distress by a fictional sense of instrumental intervention.

**Meaning making after traumatic encounters**

As we all know, life is a process that is characterized by constant change: “Growth, decline, ingesting food, eliminating waste, reproducing, and other natural parts of life all involve change” (Baumeister, 2002, p. 609). However, both humans and animals strongly desire stability. One modality through which we may impose structure and stability to this constantly changing flux of events is meaning (Baumeister & Vohs, 2002).

Literature has repeatedly noticed that there is a strong association between the meaning gap or ‘meaning crises’ induced by critical situations, and suffering (Greening, 1997, as cited in Solomon, 2004). It is presumed that events that shatter the stable and consolidated meaning system of the individual may provoke intense sensations of meaninglessness, followed by distress and suffering (Auhagen, 2000; Baumeister, 1991). Suffering further on intensifies the need of searching for meaning (Taylor, 1983). Even finding a meaningful label for one’s suffering may have a soothing affect. For instance, patients with intense chronic pain report feeling better after naming and finding a plausible (yet not necessarily valid) explanation for their affliction (Hilbert, 1984).
As we discussed earlier, people interpret and understand in a consistent way their own person, others, the world in general, as well as forthcoming events, and situations through interpretive meaning systems based on assumptions. Janoff-Bulman (1989) termed these assumptions about the world ‘assumptive worlds’, which are mainly constructed by two processes: (i) by inductive generalizations of personal experiences, and (ii) by extracting knowledge from other sources (family, culture and society, etc.) (Baumeister, 1991).

Traumatic encounters exert their devastating impact by partially or entirely contradicting the individual’s meaning system through which he/she understands his/her life. In these conditions, previously accepted meaning systems cannot accomplish anymore their function of meaning making – thus appears the value vacuum or the meaning crisis.

In the aftermath of the traumatic encounter, the individual gets immersed in two basic meaning-making processes: (a) understanding the event with its implications, and finding an acceptable meaning for it, and (b) (re)build meaning systems (assumptive worlds) that would function as appropriate interpretive frames in the process of recovery (Parkes & Weiss, 1983). Recovery presumes that the individual engages in both processes.

In cases when the person cannot find a redeeming meaning for what has happened, cannot integrate the event in a consistent narrative, the initial shock experienced during or in the immediate aftermath of the encounter turns into anxiety, depression, feelings of helplessness and hopelessness, etc. (Janoff-Bulman, 1989). Depending on the trajectory of the posttraumatic process and personal characteristics, the negative emotional states thus induced may occasionally be accompanied either by denial or by rumination. In some stages (usually the early stages) of the traumatic process, denial may have a protective power. When the discrepancy between the parameters of the traumatic event and the characteristics of the person’s assumptive worlds is significant and the meaning crises is severe, denial allows the person to postpone meaning making until he/she is ready to face the meaning and the implications of the event (Janoff-Bulman & Timko, 1987). However, denial becomes highly disfunctional when it thwarts the process of meaning making.

Rumination on the other hand is represented by repeated, involuntary thinking about the event that usually is accompanied and maintains negative affective states. As mentioned before, there are qualitative differences between ruminative styles. In those cases when the person consciously searches to find an acceptable sense for the event and its implications, succeeds to find a fulfilling explanation, suffering and distress gradually recede. Thus, ruminative thoughts focusing on problem solving are necessary elements in the meaning making process (Baumeister, 1991).

When rumination is blocked at repeatedly and exclusively rethinking the event and the grievances it caused, the processes of meaning making and a redeeming meaning are also obstructed, thus distress and suffering are maintained.
An extremely important aspect that should be noted here is the fact that not the loss or the inability to construct meaning *per se* is what induces distress and suffering, but more specifically the meaning attached to the specific event and its implications. Unhappiness, distress, appears only in the absence of a redeeming explanation (Baumeister, 1991).

An excellent example for this is represented by the two different phenomena, sharing a common feature, being differentiated by the meanings and attributions conferred to them: anorexia nervosa and holy anorexia. Both forms of anorexia are characterized by self-starvation. While anorexia nervosa is caused by an apparent *loss* of appetite guided by the attempt to control the desire to eat (Orbach, 1986, as cited in Baumeister, 1991), those who impose starving on themselves experience recurrent episodes of fear for not being able to overcome their impulse to eat. “Self-starvation is thus a symbolic substitute for power, achievement, and mastery in the external world” (Orbach, 1986, p. 149, as cited in Baumeister, 1991). In case of holy anorexia, starvation was a way to express reverence and devotion to God, as response to confining medieval Church politics (Bell, 1985, as cited in Baumeister, 1991). In holy anorexia, the same process of starvation has a powerful spiritual significance.

Another example that would indicate the role played by the meaning attached to a traumatic event in the unfolding of the traumatic process represented by the purpose people find for suffering (Taylor, 1983). When one is able to identify a cause for which it is worth sacrificing well-being, suffering is seriously lower compared to the cases in which the person cannot find a reason for the happening. The case of tortured prisoners illustrates extremely well this phenomenon. Those who are committed to a cause report significantly lower levels of distress than those who are not devoted to a specific ideology, and consider that their torturing is unfair and undeserved (Başoğlu et al., 1997).

The validity of the meaning or attribution found for the event is another important aspect in the process of meaning making. Research has repeatedly found that not necessarily the correctitude of the interpretation is the key of posttraumatic well-being (Taylor & Brown, 1988), but finding or attributing a meaning that would offer an acceptable explanation to the event. “Having the explanation is the key. Whether you attribute your suffering to God’s will, what you deserve, the driver of the other car, or fate does not seem to make a big difference in how well you adjust. But if you can’t find any satisfactory explanation, then you adjust poorly” (Baumeister, 1991, p. 249).

Recent literature however has refined research and demonstrated that not any type of meaning making benefits in the long run those who have been confronting traumatic encounters (Tennen & Affleck, 2002; Davis & Nolen-Hoecksema, 2001; Davis, Nolen-Hoecksema, & Larson, 1998, etc.). Finding some benefit in the confrontation with the traumatic event has been found to be associated with better adjustment, with higher levels of emotional well-being. Interestingly, some studies have evinced that finding benefits in the traumatic
encounter improves not only the well-being of the person confronting the event. Affleck, Tennen, and Rowe’s (1991) research investigated mothers who’s new-born was hospitalized in intensive care. Those mothers who have reported finding benefit(s) in the highly stressful encounter (e.g., improved relationships, positive changes in personality, etc.), experienced less distress both 6 and 18 month after the initial evaluation. Moreover, the developmental test results of the children who’s mothers reported finding benefits in the previously mentioned adverse event were also higher than in the case of the other children.

Research has also found that the benefits of benefit-finding are not necessarily due to the number of benefits the patient is reporting, but the fact that finding any benefit has the same positive effect.

On the other hand, there is qualitative difference between the mechanisms and the results of benefit finding and effortful benefit reminding (Tennen & Affleck, 1999). It has been found that those patients who kept investing energy in reminding themselves the possible benefits and gains of the traumatic encounter (Tennen & Affleck’s 1999 research investigated chronic pain syndrome patients with unknown etiology) experienced higher levels of positive mood, even when pain was intense.

Finding meaning in life after confrontation with traumatic event has proven to be extremely beneficial for adaptation. Research investigating individuals confronting terminal illness (Hamera & Shontz, 1978), cancer (Taylor, Lichtman, & Wood, 1984), AIDS (Schwartzenberg, 1993), the loss of a child (Chodoff, Friedman, & Hamburg, 1964), incestuous sexual abuse (Silver, Boon, & Stones, 1983), etc. has repeatedly underscored the importance of meaning making, benefit finding, and benefit reminding processes.

The causal relationships between meaning making, finding meaning for life after a traumatic encounter and adaptation/well-being are not fully understood yet. It is not yet clear whether meaningfulness induces well-being, or well-being leads to the perception of meaningfulness (King et al., 2006). This distinction is even more salient in the posttraumatic process. Does a trauma victim fell less distress and more positive affect after finding meaning in the event and for his/her life or vice versa (Auhagen, 2000), “an improved physical and mental constitution, as well as new goals, may contribute to new meaning” (Auhagen, 2000, p. 43)? Theoretically both ways are possible. The elucidation of this aspect would have important practical implications in the way treatment is tailored.

**Meaning making in the context of stress and coping (Park & Folkman, 1997)**

Park and Folkman’s (1997) model of PTG is built on Lazarus’ Cognitive-Motivational-Relational theory of stress (1991), and immersed within the framework of meaning-making in the context of stress and coping. Within this framework, the authors distinguish between the global and situational meaning
system. The first one representing the individual’s enduring core beliefs, system of values, goals, motivation, etc., while the situational meaning system is formed in the moment when an external or internal event threatens the elements of the global meaning system. Simply put, when the individual appraises a discrepancy between the parameters of a particular event and the components of his/her global meaning system, the situational meaning system is formed as a transaction/interaction between these elements. Since the event appraised as traumatic threatens the established meanings in the global meaning system, the individual prompts a meaning-making process trying to either to restore the old meanings, to modify them, or create new ones.

Since meaning-making has a huge importance in recovering from the encounter with negative events and individual adjustment (Affleck, Tennen & Gerschman, 1985; Silver et al., 1983), increasingly more approaches have tried to deal with it.

Consequently, there have been attempts to complete existing models of stress with approaches of the process of meaning. One of the best approaches that encompass and may be capable of explaining the possibility of all possible posttraumatic reactions, the co-activation of positive and negative emotions is that of Park and Folkman (1997) on meaning making in the context of stress and coping. The authors build their model on Lazarus’s Cognitive-Motivational-Relational model of stress and coping (1991), the main tenets of which is appraisal and coping. Park and Folkman (1997) have made within Lazarus’ model, more explicit the role of meaning and meaning-making in both the processes of appraisal and coping with the specific negative event (and even the possibility of finding benefits in the negative event).

According to Park and Folkman’s (1997) approach, each individual has two forms of meaning-systems, which both intervene in the process of making meaning of the negative event: the **global** and the **situational meaning systems**.

**The Global Meaning System**

The Global Meaning represents the person’s system of beliefs and goals, containing both culturally shared meanings, and individualized meanings. It refers to the system of higher, abstracted and generalized levels of peoples’ basic goals and fundamental assumptions, beliefs and expectations about the world (Park & Folkman, 1997).

The system of global meanings contains the individual’s interpretation, experiences of past events, the general understanding of the present situation, and it also contains expectations about the future. Thus, these aspects of the global meaning system strongly influence the ways in which a particular situation will be perceived and interpreted.
The content of global meaning is assumed to have two basic dimensions: (i) order (the distribution of negative and positive events), and (ii) the motivational system (the individual’s goals and purposes in life) (Park & Folkman, 1997).

A. Order contains the individual’s beliefs regarding the world, his/her self, and an idealized picture about the way the relationship between these two is supposed to be (Lazarus, 1991; McCann, Sakheim, & Abrahamson, 1988).

B. The motivational system contains aspects of meaning usually formulated in terms of distal and/or proximal goals. This goal orientation gives people a sense of purpose, which may or may not be conscious (Vallacher & Wegner, 1987).

The global meaning system is developed through the accumulation and interpretation of life experiences (Catlin & Epstein, 1992). These are sieved through the system of pre-existing shared meanings of a culture and sub-culture, thus impregnating with certain common traits the global meaning systems of individuals belonging to the same group.

As it could be inferred, proverbs fulfill all the necessary requirements to be parts of the global meaning system. They represent in abstractized, timeless forms, personalized beliefs about the self, others, and the world in general, how things should be, and if they fail to be as they should, what remedies may be found.

The functions of the global meaning system

The main functions of global meaning in this respect are the assurance of:

(i) stability (one of human’s fundamental needs),
(ii) optimistic bias, and
(iii) personal relevance.

Stability

In the encounter with a negative life event, the need for stability determines the way in which the new information is integrated into the already existing belief systems. It has been repeatedly found, that because of this primal need, people rather modify the new information in a way that would fit into their global meaning system, than make changes in this in order to fit the data exactly as they are. (Janoff-Bulman & Timko, 1987). Consequently, people tend to interpret situations, events and their and other people’s reactions in a way that is consistent with their preexistent global beliefs. This is the reason why people tend to seek experiences that would validate their core beliefs. An interesting finding in this regard is that people prefer to confirm negative beliefs to infirm negative ones.
(McCann & Pearlman, 1990), which may lead to some degrees of cognitive dissonance.

**Optimistic bias**

Several authors have noted (e.g., Taylor & Brown, 1988; Colvin & Block, 1994), that people’s global beliefs are optimistically biased in the sense that they tend to have overly positive self-evaluations, exaggerated perceptions of control, unrealistic mastery, etc. People seem to have a tendency to more or less deliberately accentuate the positives in their lives in order to better deal with the negatives (Aspinwall & Staudinger, 2003). A very good example of this is that of the benefic functions of perceived self-efficacy, even in the cases when it not necessarily has a reasonable basis. This tendency of optimistic bias and propensity to accentuate the positive (the perception of what is good for somebody may change from one individual/culture to the other) may be the cause of perceived inconsistencies in actual happenings and inaccurate representations of these happenings (Weinstein & Klein, 1995).

**Personal relevance**

Most part of the global meaning system is relatively concrete and personalized, regarding for instance the likelihood of an event to happen to them, distribution of justice and injustice in the world (Nurius, 1994), the estimation of their own vulnerability of possible events, and so on. A very good example of global meaning system given as example both by Park and Folkman (1997), and Baumeister (1991) is that of Religion.

Internalized religious beliefs may have a tremendous importance in the way people deal with traumatic events. Conceived as a meta-schema, religious beliefs may have connections with other schemas, thus permeating and influencing beliefs, attitudes and expectations in the face of an aversive event (e.g. McIntosh, Silver, & Wortman, 1993). Thus, religious beliefs become a framework, which orient the comprehension of the world as such by providing meanings for the life in general, specific happenings, goals, etc., and simultaneously offering the necessary motivation for recovery.

**The Situational Meaning System**

The Situational meaning system refers to the interaction of a person’s global beliefs and goals and the requirements of the particular person-environment transaction (Park & Folkman, 1997) within the encounter with the event. As stated in Lazarus’ Cognitive-Motivational-Relational model of stress and coping (1991), situational meaning would be represented by the individual’s appraisal of this transaction,
which in turn would influence the way the person copes with the demands of the situation (Lazarus & Folkman, 1984; Lazarus, 1993).

The situational meaning has three major components:

a) **the appraisal of meaning** – the initial assessment of the personal significance of the event;

b) **the search for meaning** - if the situation has been perceived as being stressful and threatening;

c) **the constructed meaning** – the meaning the person makes in the aftermath of the event – meaning as an outcome.

**Primary appraisal**

Accordingly, if the individual encounters an event, which during the **primary appraisal** is perceived as being in discrepancy, dissonance with his/her global meaning system, the individual would experience negative emotions.

Primary appraisal has three major components: (i) goal relevance, (ii) goal congruence, and type of (iii) ego-involvement (Lazarus, 2001). Goal relevance is tightly connected to whether the encounter is considered to be well being or not (there is no emotion if there is no goal at stake). Goal congruence and incongruence refers to whether the parameters of the event facilitate or thwart the individual’s goals. Type of ego-involvement refers to values, ideals, life goals, etc.

**Secondary appraisal**

The reduction of these negative emotions would be attempted during the secondary appraisal, when the individual engages his/her coping strategies. Secondary appraisal has to do with the options the person has for coping, and usually involves three basic judgments on which it is made: blame or credit for the outcome, coping potential and future expectations. Blame or credit for the outcome refers to who or what is responsible for the harm, threat, challenge or benefit produced. Coping potential refers to the person’s conviction whether he/she is able to successfully palliate the produced harm and reactions, divert the event, or change it into benefit (Lazarus, 2001). While future expectations (may be both positive or negative) refer to the person’s beliefs of the possible changes within the person-environment relationship.

The global meaning system has a great importance in both processes. If the person has well-established goals, a very solid value system, etc. the experienced emotions would be different in both intensity and valence for different individuals. On the other hand, for example even if the individual experiences a high level of distress, but believes that he/she can manage the situation to a considerable degree (elements from the global meaning system), the
experienced distress would get lower and lower (see for more details, Park & Folkman, 1997).

Appraisal patterns are to a high degree determined by prior knowledge encoded in the global meaning system, and may be activated by even minimal cues (Lazarus, 1991; Smith, 1991; Lazarus, 2001). The appraised meaning will to a great degree determine the way in which the individual engages in the resolution of the created situation.

In a schematic format, the above-mentioned model is presented in Figure 3.4.

![Figure 3.4.](image)
Meaning making in the context of stress and coping
(based on the original model of Park & Folkman, 1997)

Reappraisals appear when the individual could not deal with the event and/or the produced consequences. The process of reappraisal goes on as long as the new information if interpreted in a suitable (positive or negative) way, thus reducing the produced distress. If the individual is not able to adaptively modulate
his/her emotions, he/she will enter a negative loop, thus intensifying the produced reactions.

A very important aspect of appraisal processes has been identified by Lazarus (2001). For a long time there has been confusion regarding the relationships between appraisal and coping as such. But, as Lazarus states, appraisals are both causes and effects of coping processes. For instance, secondary appraisal and coping happen almost simultaneously, in many cases overlapping, which lead to great confusion in the separation of what is appraisal and what is coping. An appraisal may sometimes be the result of an evaluating process, sometimes a coping process, and some other times, both an evaluating process and coping.

3.9.2.3. Posttraumatic growth, as the result of construction of meaning (Davis, Nolen-Hoeksema, & Larson, 1998)

Recognizing the adaptive value of meaning-making in the aftermath of a traumatic event, it has repeatedly been taken over by different theorists. Thus, in Davis, Nolen-Hoeksema, and Larson’s (1998) approach, PTG has been considered as one of two possible ways of meaning making: some people base the construction of the meaning on the problematic of “why did it happen”, while others try to answer the question “what for?”, “what can be gained?”—approximating attempts of benefit finding, that would significantly enhance the possibility of perceiving growth.

As a summary to the briefly described models, we might mention that none of them is able to thoroughly describe the dynamic underlying the processes that lead from the target event to the different reactions. Within research and model of PTG, an important aspect is that of artificially positing PTG either as an outcome of coping, or as a coping mechanism itself. Nevertheless, more and more researchers consider that PTG may both be an outcome of coping and the unrolling process of coping (e.g. Affleck & Tennen, 1996; Tedeschi & Calhoun, 2004; Maercker & Zoellner, 2004, 2006).

3.10. Supplementary models of adaptation to highly stressful encounters

In the previous section, we have very briefly presented the main theoretical approaches that try to explain the phenomenon of PTG, the mechanisms implied in the process, and the factors that may contribute to or hinder the process of posttraumatic growth. We have seen that some of these models and theories approach the phenomenon from the point of view of a concrete, measurable outcome, others as an ongoing process that is the result of specific coping mechanisms. Some models lay emphasis on the level of intentionality implied, while others on its transformative, though unintentional dimension.
With all this abundance, none of the models is able to capture several key aspects implied in the phenomenon, for example:

a. the ephemeral nature of posttraumatic growth – once PTG is observed or reported as a subjective experience, it does not mean that it will last and become a stable outcome. In this way, it would be extremely difficult to predict the future trajectory of the posttraumatic process, and identify the factors that may maintain or preclude the experience of posttraumatic growth.

b. the specificity of traumatic reactions: beside the basic and universally encounterable reactions, some types of traumatic confrontations may activate specific mechanisms that may lead to specific outcomes (e.g., sexual assault with rape vs. confrontation with natural calamity). Most models are extremely general, and do not go beyond the basic set of reactions.

c. the genuineness of the reported experience of growth – as we have already discussed, it is extremely difficult to establish whether the growth assessed or observed is genuine or the result of conscious or unconscious distortions. The importance of this differentiation lies in the adaptive value of such reports: some authors sustain that only genuine PTG have adaptive value, while those that are not authentic may have negative impact on the process of posttraumatic adaptation (e.g., by involving high levels of denial). In our perspective, not necessarily the genuineness of such reports per se represents the problem, but more important would be the elucidation of function it exerts, depending on the specificity of the time frame and dynamic parameters. Reports of PTG as a result of denial might be adaptive in the initial phases of the traumatic process, since it may give the individual ‘sufficient time’ to compose him/herself sufficiently to be able to deal consciously with the event and its implications. By denying the entire event or some of its aspects, the patient may maintain a reasonable state of calmness, which would broaden his/her spectrum of dealing with the issue at hand. Denial becomes a problem when its adaptive value is lost and leads to dysfunctional reactions. As we have said denial may be beneficial in the initial stages of the posttraumatic reaction, however, if it lasts in the long run, it becomes one of the most important factors that hinder adaptation. For instance, in the case of reactions to the diagnosis with a life-threatening illness, as cancer, denial, despair, and disbelief are considered normal and acceptable if they last for less than a week (Massie & Holland, 1998). These reactions may be accompanied by anxiety, depressive reactions, impaired concentration, inability to function at base-level indicators, etc., and these negative reactions of different intensity (depending on patient and context characteristics) are regarded as being normal if they last somewhere between one to two weeks. After this, the normal pattern of adaptation requires the
acceptation on the behalf of the patient of the diagnosis and its implications, and the activation of powerful adaptive processes (acceptance, reinterpretation of the event, benefit finding, religious coping strategies, etc.).

d. formulate a complex, dynamic, and integrative view of all possible posttraumatic pathways (positive, negative, resilient, recovery, etc.), identifying important turning points, with risk and protective factors that may derail the course of reactions.

As seen, this far, no model has been able to capture the complexity of posttraumatic reactions, and integrate all possible posttraumatic responses in the temporal unfolding of the process. As we have discussed in Chapter II, an initial intense negative reaction for instance, may later on repeatedly change its trajectory in almost any direction. By the same token, an initial reaction of resilience may turn into maladaptive reactions, and so on. This shortcoming of the literature is partially due to the fact that most approaches have separately treated negative, resilient, and positive reactions to traumatic encounters, affiliating to the specific stream of research that best fit its own agenda of research (i.e., PTSD literature to clinical psychology, PTG literature to positive psychology, etc.).

As we have repeatedly seen, until quite recently, mainstream research has mostly neglected to treat in an encompassing way the adaptive function of emotions, and focused instead on the processes that lead to dysfunction, pathology, and disorder (Fredrickson, 2001; Ong, Bergeman, Bisconti, Wallace, 2006). In other words, the traditional study of negative, pathological reactions to trauma has emphasized the role of negative, maladaptive responses in the posttraumatic process, disregarding for a long time the importance (and even the possibility) of positive epi-phenomena (Fredrickson, 2002).

However, research in resilience has for a long time investigated the most important factors and processes involved in successful adaptation to intense stress even in unfavorable conditions. These studies evinced the role played by positive emotions in maintaining a balanced functioning even under highly stressful situations, or the way they may contribute to a relatively quick recovery to base-line level of functioning (Ryff, Singer, Love, & Essex, 1998; Tugade & Fredrickson, 2004).

As a counter-reaction to the traditional tendency of research in posttraumatic reactions (accentuating negative reactions), the major mission of positive psychology became to promote the sustained, in-depth study of factors that contribute to flourishing10 (presence of mental health, better psychosocial

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10*Flourishing* = “to live within an optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience” (Fredrickson & Losada, 2005).
functioning, etc., for more see Keyes, 2008) at individual, community, and social levels (Seligman & Csikszentmihalyi, 2000). In a relatively short period of time, positive emotions have become not only the by-product of adaptation, but the hallmarks of optimal well-being and flourishing, both signaling and leading to the living of a flourishing life in the long run (Fredrickson, 2001).

Thus, gradually it became almost an imperative message that the experiencing of positive emotions should be cultivated not only as occasional end states but as important ways that may facilitate the attainment of flourishing. Recent research within the framework of positive psychology has produced significant amount of data that emphasizes the importance of positive emotions in the process of adaptation both in normal life conditions, as well as in stressful situations (Lyubomirsky, King, & Diener, 2005).

Positive emotions have been found to:


3. **facilitate adaptive coping** (Folkman & Moskowitz, 2004)

4. **facilitate the development of sustaining social relationships** (Keltner & Haidt, 1999; Keltner & Bonanno, 1997; Kletner & Buswell, 1997; Frijda & Mesquita, 1994; Isen, 1987), by both informing the individual about specific events and conditions, and prepare him/her to respond to problems or opportunities (Keltner & Haidt, 1999).

An extremely illustrative study emphasizing the importance of positive emotions in life (the Nun study, Danner, Snowdon, & Friesen, 2001) is represented by a longitudinal investigation of the way Catholic nuns related positive and negative life experiences in life-long handwritten autobiographies. One of the most relevant results of this study shows that there exists a strong positive association between longevity, health, life-satisfaction, and the number of positive emotion words used in these autobiographies.

However, because most of this research emphasizes the positive effects of positive affective states, in many cases it leads to an overbidding of its real effect, 

*Languishing* = “emptiness and stagnation, constituting a life of quiet despair that parallels accounts of individuals who describe themselves and life as “hollow”, “empty”, “a shell”, and a void” (Keyes, 2008)
by missing an important aspect: the function of both positive and negative emotions is the adaptive process.

Since our entire life is an endless process of adaptation to continuous challenge of varying degree, it became imperative to investigate the delicate balance between positive and negative emotions in real life situations. Consequently, Fredrickson and Losada (2005), have found that in order to live “within an optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience” (p. 678), the ratio between positive and negative emotions should be 2.9:1. In other words, to function at optimal levels, and to experience flourishing, one should experience almost three times as many positive emotions than negative.

One of the most dangerous traps produced by the misinterpretation of positive psychology’s messages is excellently captured by the motto of this chapter – adaptation, contentment, and happiness do not necessarily mean comfort and experiencing exclusively positive emotions. The key of flourishing, and successful adaptation to minor and major life events seems to be the finding of the appropriate balance between positive and negative states, the proper engagement of adaptive mechanisms, underscoring the fact that the level of adaptation does not depend on the valence, but rather on the function of these states.

In the last part of this chapter, we will briefly present several models that do not necessarily explain the phenomenon of posttraumatic growth, but may be used as additional information in the future conceptualization of such models.

The first model, Fredrickson’s Broaden-and-build theory of positive emotions introduces and highlights the importance of positive emotions in everyday life and in the process of adaptation to stressful encounters. However, as we will see, in our opinion this model is somewhat restrictive by considering that positive emotions may to some degree “undo” the effect of negative emotions.

Consequently, we would like to present a second model, Larsen, Hemenover, Norris, & Cacioppo, the Co-activation model of healthy coping, which comes as a serious completion to the first one, by accentuating the importance of a specific balance between positive and negative emotions, depending on the intensity of stressor.

3.10.1. The Broaden – and – build theory of positive emotions (Fredrickson, 2001)

Research sustains that in normal life situations, positive emotions facilitate approach behavior and sustained action (Oatley & Jenskins, 1996; Carver & Scheier, 1990; Watson, Wiese, Vaidya, & Tellegen, 1999; Cacioppo, Gardner, & Berntson, 1999), while negative emotions induce avoidance, or action in a very specific direction.

Even if human creatures tend to discard negative emotions as soon as possible, and try to induce positive emotions or affective states instead, as we have
discussed already, each emotion has its particular function in adaptation and survival. Experiencing exclusively positive emotions in a traumatic situation would not only be socially inappropriate, but also highly maladaptive.

On the one hand, the experiencing of negative emotions signals that something wrong has happened, something that has disrupted the normal biopsychosocial homeostasis of the individual. Since we function best at our normal parameters of overall homeostasis, we tend to return to these normal levels that insure our physical and mental health (Zautra, 2003).

In most cases, especially when the stressor’s duration is limited in time, or gradually abases, most people usually bounce back on their own to their previous levels of homeostasis. In other cases, return to these levels has to be helped from outside (medication, specialized help, etc.), or in some unfortunate cases return to base-level of functioning cannot be attained either because of subjective or objective reasons.

When the stressor becomes chronic and the parameters of the pre-event homeostasis deviate significantly from those of normal functioning, they usually get established at atypical (usually harmful) values. At the physiological dimension for example, prolonged stress may not only temporarily elevate blood pressure, but also may establish it at health-endangering levels (Aldwin, 2007). Another example, this time from the domain of psychological functioning may be the installation of cognitive distortions in thinking patterns: an intense negative experience may shatter initial beliefs to such a degree, that the individual changes his/her original adaptive stance into a maladaptive thinking pattern (e.g., danger is everywhere – consequently, any kind of novel information is potentially threatening).

Thus, experiencing negative emotions would provide the necessary impetus and motivation to engage in activities by which one may try to adapt to the requirements of the post-traumatic situation (e.g., bounce back, return to approximate pre-event levels of homeostasis, etc.). Meanwhile, by their function, positive emotions broaden the range of possible outcomes – thus offering the individual the opportunity to see more than a restricted number of solutions (which usually are quite gloomy), and also see probable ‘silver linings’, the chance to adopt a more realistic, or acceptable way of dealing with the situation.

The broaden-and-build theory of positive emotions relies heavily on the idea that emotions and affects fulfill specific functions in the process of adaptation. Thus, if the major function of negative emotions is to narrow the individual’s “momentary thought-action repertoire by calling into mind an urge to act in a particular way (e.g., escape, attack, expel)” (Fredrickson, 2001, p. 220), to concentrate exclusively on the task that has to be fulfilled, the major function of positive emotions in stressful situations is to broaden the individual’s mind-set, and simultaneously widen the individual’s supply of resources on which he/she may rely in order to better adapt to the requirements of the situation.

According to this model, as soon as the individual experiences positive emotions, his/her thought-action repertoire is broadened, and personal resources

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are activated. Experiencing such improvement, usually leads to the development of upward spirals by influencing the experiencing of positive emotions, that further broaden the thought-action repertoire, and develop personal resources, etc. (Fredrickson, 2002).

Research conducted to validate this model has produced significant, nevertheless indirect evidence to sustain this approach (for a review, see Fredrickson, 1998). According to these results, positive emotions “broaden the scope of attention, cognition, and action, and build physical, intellectual, and social resources” (Fredrickson, 2001, p. 220). Such phenomena have been encountered in studies investigating the effect of affective states in patients diagnosed with bipolar disorders (Derryberry & Tucker, 1994, as cited in Fredrickson, 2002); in studies investigating the effects of failure feedback (Brandt, Derryberry, & Reed, 1992, as cited in Fredrickson, 2002); in experiments that tested the effects of positive affective states on cognitive flexibility, creativity, (Fredrickson, 2002, and so on.

One of the mechanisms presumed by Fredrickson (2002) to influence this upward spiral of positive emotions is the regulation of negative emotions, and positive emotions are presumed to function as antidotes of negative affective states, and to undo their maladaptive effect (Fredrickson, Mancuso, Branigan, & Tugade, 2000).

In our opinion, the effect of positive emotions should not refer to their undoing of negative affects, since the simultaneous presence of emotions of both valences is crucial for successful adaptation. Moreover, in critical situations, when adaptation may depend on split-second decisions, an extremely precise, context and individual-dependent ratio between positive and negative emotions seems to be the most adaptive mélange (for more on this issue, see 4.5.2.). Consequently, even if we appreciate the contribution of this model to the development of the domain, we consider that one of its shortcomings resides in the fact that it does not take into consideration a crucial human ability: to be able to experience simultaneously and successfully use for his/her own advantage emotions of different polarities.

In the next subchapter, we will briefly present a model that we consider could benefit to a great extent the trauma literature: the Co-activation model of healthy coping.

3.10.2. The Co-activation model of healthy coping (Larsen, Hemenover, Norris, & Cacioppo, 2003)

The co-activation model of healthy coping is based on specific drawbacks of previous theoretical assumptions, according to which “reducing negative feelings was equivalent to increasing positive feelings” (Larsen, et al., 2003, p. 212).

These theoretical approaches were founded on the premise that positive and negative emotions are the opposing poles of the same continuum, and that the
underlying processes for both types of emotions (positive – appetitive and negative - aversive) are identical.

On the other hand, Larsen et al.’s co-activation model (2003) rests on the presumption that the activation of these differently valenced emotions may partially be distinct and separate at even early stages of the evaluative process (for more on the ESM - Evaluative Space Model see Cacioppo & Berntson, 1999). According to the ESM, the reduction of negative emotions does not correspond to the enhancement of positive ones. This aspect has tremendous implications for therapeutic approaches that attempt to treat negative posttraumatic reactions only addressing negative emotions, thus hoping to bring the individual to an optimal (or acceptable) level of post-event functioning. However, as previously seen, for flourishing, one may need to experience both positive and negative states. Consequently, interventions targeting only the reduction of negative emotions without aiming to simultaneously enhance positive emotions may lead to partial success, since a life lived at optimal levels does not resume to the absence of negative states, but includes constant positive experiences as well.

The second presumption of this approach is that emotional activation occurs in a bivariate space and not on a bipolar continuum, which allows simultaneous activation of differently valenced emotions.

Even if the human ability of emotional co-activation may to some degree create confusing and unpleasant states (e.g., to simultaneously experience grief and relief, calmness, or even contentment), its value resides in its highly adaptive value: amidst highly stressful events, negative emotions signal that something is going awry and must be changed in order to return to pre-event levels of functioning (homeostasis), while positive emotions help the individual to broaden to range of adaptive strategies, out of which he/she may select the one that fits best to the specific situation. Briefly put, “coactivation may allow individuals to transform adversity to advantage” (Larsen et al., 2003, p. 213).

The co-activation model states that the relationship between adaptive coping and positive/negative emotions rests is a curvilinear one, meaning that effective reactions to stressful events depends on the relationship between stressor intensity and a specific ratio between positive and negative emotions. This approach highlights the fact that adaptation is highly dependent on the bidirectional relationship between individual and context.

As seen in Figure 3.5., according to this model, effective adaptation to a mild stressor would need less negative and more positive states (emotions and thoughts), since negative emotions signal specific deviation from normal states that should be changes, and simultaneously assures the impetus, motivation to act in this sense, while positive emotions participate in widening the coping repertoire and enhance the possibility of adaptive choices. As in mild stressors disruption is not intense, and deviation from homeostasis is not significant, ideally, the individual should experience only mild negative reactions, and positive states
should predominate (otherwise we would be talking about highly maladaptive reactions).

As the intensity of the stressor increases, the ratio between positive and negative states becomes more abrupt. In case of moderate stressors for instance, the balance becomes somewhat tilted in the direction of negative states. However, this inclination is highly dependant on the bidirectional relationship between stressor context (type, timing, etc.), and individual resources.

In case of severe stressors, adaptive outcomes imply significantly more negative experiences than positive ones; however it is imperative that the individual experiences both states. An important aspect is remains the timing of co-activation: are human beings able to simultaneously experience emotions of both valences during and in the immediate aftermath of the encounter, or the co-activation of positive emotions will begin somewhat later.

![Diagram showing emotional reactions to mild, moderate, and severe stressors](image)

*Figure 3.5.*
The co-activation model of healthy coping
(based on the original model of Larsen, Hemenover, Norris, & Cacioppo, 2003)
The co-activation model emphasizes an important aspect implied in efficient coping - adaptation to stress and to its consequences does not mean the elimination of negative and/or unselective accentuation of positive reactions. In this approach both types of reaction fulfill specific roles that facilitate adaptation and should not be thwarted. As we have already discussed, especially in traumatic encounters, the inhibition, suppression of negative states may provide initial comfort, but their effect is highly detrimental in the long run. On the other hand, the illusory, or imposed though unreal experiences of positive reactions may in the immediate aftermath induce the feeling of conformation to the socially desired states, but in the long-run accentuate the stress experienced.

Adaptation to adversity and its consequences usually involves some sort of problem solving (the recognition of the necessity of accepting a situation, and the flexibility in finding new goals, also represent forms of problem solving), which is to a high degree assisted by working memory. Working memory maintains information active and allows executive control to operate on this information (Larsen et al., 2002). Since the encoding of traumatic events is at least in the beginning quite chaotic and disorganized (Foa, Rothbaum, Riggs, & Murdock, 1991), in the cases of maladaptive responses, these have been found unincorporated into the personal narratives (the integration of which is an essential part of recovery). For these information to be organized and then integrated in the personal narrative and simultaneously find some benefit in the event (essential aspect of growth), it has to be maintained in the working memory long enough to be properly processed. One of the most important aspects of meaning making and integration of the stressful information in the life-narrative is the simultaneous activation of optimal proportions of positive emotions to total (i.e., positive + negative) emotions (Larsen et al., 2002).

In other words, our claim is that through the meaning making process, one may ‘balance’ the positive and negative emotions (even in traumatic circumstances), thus producing a healthy coping.

Unfortunately, even if the strong association has repeatedly been found, research has not revealed the vector of the relationship between the meaning in life and positive affectivity: does finding meaning in life produce positive emotions, or positive emotions produced through other mechanisms facilitate the processes necessary to find meaning for one’s life (King, Hicks, Krull, & del Gaiso, 2006).

The key aspects however, resides in finding the appropriate balance the two states, depending on the event-characteristics, and the ability to activate the mechanisms that would lead to such results.

In our opinion, a refinement to this model would be highly welcome – we consider that instead of categorizing emotions and posttraumatic states based on their valence (positive and negative), it would be much more favorable a categorization based on their adaptive value; namely: are these states adaptive (functional), or maladaptive (dysfunctional)? Within these categories, subsequent categories based on valence may be installed, thus leading to adaptive (functional)
positive and negative states, as well as maladaptive (dysfunctional) positive or negative states.

Even if such a grouping would be extremely useful, we are aware that because of the extremely intricate relationships between individual and traumatic context, and the dynamic of the traumatic process, such an attempt would by no means be simple, and still awaits for a complex model of posttraumatic reactions, that would integrate all possible reactions trajectories in a dynamic approach.

3.11. Posttraumatic Growth and Mental Health

Taking into consideration the relatively imprecise terminology (i.e., PTG being assessed with different tools, in different ways, and sometimes as different constructs – e.g., benefit finding is quite frequently considered to be posttraumatic growth, however, some studies have evinced its role as a mechanism involved in the posttraumatic process), the high level of subjectivity in self-reported growth, its illusory aspect, and so on, one of the major issues regarding PTG is whether experiences of posttraumatic growth would bring significant positive differences in people’s lives, leading to better psychological and physical health, or on the contrary, such reports conceal signs of maladaptation and hinder the normal process of adaptation (Helgeson, Reynolds, & Tomich, 2006).

Some authors sustain that PTG directly influences well-being and has an adaptive significance. Others on the contrary – are skeptical what regards the adaptive value of posttraumatic growth. The oftentimes contradicting data sustain these debates, however, the consideration of the methodological problems (the use of different assessment tools, heterogeneous populations – different types of traumatic encounters, assessments at different time frames – time between traumatic encounter and assessment, etc), and their clarification may bring some light in these conundrums.

Next, we will briefly present some of the findings regarding the relationship between growth and mental health.

3.11.1. PTG and depression

Studies investigating the relationship between PTG and depressive symptoms measured by standardized depression scales found no systematic relationship between them, at least cross-sectionally (Zoellner & Maercker, 2006). These studies have been undertaken on: (1) bone-marrow transplantation patients (Curbow, Somerfield, Baker, Wingard & Legro, 1993), (2) accident survivors (Joseph et al., 1993), (3) bereaved parents and spinal cord injury patients (Znoj, 1999), (4) breast cancer survivors (Cordova, Cunningham, Carlson, & Andrykowski, 2001), etc. (some relevant results in this sense are presented in Table 3.1.).
Table 3.1.
Posttraumatic growth and depression
Selected from Zoellner and Maercker (2005, p. 9)

<table>
<thead>
<tr>
<th>Study</th>
<th>Measure of PTG</th>
<th>Measure of depression</th>
<th>Relationship between PTG and depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interview on positive and negative life changes</td>
<td>POMS - depression</td>
<td>Correlation n.s.</td>
</tr>
<tr>
<td>2</td>
<td>Self-report on positive life changes</td>
<td>GHQ – depression CHQ – depression</td>
<td>Correlation n.s.</td>
</tr>
<tr>
<td>3</td>
<td>SRGS</td>
<td>BDI</td>
<td>$r = -.10$; n.s.</td>
</tr>
<tr>
<td>4</td>
<td>PTGI</td>
<td>CES depression</td>
<td>$r = -.09$; n.s.</td>
</tr>
</tbody>
</table>

In a longitudinal study by Frazier, Conlon, and Glaser (2001) where survivors of sexual assault were assessed 2 weeks, and 12 months after the assault, depression and PTG were significantly negatively correlated cross-sectionally ($r=.50^{**}$).

Those individuals on the other hand, who reported the gain of positive changes from T1 to T2, or who have reported at each assessment the experiencing of benefits, were significantly less depressed after 12 months (when sample divided into “4 benefit groups”; $F = 4.51, p < .01$) (Zoellner & Maercker, 2006).

Interestingly, according to Zoellner and Maercker’s (2006) thorough review of the literature, no study has found a positive association between PTG and symptoms of depression. However, other studies have found that there is a strong positive association between PTG if operationalized as benefit finding and better mental health (positive well-being, and depression) (Helgeson et al., 2006), with larger size effects for positive well-being.

By the same token, benefit finding has been found to be associated with more intrusive and avoidant thoughts. This association between higher frequency of ruminative thoughts and benefit finding has been observed in the case of life threatening illness; however, it is not unusual in other traumatic situations either. These apparently paradoxical results may be due to the fact that the studies producing these results have on the one hand not differentiated between adaptive and maladaptive ruminative thinking (brooding versus reflective), and have not controlled for the period of time between traumatic encounter and assessment, which is a crucial, nevertheless neglected factor in the posttraumatic process (Calhoun & Tedeschi, 2006).

These inconsistent results may be explained by the orthogonal relationship between positive (PTG) and negative (pathology or subclinical) posttraumatic reactions. As we have already discussed, reports of growth due to traumatic encounters do not exclude the experiencing of intense negative affect and distress. On the contrary, distress seems to be a necessary aspect involved in the struggle
with the traumatic event and its implications, struggle that is an absolutely necessary element in experiencing posttraumatic growth.

3.11.2. PTG and PTSD (or PTSD specific symptoms)

Repeatedly, according to Zoellner and Maercker's (2006) review, most of cross-sectional studies investigating the relationship between PTG and PTSD specific symptoms, have not found any systematic relationship between them.

In one of Park et al. (1996) studies, PTG was significantly positively correlated with PTSD symptoms \(r=0.31^{**}\). Nevertheless, a large negative relationship has been found between PTG and PTSD on a sample of sexual assault survivors (Frazier, et al., 2001) (when sample divided into “4 benefit groups”; \(F=0.20, p<0.05\)).

Nevertheless, another longitudinal study (McMillen, Smith, and Fisher, 1997) assessing three types of disaster victims 4-6 weeks after the event, and 3 years later, found that reports of PTG at T1 were predictive of fewer PTSD symptoms at T2.

In sum, cross-sectional studies have not found any significant relationship between PTG and PTSD, while longitudinal studies found that PTG at T1 predicted fewer PTSD symptoms at T2. Studies using the standardized measures of PTG (PTGI and SRGS) found either positive association between PTG and PTSD or no association at all (Zoellner & Maercker, 2006).

Research within Posttraumatic Growth has highlighted the possibility of “something positively new that signifies a kind of surplus compared to precrisis level” (Zoellner & Maercker, 2006, p. 334). Evaluating both the shortcomings and the possible (even if in some situations doubtable) benefits it may bring in improving peoples lives, PTG becomes an important aspect worth considering within psychotherapy, and prevention as well. The potential to develop either pathology or growth reside in those who are shattered by an intense negative event. Even more, as we will discuss in detail further on, even those who in the short-run experience symptoms of clinical significance, may after a period of time recover on their own, solely based on their inherent strengths, and later on even relate some sort of growth. Others on the contrary, after exemplary (though illusory) resilience, or reports of high levels of growth as a direct result of the impact of the negative event may later on succumb, or experience negative reactions of high intensity.

The importance of PTG in therapy obtains a specific importance, since most of the persons who seek interventions desire to change in the better. Psychotraumatology, functioning on the basis of deficit-oriented model (Zoellner & Maercker, 2006) has for a very long time considered mostly the reduction of the intensity of negative reactions. In these types of intervention, the recovery to the initial, pre-trauma level of functioning, has been considered an achievement.
Nevertheless, there are cases of major trauma, especially those of including some sort of loss, that do not allow the person to return to his/her previous level of functioning. The return to the pre-event life is impossible. Specifically in these cases, the chance of change either for the better or the worse is equally and extremely high. If therapy focuses only on the reduction of different types of dysfunction, the probability of temporarily producing the “feeling better” is high. If therapy tries to include the possibility of growth based on latent strengths, developing ones or appeal to the possibility of growth, the chances of “getting better” and this persisting in the long-run grow. This type of intervention may be more difficult to implement, but the benefits are much greater. It also might reduce the risk of relapse in similar, conflicting situations, where the individual is not ‘instructed’ how to react, or does not even know the potentials for different types of reactions.

The development of the awareness of the possibility of growth both in the therapist, patient and generally lay-people would promote the awareness of new possibilities of reactions as well. The eagerness to only reduce pathology has diverted attention from the idea that the same process of struggling with trauma and its aftermath conceals not only recovery, but the possibility of growth, of development, or more profound involvement of strengths as well. The potential of growth through adversity is not a new kind of treatment or type of intervention. It might enhance the therapeutic process by adding new perspectives to it (Zoellner & Maercker, 2006).

3.12. Verifying the genuineness of posttraumatic growth

One of the main issues in the posttraumatic growth literature is the validity and stability of reports of positive changes and growth experienced in the aftermath of an extremely intense negative event. As we have discussed in more detail in Chapter III, people may have the tendency to report high levels of un-experienced growth either to conform to social desirability, or to reassure themselves and create illusory comfort, that in the long-run might prove to be maladaptive (Zoellner & Maercker, 2006).

Consequently, one of the most important issues in the posttraumatic growth literature has been the identification of methods through which the validity and genuineness of reported growth may be verified. If we presume the accuracy and genuineness of reported growth to be valid, it still remains the verification of its stability. This issue would be less difficult to assess, since multiple assessment methods are easier to develop. Thus, the most important issue, the genuineness of reported growth still remains debatable.

This far, the posttraumatic growth literature has identified two types of approaches through which the genuineness of self-reported posttraumatic growth may be verified:
A. Park (1996; 2004) proposed the verification of posttraumatic growth by comparing the reports of the directly affected individuals with the reports regarding the same changes observed by significant others. In cases when the scores on the assessed dimensions correlated strongly, it was presumed that the reported growth was genuine. If directly reported scores and observed reports did not strongly correlate, the reported growth was not considered as valid and/or genuine.

B. The second type of verification of reported posttraumatic growth was through the phenomenon of Downward Temporal Comparison, proposed by McFarland and Alvaro (2000).

Since these modalities of checking the validity of posttraumatic growth reports are not perfect, research is still needed to produce novel methods by which one may test both the genuineness of such experiences, and the implications of both genuine and fake reports of growth.

**SUMMARY AND CONCLUSIONS**

The turn of the attention away from pathology toward the study of positive human functioning in order to achieve an optimal level of health and well-being (Joseph & Linley 2005; Seligman & Csikszentmihalyi, 2000; Snyder & Lopez, 2002) has brought great benefits. Taking into consideration the fact that this domain, compared to the study of negative reactions is quite recent, the numerous shortcomings both in theory and methodology are to a certain degree understandable. However, the implications of the study of other possible posttraumatic outcomes (beside PTSD and other forms of pathology) are important both from the practical, socio-economic and individual points of view. Those who bounce back to their previous level of functioning (resilience) at the beginning of the posttraumatic process, cost the health-care system less than those who succumb, or do not recover to their pre-event level of functioning, or will not attain the levels of optimal functioning— thus, if for no other reason than this, PTG is worth studying (Carver, 1998).

Thus, the research of growth and thriving are worth encouraging, because one of its effects on individual lives may be the chance to greatly reduce the long-term aversive experiences of people who have had to face adversity (Calhoun & Tedeschi, 2004). The promoting of research within the domain of posttraumatic growth becomes even more important in those cases (regions) when health-care systems do not include the treatment of pathology occurring in the aftermath of an encounter with a negative event, or when individuals do not meet the criteria to be diagnosed with a specific disorder, but they still experience significant dysfunctioning in different life-domains, and the quality of their life is still impaired. In these cases people have to deal with their own reactions, and if these are disturbing, they have to decide what to do about the created situations.
Thus, in order to offer the individual the possibility to growth, it is essential to acknowledge his/her suffering, and simultaneously confer the idea that there is a chance to turn adversity into advantage, without mitigating the impact of either the event or ridiculing and downplaying the existence of negative experiences. More specifically, helping people identify and cultivate their strengths in the midst of crises, may help alleviate suffering, prevent the appearance of long-term negative consequences, and develop compensatory means to face the outcome and/or the changed life-circumstances (Calhoun & Tedeschi, 1999). Nevertheless, in order to do this, one has to know what kind of strengths would be benefic to highlight in specific contexts. It has already been evinced that the bare assessment of PTG even during high levels of distress may activate patterns of growth and encourage the individual to look beyond distress (Tedeschi & Kilmer, 2005), and start searching for strengths as compensatory devices.

The benefits as said are both individual and societal; nevertheless, its implementation has to target not only the individual but the society as well. Thus, this would involve:

a. changing cultural expectations;

b. creating the awareness that trauma may not only result in pain and suffering, but that its impact may sometimes be transformed in individual growth as well (Aldwin, 1994; Tedeschi & Calhoun, 1995; Park, 1998).

Through such changes, the myths surrounding PTG would also be significantly clarified. These myths refer mostly to the false beliefs that:

(i) posttraumatic growth equates with the lack of distress and struggle;
(ii) all traumatic encounters and posttraumatic contexts are appropriate to elicit or facilitate growth;
(iii) posttraumatic growth once attained, the experience will last forever;
(iv) posttraumatic growth pervades all domains of life.
(v) posttraumatic growth leads to better adjustment
(vi) posttraumatic growth is a desired outcome of the posttraumatic process.

The development of social awareness regarding the possibility of growth in the aftermath of adversity may be accomplished by developing a linguistic and conceptual framework, rigorous methodology (Aldwin, 1994; Tedeschi & Calhoun, 1995), based on what has existed in culture “for millennia in the form of various religious, mythological, and philosophical traditions” (Park, 1998, p. 312).

As we have repeatedly emphasized, one of the most important aspects in the processes of successful adaptation, or in experiencing posttraumatic growth is represented by the ability to experience positive states amidst high levels of distress. Nevertheless, the mechanisms through which such states of emotional co-activation may be attained are far from being thoroughly known. Since one of the most important processes that have been thoroughly documented to be implied in this process is that of meaning making, the next chapter will deal in detail with this aspect and its implications in the posttraumatic process.
Chapter 4

ASSESSMENT AND PSYCHOTHERAPEUTIC INTERVENTIONS OF POSTTRAUMATIC REACTIONS

The previous chapters have intended to sensitize and drive the readers' attention to the complexity, outcomes, and implications of traumatic encounters. Within this endeavor we attempted to present a balanced approach of posttraumatic reactions, thus tempering the excessive tendency to consider as possible outcomes mainly the negative reactions, and promote a more balanced position regarding the entire phenomenon. Namely, we subscribe to those approaches which consider that in order to better understand this complex phenomenon it is necessary to see it as an ongoing, dynamic, and extremely sensitive process that conceals not only the threat of pathology, but also the possibility of resilience and different forms of growth (see also Davis & Nolen-Hoeksema, 2001).

By accentuating this implicit ambivalence of most traumatic encounters we do not mean by any means to mitigate the tremendous impact and consequences of traumatic experiences, since trauma almost always leaves the individual changed in some aspect (biological, psychological, etc.) (Christopher, 2004). We also acknowledge that trauma impacts people on their most fundamental aspects of biopsychosocial functioning, that usually leaves conspicuous 'trauma'. However, in some cases these 'traces' may be used in one's advantage, thus contributing to the possibility of remitting pathological developments, palliating distress and discomfort, and/or promoting a more adaptive stance towards the posttraumatic process.

We already know that a considerable part of the individuals exposed to traumatic stress recover on their own (the normative reaction to traumatic events being recovery, for more see Bryant, 2004), or do not even present clinically
significant changes in functioning during and after the confrontation (for more see Chapter II on resilience). Despite this natural human tendency, a not to the slightest negligible part of those impacted by a noxious event develop clinically significant malfunctioning, and may or may not recover on their own. At the seemingly opposite pole, a similar amount of the impacted population relates, simultaneously with considerable distress, unexpected growth due to the confrontation and struggle with the traumatic event and the changes it implies (for more see Chapter III).

Consequently, this far we have evidence of several key aspects regarding the traumatic encounter:

- a significant minority may need specialized help to recover;
- the majority recover on their own, manifesting or not clinically non-significant modifications in functioning (this category usually is not eligible for specialized intervention, though in some cases may benefit from palliative care or therapies improving one's quality of life);
- another significant minority seems to be able to convert adversity into growth through struggle, however simultaneously experiencing significant emotional discomfort.

The thorough understanding of the entire posttraumatic process becomes stringent when one considers the findings within pathological reactions, and more specifically the PTSD studies. It has been repeatedly found that once the effects of posttraumatic maladaptation manifest themselves, the chances to develop chronic and long-lasting PTSD grow dramatically (Prigerson, Maciejewski, & Rosenheck, 2001), and intervention is not as effective as supposed to be (Litz & Maguen, 2007; Schnurr, Lunney, & Sengupta, 2003). Consequently, the number of dropouts and those who cannot benefit of therapeutic aid is larger when PTSD becomes chronic.

Thus, the main question comes to be, if maladaptive posttraumatic processes could be converted through different forms of psychotherapeutic interventions into adaptive processes, and if so which would be the best, preferably evidence-based strategies and the best moment to start (Litz & Maguen, 2007). On the other hand, what would be the best approach to prevent the development of maladaptive reactions, and promote a healthier attitude towards trauma and its consequences.

Thus, briefly put, the conundrum would lie in identifying:

- the individuals who would need intervention without thwarting the natural process of recovery, thus avoiding the unnecessary expenses of useless and occasionally destructive intervention (e.g., Litz, Gray, Bryant, & Adler, 2002; Kenardy, Webster, Lewin, Carr, Hazel, & Carter, 1996; McNally, Bryant, & Eblers, 2003);
• the right moment for beginning the right type of intervention in this population (Litz & Maguen, 2007);
• the individuals who would be able to experience growth in the aftermath of trauma naturally, and those who would be able to benefit from the facilitation of such a process;
• the population that would benefit of a specific preventive intervention (e.g., resilient therapy, resilience intervention).

In order to solve this puzzle and tailor the best approach to facilitate the recovery of those confronting traumatic events, one has to consider several key aspects implied in the traumatic adaptation: (i) the temporal parameters of the process of traumatic adaptation and maladaptation, (ii) the thorough understanding of the dynamic interactions within the traumatic process, (iii) the better understanding of the risk-protective factors and pathways that might play a crucial role in the process of posttraumatic adaptation (Litz & Maguen, 2007).

Thus, considering the posttraumatic process, one may identify several essential periods when aid may be offered either in order to buffer the impact of traumatic interactions, and/or to palliate its negative consequences. Thus, regarding the temporal parameters of posttraumatic adaptation, we identify several key moments:

(i) the pre-trauma period when usually prevention programs help individuals prepare to possible negative events (e.g., high risk populations receiving primary prevention or resilience intervention; developing consciousness about what would be adaptive and maladaptive in the posttraumatic process, and in which cases to ask for help, etc.),

(ii) the immediate temporal vicinity of trauma with its corresponding early interventions;

(iii) the long-term interval, when chronicity may be expected [intervention in established pathology, specifically PTSD, ASD, depression, other anxiety disorders with or without comorbidities; and if the patient qualifies for, the (concomitant or independent) facilitation of posttraumatic growth].

The present chapter has three major objectives: firstly, to briefly summarize the most important risk and protective factors implied in pathology, adaptation, and growth, secondly, to introduce the reader to the most valid assessment methods of different types of posttraumatic reactions (emphasis on PTSD, and PTG), and thirdly, to succinctly present the major and most efficient interventions for these major types of outcomes. Thus, the last part of this chapter will briefly present:
a. Interventions for PTSD in adults and children;
   • early interventions
   • treatment of PTSD
b. Prevention and intervention of resilience/resilience therapy;
c. Promoting posttraumatic growth;
d. Palliative interventions for highly stressful reactions (Expressive Writing).

4.1. RISK AND PROTECTIVE FACTORS

In order to identify the most suitable approach to handle individuals exposed to traumatic encounters one has to accurately approximate the individuals’ reaction-profile, by assessing their functioning on different dimensions (inter- and intra-individual), predicting the most probable immediate and long-term threats to their functioning, identifying strengths which may be used in the process of adaptation, etc.

A. Predictors of maladaptation

As already discussed in Chapter I, PTSD is an extremely complex and heterogeneous anxiety disorder characterized by manifestations specific to the spectrum of depressive and dissociative disorders, with a clear etiological link to the traumatic event. The most prevalent reactions include: re-experiencing in different forms the traumatic event (intrusive reactions, flashbacks, nightmares), symptoms of avoidance (situations, conditions, stimuli related to the traumatic environment or which might remind the patient of the encounter), memory impairments (difficulty in remembering specific aspects of the encounter), emotional numbing occasionally coupled with specific emotional reactions (anger, shame, guilt), aggression, irritation, hipervigilance (hyperarousal, exaggerated startle response maladaptive cautiousness), insomnia, tension, difficulties in concentration, etc. As already mentioned, part of these symptoms may appear during or immediately after the traumatic encounter, with characteristics specific to the traumatic encounter [e.g., in war-related trauma: pronounced social withdrawal - isolation, accentuated feelings of guilt and/or aggression, loss of control, helplessness, coupled with substance abuse, family and professional malfunctioning; PTSD symptoms specific to rape and physical assault victims: excessive suspicion and loss of trust, fear and avoidance of the reminders of the traumatic encounter, impaired self-image, shame and guilt for being abused; in natural disaster survivors: excessive perception of uncontrollability – impossibility of prediction and prevention, phobic reactions, etc. (for more see Starevic, 2005)]. In most of the cases however, the intensity and frequency of manifestation of
these reactions abase in time, giving space to adaptive processes without leading to the development of pathology.

Nevertheless, depending on the type of the traumatic circumstances, personal, and contextual characteristics, the prevalence of developing different forms of pathology may range between 4 - 45% (for more see Friedman, Resick, & Keane, 2007). PTSD is strongly associated with other anxiety, mood, and substance abuse disorders (APA, 2000), with high costs of treatment needed to control mental and physical repercussions (Walker, Katon, Russo, Ciechanowski, Newman, & Wagner, 2003; Rosenheck & Fontana, 1995), lower quality of life (Malik, Connor, Sutherland, 1999).

Literature has identified several risk factors of PTSD. In Table 4.1., we present the most important individual and contextual determinants that may forecast a poor adaptation to traumatic encounters and changed life circumstances.

<table>
<thead>
<tr>
<th>Table 4.1.</th>
<th>Factors related to poor posttraumatic outcomes (based on Starevic, 2005)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic variables</strong></td>
<td><strong>Gender</strong> (women are more predisposed to develop pathology, nevertheless, there are variations depending on the type of trauma; e.g., Breslau, Davis, Andreski, &amp; Peterson, &amp; Schultz, 1997; Breslau, Chilcoat, Kessler, &amp; Davis, 1999; Nemeroff, Bremner, Foa, Mayberg, North, &amp; Stein, 2006)</td>
</tr>
<tr>
<td></td>
<td><strong>Age</strong> (young children and older people are more prone to maladaptation)</td>
</tr>
<tr>
<td><strong>Pre-trauma factors</strong></td>
<td><strong>Prior individual history</strong> of traumatic encounters, anxiety and mood disorders (Ursano, Fullerton, Epstein, Crowley, &amp; Kao, 1999)</td>
</tr>
<tr>
<td></td>
<td><strong>Family history of mental disorders</strong> (Breslau, Davis, Andresky, &amp; Peterson, 1991)</td>
</tr>
<tr>
<td><strong>Development of specific symptoms</strong></td>
<td><strong>Early manifestation and installation of specific PTSD symptoms</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Number of PTSD symptoms</strong> (the greater the number of symptoms, the higher the risk for chronic PTSD; Nemeroff et al., 2006)</td>
</tr>
<tr>
<td></td>
<td><strong>Duration of symptoms</strong> (the longer the symptoms last, the higher the probability of PTSD to install, and especially to become chronic).</td>
</tr>
<tr>
<td><strong>Comorbidity</strong></td>
<td><strong>Co-occurring mental disorders and medical conditions</strong> (depression, panic attacks, phobias, alcohol and drug abuse, cardiovascular, respiratory, neurological disorders)</td>
</tr>
</tbody>
</table>
If one takes into consideration the temporal parameters of the posttraumatic process, the most important risk and protective factors may be grouped in: pre-, peri-, and posttraumatic risk factors (Vogt, King, & King, 2007). Table 4.2. presents the most important risk factors grouped according to these categories.

### Table 4.2.
Most important risk factors depending on the temporal parameters of the posttraumatic reaction  
(based on Vogt, King, & King, 2007, and Schnurr, Lunney, & Sengupta, 2004)

| Pre-trauma risk factors       | Age                  |
|                              | Gender               |
|                              | Trauma history       |
|                              | Personal and family mental disorder history |
|                              | Level of education   |
|                              | Intelligence         |
| Peri-trauma risk factors     | Impact of the traumatic event (the greater the perceived impact, the greater the chances to develop pathology) |
|                              | Peritraumatic dissociation |
|                              | Panic attacks        |
|                              | Intense emotional discomfort |
| Post-trauma risk factors     | Low availability of social and emotional support |
|                              | Number of posttraumatic adverse encounters |
|                              | Chronic emotional malfunctioning |

As seen in Tables 4.1. - 4.2., and discussed in more detail in Chapter I, literature has amassed a large body of evidence supporting varying associations of specific factors with the development of PTSD. However, because of methodological inconsistencies and variations between traumatic contexts, these studies could not identify a single set of factors explaining who will or will not
develop this disorder, thus the delineation of a single causal pathway remaining an impossible attempt (Vogt, King, & King, 2007). Unfortunately, the predictive power of these factors is not as satisfactory as expected (Brewin, Andrews, & Valentine, 2000).

B. Protective factors

The identification of risk factors helps professionals not only in predicting to some degree the unfolding of the traumatic process, but combined with information about protective and promotive factors also to tailor appropriate policies that may create the context for adaptation (Layne, Warren, Wattson, & Shalev, 2007). Such knowledge may not only refer to intervention but also may focus on preventive strategies, simultaneously eliminating risk factors (e.g., financial assistance in low socio-economic status, afford suitable social and emotional support, reduce conflictual contexts, etc.), and promoting protective ones (enhance self-mastery and strengths, offer informational education, improve family relationships, improve problem-solving abilities, etc.) (Harris, Putnam, & Fairbank, 2006; Hughes, Graham-Bermann, & Gruber, 2001).

The most relevant studies regarding protective factors have been conducted within the investigation of resilience in children/adolescents as well as adults (for a detailed discussion see Chapter II). According to Layne, Warren, Wattson, and Shalev (2007) a protective factors is a “measurable attribute of individuals, their interpersonal relationships, or their social and physical environments whose operations increase stress resistance, thereby decreasing the susceptibility of the organism to the adverse effects of stress” (p. 499).

Table 4.3 summarizes the most salient protective factors identified within child and adolescent literature (Garmezy, 1985; Luthar, 1991; Masten, Best, & Garmezy, 1990; Masten, 2001; Parker, Cowen, Work, & Wyman, 1990; Rutter, 1987; Werner, 1989; Masten & Coatsworth, 1998; Brewin, Andrews, & Valentine, 2000; Jenkins & Smith, 1990).
Table 4.3.
Protective factors in children and adolescents

<table>
<thead>
<tr>
<th>Intrapersonal</th>
<th>Temperament (easygoing)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High intellectual ability</td>
</tr>
<tr>
<td></td>
<td>Internal locus of control</td>
</tr>
<tr>
<td></td>
<td>Well-developed problem-solving skills</td>
</tr>
<tr>
<td></td>
<td>Flexible emotion regulation strategies</td>
</tr>
<tr>
<td></td>
<td>Effective coping skills</td>
</tr>
<tr>
<td></td>
<td>Responsibility</td>
</tr>
<tr>
<td></td>
<td>Support-seeking skills</td>
</tr>
<tr>
<td></td>
<td>The ability to build solid social support networks</td>
</tr>
<tr>
<td></td>
<td>Goal development and commitment</td>
</tr>
<tr>
<td></td>
<td>Interests and affiliations</td>
</tr>
<tr>
<td>Contextual</td>
<td>Positive parenting behaviors</td>
</tr>
<tr>
<td></td>
<td>Secure attachment with family members</td>
</tr>
<tr>
<td></td>
<td>Positive family environment</td>
</tr>
<tr>
<td></td>
<td>Supportive relationships with family, peers, and other adults</td>
</tr>
<tr>
<td></td>
<td>Socioeconomic advantage</td>
</tr>
</tbody>
</table>

In the case of adult protective factors, literature has not yet gathered as many data as research in child and adolescent resilience. However, the most important protective factors proved to be: social and emotional support, increased access to resources, fewer additional traumatic events and life stressors, reduced negative beliefs about the traumatic encounter (pre- and peri-traumatically), strengthen positive beliefs (McCann & Pearlman, 1990; Resick & Schnicke, 1993), maintain and develop positive beliefs about self, appropriate emotion regulation, information about trauma ad traumatic reactions, motivation to change the environment (Harris et al., 2006; Lieberman, Padron, Van Horn, & Harris, 2005), self-efficacy, hope, motivation, aspiration, strategic executive control, future orientation (e.g., Masten, Obradović, & Burt, 2006), optimism, hardiness, sense of coherence, intrinsic religiousness, etc.

As discussed in the previous chapters, the process of posttraumatic reactions is dynamic and extremely sensitive, unexpected turns being not as uncommon as one would expect. A one-sided approach to specific reactions may seriously reduce the chances of adaptation, or modification of maladaptive reactions to adaptive ones. For instance, in some cases (extreme distress, treatment-refractory patients, suicidal patients, etc.) simultaneous multidirectional interventions are needed in order to palliate distress and mend maladaptive posttraumatic functioning (Layne, Warren, Watson, & Shalev, 2007). Namely, solely specific PTSD interventions may not be efficient in enhancing overall functioning, and redirecting the person to the track of ‘normal’ life (normal here
means normal in the given condition). Thus, in order to offer the most efficient intervention, one might consider focusing not only on risk factors, but protective and promotive ones, as well as investing in the individual’s strengths (Gottlieb, 1996). Consequently, such approaches would “promote the effectiveness, efficiency, impact, and sustainability of intervention efforts, and minimize the risk for negative outcomes” (Layne, Warren, Watson, & Shalev, 2007, p. 514).

4.2. ASSESSMENT OF POSTTRAUMATIC REACTIONS

I. ASSESSMENT OF PTSD AND COMORBIDITIES

PTSD literature has documented the possible decrements implied in this anxiety disorder on account of the encounter with a traumatic event. The individual diagnosed with this disorder not only experiences the extremely debilitating impediments of this disorder (reexperiencing of the event, avoidance, numbing, irritability, anger, impulsive behavior, hypervigilance, negative expectations, impaired remembering of specific aspects of the trauma, etc.), but also frequent reduction of the patient’s quality of life (Malik, Connor, & Sutherland, 1999), high comorbidity with other disorders (e.g., depression, other anxiety disorders, alcohol and/or drug abuse, see Kulka, Schlenger, & Fairbank, 1990; Galea, Ahern, Resnick, Kilpatrick, Bucuvalas, Gold, et al., 2002; Shalev, Freedman, Peri, Brandes, Sahar, Orr, et al., 1998), dysfunctional interpersonal relationships and oftentimes affected professional functioning (Savoca & Rosenheck, 2000), personality changes (Starcevic, 2005), etc.

An inherent aspect that would determine the course of assessment lies in the objectives of the evaluator, which would determine both the method and the tool employed.

Since diagnostic issues were covered in Chapter I, we will directly move to the discussion of the methods and assessment tools for patients confronted with traumatic events.

For starters we will begin with some of the recommendations of the National Institute of Mental Health–National Center regarding the basic guidelines of the PTSD assessment process (Pratt, Brief, & Keane, 2006) (see Table 4.4).
Table 4.4.
Assessment recommendations for PTSD as suggested by the National Institute of Mental Health–National Center (based on Pratt, Brief, & Keane, 2006)

<table>
<thead>
<tr>
<th>Method</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structured diagnostic interviews</strong></td>
<td>• Administered and selected by the clinician based on psychometric properties (suitable reliability and validity across gender, racial, and ethnic groups) and clinical utility</td>
</tr>
<tr>
<td></td>
<td>• Providing dichotomous and/or continuous rating of symptomatology</td>
</tr>
<tr>
<td><strong>Self-report instruments</strong></td>
<td>Instruments fulfilling the established standards for psychometric properties (preferably American Psychological Association’s)</td>
</tr>
<tr>
<td><strong>The thorough examination of comorbid disorders</strong></td>
<td>Full assessment of Axis I disorders using Structured Clinical Interview for the DSM (First, Spitzer, Williams, &amp; Gibbon, 2000)</td>
</tr>
<tr>
<td><strong>Evaluation complexity</strong></td>
<td>• Symptom frequency, intensity, duration</td>
</tr>
<tr>
<td></td>
<td>• Assessment of secondary, tertiary, etc., traumas (e.g., perceived threat, duration, age of encounter), etc.</td>
</tr>
</tbody>
</table>

**ASSESSMENT METHODS**

The last decades have witnessed an explosion in interest in the assessment and diagnosis of different psychiatric disorders (Summerfeldt & Antony, 2002). Consequently, the development of assessment tools that would reliably evaluate specific symptoms and symptom clusters leading to a well-contoured diagnosis became imperative. Regardless the plethora of methods developed, not all tools fulfill psychometric requirements and are suitable for research purposes. Table 4.5. presents a summary of the most important aspects one has to take into consideration when selecting diagnostic and assessment tools (as based on Summerfeldt & Antony, 2002).
Table 4.5.
Selection criteria of assessment tools (based on Summerfeldt & Antony, 2002)

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target population</strong></td>
<td>The instrument should be constructed for and validated on the population under investigation. If translated, the translation should take into consideration cultural characteristics and the validation be effectuated on the target population within the specific culture, etc.</td>
</tr>
<tr>
<td><strong>Psychometric properties</strong></td>
<td>Sufficient reliability(^{11}) on the target population. Availability of validity(^{12}) data, etc.</td>
</tr>
<tr>
<td><strong>Content and coverage</strong></td>
<td>The instrument has to refer to the period of time of interest for the evaluation, covering all the symptoms of interest. It also should contain the chronological markers for assessing the course of the disorder. Accurately assess the cause of the disorder (needed for the differential diagnosis), etc.</td>
</tr>
<tr>
<td><strong>Administration requirements</strong></td>
<td>Information regarding the person who can administer the assessment tool. Estimated time for application, etc.</td>
</tr>
</tbody>
</table>

Another important aspect that should not be lost sight of refers to Gerardi, Keane, and Penk’s (1989) warning, namely that no measures of psychological disorders are perfect (as cited in Pratt, Brief, & Keane, 2006). Major contributors to this imperfection may be attributed to two measures of error of a test: the false positives\(^{13}\) and the false negatives\(^{14}\). Consequently, Pratt, Brief, & Keane (2006) suggest that more suitable descriptors with diagnostic utility refer to the test’s sensitivity and specificity. Test sensitivity is the probability that individuals with the disorder would score above cut-off points (the true positive rate of the test), while test specificity that those below the cut-off point do not have the disorder (the true negative rate of the test) (for more see Keane, Weathers, & Foa, 2000).

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\(^{11}\) Reliability: consistency of test scores over time, among interviewers, over test items, etc. (for more see Keane, Brief, Pratt, & Miller, 2007).

\(^{12}\) Validity: “the extent to which evidence supports the various inferences, interpretations, conclusions, or decisions made on the basis of a test.” (for more see Keane, Brief, Pratt, & Miller, 2007, p. 282), for example: content, criterion, construct validity

\(^{13}\) False positive: patient falls above cut-off point, but does not have the disorder (Pratt, Brief, & Keane, 2006)

\(^{14}\) False negative: patient falls below cut-off, but has the disorder (Pratt, Brief, & Keane, 2006).
Therefore, before one decides for the application of a tool or combination of several methods in order to assess PTSD symptoms for diagnosis, research or other purposes, should reflect not only on his/her purposes, but also on the above-mentioned indications (see Summerfeldt & Antony, 2002; Keane, Brief, Pratt, & Miller, 2007).

Roughly speaking, PTSD assessment measures may be grouped into two major categories: **structured clinical (diagnostic) interviews**, and **self-report instruments** (Frueh, Elhai, & Kaloupek, 2004).

In the following part of this subchapter, we will briefly present the most important and most frequently used methods in the assessment of PTSD developed on Western-European and American populations.

**A. Structured diagnostic interviews**

**Clinician Administered PTSD Scale** (CAPS; Blake, Weathers, Nagy, Kaloupek, Klauminser, & Charney, 1990) is one of the most frequently and widely used structured interviews for assessing PTSD severity. The CAPS assesses the 17 PTSD symptoms based on DSM-IV criteria for: exposure (criterion A), cores symptom clusters (criteria B-D), chronology (criterion E), functional impairment (criterion F), as well as associated symptoms (guilt, derealization, depersonalization), and different domains of functioning (Keane, Brief, Pratt, & Miller, 2007). The CAPS has been used successfully across traumatic contexts (torture, rape, motor vehicle incidents, life-threatening illness, crime, etc.).

The psychometric properties of the CAPS have been found satisfactory across studies (Weathers, Ruscio, & Keane, 1999; Weathers, Keane, & Davidson, 2001, etc.) (e.g., interrater reliability: .86-.87 for frequency, .86-.92 for intensity, .88-.91 for severity; test-retest reliability – kappa=.89; sensitivity=.91 and specificity=.84, etc. for more see Keane, Brief, Pratt, & Miller, 2007; Weiss, 2004; Pratt, Brief, & Keane, 2006).

**The Structured Clinical Interview for DSM-IV** (SCID-IV; First et al., 2000) is one of the most widely used and trustworthy instruments that assesses psychiatric disorders on Axes I and II (Cash, 2006). Initially, the SCID was designed to operationalize diagnostic criteria of DSM-III (Summerfeldt & Antony, 2002). Recent revised editions are divided in modules corresponding to the disorders included in the DSM-IV (APA, 1994). The application of the SCID is restricted to clinicians and highly trained professionals (interviewers) (Keane, Brief, Pratt, & Miller, 2007; Pratt, Brief, & Keane, 2006).

Within trauma studies, the SCID is considered to be a sufficiently sensitive tool to accurately discriminate between patients eligible for the PTSD diagnostic and those who do not fulfill criteria. Patients are asked to answer the interviewers’ questions by referring to their most traumatic experience. The SCID
offers a trichotomous decision for each criterions (2=present, 1=subthreshold, and 0=absent) (Weiss, 2004), or dichotomous (present or absent) (Keane, Brief, Pratt, & Miller, 2007), diagnostic being established when necessary symptom pattern is present. This specific dichotomous or trichotomous decision represents one of the most important limitations of the SCID, since “most clinicians agree that psychological symptoms occur in a dimensional rather than dichotomous fashion” (Keane, Brief, Pratt, & Miller, 2007, p. 284). Another limitation is represented by the fact that the SCID does not assess symptom severity, and since it refers only to the “worst traumatic experience”, it does not take into consideration the effect (sometimes cumulated) of other possibly traumatic experiences (Cusack, Falsetti, & de Arellano, 2002).

However, since several studies have investigated the SCID’s psychometric properties, and concluded that the results are satisfactory (e.g., for more see Keane, Brief, Pratt, & Miller, 2007; Pratt, Brief, & Keane, 2006), it became one of the most frequently used tools for diagnostic purposes in PTSD.

**PTSD Symptom Scale Interview** (PSS-I; Foa, Riggs, Dancu, & Rothbaum, 1993) was developed to assess PTSD symptoms in individuals with trauma history (Weiss, 2004; Keane, Brief, Pratt, & Miller, 2007). The PSS-I contains 17 questions corresponding to the DSM-III-R. The patients have to rate their symptoms on a 0 to 3 point Likert scale (0=not at all, 3 – very much) (Taylor, 2004) over the past 2 weeks, which represents one of the major limitations of this scale, since for valid PTSD diagnosis, DSM criteria require at least one month (Cusack et al., 2002).

The PSS-I has good psychometric properties (Litz et al., 2002), with a Cronbach’s alpha of .85 for the entire scale and .65-.71 for subscales (Foa et al., 1993), 1 month test-retest reliability of .80, with a kappa coefficient of intrater agreement of .91 (Litz et al., 2006).

Because of its properties, the PSS-I if frequently recommended both for clinical use, as well as research (Keane et al., 2007).

**Structured Interview for PTSD** (SI-PTSD; Davidson, Smith, & Kudler, 1989). Initially, SI-PTSD was designed to identify the presence or absence of PTSD symptoms and establish PTSD symptom severity for DSM-III (Weiss, 2004). Later, Davidson, Kudler, & Smith (1997), updated the SI-PTSD for DSM-IV, where the interviewer assesses the presence of symptoms and symptom severity on a 0 - 4 scale (2=moderate score), on 17 individual diagnostic criteria. The authors have included two additional items measuring guilt (survival and behavioral) (for more see Weiss, 2004).

Since the psychometric characteristics of the SI-PTSD are more than satisfactory across traumatic contexts, it can be applied both by clinicians and appropriately trained professionals, and application is relatively reduced (10-30
minutes) it became widely used in clinical practice and research (Keane et al., 2007; Litz, 2004).

B. Self-report measures

Self-report measures may also be used in order to assess individual reactions to traumatic events. While interviews may offer quite specific details, the cost ratio (both in time and financial resources) is considerably higher than in the case of using self-report measures. These instruments may also offer indicators of PTSD symptomatology and symptom severity. Most of the psychometrically well-sustained self-report measures offer data that may complete information necessary for diagnosis (Keane et al., 2007). Even if some self-report measures may offer sufficient information for establishing a PTSD diagnosis, it is highly recommendable that these be doubled with information obtained from other sources as well.

Next, we will briefly present several of the most important self-report measures for PTSD.

Impact of Event Scale – Revised (IES-R; Horowitz, Wilner, & Alvarez, 1979) – is still one of the most frequently used self-report measures targeting the assessment of reactions to traumatic encounters. The initial 15-item IES (Horowitz et al., 1979) offered only a partial evaluation of the PTSD symptomatology, because it did not assess specific symptoms (e.g., hyperarousal) (Weathers, Keane, & Foa, 2009). Consequently, the IES was completed with additional seven items, thus resulting in the 22-item revised version (IES-R, Weiss & Marmar, 1997), which manages to measure a much broader range of symptoms. The IES-R version also assesses the symptoms on a finer, 5-point Likert scale (compared to the initial 4-point), from 0 = not at all, 1 = a little bit, 2 = moderately, 3 = quite a bit, and 4 = extremely.

Even though the IES-R is an improved version, because of only partially, superficially measuring some of the PTSD symptoms, it still does not as fully correspond to the DSM-IV criteria necessary to establish a complete PTSD diagnosis (Weathers et al., 2009; Keane et al., 2007; Foa, Cashman, Jaycox, & Perry, 1997).

Notwithstanding, the initial IES had solid psychometric properties (Weiss, 2004), research using the IES-R has not produced sufficient data necessary to reach a concrete conclusion regarding its psychometric properties. However, the data produced this far on IES-R is considered as appropriate to measure trauma-induced symptomatology (Foa et al., 2009).
Posttraumatic Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997).

PDS was designed by Foa et al. (1997) with the aim to assess PTSD symptomatology based on the DSM-IV diagnostic criteria and symptom severity (Keane et al., 2007). The PDS consists of 49 items which not only assess posttraumatic symptomatology, but also trauma exposure and the selection of target event based on severity.

The psychometric properties on PDS have been found more than satisfactory (Foa et al., 1997; Griffin, Uhlmsiek, Resick, & Mechanic, 2004). Compared to the efficiency of clinical interviews, the PDS has proved remarkable characteristics (sensitivity and specificity), which qualifies the scale for screening instrument, that may be successfully used in extended investigations (Keane et al., 2007).

PTSD Checklist (PCL; Weathers et al., 1993 as cited in Keane et al., 2007).

PCL is a short, 17-item scale, offering either information on symptom severity, or as a dichotomous indicator of diagnostic status (Keane et al., 2007).

The scale has satisfying psychometric qualities, but most stable data are produced on combat veteran populations (Weathers et al., 1993 as cited in Keane et al., 2007). In non-veteran populations research has not produced consistent psychometric results across studies (e.g., Manne, DuHamel, Gallelli, Sorgen, & Redd, 1998, as cited in Keane et al., 2007).

Several self-report measured have been explicitly developed for specific populations (e.g., combat veterans): Mississippi Scale for Combat-Related PTSD (Keane, Caddell, & Taylor, 1988); Keane PTSD Scale for MMPI-2 (Keane, Malloy, & Fairbank, 1984), etc.

C. Clinical interviews for use with children

Research regarding traumatic reactions in children produced not only controversial results, but also led to much disputable approaches. Some consider that traumatic encounters in childhood do not produce lasting malfunctioning, are transient, thus not as important to investigate and treat as in the case of adulthood trauma (Rigamer, 1986, as cited in Balaban, 2009). Other approaches highlight and emphasize exactly this aspect, that childhood trauma may be an extremely delicate issue, and have a significant impact not exclusively on the child’s peri-and short-term posttraumatic functioning, but also on a longer time-frame. However, since research is relatively scarce regarding posttraumatic reactions and their effect on this age category, results have not produced incontestable, concrete results, and studies oftentimes are contradictory (Nader, 2004; Yule, 2001; Balaban, 2009).
However, because of developmental considerations, the assessment of children experiencing (directly or indirectly) traumatic events may simultaneously be both extremely difficult because of ethical issues, and extremely salient. Unnoticed and untreated maladaptive traumatic reactions may on the one hand lead to long-term maladaptive functioning that might further on hinder normal development (Yates, Dodds, Sroufe, & Egeland, 2003). On the other hand, unnecessary assessment, intervention, or induction of a possible victim-state may also hinder the normal course of adaptation, thus obstruct development and induce maladaptive reactions.

Next, we will briefly present the most frequently use self-report measures in case of children and adolescents who have confronted traumatic events.

**Child PTSD Reaction Index** (CPTSD-RI; Frederick, Pynoos, & Nader, 1992).

CPTSD-RI is a 20-item scale assessing PTSD reactions in the 7-17-years old age-frame. The scale follows the DSM-IV guideline for assessing PTSD, additionally assessing associate features of guilt and regression (Nader, 2004), on a 4-point scale. CPTSD-RI is one of the more frequently used instruments in assessing posttraumatic reactions in children and adolescents in the temporal proximity of disasters and emergency (Balaban, 2009). Its user-friendly format (simplicity, easy application – 15-20 minute completion), and psychometric properties justify its frequent usage and translation and adaptation to numerous languages and populations (Nader, 2004).

**Impact of Event Scale – Revised** (IES-R, Horowitz, Wilner, & Alvarez, 1979), as previously described in more detail, proved to be an efficient measure of subjective distress and posttraumatic symptomatology not only in the case of adults but also in the case of children and adolescents. The 13-item variant of the IRS-R was specifically developed for investigating posttraumatic reactions in children and adolescents (for more see Balaban, 2009).

**Posttraumatic Stress Symptoms in Children** (PTSS-C, Ahmad, Sundelin Wahlsten, Arinell, Sofi, Qahar, & von Knorring, 2000), is a relatively easily applicable 30 yes and no – item scale specifically designed to assess children and adolescents in chaotic peri- and posttraumatic environments. Since only relatively few studies offer information about its psychometric characteristics, it is recommended to be used in conjunction with other scales.

**Child Report of Posttraumatic Symptoms** (CROPS; Greenwald, 1996, 1997, as cited in Nader, 2004), is a 26-item scaled, designed to assess PTSD criteria and additional symptoms in the 5-17 years old age-range, both in the presence of absence of an identified traumatic encounter (Nader, 2004).
Clinician-Administered PTSD Scale for Children and Adolescents (CAPS-CA; Nader, Kriegler, Blake, & Pynoos, 1994) is an instrument developed to assess the frequency, severity, validity of PTSD symptoms, as well as the functioning in different areas (social, educational) in children 8-17 years of age.

Both literature investigating posttraumatic reactions in child/adolescent and adult populations abound in different instruments developed in order to investigate age, gender, or trauma specific posttraumatic reactions. However, when considering the assessment of possible maladaptive posttraumatic reactions, one is advised to cautiously select among instruments and use those that are: (i) appropriate for the major objective (e.g., diagnostic evaluation in clinical settings and epidemiological or prevalence studies require different methods of investigation depending on both the objective and characteristics of the target population – assess symptoms, determine presence and/or absence of specific symptoms, quantify symptom-severity, establish time-frames, evaluate impairments, assess comorbid symptomatology, etc.), (ii) have appropriate psychometric qualities, (iii) offer sufficient data for designing suitable intervention if needed (for more see Keane et al., 2007; Foa et al., 2009)

II. ASSESSMENT OF POSTTRAUMATIC GROWTH (PTG)

Posttraumatic growth has been assessed both using qualitative and quantitative methodologies (Tedeschi, Park, & Calhoun, 1996). The most common methods are structured and semi-structured interviews, where individuals after experiencing a negative life event of extreme intensity, are asked to identify positive life-changes resulting from the particular experience (Fontana & Rosenheck, 1998), written essays on different significant life events (King & Miner, 2000), focus groups (McMillen, Howard, Nower, & Chung, 2001), life-story (Massey, Cameron, Ouelette, & Fine, 1998). Open-ended interviews have also frequently been used - “have there been any benefits that resulted from your experience? Please, describe your experience” (e.g., Davis, et al., 1998; Tedeschi et al., 1996).

More recently, several self-report instruments measuring PTG have been developed. The most frequently used ones, presenting the best psychometric properties are the Posttraumatic Growth Inventory (PTGI), developed by Tedeschi and Calhoun in 1996, Park’s Stress Related Growth Scale (SRGS, 1996), Changes in Outlook Questionnaire (CiOQ), developed by Joseph William and Yule (1993), Perceived Benefit Scales (PBS), by McMillen and Fisher (1998), etc.
**Posttraumatic Growth Inventory (PTGI)**

PTGI is a 21-item, positively worded scale, with 5 response choices: 1 = *I did not experience this change as a result of my crisis* to 5 = *I experienced this change to a very great degree as a result of my crisis*.

The scale is formed of five subscales:

(a) relating to others (e.g., “A sense of closeness with others”);
(b) new possibilities (e.g., “I developed new interests”),
(c) personal strength (e.g., “A feeling of self reliance”);
(d) spiritual change (e.g., “I have a stronger religious faith”), and
(e) appreciation of life (e.g., “My priorities about what is important in life”).

PTGI has good internal reliability both on the full scale (.90), and separate sub-scales (.67-85). The test-retest reliability of full PTGI has also been found as adequate (.71), while sub-scale test-retest reliability was relatively low (personal strength = .37, and appreciation of life = .47) (Tedeschi et al., 1996).

**Stress Related Growth Scale (SRGS)**

SRGS is a 50-item scale, with 3 response choices: 0 = not at all, 1= somewhat, and 2 = a great deal. The items refer to changes in social relationships, personal resources, and coping skills. The scale gives total scores, and has an internal reliability of .94 (Park et al., 1996), and a test-retest reliability of .81.

**Changes in Outlook Questionnaire (CiOQ)**, developed by Joseph William, and Yule (1993) is a 26-item self-report instrument measuring both positive outcomes of the traumatic encounter (11 items; e.g., “I value my relationships much more now”, as cited in Joseph & Linley, 2008) and negative outcomes (15 items, e.g., “I don’t look forward to the future anymore”, as cited in Joseph & Linley, 2008). Answers are assessed on a 6-point Likert scale (from strongly disagree to strongly agree). The original scale has satisfactory psychometric properties with internal consistency from .83 (positive sub-scale) to .90 (negative subscale) (Joseph, Linley, Andrews, Harris, Howle, Woodward, C., et al (2005).

**Perceived Benefit Scales (PBS)**, developed by McMillen and Fisher (1998) is a 38-item self-report instrument, with 8 items measuring negative and 30 items positive change (e.g., “This event taught me that I can handle anything”, “Because of this event, I learned how good people can be”, as cited in Joseph & Linley, 2008). The positive dimension has 8 subscales: (i) enhanced self-efficacy, (ii) increase community, (iii) increased spirituality, (iv) increased compassion, (v) increased faith in people, (vi) lifestyle changes, (vii) enhanced family closeness, and (viii) material gain. Answers are assessed on a 5-point Likert scale (from “Not at all like my experience” to “Very much like my experience”). Psychometric properties of
this scale are also satisfactory, with reliability coefficients ranging from .73 to .93, and 2-week test-retest measures ranging from .66 to .97 (as cited in Joseph & Linley, 2008).

One of the main issues in the posttraumatic growth literature is the validity and stability of reports of positive changes and growth experienced in the aftermath of an extremely intense negative event. As we have discussed in more detail in Chapter III, people may have the tendency to report high levels of unexperienced growth either to conform to social desirability, or to reassure themselves and create illusory comfort, that in the long-run might prove to be maladaptive (Zoellner & Maercker, 2006).

Consequently, one of the most important issues in the posttraumatic growth literature has been the identification of methods through which the validity and stability of reported growth may be verified. If we presume the accuracy and genuineness of reported growth to be valid, it still remains the verification of its stability. This issue would be less difficult to assess, since multiple assessment methods are easier to develop. Thus, the most important issue, the genuineness of reported growth still remains debatable.

This far, the posttraumatic growth literature has identified two types of approaches through which the genuineness of self-reported posttraumatic growth may be verified:

A. Park (1996; 2004) proposed the verification of posttraumatic growth by comparing the reports of the directly affected individuals with the reports regarding the same changes observed by significant others. In cases when the scores on the assessed dimensions correlated strongly, it was presumed that the reported growth was genuine. If directly reported scores and observed reports did not strongly correlate, the reported growth was not considered as valid and/or genuine.

B. The second type of verification of reported posttraumatic growth was through the phenomenon of Downward Temporal Comparison, proposed by McFarland and Alvaro (2000).

Since the first method is rather obvious, and Downward Temporal Comparison somewhat more complicated, we decided to present this one in more detail.

**Downward Temporal Comparison**

Literature dealing with posttraumatic reactions has for a long time noticed that in times of peril, people tend to compare their own qualities with that of other people experiencing the same situation. This type of social comparison is used in order to maintain or enhance self-esteem. The best way to attain improved self-esteem is by
comparing oneself with less fortunate others (for review see Collins, 1996). For example, patients suffering of some kind of severe illness engage in downward social comparisons, in which they try to identify other patients in more severe condition, compared to whom they may consider themselves as being lucky and better off. This type of comparison has proven to have a great palliative power, since it helps individuals to experience (even if by comparing to a worse case) an improvement in their own condition.

Interestingly, the voluminous literature on social downward comparison has confirmed that individuals compare their own qualities with those of others not only in extreme situations (Suls & Miller, 1977; Suls & Wills, 1991; Wood, 1996; McFarland & Alvaro, 2000). Interpersonal comparisons are a ubiquitous part of everyday life by helping individuals in the formation of personal identity. On the other hand, the way in which individuals compare themselves with the qualities of others exerts its influence by also shaping self-perceptions, affective states, and expectancies for the future.

More minute studies regarding social comparisons have identified that individuals do not only engage in interpersonal comparisons in order to develop or establish personality, or modulate affective states, but also in intra-personal comparisons. Namely, people oftentimes compare their current attributes with the attributes they themselves possessed in the past (Suls & Mullen, 1982). These intra-personal comparisons proved to be just as influential as social comparisons in shaping self-evaluations, moods, and expectancies (Levine & Moreland, 1987; Masters & Keil, 1987).

It has been found that people engage in these intra-personal comparisons usually during highly stressful situations in order to experience positive aspects of themselves. These findings have been repeatedly observed in the case of traumatized individuals, especially in situations where self-esteem has been threatened (e.g. Affleck & Tennnen, 1991; Tennnen & Affleck, 1997). More specifically, several studies conducted on cancer patients have identified the appeal to downward comparisons, both social and temporal (Wood, Taylor, and Lichtman, 1985).

Temporal comparison has been defined as the: thinking about how one’s current standing on an attribute relates to one’s past standing on that attribute, although it may also involve thinking about how one’s current standing relates to one’s potential future standing (Suls, Marco, & Tobin, 1991).

More specifically, temporal comparison has been used to deal with the negative feelings threatened by adverse events, within which people may engage in a variety of cognitive distortions or illusions that allow them to view themselves and their experience in a more positive light (Taylor & Armor, 1996; Taylor & Brown, 1988). In order to perceive positive changes, people are able to mitigate past characteristics, thus perceiving greater improvement in the present.

Consequently, people’s reports of personal growth in response to threatening events may represent, at least in part, motivated illusions or
exaggerations of positive temporal change that are designed to help them cope with distressing thoughts and feelings. This is the reason why the assessment of temporal comparison has been considered as a proper way to assess the genuineness of self-reported posttraumatic growth. The underlying logic of this method is that if perceptions of improvement represent self-enhancing illusions of change, victims should report greater positive change in themselves than should dispassionate observers of victims or controls.

The hypotheses formulated in research in order to verify the validity of PTG reports (McFarland & Alvaro, 2000) usually are based on the following pattern:

A. If traumatic events produce genuine positive changes in people, and people accurately report these changes, we would expect the source of perceived change to lie primarily in their ratings of present rather than in their ratings of the past. Namely, assuming equivalence in their evaluation criteria, we would expect the post-event ratings of the more threatened individuals to be more positive than the post-event ratings of the less threatened individuals and we would expect the pre-event ratings of both individuals to be quite similar.

B. If, however, perceptions of improvement after threatening events reflect primarily illusions or distortions, we would expect the source of perceived changes to lie primarily in people's ratings of the past rather than in their ratings of the present (although some degree of distortion of current status may also occur).

Succinctly put:

a. if the reported PTG is genuine, the score on personal attributes of the affected individuals at the moment of assessment (ITC) is significantly more positive/higher than the same score of the control group (with the conditions that the scores on pre-event attributes - TC - are similar)
b. if the reported PTG is not genuine (is an illusion or distortion), the scores on pre-event personal attributes (TC) of the cancer patients is significantly more negative/lower than that of the controls (with the condition that the scores on post-event attributes – ITC – is similar).

4.3. INTERVENTIONS IN POSTTRAUMATIC REACTIONS

I. INTERVENTIONS FOR ADULTS CONFRONTING ADVERSITY

From the point of view of therapeutic intervention, the process of posttraumatic adaptation may be divided in three major periods of time (Litz & Maguen, 2007):

a. *immediate impact interval* (0-48 hours after the traumatic encounter) – the individual(s) may manifest intense reactions of distress; depending on the nature of traumatic encounter, the person may also experience intense
states of confusion, be highly disorganized, or may try to cope with or compensate for the resources lost in the event (e.g., this aspect is frequent in natural calamities) - ‘psychological first aid’ interventions;

b. **acute interval** (2 days – 1 month) – this period roughly corresponds to that of the acute stress disorder (ACD); in this interval the person still experiences high levels of distress, and usually tries to actively handle the traumatic event and its implications. This period seems to be more suitable to the implementation of secondary prevention programs (Litz & Maguen, 2007);

c. **chronic interval** (over 1 month, possibly lifespan adaptational difficulties) – in this interval, those who have developed highly maladaptive reactions leading to severe mental health problems due to the posttraumatic encounter are recommended to receive psychological interventions.

However, as we have repeatedly emphasized, even if extremely pragmatic for its simplicity, such a classification would totally miss the major idea; namely that posttraumatic reactions are extremely complex and are not limited to these reactions (for more see Chapter II).

**EARLY INTERVENTIONS**

Taking into consideration the devastating short- and long-term effects of traumatic encounters, the relatively high number of individuals suffering from the distress produced (diagnosable with pathological disorders or those with subclinical symptomatology), and the costs implied in either the treatment or the optimization of the psycho-social and professional functioning of those who cannot recover in time, it is not surprising that different forms of early interventions have been developed.

The major concerns in this type of intervention is (again) strongly related to the temporal dynamic of the traumatic process, completed with the issue of risk and protective factors possessed by the individual. Namely, if interventions are offered too early (in the immediate vicinity of the event), they may preclude the natural process of adaptation and recovery, thus wasting serious resources (Litz & Maguen, 2007). On the other hand, if assessment or intervention are not offered, it is relatively easy to miss the persons in the need for intervention (either because they do not yet manifest the symptomatology, or risk factors are overlooked), thus coming to the impossibility to prevent the development of pathology.

The major goal of early interventions should be the assistance of the individual or group of people to return or reach a state of psychological homeostasis “assist the person to return to an adaptive level of independent
functioning that approximates to the pre-crisis level of adaptation” (Mitchell & Everly, 2000, p. 72).

Next, we will briefly discuss the most important early interventions strategies that aim to prevent the development of short and long-term maladaptive reactions.

1. Psychological Debriefing

One of the first forms of early interventions, ‘Psychological Debriefing’ (PD), is an umbrella term which encompasses a large spectrum of trauma related single-session interventions implemented in crisis situations (Mitchell & Everly, 2000).

The major goal of PD is to facilitate and encourage emotional expression of trauma victims in the immediate vicinity of the traumatic encounter in the presence of other trauma victims, being assisted by a mental health professional (Litz & Maguen, 2007; Bryant, 2004). Briefly put, the expected result is the normalization of emotional reactions and through the discussion of the diversity of emotional reactions, each trauma victim may extend his/her repertoire of coping strategies, thus increasing the chances of adaptation (Shalev, Friedman, Foa, & Keane, 2000).

One of the hallmark PD interventions “Critical Incident Stress Debriefing” (CISD) was developed by Mitchell (1983), who claimed that a even a single session of CISD could palliate immediate acute stress reactions during or following the traumatic encounter, and remit or reduce the chance of future maladaptive stress reactions.

Initially, this type of intervention was developed for individuals working in emergency service (paramedics, firemen, etc.), who are frequently exposed to confrontation with traumatic situations. However, its popularity has increased so much (especially after the World Trade Center attacks), that it became routinely provided, being more recently integrated in other forms of early interventions, and massively extended to other populations as well (Raphael & Wilson, 2000; Mitchell & Everly, 1995; Hokanson & Wirth, 2000; Litz, Gray, Bryant, & Adler, 2002). Its efficacy is supposed to rely in its ability to optimize social support, facilitate emotional disclosure, and develop coping strategies that would activate the use of adaptive coping strategies (Bryant, 2004).

CISD in usually administered to groups of people confronting the same type of traumatic or highly stressful event, within few days after the traumatic encounter, and the intervention usually last 3 to 4 hours (McNally, 2007). CISD has two major components: a psycho-educational (participants are informed about maladaptive stress reactions that should be normalized), and an emotional-cognitive one (participants are asked to share their experiences, and listen to the experiences of others). Mitchell (1983; Mitchell & Everly, 2000) proposes seven general phases that should be followed when implementing the CISD (Bryant, 2004, p. 195).
1. **Introduction phase**: the mental health professional explains the group of participants the uses of CISD (stress reduction), underscoring that participation is voluntary. In this phase the mental health professional answers the questions regarding CISD.

2. **Fact phase**: the participants are invited to relate what they saw and hear during the encounter.

3. **Thought phase**: the debriefer asks the participants to recount the thoughts they were experiencing during and after the event.

4. **Reaction phase**: in this phase, the participants are instructed to describe the emotional reactions they had during and after the event.

5. **Symptom phase**: the mental health professional inquires about the psychological and physical symptoms experienced by the trauma victim.

6. **Teaching phase**: in this phase, the participants are presented with the difference between the typically normal and maladaptive stress reactions. In the same time, the debriefer describes the underlying mechanisms of adaptive reactions and the way it may be achieved (suggests stress reduction techniques).

7. **Reentry phase**: the mental health professional makes a summary about the major issues debated during the CISD, answers questions and makes referral if asked for.

As we have already mentioned, even if the authors of this type of early intervention have underscored that it was specifically designed for emergency service personnel, its unselective use has resulted in mixed claims regarding its utility (for a comprehensive review see Litz et al., 2002).

Some studies report that CISD is *highly effective* in reducing the risk for later maladaptive reactions, simultaneously improving mental health after trauma exposure (Small, Lumley, Donohue, Potter, & Waldenstrom, 2000; Amir, Weil, Kaplan, Tocker, & Witztum, 1998; Campfield & Hills, 2001; Deahl, Srinivasan, Jones, Thomas, Neblett, & Jolly, 2000, etc.). However, other studies have found that CISD has *no positive effect* in alleviating specific posttraumatic reactions (Conlon, Fahy, & Conroy, 1999; Carlier, Lamberts, van Uchelen, & Gersons, 1998, etc.).

Moreover, several studies have evinced that in some cases CISD may have *serious negative effects*, as thwarting the process of natural recovery, and/or inducing distress that might have not otherwise developed. For instance, in Kenardy et al. (1996) study on earthquake disaster workers, those who received CISD reported more symptoms than those who were not included in this group. Bisson, Jenkins, Alexander, and Bannister’s (1997) study has also produced similar results regarding the effects of debriefing on burn victims.
These inconsistencies regarding the efficiency of CISD are due to several methodological flaws, as (Litz & Maguen, 2007):

a. lack of random assignment;
b. lack of control groups;
c. lack of pre-intervention assessment;
d. lack of valid outcome measures
e. self-selected samples.

In order to compensate for the problems encountered in the efficacy of CISD, Everly and Mitchell (2000, p. 214) have proposed a more elaborate program, namely the **Critical Incident Stress Management (CISM)**, delineating the following phases and major aims:

1. **Pre-crisis preparation** (psychological ‘immunization’) – crisis anticipation (improve coping and stress management), develop psychological resilience in high risk individuals or populations, and behavioral response preparation (informations about the most common stressors, stress management training, etc.).

2. **Demobilizations and staff consultation and Crisis Management Briefing (CMB)** – event driven (inform and consult; allow psychological decompensation).

3. **Defusing** – depending on symptomatology (symptom amelioration, closure), designed to assess, triage, and mitigate acute symptomatology.

4. **Critical Incident Stress Debriefing** – symptom and/or event driven (symptom amelioration, closure).

5. **Individual Crisis intervention** – symptom driven (symptom amelioration; return to psychological homeostasis, if possible).

6. **Pastoral Crisis Intervention** – if needed (offer spiritual support).

7. **Family CISM or organizational consultation** – symptom and/or event driven (stimulate support and communication, symptomatology amelioration, closure, referral to specialized intervention, if needed).

8. **Follow-up/Referral** – symptom driven (evaluate mental status, offer specialized intervention if needed).

However, as long as literature does not produce the necessary amount of rigorous data, it will be extremely difficult to firmly state whether different forms of debriefing promote adaptation, prevent or induce the development of subsequent psychopathology, and establish whether these would hinder the processes of natural adaptation to the event and its consequences (Bryant, 2004). On the other hand, since traumatic encounters not only resemble in a number of
aspects but are also extremely different regarding specific consequences (for instance, natural calamity, combat and rape all represent traumatic encounters, nevertheless with different short-and long-term implications), it will also be extremely important (and difficult in the same time) to identify the contextual specificities in which debriefing would have a genuine positive effect.

2. First Aid

As we have seen, a single-session debriefing, by compelling individuals to disclose as precisely as possible about the traumatic encounter may occasionally have a paradoxical effect on individuals, with accentuating or even inducing distress instead of reducing it (it is still not sufficiently clarified who would need and what type of debriefing). On the other hand, in case it has a positive effect, debriefing may ameliorate some specific symptoms, but it does not have the effect of preventing the development of chronic mental illness (Litz & Maguen, 2007) especially in those cases when the individual’s risk factors persist (McNally, Bryant, & Ehlers, 2003; Foa, Keane, Friedman, & Cohen, 2009).

Psychological first aid (PFA) was designed as a form of acute intervention that is not intrusive, but has a strong supportive effect. The basic idea behind PFA is to offer solutions to immediate needs and distress, empathic human closeness (social and emotional support if needed), and offer the information needed by the individual to deal with the encounter and its repercussions (Litz & Gray, 2004; Foa et al., 2009).

The National Child Traumatic Stress Network and the National Center for Posttraumatic Stress Disorder (www.ncptsd.va.gov/pfa/pfa.html) (Brymer, Jacobs, Layne, Pynoos, Ruzek, Steinberg, et al., 2006) have developed a specific field guide in which PFA is contoured around eight core actions (Foa et al., 2009, p. 110):

1. respond to the needs explicitly expressed by the trauma victims, in a non-intrusive, empathic, compassionate manner;
2. offer immediately and long-term conditions of safety (physical and emotional control);
3. stabilize emotional reactivity (change emotional reactions from maladaptive into adaptive ones);
4. gather information regarding fulfillment of needs necessary to conceive first aid interventions;
5. help survivors in order to satisfy needs;
6. establish social support systems (family, friends, community);
7. offer survivors information about stress and reactions to stress in order to promote adaptive functioning;
8. establish a short- and long-term connection between survivors and services.
The development of this PFA is the first attempt to offer a systematic procedure in which victims of traumatic encounters receive information, support, empathy, access to more specific information without trespassing the needs of these individuals and thwarting the path of natural recovery (or disrupt the resilient stance towards the event and its consequences).

3. Cognitive Behavioral Intervention in early phases of posttraumatic maladaptation

Cognitive Behavioral Therapy (CBT) has been seriously considered and successfully applied not only to treat chronic PTSD but also as alternative to different forms of debriefing in the early intervention of traumatic reactions (Litz & Maguen, 2007). Several studies suggest that CBT may accelerate the natural adaptation to and recovery from trauma (Bryant, Harvey, & Dang, 1998; Kilpatrick & Veronen, 1984; Foa, Hearst-Ikeda, & Perry, 1995).

If debriefing interventions usually resume to a single session, CBT usually comprises several sessions and require therapeutic expertise (Litz & Maguen, 2007). A typical package of CBT early intervention would be based on the following components:

a. Psychoeducational training – usually includes the presentation of common traumatic reactions and the traumatic process, adaptive and maladaptive strategies (e.g., avoidance of trauma cues, attempt to inhibit trauma related thoughts and memories), information of core emotional, cognitive and behavioral mechanisms that would lead to maladaptive reactions, and the need and utility of the intervention (Bryant, 2004).

b. Anxiety management techniques (AMT) – have the main aim to provide individuals a larger spectrum of strategies through which these may control high levels of arousal and intense stress reactions (relaxation techniques, stress inoculation training, muscle relaxation, breathing retraining, self-talk, etc.) (Litz & Maguen, 2007).

c. Cognitive reappraisal– cognitive restructuring - usually emphasizes the importance of appraisal in the development of posttraumatic reactions, underscoring the relationship between the individual's thinking and his/her reactions (physiologic, emotional, cognitive, behavioral, and the relationship between them) (Ehlers & Clark, 2000). In the same time, through these techniques the person may be taught how to identify and challenge maladaptive thinking patterns (Litz & Maguen, 2007) about the self, significant other, the world, and the future (Bryant, 2004). Cognitive reappraisal and cognitive restructuring are useful in challenging overgeneralization, personalization, all-or-nothing thinking, hallmark thinking styles of PTSD (Leahy & Holland, 2000). In this way, the person
may be assisted to return to a relative equanimity in which he/she may
consider the world as being a safer place, over which he/she has some
control. Thus, the person’s sense of pervasive unpredictability, of
catastrophic imminence is changed with existential reality.

d. Imaginal or in vivo exposure - this technique is also extremely efficient
in the treatment of already installed PTSD. Exposure usually aims to
reduce the individual’s distress induced by: (i) the trauma memory,
(ii) internal or external cues associated with the traumatic encounter and
which may induce the stressful reexperiencing of the event, and
(iii) situations associated in some way with the event which may also
induce high levels of distress (Leahy & Holland, 2000). In imaginal
exposure the trauma victim is required to imagine as vividly as possible
the traumatic encounter and offer the therapist a narrative of his/her
experiences regarding the confrontation. The aim of this type of
intervention is to offer a narrative as complex as possible about all the
aspects of the encounters (emotional, physiological, behavioral, cognitive,
interpersonal reactions, etc.), that may trigger a possible stressful re-
experiencing of the event, without excluding any important detail that
later on might be avoided by the trauma victim. The imaginary recounts
of the traumatic encounter usually last at least 50 minutes, but in severe
reactions it may also last about 90 minutes (Bryant, 2004; Litz & Maguen,
2007). The individual is required to (re)listen his/her narrative as many
times as needed, until his/her levels of distress are reduced to normal. In
vivo exposure implies the actual, graded exposure of the patient to the
traumatic situation or threatening stimuli, either in the presence of the
therapist, or as part of the homework. Exposure has a therapeutic effect
because it helps the individual to (i) form an articulated narrative (as we
discussed in earlier chapters in more detail, trauma narratives are
unusually characterized by chaotic, dispersed fragments that the
individual cannot integrate into a coherent, meaningful whole),
(ii) understand that the trauma was an isolated encounter, the threat of
which should not be extended to other situations, (iii) through repeated
exposure the associated distress is also mitigated, (iv) identify the aspects
of personal control and mastery during exposure (Leahy & Holland, 2000;
Rothbaum & Mellman, 2001; Rothbaum & Schwartz, 2002). Imaginal
exposure is usually implemented in the situations when in vivo exposure is
impossible, or before in vivo exposure is undertaken (in order to
familiarize the person with the procedure) (for more, see Foa, Keane,
Friedman, & Cohen, 2009).

e. Homework assignments – are intended to monitor on the one hand the
individual’s symptoms and the cues that still trigger the highly stressful
reactions, on the other hand to intensify the effect of the techniques
implemented in the therapist’s office [by repeatedly implementing anxiety management techniques, cognitive restructuring, exercises to reappraisal, repeated exposure (in vivo or imaginary) in the absence of the therapist] (Jongsma, 2008; Leahy & Holland, 2000; Litz & Maguen, 2007).

**SUMMARY**

In the subchapter above, we have briefly delineated the major forms of early intervention in posttraumatic reactions. Still, taking into consideration the immense variety of traumatic contexts, the extraordinary complexity of the traumatic process, the huge variance in personal and contextual risk and protective factors, it might be quite difficult to decide when, how, and with whom to implement any kind of intervention (or should one initiate anything at all, just in order to assist some people in their normal process of rebouncing)? As seen, literature abounds in mixed results regarding the effective utility of general debriefing (effective – neutral – toxic effects), with better prognostics for psychological first aid, and even better ones for brief, early CBT (Bryant, 2004).

Taking into consideration the serious implications of traumatic encounters, some authors consider that early interventions have the role of preventing the development of chronic pathological reactions, more specifically chronic PTSD (Litz & Maguen, 2007). In any case, when intending to design some form of aid in traumatized populations and individuals, one might seriously take into consideration the following major goals, at least theoretically, established by Litz and Maguen (2007):

1. **Replenish lost material and personal resources.** Help individuals eliminate, reduce, manage, disabilities produced by the traumatic encounter. In some cases these interventions would restrict to supplementing basic needs (food, shelter). In those who continue to manifest maladaptive psychosocial reactions, interventions may also consider helping the individual to reintegrate into daily functioning.

2. **Educate about adaptive reactions.** Help individuals use predominantly adaptive coping strategies (even if the above-mentioned authors propose the use of positive strategies, taking into consideration contextual constraints in the diversity of posttraumatic situations, we favor the term of adaptive coping strategies). Within this goal, the authors also discuss the prevention of development or exacerbation of unhealthy behaviors (excessive smoking, drinking, substance abuse, physical inactivity), which in some cases later on might become comorbidities, and promote healthy behaviors (healthy diet, exercise) (for more see Buckley, Mozley, Bedard, Dewulf, & Greif, 2004).
3. **Extend sources of social support.** The trauma literature has constantly underscored the importance and benefits of emotional, instrumental and social support (Brewin, Andrews & Valentine (2000; Ozer et al., 2003; Kaspersen, Matthiesen, & Götestam, 2003). Help individuals identify the need to resort to support (emotional/social), or develop social groups that could offer appropriate support. In the same time, offering support to fellow victims, thus being socially recognized would significantly reduce the risk for developing PTSD (Maerker & Müller, 2004). Emotional disclosure in a safe, trustworthy environment has an extremely important role in the process of adaptation that may also enhance the perception of social support and extend the individual’s social network. On the other hand, isolated, lonely individuals who have nobody to rely on (neither for instrumental support nor for un-stigmatizing or un-mitigating support) represent the group of trauma victims who may acutely need such an intervention (Martin, Rosen, Durand, Knudson, & Stretch, 2000).

4. **Management of collateral maladaptive reactions.** As discussed in more detail in chapter I, specific reactions which may represent risk factors for PTSD are not the only maladaptive reactions that should be addressed in this stage. This goal targets especially those cases in which personal losses (loss of a loved one, especially in unexpected circumstances), may experience high levels of maladaptive bereavement or grief reactions, in the absence of appropriate social and/or emotional support (Litz & Maguen, 2007).

5. **Develop and optimize appropriate abilities to efficiently cope with possible future threats.** There are situations in which the traumatic event is extremely complex, comprising recurring highly threatening situations, which may have along duration (combat, terrorism, natural calamities, etc). Even if in some cases individuals seem to be prepared to successfully confront the initial encounters, the events may exacerbate and may exceed in time his/her abilities to react adaptively (for an elegant theory explaining reactions in prolonged stressful situations, see Hobfoll’s Conservation of Resources theory, Hobfoll, 1989), or produce serious functional impairments in the periods in-between. In such cases, early interventions have multiple aims: **firstly,** may significantly modulate anxious relations (as we have previously discussed, high levels of distress may subsequently influence the way individuals perceive future events, thus exacerbating maladaptive reactivity); **secondly,** it may help individuals to get better prepared for possible future confrontations by promoting the use of adaptive coping strategies (e.g., relaxation, emotional coactivation, changing brooding rumination into reflective rumination, challenge maladaptive thinking) (Somer, Tamir, Maguen, & Litz, 2005).
II.PSYCHOTHERAPEUTIC INTERVENTIONS FOR PTSD

Posttraumatic reactions and especially PTSD being extremely complex, a large variety of interventions have been developed in order to restore the patients initial levels of functioning, or at least ameliorate his/her (occasionally multidimensional) maladaptive functioning. Next we will briefly present the most important types of intervention. Since Cognitive Behavioral Therapies (and farmacotherpay using selective serotonin reuptake inhibitors - SSRI) have been documented to exert in most cases the best results (Foa et al, 2009; Bryant & Friedman, 2001; Foa & Meadows, 1997; Harvey, Bryant, & Tarrier, 2002), we will present them more detail.

After the patient is diagnosed with PTSD, intervention is built on several major goals that will shape the type, duration, and depth of therapy, simultaneously based on the explicative subjacent theories to which the therapist subscribes (for more on theories and models of PTSD see Chapter I). Shalev, Friedman, Foa, and Keane (2000) underscored the importance of the following delicate issues useful in delineating the major goals for intervention:

1. the types of intervention chosen should be based in the patient’s: (i) needs, (ii) abilities, and (iii) preferences;
2. evaluate if treatment is achievable;
3. identify the major goal: (i) stabilization, (ii) symptom reduction, (iii) prevention of relapse;
4. inquire if the patient is aware of his/her condition (or should he/she be informed about the need of intervention);
5. identify possible collateral issues that may be addressed before the implementation of the intervention for PTSD.

Thus, the major guidelines in establishing intervention goals would be:

1. select the intervention with the highest possible efficacy in the treatment of PTSD;
2. address (when, in what order) associated disorders (issues);
3. address difficulties that may be encountered during the intervention [high possibility of dropout, (negative) side-effects];
4. obtain consent an agreement of collaboration;
5. cultural appropriateness;
6. consider differences in cost-effectiveness, duration and availability;
7. consider collateral (legal, administrative, etc.) implications.

As seen, an extremely important aspect (and concern) is represented by the selection of the most efficacious treatment, which would have the best results for the particular patient. Foa and Meadows (1997) have delineated the seven “gold standards” that should be taken into account when one intends to evaluate...
(and the select) the methodological rigor of the studies establishing the efficiency of PTSD interventions (Resick, Monson, & Gutner, 2007, p. 332):

(1) **the target symptoms should be clearly defined.** In the absence of a clearly defined set of symptoms one cannot rigorously compare the efficiency of different types of intervention [e.g., if some treatments focus on the amelioration of PTSD symptomatology while others on the management of associated disorders (depression, substance use, etc.), the difference of efficacy between treatment cannot be established.

(2) **measures of symptom assessment should be valid and reliable**, thus outcomes may be rigorously compared and replicated if needed.

(3) **the study should include the implication of blind evaluators**, thus avoiding possible biases due to implication in assessment.

(4) **the study should involve only trained assessors**, who may administer clinical interviews accurately and reliably.

(5) **treatment programs ought to be replicable and specific.** This standard limits on the one hand the flexibility of the therapist who may subscribe to a more eclectic approach, however, it assures the comparability of the efficacy of this study with that of other studies conducted in a similarly rigorous fashion. Moreover, not only treatment goals must be clear and consistent during the intervention, but also treatment protocol should be exact, thus replicable.

(6) **treatment should be assigned equitably** (not under biased stands), meaning random assignment to treatment conditions.

(7) **the treatment should strictly follow the treatment protocol.**

After perusing the literature, comparing treatment efficacy based on the above-mentioned criteria, one may chose the most efficient package and tailor it the particular needs of the patient (for a exquisite, complex, and systematic reviews of PTSD interventions see Foa, et al., 2009; Wilson, Matthew, Friedman, & Lindy, 2001.)

**COGNITIVE-BEHAVIORAL THERAPY FOR PTSD**

Cognitive-Behavioral Therapy (CBT) for PTSD includes a large number of different techniques, which have several major goals, as:

- treat observable and measurable symptoms,
- target symptom amelioration,
- develop interventions that are limited in time and are goal-driven,
- succeed to actively implicate the patient in the therapeutic process (Monson & Friedman, 2006).

Early forms of CBT for PTSD, including relaxation, systematic desensitization, etc., were mostly based on Mowrer’s (1960) two-factor theory of
conditioned fear and operant avoidance. Later approaches started including in their underlying theoretic framework emotion and information processing theories of PTSD, which led to the inclusion of treatment packages of new techniques as: prolonged exposure, cognitive therapy, etc. More recent theoretical approaches as social-cognitive approaches, learning theories, emotional processing theories, dual representation theory, etc. have also been incorporated in theoretical framework that would guide the development of CBT treatment package (Cahill, Rothbaum, Resick, & Follette, 2009; for more about theoretical approaches of PTSD see Chapter 1).

Based on efficiency studies, Cahill et al. (2009) have identified the following techniques that are usually included in treatment packages and have a relatively large effect on treatment outcomes:

1. Exposure Therapy (ET)
2. Stress Inoculation Training (SIT)
3. Cognitive Processing Therapy (CPT)
4. Cognitive Therapy (CT)
5. Relaxation Training (RT)
6. Dialectical Behavior Therapy (DBT)
7. Acceptance and Commitment Therapy (ACT)

**Exposure therapy**

Exposure is one of several behavior techniques, including flooding, prolonged exposure, etc., successfully used for reducing emotional reactions of PTSD patients towards anxiety-provoking stimuli (Astin & Resick, 1998). Exposure has several variants of which the treatment of trauma-related reaction usually relies on imaginal and *in vivo* exposure.

As proposed by Leahy and Holland (2000, p. 197), exposure has three primary targets:

1. exposure to the memory of the traumatic event,
2. exposure to any other internal or external aspects that may induce high levels of anxiety or the re-experiencing of the traumatic event, and
3. the exposure to trauma-related situations that the patient still avoids.

Next, we will briefly present the major aspects implied in imaginal and *in vivo* exposure.

**a. Imaginal exposure**

In this type of exposure, the patient has to confront his/her own memories of the traumatic event. Usually, the first imaginal exposure is advisable to occur in the therapist’s office, and should last long enough for habituation to occur (between
60-90 minutes). In some approaches, the patient has to recount as minutely as possible his/her experiences during the exposure (Foa, Rothbaum, Riggs, & Murdock, 1991; Foa et al., 1999; Leahy & Holand, 2000), helped by the therapist in case attempts of omission are observed. The therapist sometimes has to intervene with questions that guide the narrative, thus helping the patient to stick to the gist of the story, without omitting any significant detail, which otherwise might later on induce reactions of avoidance.

These narratives are sometimes recorded, and the patient has to continue the exposure exercises at home (as part of the homework) by listening to the recorded narrations until his/her subjective units of distress (SUDs) drop to an acceptable level (Leahy & Holland, 2000). In other forms of imaginal exposure, the therapist provides the patient scenes based on information obtained beforehand (for more see Keane, Fairbank, Cadell, & Zimering, 1989).

One of the most important aspects of exposure refers to its duration. On the one hand interventions vary in the number of sessions allotted to exposure. In some cases few exposures are sufficient, while in case of other patients exposure has to be continued both in the therapist’s office, combined with repeated exposures to the trauma narrative at the patient’s residence. On the other hand, it is crucial that each session is not ended before the patient’s level of anxiety decreases significantly. As Leahy and Holland (2000, p. 197) emphasize, this aspect has two major reasons:

(i) Usually, at the beginning of the exposure the patient’s level of anxiety increases significantly [on a SUD scale of 0 to 10 (0 meaning no distress, and 10 = extremely high levels of distress), in most situations reaching the highest values]. If the exposure session is ended before genuine habituation occurs, and the level of distress reduces significantly, the exercise would only serve to strengthen the relationship between traumatic memory and emotional distress.

(ii) A successful session of exposure is simultaneously the first occasion with which the patient’s beliefs regarding the connection between traumatic memories and distress begin to be treated with suspicion. If he/she observes that in spite of being exposed to the traumatic memories his/her levels of distress weaken, the patient will be motivated to continue actively the exercises.

Some therapists favor, usually in later sessions, the combination of imaginal exposure with other types of treatment, as psychoeducation, relaxation, etc., though maintaining the main focus on exposure (Cahill et al., 2009).
b. *In vivo* exposure

If imaginal exposure targets habituation with trauma memories, then *in vivo* exposure focuses on the reduction of distress induced by the confrontation with trauma-related cues and situations (Leahy & Holland, 2000). In cases when such type of intervention is possible (there are situations where trauma-related cues are impossible to re-encounter or unethical to expose the patient to), the patient is exposed directly to the situation or cue in the presence of the therapist. As in the case of imaginal exposure, the session should last as long as the patient’s anxiety reduces significantly, and habituation occurs.

As Leahy and Holland (2000) recommend, in situations when the patient is presumed to experience extremely high levels of distress, a member of the patient’s support network (family, friends) may be present during the early phases of exposure. In the same time, if anxiety still remains high, or the patient cannot involve anyone to support him/her during the exposure, the therapist may model first the *in vivo* encounter, which is gradually retracted.

Another warning is given by the same authors when considering complex, chronic PTSD. In such cases the patient may have already developed avoidance strategies extended to a considerable number of cues and situations. In such cases, it is advisable to establish a hierarchy of anxiety-inducing, trauma-related cues to which the patient will be progressively exposed to, from the least anxiety provoking ones, to the most stressful ones.

Research has evinced that in vivo exposure conducted by the therapist, or implemented in his absence (direct self-exposure) have approximately the same effect (AL-Kubaisy, Marks, Logsdail, Marks, Lovell, Sungur, et al., 1992).

**Stress inoculation training**

Stress inoculation training (SIT) was developed by Meichenbaum (1974; 1985; 2001), based on the premise that trauma-related anxiety becomes conditioned, and spreads over a variety of situations.

In this type of intervention patients are taught a number of skills, through psycho-educational procedures, muscle and breathing relaxation, cognitive modification, arousal reduction, role playing, guided self-dialogue, acceptance, etc. (Meichenbaum, 2005) in order to decrease distress and frequency of avoidant behavior.

The patient is exposed “to graduated doses of stressors that change, but do *not* overwhelm coping resources” (Meichenbaum, 2005, p. 25). In such situations the patients have to implement their newly developed or optimized skills. Exercises may be conducted *in vivo*, imaginary, or through role-play.

Usually, SIT has three major phases:
1. **Conceptual education phase** – establishment of therapeutic alliance; assessment and feedback; inform the patient about the function of his/her reactions, instruct the patient how to self-monitor his/her reactions, involve the patient in goal setting.

2. **Skills acquisition and consolidation phase** – development of action plan (together with the patient), develop or optimize emotion regulation strategies, teach the patient the techniques of cognitive modification and restructuring, develop abilities of communication (if needed), develop efficient skills of social networking.

3. **Application phase** – practice the newly acquired skills during therapy, ask the patient to practice these skills in vivo, implement relapse prevention exercises, etc.

Studies have demonstrated that SIT has not only very good effects in reducing PTSD severity (Foa et al., 1991), but also in reducing symptoms of depression, general anxiety, and anger (Foa et al., 2003). Moreover, the gains seem to be maintained over one year after cessation of intervention.

**Cognitive Processing Therapy (CPT)**

**Cognitive Processing Therapy** was developed by Resick and Schincke (1992), theoretically based on the information-processing approach, combining features of cognitive- and exposure-based interventions (Follette & Smith, 2005), somewhat tilted towards cognitive therapy.

In the exposure component, patients are asked to write a detailed narrative about the traumatic event and its implications. Then, the therapist reads the account, and emphasizes for examination and modification those parts of the narrative that still maintain high significance for the patient, and may induce severe distress. For these examinations and modifications, cognitive techniques are implemented: maladaptive beliefs of safety, trust, control, intimacy, etc. are challenged and modified (McCann & Pearlman, 1990).

Another important aspect targeted by CPT is the identification of so-called “stuck-points” in the patient’s narrative, which are moments in the traumatic encounter that comport meanings that contravene the patient’s previously held beliefs, and may cause serious internal conflict in him/her.

CPT was found to reduce both PTSD symptoms, depression and in some populations also trauma related guilt (Resick, Nishith, Weaver, Astin, & Feuer, 2002).

**Cognitive Therapy**

The central idea of Cognitive Therapy (CT) is the investigation of the way the patients interpret event, and not on the event *per se* (Rauch & Foa, 2005), since
this approach presumes that emotional reactions depend on the way the event and its consequences are interpreted (Beck, Emery, & Greenberg, 1985).

This type of intervention was initially developed in order to treat depression, later on adapted to the treatment of anxiety and other types of psychopathology as well (Beck, 1976).

In Beck’s approach, dysfunctional reactions are the result of negative, maladaptive interpretation, based on an erroneous thinking pattern (automatic thoughts). An excellent illustrative example is the process of overgeneralization, when the occurrence of a single negative event imprints a specific, negative interpretation pattern on other forthcoming events, regardless their original objective affective charge (positive, neutral, negative).

The major premise of CT is that these maladaptive and dysfunctional thinking patterns can be identified, challenged, and replaced with a more adaptive and functional interpretation grid, that would lead to more adaptive reactions (e.g., gathering evidence, learning new points of view for a more accurate interpretation, etc.) (Foa et al., 2009).

Another important aspect is the investigation of the way the patient appraises events and situations (danger-safety; self, others, world), and re-appraises their implications together with his/her own reactions (Ehlers & Clark, 2000).

Studies have demonstrated that CT reduces significantly symptom - severity in PTSD, depression and anxiety (Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998; Tarrier, Pilgrim, Sommerfield, Faragher, Reynolds, Graham, et al., 1999). Moreover, effects have been maintained at later (6 months, one year) follow-ups as well.

Relaxation Training

Relaxation training (RT) is an umbrella term, encompassing a number of methods that help people moderate and/or control reactivity and physiological, cognitive, or behavioral arousal of excessive intensity (McNeil & Lawrence, 2002). Usually, relaxation targets the symptoms that bother the patient most, be these physiological (e.g., excessive sweating, heart palpitations, insomnia, tense muscles, dry throat), cognitive (intrusive thoughts), and behavioral (fidgeting, trembling, etc.) (Leahy & Holland, 2000).

Under the term of RT, the following methods are usually included: muscle relaxation training, autogenic training, biofeedback, meditation, imagery (guided), breathing exercises (paced, rebreathing, rhythmic breathing, etc.).

One of the most important aspects implied in relaxation is that the ability needed to relax is taught and acquired by the patient in the therapist’s office; later on, the patient may induce the same level and type of relaxation by using these skills outside the therapists’ office as well, thus being untied to a specific location.
or person. Practicing these abilities as part of homework exercises has a crucial importance.

Relaxation training may be used in order to manage symptomatology of different intensity, it may optimize overall functioning. In case of more severe conditions (anxiety, depression, posttraumatic reactions), RT is combined with other types of intervention (SIT, CPT, Ct, etc.; Foa et al., 2009; Leahy & Holland, 2000) in order to reduce anxiety provoked by specific trauma related stimuli.

As we have already mentioned, the most frequently used types of RT are:

- Progressive muscle relaxation;
- Behavioral relaxation training;
- Applied relaxation;
- Stretch relaxation;
- Autogenic training;
- Biofeedback;
- Meditation;
- Guided imagery
- Paced breathing.

**Dialectical Behavior Therapy**

Dialectical Behavior Therapy (DBT) is a “multimodal cognitive-behavioral treatment originally developed to treat chronically suicidal individuals meeting borderline personality disorder (BPT) criteria” (Linehan & Chen, 2005, p. 168), and later adapted to the treatment of other disorders as well (Cahill, Rothbaum, Resick, & Follette, 2009; Reynolds & Linehan., 2002).

DBT combines different intervention-techniques, e.g., cognitive, behavioral, supportive, etc. (Bender & Skodol, 2002). The major goal of this form of intervention is to reduce the frequency and intensity of life-threatening behaviors, which may seriously damage both the patient’s quality of life, as well as hinder the implementation of treatment.

DBT is principle-driven intervention, partially based on Eastern mindfulness practices, biosocial theory, and conducted within the framework of dialectical epistemology (accept the patients with their presenting problems while trying to ameliorate their condition by teaching them new skills, through which they may modify dysfunctional reaction patterns with functional ones) (for more see Wagner & Linehan, 2006; Linehan & Chen, 2005). DBT interventions may be conducted both individually and in groups, and usually lasts for a year (Bender & Skodol, 2002).

The standard format of DBT usually materializes in a treatment program made up by four key components (Reynolds & Linehan, 2002):
(i) enhance patient’s motivation to actively participate in the intervention;
(ii) enhance patient’s skills;
(iii) make sure that the newly acquired skills may be spread over the patient’s environment;
(iv) enhance the therapists skills and maintain his/her motivation to deliver efficient treatment;
(v) structure the environment in a way that would ensure the maintenance of the patient’s newly acquired skills and the therapists involvement in the intervention.

In the treatment of BPD, DBT is structured in four basic stages:

**Stage I** – aims to ameliorate severe behavioral dyscontrol in a hierarchical fashion [from most threatening (e.g., life-threatening, therapy-interfering behaviors, etc.) downwards], by enhancing general behavioral control. The duration of this stage depends on the rate with which the treatment goals are attained, and the way behavioral control is operationalized by the therapist (Wagner & Linehan, 2006).

**Stage II** – is implemented in the case of those patients who have attained behavioral control, but still manifest severe problems of intense emotional experiences and emotion regulation. Usually, in this stage problems of self- and emotion-regulation are addressed. The major goals of this stage refer to modification of (1) intrusive symptoms, (2) emotional avoidance strategies, (3) avoidance of trauma-related cues, (4) emotional dysregulation, (5) self-invalidation (for more see Wagner & Linehan, 2006).

**Stage III** – addresses problems that persist and seem to be resistant to change.

**Stage IV** – addresses the perception of personal incompleteness, simultaneously trying to develop and/or optimize the patient’s ability to experience and maintain positive emotions and states.

Since there has been identified a strong association between PTSD and BPT (a considerable number of patients diagnosed with PTSD have BPT as comorbidity, and *vice versa*), DBT has been also implemented in the treatment of PTSD (Wagner & Linehan, 2006). DBT may be used in the treatment of PTSD from two major considerations: (i) using DBT as a primary intervention (similar to the treatment of PTSD), and (ii) to provide patients with the content of DBT (e.g., optimization and development of skills) in order to enhance the patients tolerance for the implementation of other treatment methods (e.g., exposure), thus increasing the efficacy of the treatment (Cahill et al., 2009).
Acceptance and Commitment Therapy (ACT)

Acceptance and commitment therapy (ACT) is a form of experiential therapy (Hayes & Pierson, 2005), theoretically based on language-analysis approached from the perspective of functional contextualism (Hayes & Pierson, 2005; Hayes & Wilson, 1994). Functional contextualism sets as its goal “the prediction and influence of psychological events with precision, scope across phenomena, and depth across scientific domains and levels of analysis” (Hayes & Pierson, 2005, p.1).

The central components of contextualism, as proposed by Hayes, Strosahl, and Wilson (1999) are:

(i) the consideration of the event as a whole
(ii) the role of context in understanding the nature and function of the event
(iii) emphasis on pragmatic truth.

One of the central ideas in ACT is that human suffering is in main part caused the individual's attempt to prevent, modify, or avoid specific experiences (“experiential avoidance”) (Cahil et al., 2009; Hayes et al., 1999). Transposed for the case of traumatic encounters, this would mean that people confronting toxic events may try to avoid thoughts, images, and emotions related to the traumatic event. As known from Wegner's studies on the paradoxical effects of thought suppression (Najmi & Wegner, 2008; Wegner, 2003, etc.), usually the more the person tries to forget (expel from consciousness) specific experiences, the more frequently and vividly these will invade consciousness. Consequently, the person will resort to more drastic means through which he/she will be able to attain 'peace' from the haunting memories of the traumatic encounter (substance abuse, different forms of avoidance). This phenomenon is frequently encountered and problematic in trauma survivors (Pennebaker, Hughes, & O’Heeron, 1987; Riggs, Dancu, Gershuny, Greenberg, & Foa, 1992). Moreover, several studies have evinced that in those cases when the trauma victim attempts to strategically repress and/or withhold trauma-induced negative emotions, the probability of developing PTSD grows, probably by hindering the natural processes of functional emotional processing (Roemer, Orsillo, Litz, & Wagner, 2001; Wagner, Roemer, Orsillo, & Litz, 2003).

In the case of treating trauma-related inconveniences, ACT aims to help the patient in accepting his/her internal experiences, while simultaneously encouraging patients to make life-improving behavioral changes according to their system of values (Cahill et al., 2009; Walser & Hayes, 2006). This is usually achieved by teaching the patient the techniques of willingness, cognitive defusion, and commitment (Hayes & Pierson, 2005). Willingness is the deliberate, purposeful acceptance of distressing thoughts, memories, feelings, behavioral reactions, etc., most frequently facilitated through exposure exercises. Cognitive defusion techniques
are implemented in order to induce the ability of the patient to distance him/herself from the event and its impact, by reducing the “dominance of the literal meaning of thoughts and instead to experience them as an ongoing process occurring in the present” (Hayes & Pierson, 2005, p. 2). Cognitive defusion is attained by exercises of meditation and mindfulness (for more see Hayes et al., 1999). Commitment is the description of valued behaviors that will help the patient attain those behavioral patterns that are controllable through previously established self-rules.

Thus, the gist of ACT would be that it helps patients live a life that has its value, in spite of confronting a traumatic event through the uses of metaphors, experiential exercises, logical paradox, etc. (Hayes & Pierson, 2005).

**EYE-MOVEMENT DESENSITIZATION AND REPROCESSING THERAPY (EMDR)**

EMDR was developed by Francine Shapiro (2001), based on the Adaptive Information Processing (AIP) model, especially for the treatment of stressful posttraumatic reactions, strongly relying on elements of imaginal exposure therapy (Norwood & Ursano, 2002). This intervention is based on the hypothesis that memories of the traumatic event may be successfully processed at a neurophysiological level through a dual attention task (Smith & Yule, 1999).

Shapiro and Maxfield (2002) delineated the following eight major stages of in standard implementation of EMDR (p. 280):

1. **assessment and treatment planning** – the therapists evaluates the patient’s readiness for treatment (functional – dysfunctional behaviors, symptomatology, disorder specificity, etc.)
2. **preparation** – the therapist establishes the therapeutic alliance, simultaneously offering the patient information about the implications of a traumatic encounter, about the specific treatment techniques that are going to be implemented, etc.
3. **assessment of specific trauma-related memories** – the patient is asked to identify the most detailed aspects of the traumatic encounter, including cognitions, emotions, etc.
4. **desensitization and reprocessing** – the therapist asks the patient to recount the most disturbing aspects of the traumatic event, while moving his/her finger back and forth in front of the patient (20 seconds or 20 back-and-forth sweeps). The resulted saccadic eye movements, in connection with the negative mental images of the trauma are believed to lead to the neural reprocessing of the images recounted, which would further on lead to the amelioration of the symptomatology. Periodically, the patient is told to “blank out”, or stop thinking about that specific
mental image, and offer a description of perceived changes in the mental image during the exercise. After the inventorying the observed changes, the patient is instructed to shift to the next mental image paralleled with following the therapist’s finger movements.

5. **installation of positive cognition** – after the patient’s SUD (Subjective Unit of Distress) is lowered to a level where it indicates little or no distress (0-2 point at a 10-11 point scale), he/she is instructed to hold the new, or a desired eventually positive image in mind, while tracking the therapist’s finger-movements as described earlier. In this stage, the patient is not asked to notice changes in the mental image, and cognitions-emotions connected to it, but changes in the validity of the new, more positive mental image.

6. **body scan** – in this stage, the patient is asked to monitor his/her discomfort on a physiological level. If the patient notices such discomfort, he/she is instructed to pay attention to any changes in it during the exercise.

7. **closure** – in this stage, the patient is presented various coping strategies that may help him/her in managing stressful emotional, cognitive or behavioral reactions. One of the most frequently used techniques in this stage is represented by keeping of a diary, in which the patient has to record his/her own thoughts, emotions, dreams, etc. between sessions.

8. **reevaluation** – at the end of each session the therapists assesses, whether the treatment goals have been totally or partially met, that will further tailor the development of the next sessions.

Four meta-analyses conducted in order to establish the efficacy of EMDR (Bradley, Greene, Russ, Dutra, & Westen, 2005; Davidson & Parker, 2001; Sack, Lempa, & Lamprecht, 2001; van Etten & Taylor, 1998) compared to that of a control condition, have found relatively large effect sizes (Cohen’s $d = 0.8$). However, the initial popularity of this intervention gradually diminished when the mixed results produced by more complex investigations began to be taken into consideration (it is not entirely clear what leads to the efficacy of the treatment – the eye movements or the imaginal exposure) (Davidson & Parker, 2001; van Etten & Taylor, 1998; Norwood & Ursano, 2002).
III. LOGOTHERAPY

“...the way in which a man accepts his fate and all the suffering it entails, the way in which he takes up his cross, gives him ample opportunity – even under the most difficult circumstances – to add a deeper meaning to his life”

(Frankl, 1963, p. 76).

Though less frequently used nowadays, we ill also discuss logotherapy, since besides CBT, it is an intervention that massively relies on meaning and meaning formation within the therapeutic process, thus, from our point of view becoming an essential part in the process of posttraumatic adaptation.

Logotherapy (i.e., therapy through meaning) is an existential approach that helps people find or create a significant meaning for their life (Asher, 2005). It was developed in the early 1930’s by Viktor Frankl, as a reaction against Freud and Adler’s psychotherapeutical approaches (Wong, 2002). One of the most evident extras added by logotherapy to the Freudian/Adlerian psychoanalysis is that while the latter two are rather past-event oriented, logotherapy focuses on the future, namely on the identification and/or creation of meanings that may later on be used in order to enhance one’s life.

Frankl bases his therapeutic approach on two fundamental characteristics of human existence: (i) self-transcendence (Selbst-Transzendenz, the human tendency to orient his/her existence towards something or someone), and (ii) self-distancing (Selbst-Distanzierung, establish an outsider’s stance in front of a situation or the person him/herself – most frequently and efficiently done through humor) (Frankl, 2004). These specific characteristics are based on the basic human need to find and/or create meaning, “the basic striving of man to find meaning and purpose” (Frankl, 1963). In Frankl’s conception, with these capacities, humans are able to transcend difficult life-situations ranging from objectively severe traumatic situations (his experience of the devastating effect of the Nazi concentration camps being an eloquent proof of the effects of his approach; for more see Frankl, 1963) to subjective traumas, as the pervasive sense of meaninglessness (e.g., ‘existential vacuum’) that may lead to serious distress (Frankl, 2004).

According to logotherapy, meaning in life may be attained in three different ways: (i) doing a deed or creating something, (ii) experiencing something or encountering someone (experience love, create/admire art, contemplate nature, etc.), and (iii) the attitude in front and amidst suffering [“Suffering ceases to be suffering in some way at the moment it finds a meaning” (Frankl, 1963, p. 115)].

15 the term Logotherapy is derived from the Greek logos (λόγος), meaning “word”, “reason”, in the Christian tradition taking on the meaning of “the will of God”. Frankl uses it in the sense of meaning.
The major goal of logotherapy is to assist people to find the meaning of their own life, identify and/or create more local meanings that would enlarge the spectrum of their action-freedom (Wong, 2002).

Frankl bases his logotherapeutic interventions on several main techniques, as follow: (a) paradoxical intention, (b) dereflexion, (c) attitudinal change, (d) the appealing technique, (e) Socratic dialogue, etc.

a. **Paradoxical intention**, procedure first used by Frankl in 1925 (1967), is usually used with a double purpose: (i) to establish therapeutic change, (ii) as ancillary technique to help client cooperate during the implementation of other techniques - as an aid in logotherapy (Asher, 2005).

More specifically, this technique asks the patients to do or wish to happen exactly what they are afraid of (e.g., if the patient is afraid of excessive sweating during interpersonal encounters, he/she is encouraged to try to sweat as much as possible; Frankl, 2004). This technique relies massively on the patient’s ability to detach him/herself from the implications of the situation by adopting new attitudes, lessening the implications, or adopting a humorous perspective (oftentimes exaggerating the ridiculousness of the situation), thus breaking the vicious circle that is sustaining the disorder (Ascher, 2005).

This technique has been efficiently used anxious, phobic, and obsessive-compulsive patients (Guttman, 1996, as cited in Wong, 2002)

b. **Dereflexion** was developed in order to annihilate the two specific human tendencies that may lead to different disorders: (1) hyperintention – the patient’s excessive intention to do or achieve something (e.g., sleep, be accepted or loved by others, etc.), and (2) hyperreflection – the patient’s exaggerated control of his/her own performance, thus inducing performance anxiety (Wong, 2002).

This technique too relies heavily on the above-mentioned two human abilities of self-distancing and self-transcendence. The patient is asked to redirect his/her attention from the issues that induces anxiety for instance to something more pleasant. The first step is a detachment (distancing) from the situation, followed by immersing in a creative activity (self-transcendence) that adds or enhances the patient’s value experiential system.

c. **Attitudinal change (Einstellungsmodulation)**. This logotherapeutic technique is most frequently used in treating depression and different forms of addiction, by motivating the patient to find or create meaning. The basic idea in attitude-modification is the shift of attention and attitudes from negative aspects of life to positive aspects (positive reinterpretation) (Wong, 2002).

d. **The appealing technique** is usually implemented after the above-mentioned three techniques have exerted their beneficial effect. The appealing technique is used to further on improve the patient’s quality of life (physical and mental), relying on the patient’s propensity to use his/her ability toward positive change (usually via meaning making) (Wong, 2002).
e. **Socratic dialogue** is used in logotherapy to facilitate the patient’s quest for meaning (Wong, 2002), in which the therapist opens a dialogue with the patient by asking a series of questions, the answers to which evincing the patient’s basic meaning-systems (Freeman, 2005).

This technique is frequently used in other forms of intervention as well (e.g., cognitive-behavioral, rational-emotive, psychodynamic therapy, etc.), with the major aims to discover the patient’s thinking pattern and simultaneously deepen the amplitude of thinking. Overholser (1993a) delineated the major types of questions that may be addressed to the patient during Socratic dialogue: *history questions* (data obtained at intake regarding important aspects of the patient’s life), *memory questions* (the patient is asked to describe internal and external experiences relevant to the intervention), *translation* (inquiry regarding the patient’s understanding of his/her condition), *interpretation* (identify the interpretive frame used by the patient in establishing the relationships between events and personal experiences), *application* (the patient is asked to apply his/her previously acquired and successfully used skills to the present situation), *analysis* (fragment the situation in details that may facilitate the development of a problem-solving matrix), *synthesis* (the patient is encouraged to find or create more appropriate strategies to solve the situation at hand), *evaluation* (appraise the situation and the solutions found) (for more in Freeman, 2005; Overholser, 1993a, 1993b).

Logotherapy has been quite successfully used in the treatment of different disorders (anxiety, obsessive-compulsive, depression, etc.), but may also be used with in the case of patients who have faced traumatic encounters (Frankl, 2004). As seen, it does not only focus on the reduction and amelioration of negative symptomatology, but also on the enhancement of the patient’s living milieu (both internal and external), by assisting him/her to find a motivating meaning in/for life.

Since numerous therapies impudently consider themselves as being the perfect (and only) cures for different disorders (though research and patients might contradict such stands), we feel the impetus to conclude this miniature quest in the therapy through meaning with one of Frankl’s extremely elegant recommendations regarding its effects - logotherapy: “is not a panacea!” (Frankl, 2004; p. 3). However, we would add (and as we will later on discuss in more detail, several approaches already did – though in slightly different forms), that including specific, patient-friendly aspects in prevention and intervention programs may seriously enhance recovery. “Logotherapy is not a rival therapy against others, but it may well be a challenge to them in its plus factor” (Paul Johnson, in Frankl, 2004).
IV. INTERVENTIONS FOR CHILDREN

As in the case of adults, a part of the children confronting traumatic events may develop a variety of disorders of clinical or subclinical intensity, as mood, anxiety disorders, substance abuse, adjustment disorders, etc. Another significant percentage of the children manifest extraordinary resilience, and bounce back without developing any long-lasting, diagnosable psychological disorder (Litz & Maguen, 2007). However, 20 to 30% of the children exposed to different types of traumatic events develop PTSD (Saxe, MacDonald, & Ellis, 2007). In the general population, the prevalence of children diagnosed with PTSD ranges between 3-15% in girls, and 1-6% in boys (Jones & Stewart, 2007; Kilpatrick Ruggiero, Acierno, Saunders, Resnick, & Best, 2003), these differences being partially attributable to type of trauma and socio-cultural characteristics of the children.

During the traumatic encounter, children may experience extremely complex affective states that may simultaneously incorporate both extremely negative (horror, fear, terror, abhorrence, anger, rage, shame, etc.), and positive emotions (e.g., excitement due to arousal produced by stimulating aspects of the event) (Cohen, Mannarino, Deblinger, & Berliner, 2009). One of the most delicate aspects in this regard is represented by the fact that as children grow and experience new events and situations, and cannot differentiate between trauma-related stimuli (similarly to most adults), they may associate the triggers of trauma-related reactions with new situations (anxiety provoking or neural), thus generalizing the effects of trauma reminders on innocuous environmental cues. Thus, in time, if this generalization persists, the child risks to develop different forms of maladaptive reactions (high levels of irritability, emotional instability, depression, different forms of anxiety disorders, panic disorder, affective and behavioral-disregulation, avoidant behavior, etc.), that may seriously hinder its functioning and further development (e.g., children may start avoiding not only the specific places, people, aspects related and reminding of the traumatic encounter, but also to situations, aspects, etc unrelated to the target event). Consequently, generalization may not only lead to the development of primary maladaptive behaviors, but if not attended to, become the source of secondary problems as well, thus aggravating the situation (Cohen et al., 2009). This becomes an even more serious issue if one considers that at this age children trauma exposed children may be more prone to develop significant cognitive distortions that may further on influence the interpretation of new events (e.g., self-blaming interpretation – attributing the cause of the trauma to the child – being sexually, physically abused because of ‘inappropriate’ behavior) (Cohen et al., 2009).

Even if the percentage of children developing pathology in the aftermath of traumatic encounters seem relatively low, the possible future negative effects of unattended maladaptive reactions (of clinical or subclinical intensity) may have in the long-run a devastating effect on both the child’s and its family’s life.
Unfortunately, the number of studies investigating the temporal dynamic of the posttraumatic process in the case of children is even sparser than in the case of adults (Litz & Maguen, 2007).

Basically, the underlying logic for early interventions for children is the same as in the case of adults. Literature has identified few studies that have proven efficacious in treating children in the initial phases of the traumatic process (early intervention). However, it was evinced that cognitive-behavioral treatment had a positive effect at least in the case of sexually abused children (King, Tonge, & Mullen, 2000; Cohen & Mannarino, 1998).

Next, we will briefly present the most efficient interventions implemented in the case of children and adolescents.

**Interventions for Children diagnosed with PTSD**

The most frequently used interventions in the case of children diagnosed with PTSD are: Cognitive-Behavioral Therapy (individual and group), Eye-Movement Desensitization and Reprocessing (EMDR), Psychodynamic Therapies, Creative Arts Therapy, Family-systems therapy, etc.

However, before adopting a specific treatment, one should consider the following crucial aspects in selecting and tailoring intervention (based on Ford, 2009; Cohen, Mannarino, & Deblinger, 2006):

1. the child should be safe (from further traumatization) and ready to participate and benefit from the intervention;
2. the therapy should be able to reduce the frequency and intensity of traumatic memories;
3. the therapy should be able to help both the child and his/her family in the process of adaptation.
4. the intervention for children with PTSD should offer the following: (i) development and optimization of parenting skills and psycho-education regarding the nature and implications of the child's distress; (ii) teach relaxation skills, (iii) help child and family develop stress management skills, (iv) develop cognitive coping skills, (v) assist the construction of a narration regarding the traumatic encounter, (vi) application of skills in real life situations, (vii) offer conjoint treatment (parent-child sessions), (viii) prevent relapse.

**a. Cognitive-Behavioral Therapy**

Individual CBT for children with PTSD involves the similar components as CBT in the case of adults: exposure-based techniques, psycho-education, cognitive interventions in order to assist the development of stress and anxiety management
skills, skills training, relapse prevention, etc. (Cohen, Mannarino, Berliner, & Deblinger, 2000).

**Exposure** based techniques have a solid empirical support in intervention for adults with PTSD (for more see Foa et al., 1999; Foa et al., 2009). In the case of children, *gradual exposure* and *imaginal flooding* have most frequently been implemented (Saxe, MacDonald, & Ellis, 2007).

In the case of *gradual exposure* the child is encouraged to verbally disclose aspects he/she confronted during the traumatic encounter, while the therapist assists the child in processing all elements recounted (Deblinger & Heflin, 1996). In *imaginal flooding* the child is encouraged to encounter in imagination specific details of the traumatic event. In the course of the *imaginal flooding*, the therapists monitors the child’s subjective reactions (Saxe, MacDonald, & Ellis, 2007; Cohen et al., 2006).

The theoretical underpinnings of exposure childhood PTSD are similar to those of exposure in adult PTSD – if the child accesses the traumatic memories in a secure environment, the association between traumatic memories and intense emotional and physiological reactions may lessen, and dissipate in time, which would further on lead to the reduction of avoidance symptoms as well (Cohen et al., 2009; Saigh, Yule, & Inamdar, 1996).

**Psycho-education** targets the information of both child and parents (family, caregivers) about the nature, consequences of the traumatic encounter (typical and a-typical reactions, changed circumstances, etc) (Saxe, MacDonald, & Ellis, 2007; Cohen et al., 2009). During psycho-education parents are taught how to attend to the new needs of the child - develop skills necessary for offering the child appropriate emotional and instrumental support.

**Cognitive techniques** target the identification and modification of distorted thinking patterns that may contribute to the development and maintenance of the disorder (in this case PTSD). Within these approaches, the patient is taught about the relationship between thinking and feeling, the importance of distorted automatic thoughts and maladaptive physiological, emotional, cognitive, and behavioral reactions (Saxe, MacDonald, & Ellis, 2007).

**Skill techniques** most frequently target the development in parents of specific abilities that may not only assist the development of a secure environment for the child, but also for the more efficient implementation of specific interventions (e.g., relaxation, imaginal exposure). In those cases when the child develops comorbid disorders to PTSD, as specific behavioral disorders, parents are also taught beside positive reinforcers the use of specific techniques as selective attention, time-out, etc. (for more see Barkley, 1998).

**Development of trauma-narrative** strongly resembles the technique used in adults. The main purpose of this technique is to assist the child in contextualizing
the traumatic event and its consequences, and immersing it in a larger framework (Cohen et al., 2009). By elaborating a traumatic event narrative and imbed it in the child’s life story, the event is set in perspective, which additionally reduces its emotional charge.

This technique may be applied in a verbal form, but encouraging other forms of disclosure and narrative elaboration are also frequent. The child may be asked to recount the event in written form in the therapist’s office or at home, as part of homework. Both approaches facilitate the in-depth cognitive processing of the event, thus participating in the enhancement of narrative cohesion.

A more specific form of CBT is **Trauma-Focused Cognitive Behavior Therapy (TF-CBT)**, developed by Deblinger and colleagues (Deblinger, Steer, & Lippman, 1999), and targets the reduction of PTSD and depression symptoms in traumatized children. TF-CBT relies on cognitive and behavioral skill development and exposure to trauma memories and cues (Ford, 2009), and is structured on 12 to 16 sessions, each lasting about 90 minutes.

This type of intervention is made up of three major phases:

1. **Phase one** concentrates on the assessment of the child’s environment regarding the presence of additional potential factors that may impede recovery and beneficial effects of intervention. In case such situations exist, the therapists will seek to stabilize the child’s environment, and only after safety is attained will implement the PTSD intervention. This phase may also include conjoint parent-child sessions.

2. **Phase two** is devoted to the construction of trauma narrative and its integration in a larger life-story. This phase tries to facilitate the meaningful integration of traumatic memories in a way that would not only result in a coherent narrative, but also support the development of the child’s self-confidence (Ford, 2009).

3. **Phase three** is allotted to the effective application of the newly acquired skills.

**b. Eye-Movement Desensitization and Reprocessing (EMDR)**

The theoretical basis of EMDR in traumatized children is identical to that described above in the case of adults– in short, traumatic memories may be more accurately processed at a neurophysiological level by using a dual attention task (rapid eye movement coupled with imaginal exposure) (for more see Adler-Tapia & Settle, 2009).

The efficiency of EMDR has been somewhat controversial, both in the case of the treatment of traumatized adults and children. Some studies have found CBT to be more efficient than EMDR (Greenwald, 1998 as cited in Ford, 2009),
while other studies the other way around (Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabadi, 2004).

c. Psychodynamic Therapies

The major aim of these interventions is to help reduce in traumatized children extreme levels of stress. This is usually attained through identification and expression of unconscious conflictual contexts that may lead to emotional distress (Saxe, MacDonald, & Ellis, 2007).

Several variations of psychodynamic therapy have been developed to treat children with PTSD (e.g., Van Horn & Lieberman, 2008 – based on a parent-child dyadic therapy model; Cohen, Muir, Lojkasek, Muir, Parker, Barwick, et al., 1999 - WWW – wait, watch, wonder – targeting the improvement of the relationship between parents and child, by redirecting the parent’s attention towards the child’s emotional and motivational needs, etc.).

Regardless the widespread use of this type of intervention, because of methodological barriers, few efficacy studies have been conducted in order to establish its genuine beneficial effects (Saxe et al., 2007).

d. Creative Arts Therapy

This type of intervention has frequently been used in the case of children facing natural disasters (hurricanes, flood, etc), life-threatening illness, war, terrorism, etc.

During this type of intervention, children are encouraged to express their feelings, thoughts, observations regarding the traumatic event in a non-verbal way – through drawing, painting, working in clay, etc. The goal is at least twofold: (i) facilitate disclosure of the child’s deepest experiences, thus assisting the formation of a more cohesive narrative of the event, and (ii) the therapists may gather additional, more complex information of the nature of the traumatic event than that contained in the child’s overt recollection.

e. System-approach therapies

System-approach therapies have recognized that in the case of a traumatized children, a broader therapeutic approach may exert more benefit than simply treating the specific child for a specific disorder. Thus, it has been noticed that on the one hand the child’s environment (proximal and more distal) may on the one hand seriously affected (e.g., changes induces by the child’s condition). On the other hand, in more unfortunate situations, the child’s living environment may be an additional source for the development and maintenance of distress and/or disorders (ongoing family violence, poverty, racial discrimination, etc.) (Saxe et al., 2007). As implied before, these environments may refer to not only to the child’s
close family, but also to its neighborhood, school system (Cicchetti & Lynch, 1993).

Consequently, research has developed different forms of intervention, targeting the context with the most risk factors for developing or maintaining disorder:

a. multisystemic therapy – for children with conduct disorder applicable both at a family and societal level (Henggeler, Schoenewald, Borduin, Rowland, & Cunningham, 1998).

b. trauma systems therapy (TST) – enhance the relationship and functioning of the traumatized child confronting emotion-regulation problems and its social environment (Saxe, Ellis, & Kaplow, 2007).

c. family systems therapy (FST) – targets entire families, depending on the number of family members affected by the traumatic event. The main aims of the therapy are: (i) enhance functioning within the family (develop communication, problem solving skills, etc.), and (ii) assist family members in the development of special skills needed to establish and/or search for social support (Ford & Saltzman, 2009).

**SUMMARY**

Prochaska and Norcross (1994) have identified a huge number of different forms of psychotherapy, out of which dozens have been selected to treat different forms of PTSD. Cash (2006) proposed a list encompassing the most frequently implemented therapies in the treatment of trauma-related disorders, as: biofeedback, CBT, constructivist-narrative theory, creative techniques, crisis intervention. EMDR, family therapy, couple therapy, group therapy, hypnosis, pharmacotherapy, psychosocial rehabilitation, relaxation training, etc. (see excerpts of the list in Table 4.6. with corresponding treatment goals).

In the above sub-chapter, we have just tangentially presented the most important approaches in the treatment of PTSD – there are several dozens of interventions used with more of less success. We have seen that some interventions are more effective (e.g., best results have been obtained after implementing treatments based on cognitive-behavioral interventions). The major question with which we have started this question still persists - what, when, to whom works better still awaits to be identified by rigorous effectiveness studies.
Table 4.6. Treatment approaches for PTSD with corresponding goals

<table>
<thead>
<tr>
<th>Treatment approach</th>
<th>Treatment goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early intervention for adults</td>
<td>the assistance of the individual or group of people to return or reach a state of psychological homeostasis</td>
</tr>
<tr>
<td>Debriefing</td>
<td>to facilitate and encourage emotional expression of trauma victims in the immediate vicinity of the traumatic encounter in the presence of other trauma victims</td>
</tr>
<tr>
<td>Early cognitive-behavioral therapies</td>
<td>facilitate the identification and challenging of maladaptive thinking patterns in order to enhance the possibility of adaptation to trauma</td>
</tr>
</tbody>
</table>
| Cognitive-behavioral interventions         | • treat observable and measurable symptoms;  
                                           | • target symptom amelioration;  
                                           | • develop interventions that are limited in time and are goal-driven;  
                                           | • succeed to actively imply the patient in the therapeutic process.                                                  |
| Acceptance and commitment therapy in the treatment of PTSD | • understand the quality of willingness and choice  
                                           | • understand willingness and commitment and the relationship between them  
                                           | • identify barriers in willingness and the solutions for dissipating these barriers                                     |
| Dialectical Behavior Therapy               | reduce the frequency and intensity of life-threatening behaviors, that may seriously damage both the patient’s quality of life, as well as hinder the implementation of treatment |
| Eye-Movement Desensitization and Reprocessing Therapy (EMDR) | reduce maladaptive reactions by reprocessing traumatic contents at a neurophysiological level                                                   |
| Logotherapy                                | reduce intensity and frequency of maladaptive posttraumatic reactions by helping people find or create a significant meaning for their life          |
V. RESILIENCE INTERVENTIONS

As we have already discussed in more detail in Chapter II, resilience is an extremely complex concept that has been thoroughly studied in order to better understand the processes of adaptation and maladaptation in children, adolescents, and more recently in adults confronting dramatic events/situations. Depending on approach, resilience has been defined and operationalized either as an outcome, a specific characteristic of the individual, or an extremely complex process that reflects the concerted interplay between individual characteristics and contextual factors (Luthar, Cicchetti, & Becker, 2000).

Wyman, Sandler, Wolchik, and Nelson (2001) define resilience as the person’s “achievement of positive developmental outcomes and avoidance of negative outcomes, under significantly adverse conditions” (p. 133). Briefly put, resilience may be defined as the result of positive adaptation to traumatic (or highly stressful) encounters (Zautra, Hall, & Murray, 2010). This approach captures both the ongoing, dynamic nature of the phenomenon, as well as the importance of the person-environment interaction in this process. However, resilience is not the mere human ability to maintain a stable, unfluctuating functioning, but more precisely to withstand, within the limits of adaptive functioning, harmful encounters and their effects (Greve & Staudinger, 2006).

The resilience literature has bifurcated into two major lines of research: (i) one that considers this phenomenon as being a form of recovery in which the person experiences some forms of maladaptive functioning as the result of the traumatic or highly stressful interaction, after which, in relatively short time recovers fully, and returns to his/her initial level of functioning (e.g., Masten, 2001), and (ii) sustainability, in which the person does not manifest significant modulations in his/her pre-encounter functioning (peri- and posttraumatic functioning does not significantly differ from pre-event functioning) (Bonanno, 2004).

One of the major questions in the research of resilience is that of the appropriate indicators of positive adaptation. If in the case of children, most frequently developmental milestones are taken as criteria to which aspects of adaptation are compared to, in adults the reference points have usually been the “preservation of health and well-being in the face of adversity” (Zautra et al., 2010, p. 11). From the perspective of resilience, depending on the type of approach, this would either mean the period of time in which the person returns to his/her previous functioning (resilience as recovery), or the maintenance of equally purposeful, energetic, and committed implication in all aspects of intra- and interpersonal life.

The study of resilience has become even more salient after recognizing that adaptation and maladaptation do not solely depend on the presence of risk factors but also on the absence of protective factors (Greve & Staudinger, 2006). Thus, if in the case of illness (pathology)-centered interventions the identification of risk factors
becomes the priority, resilience interventions have focused on completing these approaches with the identification of factors that both buffer against the devastating effects of harmful encounters, or facilitate the quick and adaptive recovery from them.

As in the case of children and adolescents, research on adult resilience has identified a number of factors that may be considered as facilitators of adaptive functioning. These assets have been grouped into intra- and interpersonal factors, subsequently broken down into more punctual subcategories (see Table 4.7.):

<table>
<thead>
<tr>
<th>Table 4.7. Factors promoting resilience in adults</th>
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<tbody>
<tr>
<td><strong>Intrapersonal</strong></td>
</tr>
<tr>
<td><em>a. biological factors</em></td>
</tr>
<tr>
<td>• genetic factors associated with stress resilience (Zautra et al., 2010);</td>
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<tr>
<td>• immune-system functioning (Zautra et al., 2010);</td>
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<tr>
<td>• heart functioning; (Zautra et al., 2010)</td>
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<tr>
<td><em>b. demographic variables</em></td>
</tr>
<tr>
<td>• older age,</td>
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<tr>
<td>• gender (male)</td>
</tr>
<tr>
<td>• higher levels of education (Bonanno, Galea, Buciarelli, &amp; Vlahov, 2007)</td>
</tr>
<tr>
<td><em>c. personal factors</em></td>
</tr>
<tr>
<td>• flexible adaptation and pragmatic coping (Bonanno, 2004; Mancini &amp; Bonanno, 2010);</td>
</tr>
<tr>
<td>• stable (adaptive) belief system (Kent &amp; Davies, 2010)</td>
</tr>
<tr>
<td>• sense of purpose and meaning in life (Zautra et al., 2010; Kent &amp; Davis, 2010);</td>
</tr>
<tr>
<td>• emotional awareness (Zautra et al., 2010);</td>
</tr>
<tr>
<td>• positive emotionality (the ability to coActivate positive and negative emotions peri-and post-traumatically) (Fredrekson &amp; Losada, 2005; Larsen et al., 2003)</td>
</tr>
<tr>
<td>• optimism, altruism (Kent &amp; Davis, 2010);</td>
</tr>
<tr>
<td>• full-time employment (Bonanno, Galea, Buciarelli, &amp; Vlahov, 2007)</td>
</tr>
<tr>
<td><strong>Interpersonal</strong></td>
</tr>
<tr>
<td><em>d. family factors</em></td>
</tr>
<tr>
<td>• secure family relationships (Zautra et al., 2010; Mancini &amp; Bonanno, 2010);</td>
</tr>
<tr>
<td>• close, supporting social networks (Mancini &amp; Bonanno, 2010);</td>
</tr>
<tr>
<td><em>e. community / organizational factors</em></td>
</tr>
<tr>
<td>• community-organized activities (volunteerism) (Zautra et al., 2010);</td>
</tr>
<tr>
<td>• engagement in community life (Zautra et al., 2010);</td>
</tr>
<tr>
<td>• satisfying professional-life (Zautra et al., 2010).</td>
</tr>
</tbody>
</table>
Thus, resilience in front of extreme adversity does not result from a single, magic factor or set of factors, but from the intricate interplay between personal, environmental, and contextual variables (Mancini & Bonanno, 2010; Masten, 1999).

Research regarding resilience interventions has converged from two major sources of interest: (i) research in child and adolescent resilience, and (ii) traditional research on stress and adaptation (Kent & Davis, 2010). This novel approach has simultaneously supplemented the major deficiencies of traditional mental health research, namely that in most cases the emphasis fell on the investigation of psychological dysfunctioning of the affected individuals, and health was for a long time considered the absence of illness (though we now know that optimal human functioning does not by far resume to the absence of symptomatology and illness) (Ryff & Singer, 1996 as cited in).

By the same token, traditional intervention has targeted the amelioration of maladaptive reactions (depression, anxiety, obsessions, compulsions, addiction, etc.) without simultaneously targeting the enhancement of the positive sides of well-being (e.g., development of strengths, assets, optimism, fostering positive engagement, thus contributing to flourishing).\(^{16}\)

**Resilience Interventions for Adults**

As we have already mentioned, resilience research assumes a broader approach than exclusively addressing the amelioration of pathology (of clinical or sub-clinical intensity) (Keyes & Haidt, 2002). One of the most alluring aspects involved in resilience refers to the fact that even if a person does not possess at the time a reasonable number of protective factors, or has too many risk factors, through resilience interventions both the number of protective factors may be enhanced, and the number or risk factors may be reduced.

Resilience may be promoted in children, adolescents, and adults who have confronted traumatic events or are exposed to the risk of confronting such noxious situations. Thus, the basic strategies are:

(a) reduce risk (promote the establishment of secure settlements, train for positive parenting, etc.),

(b) increase assets and resources (personal and social levels),

(c) develop and make accessible protective systems (at personal, family, community level) (Masten, & O’Dougherty Wright, 2010).

Thus, these types of interventions also incorporate sessions, programs, and trainings that explicitly enhance and activate different strengths of the

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\(^{16}\) **Flourishing** is a term referring to personal thriving (maintaining the sense of mastery, purpose and meaning, positive engagement and self-regard, etc.) in challenging situations (for more see Keyes & Haidt, 2003)
individual, as optimism, sense of control, coherence and connectedness to the social network (Zautra et al., 2010).

Also, under the umbrella term of resilience different interventions based on the positive psychology framework therapy have been included (Frisch, Cornell, Villanueva, & Retzlaff, 1992; Gladis, Gosch, Dishuk, & Crits-Christoph, 1999; Keyes, 2002).

Since in many cases the risk of objective reality cannot be significantly modified, a highly effective type of resilience intervention is that which is based on building the individual’s (or community’s) skills and capacity to withstand adversity. According to Kent and Davis (2010), into this category of interventions may be included: (i) the skills training approach, (ii) the seeking safety intervention, (iii) the well-being therapy, (iv) acceptance and commitment therapy, etc.

Since we have already discussed ACT in some detail, the rest of this subchapter will briefly discuss the previous three skill-building interventions.

**Skills-training intervention (STI)** (Cloitre, Koenen, Cohen, & Han, 2002).

STI is composed of two major phases:

**Phase I:** training targeting the development of skills needed in emotional regulation and interpersonal relationships (lasting eight weeks).

**Phase II:** modified prolonged exposure (lasting eight weeks).

Each of the sessions included in phase I targets the development of specific deficient skills associated with symptomatology. For example:

(i) correct recognition and labeling of experienced emotions,
(ii) efficient management of maladaptive emotions,
(iii) acceptance of affective experiences,
(iv) enhancement of positive affective experiences,
(v) identification of trauma related intra- and interpersonal adaptive and maladaptive schemata, etc. (for more see Cloitre et al., 2002)

The sessions of phase two follow the guidelines of prolonged imaginal exposure (e.g., Foa, Chrestman, and Gilboa-Schechtman, 2009). During these sessions, patients have to repeatedly relate their traumatic experiences with as many emotional details as possible. After exposure, the therapist attempts to attain the stabilization of the patient by appealing to the skills developed in phase I (for more see Kent & Davis, 2010).

Several studies have revealed the efficiency of STI in reducing PTSD symptoms simultaneously enhancing positive affective states (Kent & Davis, 2010).
Seeking safety intervention (SSI) (Najavits, 2002a)

Najavits (2002a, b) developed SSI to treat installed PTSD and substance abuse. SSI comprises 25 topics, and is based on the premises of cognitive-behavioral intervention, comprising cognitive, behavioral, interpersonal, and case management approaches. Each topic deals with the optimization and/or enhancement of a “safe coping skill” (2002b), thus helping which the person to create a safe environment after a traumatic confrontation.

The 25 topics contain:

- introduction to treatment/case management;
- discussion of the issue of safety as the first stage of recovery after a traumatic encounter;
- reduce suicidality;
- stop self-harm;
- detachment from emotional pain;
- develop the willingness to ask for help;
- development of efficient self-care;
- exercise of compassion;
- change maladaptive thinking patterns;
- meaning construction;
- establish efficient relationships;
- reduce cognitive inflexibility;
- anger management;
- etc.

SSI is based on five basic principles (for more see Najavits, 2002 a, b):

1. The priority to establish safety (safety may refer to dangerous environment, harmful relationships, dysfunctional symptoms, availability of drugs and substances, etc.).
2. Integrated treatment of PTSD and substance abuse (addiction) symptoms.
3. Focus on ideals (reconstruct “shattered assumptions”, reconstruct meaning; develop a trauma narrative that may further on be integrated into the person's life-story).
4. Approach through the four major content areas: cognitive, behavioral, interpersonal, and case management.
5. Attention to the therapist process, focusing on the expression of compassion regarding the patient’s experience, assisting the patient to take control over as many situations as possible, obtain feedback from the patient regarding the efficiency of the intervention, etc).
Efficiency studies have evinced the positive effect of SSI interventions, observing significant amelioration of trauma-related symptoms (Kent & Davis, 2010). Improvements have been observed at the levels of intra- (significant changes in maladaptive thinking patterns, reduction of suicide risk and substance abuse, enhancement of knowledge-base regarding traumatic encounters and adaptive-maladaptive reaction patterns, etc.), and interpersonal (development of healthy attachments, consolidation of sustaining social ties, etc.) functioning (Najavits, 2001, 2002, as cited in Kent & Davis, 2010).

**Well-being therapy** (WBT) (Fava, 1999; Fava, Rafanelly, Cazzaro, Conti, & Grandi, 1998; Ruinin & Fava, 2004).

This type of intervention is based on Ryff and Singer’s model regarding well-being (1996), which is founded on the premise that health does not resume to the absence of illness and symptomatology. WBT not only intends to reduce installed negative reactions, but also targets the development and optimization of personal effectiveness (Kent & Davis, 2010).

WBT comprises eight sessions (Fava et al., 1998; Kent & Davis, 2010):

**Sessions 1-2**: the patients are asked to rate daily, as in a diary, the episodes of well-being they experience during a day, on a scale from 0 to 100. The major aim of these initial sessions is to identify the contextual characteristics in which these episodes of well-being occur.

**Sessions 3-5**: are based on the implementation of different rational-emotive or cognitive techniques, aiming to identify automatic thoughts and maladaptive beliefs that may preclude adaptation or attainment of well-being.

**Sessions 6-8**: refer to the assessment of patients based on Ryff and Singers (1996) well-being model, intended to identify specific impairments in functioning (e.g., low levels of personal growth, as sign of personal stagnation; not able to find meaning for life). The major goal of intervention is to assist the patient to attain high levels of personal growth with the willingness to continue personal development, to open up to new experiences, acknowledge his/her own potential, etc.

Efficiency studies have revealed that in comparison with CBT, WBT has not only significantly reduced symptomatic distress, but also significantly increased the individual’s perception of well-being (Kent & Davis, 2010).

**RESILIENCE INTERVENTIONS FOR CHILDREN AND ADOLESCENTS**

If we observe the evolution of maladaptive reactions and pathology in the general population, we will inevitably notice a progressive increase both in the number of
people affected by different forms of pathology, and in the frequency and severity of emotional and behavioral problems (of clinical or subclinical intensity) (Green Paper, 2005). Unfortunately, to these tendencies neither children nor adolescents are immune – a higher number of children than expected present high risk-exposure during youth. Consequently, if resilience research has mainly considered the investigation of children exposed to serious risk, resilience interventions target children/adolescents (i), facing, (ii) exposed, and (iii) those that may lack specific competences that might prove useful in dealing with highly stressful events or improper living conditions (Kumpfer & Summerhayes, 2006). Thus, this approach would facilitate the promotion of well-being even in less-advantaged or high-risk populations (Luthar & Cicchetti, 2000).

Resilience interventions in the case of children and adolescents have the major, though somewhat general aim to foster positive adaptation, and prevent the installation of maladaptive, dysfunctional reactions (Winslow, Sandler, & Wolchik, 2005).

Regardless the working definition of resilience (different approaches and definitions of the phenomenon are discussed in more detail in Chapter II), it implies two major aspects: (i) the overt (actual) or covert (latent) presence of adversity, (ii) and resources/assets/protective factors that facilitate positive adjustment\(^{17}\).

When speaking of adversity, usually several clusters of negative contexts come into discussion (Winslow et al., 2005):

a. **intra-individual factors**: illness, underdevelopment of different abilities, abuse, etc.

b. **extra-individual factors**

- **family-related factors**: conflict in family, divorce of parents, death in the family, illness of one of the family members, etc.
- **community-related factors**: poverty, violence in school and/or neighborhood, etc.

Since there is a considerable number of children who unfortunately remain undiagnosed or untreated, one of the major implications of these possible adverse confrontations is represented by their long-term repercussions. Research has revealed that the higher the number of internal (lack abilities, different developmental delays, illness), or external (family/community problems) negative events children have to confront with, the higher the chance to develop highly maladaptive reactions later on (e.g., children exposed to 4 and more negative

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\(^{17}\) Sesma, Mannes, & Scales (2005) make a clear distinction between assets and protective factors and assets: protective factors being activated in the presence of adversity, while assets may exert their effect irregardless the nature of the situation (for more see Sesma et al., 2005).
events are exposed to a 4 to 12-fold increase risk for developing substance abuse, affective disorders, etc, than those experiencing a lower number of noxious events; for more see Winslow et al., 2005).

When speaking about resources, one notices that these may also be intra and extra-individual:

a. **intra-individual factors**: cognitive, emotional, behavioral, social, etc. skills.

b. **extra-individual factors**
   - *family-related factors*: positive parenting, constructive approach to conflictual situations in the family, supportive and motivating environment, health problems in the family etc. (effects of parental depression, see Luthar & Cichhetti, 2000).
   - *community-related factors*: safe neighborhood, opportunities for implication in age-appropriate community activities, motivating and safe school environment, etc.

Based on the corroboration of adversity and resource, it becomes obvious that resilience promoting interventions are (and should be) designed to: (i) reduce the number and severity of exposure to adversity factors, and (ii) to optimize functional adaptive strategies. The most efficient interventions would be those that simultaneously target all three (individual, family and community) levels (Sesma et al., 2005; Winslow et al., 2005). However, depending on the complexity of the situation, and costs affordable, Sesma et al. (2005) identify three major types of resilience intervention:

a. **universal programs** – equivalent with prevention programs, targeting the entire population on all three levels, regardless risk status. These interventions are quite expensive, but taken into consideration the high incidence of negative encounters, one could argue that the long-term costs-benefits ratio would compensate for expenses. One of the most efficient universal programs is PATHS (Promoting Alternative Thinking Strategies), targeting the development and optimization of emotional and social competences in elementary-school children (e.g., Greenberg, Kusche, Cook, & Quamma, 1995).

b. **selective programs** – target high-risk populations, and the intervention itself may be conducted both at the individual, selective or universal level (e.g., SFP – Strengthening Families Program, or the ICPS – I can problem solve – for more see Kumpfer & Summerhays, 2006).

c. **individual programs** – usually target individuals already manifesting subclinical levels of dysfunctional reactions. In these programs the main target is to develop assets/abilities/resources that may assist the child/adolescent in the process of positive adaptation. Examples of internal assets would include the development of positive values, optimize
motivation for learning, develop social and emotional competences, while the development of external assets would target the enhancement of different forms of support, optimize the process of communication and problem solving among levels, etc (Sesma et al., 2005).

Luthar and Cichhetti (2000, p. 867) propose that before starting to design a resilience intervention in children and adolescents, one should take into consideration at least the following 10 salient principles.

The intervention should:

1. be based on valid theoretical approaches.
2. be sustained both by theoretical approaches and results produced by rigorous research on the specific targeted population.
3. have a double aim: (i) reduce symptoms and reactions of maladjustment, and (ii) promotion of positive adaptation.
4. also target the reduction of the effect of adversity factors.
5. be multi-level (individual, family, and community).
6. take into consideration the developmental process.
7. take into consideration its possible contextual effect.
8. be oriented towards self-sustaining.
9. include comparison groups to test the genuine effect of the intervention.
10. include a rigorous documentation (elaboration of intervention protocols, expected gains, etc.), and evaluation.
VI. PROMOTING POSTTRAUMATIC GROWTH

As discussed in more detail in chapter III, posttraumatic growth is a concept that entered relatively recently in the scientific interest regarding posttraumatic reactions, in spite of the fact that growth due to highly stressful encounters has been recorded at least as early and frequently in history as have negative reactions.

Posttraumatic growth is one of the possible pathways in the posttraumatic process, a construct that is orthogonal to negative reactions, in the sense that growth does not exclude the experience of intense, negative posttraumatic reactions. Actually, as Tedeschi, Park, and Calhoun (1996) have repeatedly underscored, the basic element implied in PTG is the confrontation with a critical event that is sufficiently intense to shatter the individual’s basic beliefs about the self, significant others and the world. Beside the usually experienced symptoms of extremely intense emotional states (anxiety, terror, horror, fear, frustration, sadness, anger, shame, guilt, etc.) acquired for example through fear networks, flashback memories, nightmares, startle reactions, etc., the disruption of these relatively coherent and stable views seriously thwarts the individual’s ability to adapt to the event and its implications. The shattered pre-event views cannot offer any more the necessary semantic and semiotic sphere to assist the individual in constructing an acceptable sense for the event, meaning for life, and sometimes even purpose for living. This state of confusion induced by the disruption of complex belief systems may lead to an ardent search for meanings which usually is accompanied by high levels of emotional distress.

In comparison with the PTSD literature, approaches to posttraumatic growth take into consideration a larger spectrum of traumatic events, thus broadening the definition of encounters that may shatter a person’s conception about the realities of the internal and external world. The objectively (and externally to the affected individual) established traumatic events as defined by the trauma literature (see def of traumatic encounters in chapter I) are redefined in the PTG literature – thus, this approach takes into consideration a larger range of possible traumatic events, major life crises, traumas that may not be included in the PTSD taxonomy as objectively traumatic, nevertheless, purporting highly personal implications (e.g., events that lead to overwhelming emotional reactions, as loss of a loved one, loss of possessions, diagnosis with severe, life-threatening illness, sudden, unexpected completion of a romantic or professional relationship previously considered as stable, etc.) (Calhoun & Tedeschi, 1999).

In the PTG approach, traumatic events (used interchangeably with the terms of major life crises, extremely stressful encounters) are considered those extremely intense experiences which have a shocking impact, disrupting the individual’s biopsychosocial homeostasis. Literature has documented that negative events that strike unexpectedly may have a more devastating effect than are those that have the same finality, but the individual has the opportunity to prepare to, and has
enough time to find appropriate resources to deal with (Weaver & Clum, 1995). The unexpectedness of the event is strongly associated with the individual's perceptions of control – controllable events are experienced as less stressful than those in which the individual considers that has no control over (Tennen & Affleck, 1990). The perception of controllability not only affects peri-traumatic reactions, but also the process of adaptation; those who consider that have some control of the event, adapt qualitatively and temporally more efficiently to the situation than do those who consider that have no influence over the situation and its implications.

Another major characteristic of traumatic events in the PTG approach is the duration of the event and/or its implications (Calhoun & Tedeschi, 1999). The longer the encounter or the problems created, the higher the levels of psychological stress experienced (violent attack versus permanent, severe physical disability, implying totally and irreversibly changed life-conditions). To some degree, this characteristic resembles the dose-effect approach in the PTSD literature (more intense, longer, and more complex the initial exposure the higher the probability of maladaptive psycho-social reactions).

Also, the age at which the traumatic encounter occurs is considered in the PTG literature to be of salience on the development of short- and long-term effects. Young individuals facing traumatic situations are more prone to the development of long-lasting maladaptive reactions than individuals with more contoured, stable sense of self and identity (Calhoun & Tedeschi, 1999). Traumatic encounters at young age may induce pathology (though as already discussed recovery and resilient pathways are also frequent reactions), posttraumatic growth and development due to traumatic encounters are significantly less frequently encountered in children and adolescents than in adults. With all this interest, only few studies have succeeded to investigate PTG and its implications in children and adolescents (Cryder, Kilmer, Tedeschi, Calhoun, 2006). Because of different factors typical for that stage of development (e.g., cognitive maturity, level of intra-personal awareness, etc.), considerable amount of research has even doubted the possibility of genuine posttraumatic growth in children and adolescents. However, with all this disbelief in children’s ability to perceive positive changes attributed to the occurrence of the negative event and their struggle with it and its consequences, several studies still have produced evidence that even in the case of youngsters, posttraumatic growth may occur (Donaldson, Prinstein, Danovsky, & Spirito, 2000; Osofsky, 2004). An insufficiently investigated aspect of possible traumatic reactions in children and adolescents is the differentiated pathways of adaptation and maladaptation of age categories depending on type of trauma (children and adolescents facing natural calamities versus person-provoked traumatic events).

Regarding emotional posttraumatic reactions, PTG approaches underscore the high prevalence of distress which may lead to clinically significant disorders or subsyndromal reactions as a consequence of traumatic encounters. Except those
who present only minor modifications in functioning, most of the persons who confront traumatic events experience fear, anxiety, worry, depression, guilt, shame, anger, irritability, etc. (for more see Chapters I and II).

Since emotions include a highly subjective perception of individual modifications that may easily elude objective observation and assessment (significantly influenced by the individual’s ability to correctly recognize, label, and express his/her own emotions), the cognitive and behavioral components of posttraumatic reactions are much easily recognizable (Horowitz, 1986). Uncontrollable intrusive thoughts about aspects of the traumatic encounter (Greenberg, 1995; Calhoun & Tedeschi, 1999), thoughts of significantly lowered self esteem (Gluchoski & Wortman, 1996), unstable worldview (Janoff-Bulman, 1992), etc. On the other hand, in lots of cases behavioral problems may also install, as excessive use or abuse of drugs and substances, aggression, (Galea et al., 2002; Malinowsky-Rummel & Hansen, 1993; Foa, Steketee, & Rothbaum, 1989; McCann & Pearlman, 1990). If these reactions persist, they may seriously obstruct the individual’s process of adaptation. Such individuals may arrive to the conclusion that they are in a particularly delicate (strange, socially unacceptable) situation, and nobody would understand them – thus, some may slowly withdraw from social life, isolate themselves, refuse help, or not even realize that they may be helped, contributing to the development of a negative spiral that simultaneously aggravates symptomatology and confirms the individual’s original hypothesis of being strange and misunderstood (Calhoun & Tedeschi, 1999).

As seen this far, up to a point PTG approaches parallel those proposed by the PTSD or psychopathological ones. PTG literature recognizes and underscores the presence of posttraumatic distress.

PTG as conceptualized this far, is the “experience of positive change that occurs as a result of the struggle with highly challenging life crises” (Tedeschi & Calhoun, 2004, p.1). This definition simultaneously acknowledges that the individual has faced an encounter sufficiently intense to shatter previously stable worldviews, that disrupts a relatively constant functioning (physical and biopsychosocial homeostasis), and would further require a struggle to bounce back to the pre-event level of functioning, or in case this is impossible (permanently changed living-conditions), to find a new level of optimal functioning, that would correspond to the new life-conditions. Briefly put, if the individual does not experience a significantly high level of distress or functional impairment, and reacts with minor, insignificant modifications in functioning (resilience) or quick recovery, there is quasi impossible to present this bifurcated reaction-stile: growth due to the struggle with the traumatic encounter paralleled with distress due to the same encounter. The confrontation with a highly stressful event is a sine qua non condition for the possibility to later on experience growth due to adversity – only those who have to confront a situation that would ruin their conceptions about themselves, other, life, meaning of life, etc., will be compelled to reconstruct it, thus having the chance to construct something that would better fit the changed situation (Joseph & Linley,
2008; for more see Chapter III). This position highly resembles Frankl’s logotherapeutic stance, which underscores the individual’s possibility to choose between attitudes towards suffering, devastation, sorrow, and which will lead to qualitatively different results: live with the memory (and mark) of an extreme encounter that despite the misery produced has also induced significant positive changes in some aspects of the person’s life, or succumb, live a functionally impaired life, without the hint of returning to the initial level of functioning or improvement.

PTG approaches make a clear distinction between normal, age-dependent development due to acquisition of new, more sophisticated knowledge, and problem solving-strategies, and growth due to adversity. If the former is accompanied by tolerable stress (usually includable into the category of eu-stress), the latter is strongly related to intense emotional distress provoked by the struggle with the traumatic encounter (for more see Chapter III).

Literature has recorded a comparable number of individuals relating PTG as PTSD or other forms of pathology. Growth has been related in several domains of functioning:

1. **Increased appreciation of life in general** – some of those who have confronted traumatic events that in some form endangered their survival, or shattered significantly their deepest beliefs, may come to a reconsideration of life in general, including recognition and appreciation of aspects previously unobserved, neglected, or considered as unimportant (Simon & Blum, 1987). People diagnosed with cancer have the misfortune to be forced to deal with a more acute sense of uncertainty of future life than their healthy counterparts. Living in the uncertainty of way the illness will progress, and a sense of foreshortened future, some of these patients may start appreciating the “smaller things” in life (Tedeschi & Calhoun, 1996; Cordova, 2008).

2. **Changed, more meaningful relationships with others** – confrontation with trauma may represent a serious challenge to relationships (Calhoun & Tedeschi, 2006; Calhoun & Tedeschi, 1999). In some cases, the spouse, the partner, the relatives of the survivor cannot deal with the changed life circumstances, with the affected person, and the relationship starts to decay, conflicts become more frequent, and reconciliation impossible. In other cases, because of the possibly (socially) stigmatizing nature of the event, some of the people from the patient’s entourage withdraw, strengthening the feelings of alienation in the patient (Lepore, 2001). However, there is a significant number of people who relate exact the opposite – that after or during the tragedy, they started observing more keenly the positive characteristics of others, became closer to people, and experienced higher levels of intimacy, closeness (Affleck, Tennen, & Gershman, 1985), a
freedom to be oneself (Calhoun & Tedeschi, 2006). The perception of closeness to others has a secondary advantage – those who feel close to others have more confidence in them and are more comfortable to disclose. Those who are able to disclose may find people who empathize, and are more ready themselves to empathize with fellow-sufferers (Wuthnow, 1991). This in turn may bring people even closer, thus further on enhancing relationships (Calhoun, Tedeschi, Fulmer, & Harlan, 2000), and develop/maintain social networks, that may deliver the necessary emotional and instrumental support (which repeatedly proved to have protective power in traumatic encounters).

3. Changed sense of personal strength: "vulnerable but stronger" – By shattering relatively stable world-views, traumatic encounters raise existential questions about life, the individual’s role and safety in life, the meaning of life, etc. Such confrontations may bring in the spotlight the frailty of life, thus emphasizing human vulnerability. People who had a strong belief about their abilities to deal with misfortunes may be surprised by their reactions and the complexity of implications of a traumatic encounter. Briefly put, trauma and tragedy may force one to acknowledge their limitations (or vulnerability) in such situations. Paradoxically however, some of those who struggle to adapt to the situation, and come to acknowledge this aspect may develop a dual stance towards their self – they may recognize their own vulnerability/limitations, and acknowledge the fact that there are things that may be kept under control (while others not), some things may be changed into something better (others not) - vulnerability, but the fact that they survived, they struggle and try to adapt, and experience some sort of growth, leads to the recognition of their own power and strength. For some survivors the recognition of the limits to which they may rely on themselves and when to ask for help may become one of the most important strengths that may sustain further adaptation (Calhoun & Tedeschi, 1999; Taylor & Brown, 1988).

4. Changed priorities in life – is strongly related to the dimension of increased appreciation of life in general, and of aspects not valued before. During the posttraumatic process, the traumatized individual is forced to change previously “normal” routines into a “new normal” (Cordova, 2008, p. 188), resulting from the adaptation of the new needs to the changed life-conditions. One of the most important elements in this regard refer to the individual’s ability to renounce to the fulfillment of goals that cannot be attained anymore because of the traumatic encounter, and the identification of and orientation towards goals that may be accomplished in the changed life-circumstances. This strategy prevents the person to pursue goals that are impossible to be realized, and might induce extreme levels of emotional distress. On the other hand by finding attainable objectives, the person is
kept active, and goal-oriented, and is stimulated to persevere. As several authors have emphasized (e.g., Carver & Scheier, 2002; Wrosch, Scheier, Carver, & Schultz, 2003), a crucial element in the adaptation to traumatic encounters and changed life-circumstances refers to the individual’s ability to give up adaptation-hindering goals in the right moment, and more importantly, replace them with other, more suitable ones (for more see Chapter III).

5. **Changes in existential themes – philosophy of life** (meaning in life, religious themes) – the confrontation of traumatic encounter might occasionally force the individual to reconsider not only the priorities of his/her life, but also the existential themes of life in general. These may include changes in existential aspects of life and death, God, and meaning in life, as well as spiritual and religious approaches. In some cases, traumatic encounters may unleash the search for finding or constructing the meaning of one’s life, which was not a central theme of the individual’s pre-trauma existence. In other cases, these changes reflect a shift to a more spiritual existence, the perception of closeness to Divinity, Nature, etc., that may function as a soothing force in the changed context perceived as unpredictable (for more see Chapter III).

The major contribution of this approach is that it does not exclude the possibility of either high levels of distress accompanied by growth. To summarize the gist of this approach, we decided to build on some of the myths that persist in the common sense (and not only) regarding growth due to traumatic encounters.

**MYTHS OF PTG**

1. **Posttraumatic growth equates with the lack of distress and struggle.**

As already mentioned, growth and distress are separate dimensions, that may coexist and have independent evolution in time. Actually, research has not evinced a stable pattern of association between PTG and distress. Some studies found a linear relationship between these constructs (e.g., Tedeschi & Calhoun, 2004; Aldwin & Levenson, 1994), however, other studies have revealed a curvilinear relationship between PTG and high levels of distress (Aldwin, 2007), which makes lots of sense, since extremely impacting events may overwhelm the person to such a degree that adaptation may be jeopardized (Aldwin, 2007). Moreover, as most researchers in this domain sustain, distress is to some degree necessary for the opportunity to experience growth (Yalom & Lieberman, 1991; Calhoun & Tedeschi, 1999). Research conducted on posttraumatic rumination (a hallmark symptom of posttraumatic reactions) highlights the qualitative difference between types of rumination and their outcome. Rumination on specific aspects of the traumatic encounter may not tout ensemble be negative as thought before; the
systematic but active thinking of aspects that may and can be solved though highly stressful, may have a powerful adaptive value (e.g., brooding versus reflective rumination; for more see Joormann, Dkane, & Gotlib, 2006).

2. All traumatic encounters and posttraumatic contexts are appropriate to elicit or facilitate growth.

This myth sets off a specific contemporary stance regarding positive emotional states, namely the tyranny of positive attitudes (Held, 2004). The uncritical and incorrectly understood message of positive psychology has severely biased general attitudes towards posttraumatic encounters. Consequently, if until lately pathology was generally expected (for more see Chapter I), shifts in social attitudes have nowadays determined that in many cases, the relatives, friends, the larger contact groups expect growth on behalf of the survivor. However, PTG is not a necessary consequence of a traumatic encounter. Some people may experience some sort of growth (adjacent to distress or even pathology), and some not. Some will experience growth in the immediate temporal proximity of the encounter, others only after a considerably long time, while some will never report growth due to the same event. Consequently, we would like to emphasize that growth is a fortunate outcome of a traumatic confrontation, which cannot be imposed on the individual. PTG is not a process and outcome that would be easily attained. Even if it is related at one point after the traumatic encounter, its maintenance needs significant effort on the behalf of the individual. If PTG is requested by the larger or closer society, the only result would be supplementary distress in the traumatized individual, induced by the belief of not conforming to the ‘normal’, accustomed expectations of the society. Social networks and professionals may help by offering the necessary emotional and instrumental support needed to foster growth. Regarding PTG, therapists function as catalyzers in the posttraumatic process, creating the context in which the patient may discover his/her own individual path towards growth (Calhoun & Tedeschi, 1999).

3. PTG once attained will last forever.

Posttraumatic reactions have a specific dynamic in time. This aspect evinces the problems in the investigation and assessment of posttraumatic outcomes. Since reactions unfold in time, and are permanently influenced by internal and external factors, it is extremely difficult (quasi impossible) to predict with high certainty who will experience growth, to what degree, and for how long. Thus, PTG reported at one point in the posttraumatic process, even if genuine at the time of assessment, there is no guarantee that it will persist in time. On the other hand, as we have already seen, PTG is a multidimensional construct.

4. PTG pervades all domains of life.

Literature has repeatedly underscored that PTG is not a compact, unitary outcome. As we have discussed before, traumatized individuals have reported
PTG on several dimensions. Usually, the experienced growth is highly dependent on the person-context interactions. Thus, in some cases growth is possible on some dimensions, while in other cases on other dimensions. Consequently, the patient’s social network’s or the therapist’s mission is to foster growth on the dimensions where this is possible. One way in which this may be done is the assistance in the process of meaning making. As discussed in more detail in Chapter I, traumatic, highly disruptive encounters challenges the individual’s views about his/her own person, significant others, the world, and life in general. Questions reflecting disturbance in the global, pre-trauma meaning system arise, which have to be answered. “Why did this happen to me?”, “Is there a purpose in this happening?”, “Who am I?”, “What is the meaning of my life?”, etc. sometimes requires guidance on the behalf of a specialist (Calhoun & Tedeschi, 1999; Joseph & Linley, 2008). Meaning is not supposed to be imposed from outside (i.e., therapist), but facilitated within the boundaries of the individual.

5. PTG leads to better adjustment

Common sense oftentimes associates PTG with more efficient psychological adjustment to the individual’s life-conditions changed by the traumatic encounter (Calhoun & Tedeschi, 1999). Even if PTG has an inherent positive charge, research has not produced yet sufficient data to firmly sustain such a claim (Tedeschi & Calhoun, 1995). Results are contradictory (Calhoun & Tedeschi, 1999), with some studies finding an association between PTG and overall improvement (Urcuyo, Boyers, Carver, & Antony, 2005; Ho, Chan, & Ho, 2004), while others not (Tomich & Helgeson, 2004; Andrykowski, Brady, & Hunt, 1993). Again, both researchers and therapists should cautiously approach these results since their mixed nature may be attributable to an inconsistent methodology (patients confronting different types of traumatic events, assessed at variable points in the posttraumatic process, with different methods, etc.). Irregardless these inconsistencies, we believe that one of the great advantages hidden in PTG is represented by the fact that the individual starts experiencing some sort of development (success) at least in one life-domain, that would further one become a goal-platform that may further sustain his/her implication in different rewarding and adjustment-promoting activities.

6. PTG is a desired outcome of the posttraumatic process

As we have already driven attention to, the misperception and misinterpretation of the messages sent by positive psychology have given birth to distorted expectations regarding posttraumatic reactions. As previously it was almost ‘normative’ to develop some sort of pathology (especially PTSD) (for more see Chapter I), the last two decades have witnessed an external obtrusion of expected growth on those who have encountered traumatic events. In other words, survivors of highly stressful encounters are expected to relate and more
dangerously manifest posttraumatic growth, since trauma has been turned by its popular perception into a source of miraculous growth one should not miss. This tendency conceals several threats that may have serious negative effects on the traumatized individual. To mention only a few, such misconceptions may: (i) jeopardize the individual’s natural tendency to adapt in his/her own way to the encounter and its consequences (which in most cases is a positive adaptation within the timeframes of the normal adaptation processes); (ii) impose an unnecessary stress on the individual by implicitly signaling that less than ‘wonderfully’ positive reactions to traumatic events may reflect high levels of maladaptation (Wortman, 2004), and falling short.

**FACTORS PREDICTING PTG**

As research has been interested in the identification of risk and protective factors by which PTSD and other forms of posttraumatic pathology may have been predicted, so was research regarding the investigation of PTG. Next, we will briefly delineate the most important factors that may participate in the setting off PTG.

1. **Stressor characteristics.** As Aldwin (2007) concluded, most traumatic encounters are able to bring about growth due to the struggle with the traumatic event and its implications, however, these experiences are usually paralleled with high levels of distress. PTG has been related in cases of severe, life threatening illness, different forms of loss (property, loved one, job, etc.), natural calamities, rape, combat, etc. One of the critical aspects referring to the characteristics of the event is its intensity. It has been noticed that if the person is not sufficiently impacted by the event, only minor modifications in functioning appear (interestingly, this issue highlight the importance of subjectivity of traumatic encounters – some people are resilient in some objectively defined traumatic situations, while in other traumatic situations may present significant impairments in functioning). For PTG to occur, the person has to be intensely, but not overwhelmingly affected by the event (Joseph & Linley, 2005). The impact should determine a complete reexamination of the basic views, that through process of positive accommodation (for more see Chapter III), would send off growth on one or several of the above-mentioned dimensions.

2. **Demographics.** Several studies evinced that women are more prone to report PTG than men, while as regards age; on the younger adults seem to report growth more frequently than older people (Aldwin, 2007). Nevertheless, these results are not necessarily conclusive, since most of the studies have investigated quite heterogeneous populations especially what concerns the type of trauma and stage of the posttraumatic process (Aldwin, 2007; Tennen & Affleck, 1996). What concerns financial status, several studies have shown that PTG is more frequently
related in traumatized individuals with lower socio-economic status (at least in the USA: for more see Tomich & Helgeson, 2004), hypothesized to be associated with the frequent need of such patients to deal with highly unpredictable life-circumstances. However, other studies have found that higher socio-economic status, living in a good spousal relationship, and higher levels of education predict a better adjustment to the traumatic encounter (Widows, Jacobsen, Booth-Jones, & Fields, 2005; Bellizzi & Blank, 2006). These results being highly dependent on the type of type of traumatic encounter, extreme caution is recommended in their application of research and choice of therapeutic approach.

3. Personality. Even if personality has a relatively reduced predictive power, research has indicated that people with an optimistic outlook may be more prone to experience growth than those who are less optimistic. Theoretically this would make sense, but research has again offered inconclusive results regarding this issue (Affleck & Tennen, 1996; Stanton, Bower, & Low, 2006). By the same token, it was presumed that since extraversion is associated with PTG (Sheikh, 2004), neuroticism would present a negative association with the experiencing of PTG. Interestingly, research found no relationship between neuroticism and PTG (Park, 1998; Stanton et al., 2006). However, personality may play the role of a mediator or moderator in the process of adaptation to the posttraumatic circumstances (Tennen & Affleck, 1996).

4. Social support. Adequate emotional and instrumental support is one of the most important factors implied in the process of adaptation to traumatic encounters (for more see Chapters I and III). Lack of support or the failure to perceive the presence or availability of support is associated with the development of pathology. On the other hand, a strong, well-structured pre-event social support may function as a buffer in front of traumatic encounters (Cadell et al., 2003). Social support established after the encounter may have a palliative effect, since the individual thus finds persons with whom he/she can disclose and discuss about the event, thus enhancing the probability of construing an accommodating narrative of the event.

5. Coping mechanisms. Coping strategies have been found to be the best predictors of growth (Stanton et al., 2006; Calhoun & Tedeschi, 2006). Problem-focused coping, encompassing strategies as (i) repeated reappraisal of the event, (ii) positive reinterpretation of the event or of specific aspects of it, (iii) benefit finding, (iv) benefit reminding, (v) meaning making, (vi) adaptive forms of religious coping, (vii) the ability to observe the occurrence of positive events after the traumatic encounter, (viii) general abilities in cognitive and emotional processing (etc.), have been found to promote the proper intra- and inter-individual environment necessary to promote growth (e.g., Bellizzi & Blank, 2006; Schaefer & Moos, 1992; Taylor, 1983; Tennen & Affleck, 2002; Sears, Stanton, & Danoff-Burg, 2003; Manne, Ostrof, & Winkel, 2004).
6. Intrinsic religiousness. Intrinsic religiosity has repeatedly been found to be strongly related to a relatively stable perception of growth (Baerenveldt, Bunkers, DeWinter, & Kooistra, 1998; Beit-Hallahmi, & Argyle, 1997; Gorsuch, 1988; Wulff, 1997; Maltby & Day, 2003), either as a buffer or as a cluster of coping mechanisms that would promote growth (for more see Chapter III).

**BASIC GUIDELINES FOR FACILITATING POSTTRAUMATIC GROWTH**

Research regarding PTG has relatively recently begun, and little empirical evidence is available to establish the genuine efficiency of those interventions that target the facilitation of PTG. Consequently, only few approaches have been proposed to facilitate growth due to traumatic encounters. Some interventions targeting the amelioration of negative posttraumatic symptoms have previously admitted the possibility of promoting growth within the therapeutic process (Meichenbaum, 1994, as cited in Calhoun & Tedeschi, 1999). However, only few clear guidelines aiming the explicit facilitation of PTG have been contoured. One of the most important approaches to the facilitation of PTG is that of Calhoun and Tedeschi (1999), which we will briefly present next.

The above-mentioned authors start delineating their view of posttraumatic growth with one of the truisms of posttraumatic reactions; namely that the traumatized individual (except the resilient persons) usually experiences significant levels of distress, and disruptions from psychological, physical, social, etc. homeostasis. Moreover, as previously mentioned, PTG may occur and be facilitated only in those who are sufficiently shattered by the event – to a degree that would reclaim the reconsideration, construction, and/or reconstruction of self, other, and world-perceptions. Consequently, Calhoun and Tedeschi (1999) emphasize that PTG may be attained within “the general framework of trauma treatment, either by implementing the principles we describe within those treatments or adding this piece of treatment after the primary work of trauma therapy has been substantially accomplished” (p. 47).

These authors emphasize however, that the facilitation of PTG should not replace common therapeutic approaches, as:

(i) desensitization,
(ii) narrative construction,
(iii) the (re)creation of the sense of safety, and
(iv) the (re)creation of a more adaptive world-view.

The facilitation of PTG should be considered as a more complex view of approaching posttraumatic reactions, thus focusing not only on the ameliorations of negative symptymatology, but simultaneously creating the conditions for the patient to experience some sort of development in the aftermath of the traumatic confrontation.
In their opinion, intervention should be tailored in a way to help the patient use independently his/her abilities to experience growth, the major role of the therapist being the silent encouragement, and not imposing of growth.

Another advice regards the way growth is perceived by the therapist. Even if common sense would expect behavioral manifestations of growth (observable positive changes, lack of distress, equated with adaptation), authentic growth is something else. Since PTG is fundamentally based on significant shifts in the paradigms that governed the person’s pre-trauma life, it is possible that the experienced growth will not be overtly visible, and will only be related by the patient as a positive modification in inner experiences. An important issue at this stage is the genuineness of the perception of growth. Some authors sustain (Zoellner & Maercker, 2006) that there is a significant long-term implication depending on the genuineness of related PTG. In their opinion, PTG resulting from the denial of specific aspects of the traumatic encounter and its consequences is not genuine, and leads to long-term maladaptive patterns. Irregardless the authenticity of the PTG related by the patient, in Calhoun and Tedeschi’s (1999) opinion, the therapist must accept, tolerate, and work with the patient’s view (empathize), with his/her recount of growth be it genuine or not. The ability to accept the patient’s newly developed world-view has a critical role in the situation in which the therapist observes striking incongruities between what the patient relates and how he/she behaves, thinks, and relates to others. In these cases too, the therapist is supposed to accept and tolerate to some degree these positive illusions of growth, since literature has revealed that these distortions may have adaptive value (Taylor, Kemeny, Reed, & Aspinwall, 1991). Further on, the therapist may capitalize on a more stable patient in order to solve remaining issues related to the trauma or its implications. However, as Calhoun and Tedeschi (1999) emphasize, the therapists should not tolerate distortions that are pathological, or may seriously endanger the process of adaptation, or other’s life.

For the first few sessions, these authors recommend that the therapist focuses on the management of negative posttraumatic reactions, and should not start promoting growth, unless it comes naturally. In the early phases of the intervention, the strengthening of the patient should be the central objective. As literature suggested, growth is a process that unfolds in time, and usually is not encountered in the early phases of the posttraumatic process (for more see Chapter III). However, in those cases when early manifestations of growth appear, the therapist should be aware of them and start capitalizing on them in the therapeutic process.

The later stages of intervention, where the therapist already helps the client develop a trauma narrative and new, more adaptive views of the self and the world in general within the repeated recounting of the traumatic event and its implications that still obstruct the process of adaptation, the therapist may gradually introduce the notion of possible PTG, especially in the domains where the patient presents propensity and may further on experience growth. In some
cases, the event may be devastating to such a degree that growth from it would seem grotesque. In such cases, the construction of the narrative may not be possible by directly deriving meanings from the traumatic encounter or its implications. However, a possible solution would be to derive ramifying meanings reflecting positive changes in collateral domains of life.

Other specific abilities of the therapist who facilitates PTG should be (i) listening without being judgmental (silent listener), (ii) try not to solve the patient’s problems or offer ‘prêt a porter’ solutions, and (iii) assist the patient through the posttraumatic process, and not take over the burden of the journey. PTG must be brought into discussion and labeled when it clearly manifests itself (as related by the patient, or observed in the behavioral, attitudinal, cognitive modifications).

Another important aspect is that some people, somewhat familiar with the phenomenon of PTG (therapists as well), easily emit platitudes both about the possible outcomes of a traumatic encounter and about the “wonderful opportunities crises are” (Calhou & Tedeschi, 1999). Traumatized individuals even if affected by the tragic encounter and changed life-circumstances, are sensitive, thinking human beings, who might perceive such remarks as belittling in a struggle that continuously puts their courage and energy a test. Even if opportunity may be hidden in any crises (see the Chinese ideogram of crisis, Chapter III), not all opportunities are available to everybody all the time.

Another main objective of posttraumatic interventions should be the redefinition of strength and vulnerability. As we have already mentioned, some patients who come to experience PTG relate the apparent paradox of feeling more vulnerable and simultaneously stronger. Lots of patients have had a rather rigid pre-trauma view of how one is supposed to react in a traumatic situation, and view their own reactions as deplorable – for instance, a man may consider that intense feelings of fear, anxiety, shame, horror, etc., are signs of vulnerability in and after a traumatic situation. If the posttraumatic process, and the role and functions of emotions are explained to him, he may acknowledge and accept them and reconsider his stance towards these reactions, accounting them rather as ‘subtle strengths’ (Calhoun & Tedeschi, 1999). Thus, strengths previously considered as protective may be of no use in the new life-conditions, and may seriously hinder biopsychosocial adaptation. The therapist’s role in these conditions is to assist the patient in the redefinition of what would be strength in the after aftermath of the traumatic encounter, and avail oneself to the abilities that are now adaptive but were previously thought as weaknesses.

Metaphors play a tremendous role in the therapeutic process in general. Since posttraumatic reactions resemble a difficult journey to personal (re)discovery, the development of new knowledge and perceptions about the world, significant others, one’s role in life, the meaning of one’s life, etc., the use of metaphors in the facilitation of PTG may be extremely beneficial. Comparing this journey and its emotional implications with tidal-waves, approaching the
patient with their overwhelming destructive power, later receding, may wonderfully illustrate the inconsistence, and unexpectedness of emotional turmoil characteristic to posttraumatic adaptation (for more see Calhoun & Tedeschi, 1999). The comparison of the posttraumatic quest with the crossing of a desert is also frequently used – walking day by day through an arid, highly unfriendly landscape (e.g., emotional) is incontestably emotionally tiresome. However, in this journey one may at some point encounter several oases (e.g., benefits and growth on specific dimensions), that would give one the necessary power to continue this strenuous expedition (for more see Calhoun & Tedeschi, 1999).

Homework, as in the case of PTSD interventions, is also a frequent component of facilitating PTG. Patients may be asked to reconsider mentally or in writing, the possible positive aspects of the ramifying implications of the traumatic encounter. In Calhoun and Tedeschi’s (1999) recommendation, homework should be simple and clearly formulated, avoiding the overburdening of the patient. Also, depending on the patient’s state, education, and inclinations, the therapist should moderately employ bibliotherapy as well, offering reference readings to the patient about accounts of posttraumatic growth [e.g., Frankl’s (1963) *Man’s search for meaning*, the *Holy Bible* – e.g., *Book of Job*, Baumeister’s (1991) *Meanings of life*, etc.). For more bibliographical recommendations see Calhoun and Tedeschi (1999).

Growth may be facilitated on each possible dimension – from positive changes in relationships, to finding meaning in suffering, etc. The above mentioned authors offer concrete guidelines for instance for the facilitation of closer relationships. For example, they suggest that the therapist should: (i) assist the patient in the process of assigning new, more constructive meaning to relationships, (ii) drive the patient’s attention to the fact that even if the traumatic encounter is extremely distressing and devastating, it also holds the possibility of warning, that something should be changed (some people feel awakened by the event, and start reconsidering their previous life-style; others may come to attribute their misfortune to an improper life-style that was impelled to be changed in order to live a qualitatively better new, post-trauma life), (iii) help the patient learn how to disclose to others, while simultaneously accepting the fact that he/she was affected by the traumatic event, (iv) help the patient accept that he/she might need the emotional or instrumental support of others (educate the patient that these are absolutely normal reactions necessary for the process of biopsychosocial adaptation), and appreciate if he/she receives support, (v) assist the patient in the development of empathy, familiarizing not only to accept support, but also to offer it to those who may need it [the therapist may also explain the patient that this process has several positive sides – it helps the individual see how others confront with the situation, develop strength (strong people are able to offer help), strengthen relationships, and broaden social networks, just to mention a few], (vi) help the patient broaden his/her social network, an aspect that may facilitate the (vii) development of a more adaptive posttraumatic identity, etc. (for more see Calhoun & Tedeschi, 1999).
In other cases for instance, the best results are attained if the therapist approaches the spiritual side of the patient and tries to facilitate growth on this dimension. Because in most cases the traumatized individual assiduously tries to find an answer for the reason of his/her suffering ("Why did this happen?", "Why did it happen to me?", "Is this God’s plan for me?", etc.), the religious and/or spiritual framework is excellent basis for facilitating growth (for more see Chapter III). However, this side of human functioning should also be carefully approached, since as discussed in more detail in Chapter III, not all forms of religious growth and spirituality are altogether adaptive. Some people change their spiritual/religious framework in the aftermath of traumatic encounter in a highly maladaptive way (for instance, some patients even if maintaining religious mind-frame, they start blaming God for their misfortune, considering divine forces as cruel or vengeful, that should be dreaded all the time, who cast suffering fortuitously, and not based on what the individual may or may not deserve, based on his/her previous conducts, etc – such spiritual approaches and explanations of suffering usually enhance distress, and obstruct the process of adaptation).

The facilitation of posttraumatic growth may be conducted in several therapeutic forms. Since cognitive-behavioral interventions have proved to be mostly effective, most treatment targeting the promotion of PTG have CBT as their basic intervention, on which they later on build growth. For instance, interventions based on cognitive-behavioral stress management (CBSM) Antoni, Lehman, Kilbourn, Boyes, Culver, Alferi, et al. (2001) have found that at the 10-week follow-up, most female cancer patients participating at the intervention have reported significant increase in benefit finding due to the traumatic encounter. The same type of intervention (CBSM) applied to male cancer patients has produced the same results (for more see Penedo, Molton, Dahn, Shen, Kinsinger, Traeger, et al. (2006). Presumably, CBSM usually increases levels of benefit finding by developing stress management skills (Cordova, 2008; Lechner, Stoelb, & Antoni, 2008), through psychoeducation regarding usual posttraumatic reactions, development of relaxation skills, enhance and promote adaptive coping strategies, as cognitive restructuring, positive reappraisal, assist the patients in the development and maintenance of close, supporting relationships, etc.

Beside CBT-based PTG interventions, other types of treatment have also tried to facilitate growth. One of these is supportive expressive therapy (SET), proposed by Spiegel and Clasen (2000, as sited in Cordova, 2006). SET facilitates growth in a group intervention format, assisting patients to confront and express their emotions, confront their concerns regarding their future, initiate meaningful activities and relationships, reset priorities based on the reevaluation of new, changed life-circumstances, etc. (Cordova, 2008).

PTG may be facilitated within the paradigms of Expressive Writing as well. According to this approach, the participants have to express in writing their thoughts and emotions regarding the traumatic event for consecutive days, for 15-20 minutes/day. Results have mostly evinced an improvement in the patient’s
emotional life and biopsychosocial adaptation (Pennebaker, 1994). This paradigm
was adapted to cancer patients for instance, where one experimental group has to
write about and express the deepest, more private thoughts and emotions
regarding the cancer and its implications, the second experimental group has to
write about the benefits found in being diagnosed with this specific illness
(cancer), and the control groups about factual aspect implied in their illness
(Stanton, Danoff-Burg, Sworowski, Collins, Branstetter, Rodriguez-Hanley, et al.,
2002). Results evinced that both experimental groups (though-emotion
expression, and benefit finding) presented significant health improvements as
compared to the control group (Lechner et al., 2008).

CONCLUSIONS AND SUMMARY

Psychotherapeutic interventions of posttraumatic stress have for a long time been
dominated by the medical and pathologizing approach of posttraumatic stress,
emphasizing abnormality over normal reactions, sickness over biopsychosocial
adaptation (Joseph & Linley, 2008). However, the newly awakened interest in
other posttraumatic reactions (pathways of normal adaptation, resilience,
unassisted recovery, growth) has opened new avenues in the way the therapeutic
process of posttraumatic reactions is approached. Thus, a more complex
framework has been proposed, which slowly forces its way into a more holistic,
multisided broach of posttraumatic reactions. Namely, it has been repeatedly
proposed that in parallel with the concentration of ameliorating highly stressful
reactions, therapy should also focus on the long-time recognized human ability to
of growth, and benefit finding in adversity and capitalize on it.

As discussed above, Calhoun and Tedeschi (1999) underline that
therapists should be aware of the fact that not all of their patients will experience
growth. The therapist should not blame him/herself, but accept the fact that the
degree to which interventions can help patients depends to a great degree on
factors that have nothing to do with the therapist’s person or intentions.

The therapist who wishes to facilitate growth in his/her patient should:
(i) be open to different manifestations of possible growth, (ii) be a silent listener,
(iii) not offer platitudes about how lucky the patient was to have this marvelous
opportunity to grow, (iv) take the necessary time to establish a solid base for
growth, and not terminate intervention until he/she is ascertained that the
patients are able to continue the journey on their own, (v) not pay lip service or try
to rush the process of growth by offering ready to go solutions, (vi) not insinuate
that growth is a demanded outcome, or that everybody should and could
experience growth, etc.

PTG may be facilitated in different formats, either individually, in groups,
in writing, etc. each approach has advantages and disadvantages, but if tailored to
the individual’s background, needs, and living context, positive effects may be
maximized. Individual therapy is much costlier, but in those cases where the
individual’s self-image is not sufficiently stable and robust to withstand the comparison with growth recounts occurring in groups, individual therapy is recommended. In other cases, where based on previous assessments the therapist considers that most patients (ideally all) would benefit, group therapy may be implemented. It is both more cost and time-effective.

One of the drawbacks of group and family therapies targeting to facilitate PTG is that in some cases, some of the participants or family members confronting the same problem may fall short when comparing their own experiences and the recounts of growth of the other patients. Thus, when working with larger groups, the therapist should be aware of this possibility, and emphasize repeatedly and warn patients in time that PTG is a process that unfolds in time, is highly individualized, and may occur on different dimensions for different people.

Even if the most efficient interventions of negative posttraumatic reactions proved to be those based on the cognitive-behavioral approach (for more see interventions for PTSD), we subscribe to those opinions which favor the choice of intervention based on the propensity of each individual patient, be it CBT, CT, humanistic, existential, etc., competed with the facilitation of PTG, thus attempting to elicit maximal benefits.
VII. PALLIATIVE INTERVENTIONS FOR HIGHLY STRESSFUL REACTIONS - EXPRESSIVE WRITING

Give sorrow words; the grief that does not speak,  
Whispers the o'er-fraught heart and bids it break.  
Macbeth, IV, III, 209-210

Stress in its various manifestations and effects, is a real presence in human existence. Being one of the most important factors for both maintaining and impairing optimal human functioning (Selye, 1976), one cannot mitigate its importance. If one handles stress adaptively, it could be used in one’s own advantage (for example, stress turned into an incentive for further adaptive actions). On the other hand, the literature abounds in well-documented evidence regarding the effects of maladaptive management of intense (traumatic) short- or long-term stressors, moderate long-term distress, or even minor but cumulative stressors. These different forms of stress may all seriously impair different aspects of functioning (physiological, cognitive, behavioral, emotional, social, etc.) (Aldwin, 2007; Spiegel, 1999).

Maladaptive reactions to stress (on either level of its manifestation), “can disrupt virtually all aspects of our lives” (Pennebaker, 2007, p. xiii). In time, by recalibrating or readjusting specific coping mechanisms, one may overcome or compensate for the negative effects of stress. Sadly, the number of those who fail doing so is increasing; the percentage of individuals complaining of and being diagnosed with pathological levels of mental and emotional disorders is constantly growing (Green Paper, 2005). Among stress reactions, the most evident and disturbing reactions seem to be those produced in the emotional realm, their effect imbuing and affecting other dimensions of functioning as well.

Emotions: shared and disclosed

The expression and sharing of one’s emotions after confronting stressful events is an innate, natural need of most individuals (Rimé, 2007). The expression of emotions might create a link between our internal experiences and the outside world. Studies investigating the social sharing of emotions have revealed this human propensity elicited by even insignificant, everyday events (Rimé, Herbette, & Corsini, 2004; Rimé, Mesquita, Philippot, & Boca, 1991; Rimé, 1987). These studies have evinced that the inclination to share certain emotions evoked by even minor events is neither education nor culture dependent. Asians, North Americans, Europeans, regardless of their levels of education, need to share with others the fear, anger, sadness, happiness, affection, etc., induced by all sorts of events (Rimé, Herbette, & Corsini, 2004; Pennebaker, Zech, & Rimé, 2001).
The study of Emotional Expression has a long history, which dates back to the 1870s with scientific investigations conducted by Charles Darwin who emphasized the biological utility of emotional expression. His theory contributed to the development of an evolutionary-expressive approach to emotions, which suggests that emotions exist because they contribute to survival. Kennedy-Moore and Watson (1999) regard emotional expression as having four central functions, (i) the promotion of arousal regulation, (ii) self-understanding, (iii) the development of coping skills and finally, (iv) to help improve interpersonal relationships.

It has also been noticed that the propensity to socially share emotions is not accounted for several personality traits. As Pennebaker and Graybeal (2001) have stated “general personality dimensions such as the “Big Five” have no predictive value for the social sharing of emotion” (p. 522). However, as expected, alexithymia - a particular personality dimension, which involves a marked difficulty to use appropriate language to express and describe feelings, and to differentiate them from bodily sensations, a striking paucity of fantasies and a utilitarian way of thinking (Sifneos, 2000), has been repeatedly found to negatively correlate with emotional sharing (especially regarding negative emotions) (Taylor, Bagby, & Parker, 1997). Gross (2002) claims that emotional expression plays a crucial part in the way we process emotions, as well as in reducing distress which results from negative emotional experiences.

Nevertheless, it has also been observed that even if people need to share all sorts of emotions, guilt, shame, and frustration are less frequently expressed and socially shared (Rimé, Hervette, & Corsini, 2004; Finkenauer & Rimé, 1998). This apparently paradoxical phenomenon has to do with attitudes that reflect the socially, culturally (and sub-culturally) imposed norms regarding the acceptability and/or unacceptability of sharing certain emotions with other people.

The need to share one’s emotions is even more imperative in the cases when the individual experiences negative emotions of high intensity. Research has shown that the need of socially sharing emotions strongly depends on the degree of destructiveness of the event, namely, the more negative, disruptive the event, the higher the frequency of sharing it (Pennebaker et al., 2001). The inclination to share such debilitating emotions has been steadily noticed after oil platform disasters (Ersland, Weisoeth, & Sund, 1989), earthquakes (Pennebaker & Haber, 1993), war (see effects of the Persian Gulf War in Pennebaker & Haber, 1993), and other more individualized negative events, such as the loss of a loved one (Schoenberg, Carr, Peretz, Kutscher, & Cherico, 1975), chronic illness (e.g., diagnosis with cancer, see Mitchell & Glickman, 1977), or assaults, sexual abuse, severe, life-threatening illness, divorce, etc. (Janoff-Bulman, 1992). To put it briefly, research within reactions after confronting traumatic experiences has evidenced that such events intensify the subject’s need to be with other people and to share with them the events and especially the emotions experienced (Rimé,
Anthropology has recounted that for ages, humans (especially Westerners, but not exclusively) have appealed to this form of relief both in normal and ritualistic contexts (secular or religious, private or public) with the specific purpose of healing (different forms of symbolic healing, for more see Davis-Floyd, 1992; Georges, 2007). In most Western cultures, confession-like forms of disclosure have a long history both in folk understanding and much recently for specialists as well. At different periods of time, one of the major roles of confessional disclosure was that of facilitating self-knowledge (γνῶθι σεαυτόν18), either for being able to compare behavior in order to overcome defects (e.g., Stoics), or for exposing hidden thoughts and sins, thus attaining relief (e.g., Christian fate) (for more see Georges, 2007).

Confess your faults one to another, and pray one for another, that ye may be healed.

James 5:16

Later, when confession became mandatory in most Christian religious systems, the ‘treatment’ of sins via confession got embedded in depth in folk-understanding as well (Georges, 2007).

Early forms of psychotherapy borrowed the function of self-disclosure, slowly altering the primarily religious purposes into more medical ones (Georges, 2007). Since “with few exceptions, the medium by which people come to alter their self-perceptions is language” (Pennebaker & Graybeal, 2001, p. 90), converting and expressing one’s experiences into words has become one of the central tenets of different forms of psychotherapy (Pennebaker, 2007). This far, most types of psychotherapy (psychodynamic, humanistic, cognitive-behavioral, etc.) (Manier & Olivares, 2005) do heavily rely on translating experiences (especially stressful ones) into words, and have shown that talking, verbalizing one’s stress and trauma related experiences may be highly beneficial (Foa, Keane, & Friedman, 2003; Gersons, Carlier, Lamberts, & van der Kolk, 2000; Pennebaker, 2007).

Nevertheless, psychology has only relatively recently begun to systematically study the effects and underlying mechanisms of emotional/thought disclosure, and suppression (Pennebaker, Zech, & Rimé, 2001; Rimé, Mesquita, Philippot, & Boca, 1991; Spera, Buhrfeind, & Pennebaker, 1994; Wegner & Lane, 2007).

If humans indeed have this propensity, what would the benefits of emotional disclosure be? Common sense has instinctually associated emotional

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18 γνῶθι σεαυτόν (pronounced gnōthi seauton): Ancient Greek aphorism meaning Know Thyself, inscribed on the forecourt of the Temple of Apollo at Delphi
sharing, verbalization of emotional experiences with significant reduction of the emotional charge (Pennebaker et al., 2001). Different forms of emotional expression have constantly been found to have positive effect on both mental and physical health, as well as on different forms of social functioning as social integration, better interpersonal relationships, etc. (e.g., Pennebaker & Graybeal, 2001; Esterling, Antoni, Kumar, & Schneiderman, 1990; Fawzy, Fawzy, Hyun, Elashoff, Guthrie, Fahey, & Morton, 1993; Băban, 2000).

To emphasize the findings within emotional disclosure, the approach targeting the inverse reaction, emotional inhibition, has revealed its detrimental effects on both physical and mental health (e.g., Florin, Freudenberg, & Hollander, 1985; Larson, 1990; Abbey, 2005 etc.). The suppression of both thoughts and emotions has a negative effect on the individual’s physical functioning (e.g., deterioration in the functioning of the immune, cognitive, system, see Petrie, Booth, & Pennebaker, 1998). The refraining from expressing negative events and the collateral negative emotions has been associated with poorer physical health and lower psychological functioning (Finkenauer & Rimé, 1998). Interestingly, not only the suppression of negative emotions, but also the deprivation of experiencing, or inhibition of expressing positive emotions has been found to have a similar effect (Zautra, 2003).

In other words, we could say that the disclosure of emotions related especially to a negative event seems to help the individual to organize the experiences he/she has confronted with, and make sense (find meaning, sometimes create meaning) of the event and its possible aftermaths (Park & Blumberg, 2002), thus attaining a better overall functioning.

The two main research areas and approaches investigating the effects of emotional disclosure are those effectuated in Rimé’s laboratory, and those by James Pennebaker and colleagues (Pennebaker et al., 2001). Rimé’s research has mainly had a double focus:

(i) the verbalization of emotionally charged events, and
(ii) the effects of this verbalization on the emotional recovery from such events [emotional recovery being defined as “the evolution over time of the arousal still elicited when a given emotional memory is re-accessed” (Pennebaker et al., 2001, p. 519)].

On the other hand, Pennebaker and colleagues have thoroughly investigated the effects of disclosing personal events on both physical and psychological health.

The mechanisms underlying emotional disclosure are not yet fully understood. Some authors sustain that emotional disclosure integrates cognitive and emotional processes. This in turn would offer the patient the possibility of increasing at least insight, self-reflection, organization and analysis of the experience (Smyth & Helm, 2003), and not simply of venting emotions. Some theories sustain that through habituation, the process of cognitive restructuring of
trauma-related thoughts is facilitated, subsequently leading to a perception of diminished levels of stress (Foa & Kozak, 1986; Lepore, 1997). Other theories sustain that by disclosing his/her emotions, the individual acquires greater insight and self-understanding (Pennebaker & Francis, 1996), and cognitive resolution (Lepore, Ragan, & Jones, 2000). Thus, disclosure would be much more helpful than the simple expression of emotions.

Benefits of emotional disclosure

A thorough review of the literature has evinced that those who express their feelings and thoughts related to the stressful event, would experience improvements both in their psychological (e.g., emotional) and physiological functioning (e.g., immune system) (Băban, 2000; Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Greenberg & Leopre, 2004; Pennebaker, & Chung, 2007; Pannebaker & Graybeal, 2001; Smyth, 1998).

The identified major areas are:

a. **Long-term enhancement of different aspects of physical and psychological health**: improved immune functioning (e.g., Petrie, Booth, & Pennebaker, 1998); reduced intensity of symptoms in asthma and rheumatoid patients (e.g., Kelley, Lumley, & Leisen, 1997; Smyth, Stone, Hurewitz, & Kaell, 1999), enhanced emotional comfort (Rosenberg, Rosenberg, & Ernstoff, 2002; Zech, 2000), etc.

b. **Construction and consolidation of emotionally charged memories** (Finkenauer & Rimé, 1998; Rimé, Herbette, & Corsini, 2004) by searching for a more adaptive meaning of the events and their repercussions; effortful implication to understand the means and ends of the event; higher need to organize the disparate aspects of the event, etc.

c. **Development, improvement of interpersonal relationships and social (re)integration**. During emotional disclosure the discloser may activate in the listener empathy, which further may strengthen and tighten the relationship between discloser and audience. Exceptions to these are the situations when:

   (i) **shameful, socially and morally reprovable experiences are shared** (for more see Finkenauer & Rimé, 1998; Kállay & Băban, 2008; Rimé, Herbette, & Corsini, 2004),

   (ii) **when deeply embedded social and cultural norms ban different forms of emotional disclosure** (e.g., Ojibwa, Ndembu, etc., see George, 2007), or the case of ,
Individuals who try to deal with highly stressful situations and their repercussions without recognizing the importance and influence of emotions. In some of these situations the disclosure may have negative effect on the discloser’s functioning (Pennebaker, 2007).

Thus, roughly put, at least in most Western cultures, emotional disclosure mostly benefits those who are willing and able to disclose their experiences, and its functions may be grouped in the next major categories:

- **self-understanding**, 
- **development of coping skills**, 
- **emotion regulation**, and 
- **improvement of interpersonal relationships** (Kennedy-Moore & Watson, 1999).

As we already mentioned, humans have an innate need to share the emotions they experience, thus trying to naturally optimize their emotional life. Capitalizing on this human propensity, Pennebaker and colleagues have developed a special form of emotional expression, the method called **Expressive Writing (EW)**, by which they also tried to eliminate the possible inconveniences of verbal, face-to-face disclosures (disclosure of socially stigmatizing events that may ). In their first published study (Pennebaker & Beall, 1986) college students were asked to write about their most traumatic and/or upsetting experiences on 4 consecutive days, for 15 minutes daily. The control group on the other hand had to write about trivial topics in the same time-frame conditions. The results revealed that those students who wrote about their most stressful events reported 4 months later significant benefits in physical functioning compared to the control group (e.g., less frequent visits to medical centers). The constantly growing research within this paradigm over the last 20 years has proven its beneficial effects on emotional and physical functioning in individuals who had to confront highly stressful events (Baikie & Wilhelm, 2005).

In the following, we will present the main aspects of Expressive Writing.

**Expressive Writing**

The effects of emotional disclosure being vastly documented, in the 1980’s Pennebaker and Beall have set out to more systematically investigate the effects of this phenomenon and especially the effects of a specific form of it: **Expressive Writing (EW)**. The standard procedure the authors have come up with is deceivingly simple. However, in most cases its effects are more than impressive. Participants are randomly assigned to control and experimental conditions. The control group is instructed to write about trivial, mundane topics in a concrete, factual manner (Manier & Olivares, 2005). The participants assigned to the
experimental group have to write about the stressful (internal and external) events that bother them 15-20 minutes a day for 3-4 consecutive days. Compared to the base-line parameters of functioning, a considerable number of studies have found at the follow-up (six weeks or more) assessment improvements in different aspects of functioning within the participants assigned to the experimental condition. Improvements have been documented in both physical and psychological health (see more at Common benefits of Expressive Writing).

Regardless its apparent simplicity, the actual mechanisms implied in the modifying effects of expressive writing are extremely complex, and context and individual dependent. As Sloan and Marx (2004) have stated, one cannot identify a single theory that may account for all the thus far identified effects of Expressive Writing. The major mechanisms involved are presumed to be:

(i) **emotional catharsis** (Pennebaker & Beall, 1986);
(ii) **habituation** through repeated exposure through writing with the topic at hand (Lepore & Smyth, 2002);
(iii) **cognitive restructuring** of trauma-related thoughts (Foia & Kozak, 1986; Lepore, 1997);
(iv) mechanisms increasing insight and self-understanding may enhance the process of organizing stressful material, facilitate meaning making, and a coherent narrative (Park & Blumberg, 2002; Pennebaker & Graybeal, 2001; Pennebaker, 1997), and so on.

The effects of expressive writing usually are dynamic, and unfold over time. In some cases, patients relate emotional discomfort during, and in the immediate temporal proximity of writing. During sessions, and after the intervention, the levels of distress abase, and the participants experience enhanced emotional and mental states.

Pennebaker (2004) has grouped the major effects of expressive writing with underlying mechanisms into the following groups:

**A. Immediate changes**

As oftentimes observed, the immediate impact of expressive writing is a momentary increase of distress and negative mood (Baikie & Wilhelm, 2001). When trying to remember different aspects of the event, or re-experience the produced emotions in order to conform to the instruction, people tend to re-experience similar, nevertheless less intense emotions, as those experienced around the event. Thus, even if in the immediate aftermath of the intervention participants tend to feel a slightly higher level of distress, the long-term benefits surpass the short-term emotional inconveniences.
Immediate changes:

- **cognitive changes**: labeling, structuring, and (re)organizing the emotionally laden memories; the conversion of experiences into linguistic structure.

- **emotional changes**: habituation and extinction.

**B. Long-term changes**: cognitive and emotional; EW was found to free up working memory, thus enabling participants to start dealing with other issues as well (Klein & Boals, 2001) (for more see Pennebaker, 2007).

**Social changes**: social opening – some studies have revealed, that a considerable percentage of participants who, before the EW intervention, have not related to anyone their emotionally charged experiences, after disclosing through writing started also sharing their traumatic experiences to others as well (Pennebaker, Barger, & Tiebout, 1989).

**Biological changes/effects**: usually appear months after the intervention, and are mostly represented by changes in the autonomic and immune systems’ functioning (Sloan & Marx, 2004).

Expressive Writing leads to benefits observable both objectively (e.g., significantly reduced number of visits to the doctor, improved immune system functioning, reduced blood-pressure, etc.), and through self-reports, regarding (i) improvement of physical health, and (ii) improvement of emotional health (Baikie & Wilhelm, 2005). Self-reported improvements have been observed in positive changes in mood/affect (Pennebaker, Kiecolt-Glaser, & Glaser, 1988), psychological well-being (Park & Blumberg, 2002), reduction of depressive symptoms in students before exams (Lepore, 1997), etc.

Benefits after sessions of Expressive Writing have been observed in two main domains: medical and psychological conditions, though as Baikie and Wilhelm (2005) notice, the most robust and consistent findings regarding the benefits of Expressive Writing have been observed in positive changes within different aspects of physical health.

Regarding medical conditions, research reveals that asthma patients, those with rheumatoid arthritis (Broderick, Stone, Smyth, & Kaell, 2004), cancer patients (Stanton & Danoff-Burg, 2002), showed after participating in the Expressive Writing paradigm improved physical functioning (for more details see Baikie & Wilhelm, 2005; Smyth, Stone, Hurewitz, & Kaell, 1999), while patients with HIV showed improved immune functioning (Petrie, Fontanilla, Thomas, Booth, & Pennebaker, 2004).

From the point of view of psychological functioning, Expressive Writing has resulted in more or less consistent improvements in posttraumatic reactions (Schoutrop, Lange, Hanewald, Davidovich, & Salomon, 2002), and other aspects...
of psychological functioning (Deters & Range, 2003). Nevertheless, several studies have proven that Expressive Writing has detrimental effects on adult survivors of childhood sexual abuse (Batten, Follette, Rasmussen Hall, & Palm, 2002).

Common subjective and objective benefits of Expressive Writing

Baikie and Wilhelm (2006) have summarized the major benefits of EW as follows:

a. **Physical and psychological health outcomes**: fewer stress-related visits to medical care (Cameron & Nichols, 1998), improved immune system functioning, reduced levels of blood pressure, improved lung and liver functioning, improved mood, fewer intrusive thoughts and avoiding symptoms (mostly specific to highly stressful encounters), etc.

b. **Social and behavioral outcomes**: reduced absenteeism, quicker reemployment after job-loss, improved academic and sport performances, improved behavior (social and behavioral).

Expressive Writing has been found to lead to important benefits in different populations, including undergraduate students. In their case, researchers have found that the Expressive Writing results in: reduced number of health care visits and fewer physical symptoms (Pennebaker & Francis, 1996), improved immune system functioning (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994), increased grades (Lumley & Provenzano, 2003), and increased positive mood (Greenberg, Wortman, & Stone, 1996; Smyth, 1998).

In spite of its success, several studies have noticed that the expressive writing paradigm does not benefit everybody under all circumstances (Gidron, Peri, Connolly, & Shalev, 1996; Manier & Olivares, 2005). It has been evinced that the Expressive Writing procedure does not benefit severely traumatized individuals – in such cases, more intensive and more specific interventions may be needed (Foa, Keane, & Friedman, 2003). Consequently, it has been found that initial levels of distress may moderate the effect of the Expressive Writing procedure. In the same vein, gender was also found to moderate the effects of emotional disclosure through writing, men benefiting more from writing about their stressful experiences than women (Smyth, 1998).

More recent approaches have tried to improve the effects of the EW by completing its classic form with bibliotherapy (Smyth & Helm, 2003), encourage the participants to search for benefits in their experiences (King & Miner, 2000; Stanton & Danoff-Burg, 2002), etc.
Procedure

The standard procedure of this paradigm is as follows: subjects, after being assessed on their levels of physical and/or psychological functioning, have to complete the typical 3 or 4 day writing session, in which they daily have to write about their deepest feelings and thoughts for 15-20 minutes. Some studies have also suggested that the lengthening of writing sessions may lead to even better results (Smyth, 1998). After 4 to 6 weeks, the subjects are assessed again on the initially evaluated dimensions (posttest) to assess the impact of the procedure.

Different studies have used different types of instructions. Usually, the experimental group is instructed to write either about their deepest thoughts (trauma fact group), their deepest emotions about the event (trauma emotion group), or both (trauma-combo group). Usually, the control group is instructed to write about life-events of minor importance (e.g., describe their home, write about their shoes, etc.). Data support the idea that the trauma-combo group benefits most from the Expressive Writing paradigm.

Nevertheless, research within this paradigm has started positing questions whether the method would in all cases lead to emotional and health benefits, who would benefit most out of it (males, females, individuals with high or low education), as well as the timing of intervention. Would individuals benefit as much if they were instructed to write about their deepest thoughts and feelings immediately after the negative event, or a certain amount of time should have elapsed between event and intervention?

On the overall, the perusing of the literature suggests that the most benefits from Expressive Writing tend to be more often experienced by participants with considerable levels of distress. Briefly stated, this paradigm sustains that after subjects express through writing their deepest thoughts about a negative event, their level of distress would decrease, symptoms of depression would remit, and even positive changes in their overall health would be observable. As Smith’s (1998) meta-analysis evidences, Expressive Writing has been given an important role in the study and practice of reactions following exposure to highly stressful negative events.

The Expressive Writing paradigm has quite successfully been applied to different samples of Romanian populations (students: see Opre, Coman, Källay, Rotaru, & Manier, 2005; cancer patients: Källay & Băban, 2008), evincing again the positive effects of this procedure in ameliorating negative affect. Since this type of intervention is relatively simple and implies reduced costs (writing sessions may not only be conducted in a laboratory, but also at the patients home, or as part of the homework Baikie & Wilhelm, 2001), its consideration as complementary to specific interventions might enhance the positive effect of therapy. On the other hand conducted with individuals with intense, distressing though subclinical symptomatology the effects of EW may facilitate adaptation to the stressful event and its implications.
SUMMARY AND CONCLUSIONS

This chapter has attempted to briefly present major assessment methods and interventions for several typical posttraumatic reactions: pathology (PTSD), resilience, and posttraumatic growth (PTG).

As we have repeatedly emphasized, posttraumatic reactions are highly complex phenomena, which unfold in time. These dynamic processes are extremely sensitive, depending not only on individual characteristics, but also on contextual ones, as well as the interplay between the two. As research has evinced, the normal reaction to trauma would be that of recovery. This natural adaptation process does not mean that these individuals are not affected by the event. On the contrary, adaptive negative reactions are normal, and are supposed to recede in time on their own. Confrontation with natural calamities, witnessing armed personal attack, diagnosis with life-threatening illness, loss of loved ones, combat, being kept hostage, tortured, etc., all are extremely painful situations that affect the individual, and disrupt his/her biopsychosocial equilibrium, leading to distress and different forms of malfunctioning. Nevertheless, even if seriously affected (and probably not able to ever forget such an encounter), most individuals recover in time – return to the pre-trauma (or close to) level of functioning simultaneously maintaining the memory of the event (an extremely good example is that of many Holocaust survivors who have been forced to confront complex traumas for a long period of time, as: life-threat, insecurity, uncertainty, humiliation, starvation, violence, major losses – family, home, possessions, job, etc. – and still be able to start and live a life within the limits of normal functioning, though never forgetting the years of the Ghettos – e.g., Frankl).

On the other hand, there is a considerable percentage of people who cannot recover after a traumatic encounter, and either succumb or will never attain the pre-trauma levels of homeostasis. These individuals usually develop clinically significant or subsyndromal reactions, and would benefit of professional assistance.

Another pathway of reactions is represented by those who even if experience impaired functioning (distress reaching even clinical intensity), also experience at some point growth on different dimensions of functioning (PTG). The fourth major pathway of reaction is resilience, where disruptions in functioning are minimal and do not disrupt normal functioning.

Because most of the people will have to confront at some point in life at least a highly stressful situation, and malfunctioning has important personal and economic implications, these major types of reactions bring into light a crucial question: how could disruptions be reduced as much as possible and offer the individuals the necessary support either to recover as quickly as possible, or to foster natural recovery.

The first approaches attempted to reduce the major debilities induced by PTSD. These interventions target the amelioration of negative reactions and
comorbid conditions. These interventions however, have been attacked on the grounds that have no “sufficient breadth, generalizability, cultural and developmental sensitivity, and ecological validity” (Layne et al., 2007, p. 497).

Seen the shortcomings of the PTSD interventions, literature has started focusing on the research and promotion of resilience, thus trying to identify the factors through which pathology may be prevented and intervention be tailored. Resilience interventions have also been criticized for lacking “of convincing evidence regarding effectiveness, relevance for high-magnitude stressors, understanding of both trauma theory and posttraumatic adjustment processes, and clear prioritization of needs and objectives” (Norris, Murphy, Baker, & Perilla, 2003, as cited in Layne et al., 2007, p. 497).

Later on, scientific interest rediscovered the potential to grow due to traumatic encounters, and therapeutic approaches have again been enriched with novel avenues, combining amelioration of symptomatology with facilitation of growth.

With all these developments in therapeutic approaches, the major questions opening this chapter mainly persist: (i) who needs intervention without thwarting the natural process of recovery, (ii) when to offer intervention, (iii) who would benefit from growth facilitation, and (iv) who would benefit from prevention programs.

In the opinion of Layne et al. (2007), all these problematic issues may be to some degree reduced if: (i) the conceptual models would offer a more precise identification of risk factors, (ii) research would facilitate the identification of persons in need for prevention and intervention programs (identify risk, vulnerability, promotive, and protective factors), and those who would be able to adapt efficiently without any form of external intervention.

To all these said above, we would like to add that therapeutic approaches should more seriously take into consideration the integration of approaches, in the sense that they should complete the amelioration of negative symptomatology with facilitation of growth and development of different forms of strength that would further on enhance the process of adaptation of the individual.
FINAL CONCLUSIONS

As repeatedly reiterated all along this volume, trauma, suffering, and devastation are universal phenomena – people have always encountered extremely stressful events with extremely painful implications. Some have succumbed, some have shown remarkable resilience, others recovered and struggled to go on with their lives, and some, even in the most hopeless situations have had the power to overcome tragedy and attain unexpected levels of growth.

Before World War II, psychology has had three distinct missions:

(i) curing mental illness,
(ii) making the lives of all people more productive and fulfilling, and,
(iii) identifying and nurturing high talent (Seligman & Csikszentmihalyi, 2000).

However, after WWII, due to specific social, economical, political, etc. influences, psychology has started to concentrate on the healing component of this initially trifurcated mission, focusing on “repairing damage within a disease model of human functioning” (Seligman & Csikszentmihalyi, 2000, p. 5). Thus, the second and third, equally important components have gradually fallen into oblivion.

This general tendency in the development of psychological approaches has acquired specific significance within the study of traumatic confrontations and the treatment of posttraumatic reactions. As one could see by perusing the previous chapters, initial approaches within the mainstream research have almost exclusively equated traumatic encounters with the development of some form of pathology or severe malfunctioning. These investigations systematically omitted to consider the rigorous investigation of those individuals who recover (and/or eventually learn “life lessons” from such encounters), or ‘surprisingly’ manifest buoyancy, not to mention those who might have experienced some sort of growth due to tragedy. Research within this domain (study of pathological reactions) has tried to elucidate factors that would promote the development and protect against the development of pathology (risk and protective factors).

Similarly, until relatively recently, most therapeutic approaches also preponderantly focused on the amelioration of the posttraumatic symptomatology, assiduously trying to palliate different manifestations of anxiety, depression, reduce the frequency and effects of intrusive thoughts, flashback memories, prevent the development of addictive behaviors, and so on.

Counterbalancing this excessive focus on the negative side, the last decade of the 20th century has started to more intensely investigate other, non-pathological clusters of possible posttraumatic reactions: resilience, recovery, thriving, growth, etc. Concomitantly, the turning of the attention away form the study pathology
toward positive human functioning (in order to achieve an optimal level of health and well-being), has brought considerable benefits at the individual, socio-economic, and practical level.

Nevertheless, a thorough scrutiny of both approaches has revealed several shortcomings, out of which we will only sum here up the most important, inter-related ones:

a. research has mostly approached trauma and posttraumatic reactions as pure, one-sided outcomes (either pathology or growth). However, trauma and posttraumatic reactions are extremely complex, multi-faceted phenomena and the encountering of individuals with only negative or positive reactions is highly unlikely.

b. the developed theories and models usually target isolated phenomena, thus leading mostly to descriptive models, unable to capture the entire dynamic of the posttraumatic process. Even in the best situations, models or theories are able to explain the underlying mechanisms of isolated reactions or affected domains, without being able to encompass the overall posttraumatic phenomenon (this far no model or theory of posttraumatic reactions has been developed that would be able to explain simultaneously positive, negative, and resilient reactions, not to mention the qualitative and quantitative proportion between them).

Regardless these shortcomings, the progress in the investigation of posttraumatic reactions has been remarkable in the last decades, and the study of negative reactions has produced a noteworthy amount of information considering for example the risk factors that predispose individuals toward negative reactions (for more detail see Chapter I). Consequently, it has been revealed that the most likely predictors of pathology are: (i) peri-traumatic reactions (emotions and dissociation experienced around the event); (ii) perceived life-threat; (iii) level of perceived emotional and instrumental support; (iv) prior traumatic encounters; (v) family history of psycho-pathology etc.

By the same token, research within other (possibly positive) posttraumatic reactions has evinced protective factors, or factors that might lead to more adaptive reactions, and possibly facilitate growth. Within these factors, the perception of adequate support (emotional and instrumental), intrinsic religiousness, and specific coping mechanisms (positive reinterpretation of the event, active coping, etc.), impact of the event have proven to exert a great protective/predictive power, simultaneously giving the individual the opportunity to develop through the struggle with the traumatic event and its consequences.
Interestingly, two findings within the domain of risk and protective factors have intrigued researchers:

- **the perceived impact of the event**: namely, the greater the emotional and cognitive impact of the event the greater are the chances to unleash mechanisms that lead either to pathology or growth. Stressors perceived as having mild to moderate intensity would probably not lead to either experiencing clinically significant negative reactions, nor would they activate the specific mechanisms that might lead to growth.

- **neuroticism** – research within pathology has repeatedly found a strong relationship between pathology and neuroticism. However, the systematic inquiry of this aspect has not produced any conclusive results regarding the relationship between growth and neuroticism (Park, 1998). Thus, as several authors have proposed, positive and negative aspects within posttraumatic reactions may not exclude each other, but instead may be independent and co-exist (Cacioppo, Gardner, Berntson, 1997; Larsen, McGraw, & Cacioppo, 2001, issue discussed in more detail in Chapter III).

The implications of these findings are extremely important, since through this it may be inferred that even if a person is predisposed (by personality factors for example) to develop clinically significant levels of impairment, the possibility of experiencing growth is not thwarted by these specific predisposing characteristics. In the same vein, since the experiencing of genuine growth has been found to conceal adaptive potential, the benefits of this issue become obvious.

Besides the problematic issues mentioned this far, the investigation of PTG has encountered several other difficulties as well, out of which we will selectively re-discuss only the most important ones. Consequently, research has treated the reports of posttraumatic growth as either stable, highly desired outcomes (e.g., Schaefer & Moos, 1998; Tedeschi & Calhoun, 1996; 2004), or as coping strategies continuously manifesting themselves as self-perceived, improved post-event functioning (e.g., Affleck & Tennen, 1996). One of the most serious implications of these aspects is that considering growth as a stable outcome has automatically led to its association with stable, positive affectivity, what actually is not the case. As repeatedly underscored along this volume, **intense, trauma-related distress and growth are orthogonal constructs that do not exclude each other**. Moreover, certain levels of distress are actually needed to activate personal development and posttraumatic growth, while certain amounts of emotional discomfort has to be present in order to maintain the involved mechanisms active.

Another of the most problematic issues within positive posttraumatic reactions is the problem of **validity** and **stability** of reports and experiences of posttraumatic growth. Since latent, but pervasive attitudes in scientific research
may be to some degree concentrated in the doubt: “If you can’t measure it [rigorously],
does it exist?” (see also Brown, 2010), it is natural that specific questions arose: is
growth people report to have experienced genuine, or only a consciously
concocted narrative in order to conform to social norms (social desirability)?, or an
unconscious strategy, an illusion in order to experience some kind of comfort? On
the other hand, once experienced how long would growth last?

Literature has provided more or less working solutions for testing the
validity of reported PTG [comparing the reports of the affected individuals with
the reports of significant others about the affected individuals (Park et al., 1996),
and double-checking reports of PTG through Downward Temporal Comparison
(McFarland & Alvaro, 2000)], but we would go a little bit further:

what is more important:

1. to know whether the growth reported at some point in the posttraumatic process is
genuine or not? (even genuine growth might vanish under the effects of subsequent
conditions) or

2. to understand the way in which the person (with or without the assistance of a
therapist) uses this experience of growth in his/her own adaptational advantage
along the posttraumatic process irregardless its initial validity?

This question sheds some light to another important idea promoted in this
volume, that of referring to the complexity of the posttraumatic trajectory. We
have repeatedly emphasized that the short- and long-term reactions following
traumatic encounters depend on the intricate interplay among myriads of
intrapersonal and contextual factors, and that posttraumatic pathways are not finite
and stable outcomes, but intertwined processes that still depend on further
interactions.

Because of the possible adaptive values it purports, we think that the
consideration of PTG as a possible preventive/or protective factor should also
seriously be taken into consideration. Posttraumatic growth and thriving are worth
encouraging, because one of the effects on individual lives may be the chance to
greatly reduce the long-term aversive experiences of people who have had to face
adversity (Calhoun & Tedeschi, 2004). Helping people identify and cultivate their
strengths in the midst of crises, may help alleviate suffering, prevent the
appearance of long-term negative consequences, and develop compensatory means
to face the outcome and/or the changed life-circumstances (Calhoun & Tedeschi,
1999). Nevertheless, in order to do this, one has to know what kind of strengths
would be benefic to highlight in specific contexts. Those who bounce back to a
level comparable with their previous level of functioning, at the beginning of the
posttraumatic process, cost the health-care system less than those who succumb,
or do not attain a functional life (recover) – thus, if for no other reason than this,
PTG is worth studying (Carver, 1998).
As we have discussed along the previous chapters, the study of posttraumatic reactions other than pathology does not mean that one would try to disparage the huge impact tragedy leaves on human life. Traumatic encounters always induce changes in the person who confronts them. Even the quasi ideal condition, that of being resilient (showing non-significant changes in functioning) does not mean that the person does not fully understand the importance and possible implications of the confrontation, but it means that the person possesses specific characteristics by which is able to face the confrontation without being severely affected. However, resilience is not an overarching protective shield that would defend the individual in all traumatic encounters – it would be ideal, but highly improbable that a person could be impervious and immune to all possible tragedies (though, it is possible that some people, by grace of fate, will never encounter exactly the traumas they would be vulnerable to).

When considering the posttraumatic healing process (irregardless the intensity of damage produced by the encounter itself), one should not forget that the absence of symptomatology does not mean recovery and health. Consequently, we subscribe to the stand that when approaching [(theoretically or practically (i.e., therapeutically)] posttraumatic reactions it is extremely important to focus not only on the pathway and amelioration of negative reactions, but also to simultaneously concentrate on existing strengths and/or their development, thus assisting the process of emotional co-activation (for more see Chapter III). This would further on facilitate the development of context-dependent adaptive reactions, and the building of event and life narratives. In such cases do Ortega y Gasset’s words sound really pensive: one has to (re)create his/her own life – the most important aspect being what one becomes in the given situation (as cited in Popper, 2008, p. 31). These processes usually assist the individual in attaining the necessary impetus to reconsider life as such and the newly created life conditions, and to try to search for aspects that might be used to one’s advantage. Such an approach would benefit not only those who develop disorders of clinical intensity explicitly related to a traumatic encounter, but also those persons who present sub-syndromal reactions, or diverse symptoms of depression and anxiety not necessarily related to a specific life-shattering encounter.

The successful implementation of a broader approach to traumatic encounters and possible reactions has to target not only research and intervention at the level of the individual, but in some cases the entire society as well. Namely, it would involve changing cultural expectations; creating the awareness that trauma may not only result in pain and suffering, but that its impact may sometimes be transformed in individual growth as well (Aldwin, 1994; Tedeschi & Calhoun, 1995; Park, 1998).

The development of social awareness regarding the possibility of growth in the aftermath of adversity may be accomplished by developing a linguistic and conceptual framework, rigorous methodology (Aldwin, 1994; Tedeschi & Calhoun,
1995), based on what has existed in culture “for millennia in the form of various religious, mythological, and philosophical traditions” (Park, 1998, p. 312).

We would like to end our enquiry in the obscure welter of posttraumatic reactions by returning to the theme we began this enquiry – to *timsbel*. We believe that in such delicate cases, as traumatic confrontations, by no means may responsibility exclusively be attributed to the affected individual. Clearly, his/her choices depend on an indefinitely large number of factors. Furthermore, we think that for the successful adaptation, for achieving thriving and growth in spite and due to such encounters, for the development of efficient prevention and intervention programs that would sustain such efforts, it would be crucial to involve both the individual, his/her immediate environment, larger social contexts, and so on. Thus, in fact the responsibility of one’s thriving after trauma is multifold, and what depends on us is whether we would accept to get involved in the elucidation and profound understanding of the entire image, and the development of appropriate assistance.
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