

## Emergency and post-emergency situations Educational and teaching model

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### Abstract

I disastri, le crisi e le catastrofi (un'alluvione, un terremoto, un grave incidente industriale) comportano, interventi logistici, sanitari, psicologici, educativi e sociali particolari/straordinari. Tra le più importanti aree di ricerca della *pedagogia* e della *didattica* in *condizioni di emergenza e di post emergenza* - finalizzate a migliorare l'educazione di soggetti che in situazioni di crisi sono a *rischio di sofferenza psicologica e di fallimento nello studio* - troviamo quella relativa a soggetti *resilienti* che hanno successo nello studio nonostante condizioni stressanti/avverse. Nel presente lavoro viene definito il concetto di resilienza e esaminati gli studi ad essa relativi. Lo scopo è quello di evidenziare la necessità di un'educazione alla resilienza rivolta a soggetti a rischio. Infine, si vuole contribuire a: *delineare le caratteristiche dell'apprendimento e dello studio nelle condizioni di emergenza/criticità, definire un possibile modello di intervento educativo e didattico nelle condizioni indicate.*

Disasters, crises and catastrophes (floods, earthquakes, industrial accidents) require special logistic, health, psychological, educational and social intervention.

Important areas of research in *teaching during emergency and post-emergency situations* - with the aim of improving education and learning methods for *students who face the risk of psychological suffering and consequent academic failure* - focuses on *resilient subjects* who succeed in studying despite the presence of adverse and particularly stressful conditions. Definitions of *resiliency* are discussed and prominent studies are examined. It has been determined that *resiliency* is necessary for students at risk of academic failure. This paper *aims at outlining aspects of learning and studying in emergency/critical situations* and *defining an educational and teaching intervention model to be adopted under such conditions.*

**Parole chiave:** emergenza, studio/apprendimento, didattica, educazione alla resilienza

**Keywords:** emergency, learning/studying, teaching, educational resiliency

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### **1. Definition of disaster, crisis and catastrophe**

A *disaster* can be defined as a *natural or man-made* (or technological) event causing substantial physical damage or destruction, loss of life, and or a drastic change in the environment. Events such as earthquakes, floods, catastrophic accidents, fires, or explosions fall into this category as they are all events that can not only cause damage to life and property but can also destroy the economic, social and cultural life of a given community. All disasters are hence the result of human failure to introduce appropriate disaster management measures. Even *catastrophes* are routinely divided into natural or man-made, but while the disaster causes consequences that can be absorbed by the target system, the catastrophe produces a total disruption in the codes. Human made catastrophes are the consequence of technological or human hazards (stampedes, fires, transport accidents, industrial accidents, oil spills, nuclear explosions and wars). An *environmental catastrophe* is caused by human activity and therefore different from *natural catastrophe*. In this case, the impact of alterations upon the ecosystem caused by society and modern life has led to widespread and often long-lasting consequences (wildlife death and extinction, severe disruption of human life - often imposing migration). A *natural catastrophe* is the consequence of a *natural hazard* (volcanic eruption, earthquake, landslide) which goes from a potential phase into an active one, and as a result affects all human activity. Human vulnerability is often exacerbated by the lack of adequate emergency management, leading to financial, structural, and human loss (Wisner et al., 2004). The extent of such loss will inevitably depend on the ability of the population to withstand, confront or resist the catastrophe they undergo: it depends on their resilience. Disasters result when such hazards meet *vulnerability*.

A *crisis* occurs when specific, unexpected, and non-routine event or series of events - of an extraordinary nature - trigger extreme tension and stress within a community or an individual, requiring important decisions and actions to be taken in order to resolve and overcome the emergency. The inability to recognize a crisis before it becomes a dangerous situation is due to denial and other psychological responses that provide assistance and protection for our emotions (Aguirre & Quarantelli, 2008).

### **2. Impact of disasters on victims.**

Disasters can cause severe psychological disturbance in subjects such as Post Traumatic Stress Disorder (PTSD), depression and anxiety.

The criteria for PTSD include: exposure to a traumatic and fearful event; re-experiencing a traumatic event, usually in flashbacks or nightmares; avoidance of

situations and stimuli that could reawaken the trauma; increased level of arousal, sleep difficulties, irritability, and concentration problems (American Psychiatric Association, 2000). In general, the nature of the disaster and the extent of the trauma it wreaks are more predictive of the extent of psychopathology that follows than are characteristics of the victims (Sundin & Horowitz, 2009).

Subjects with a pre-existing psychopathology present a risk factor for psychopathology related to a traumatic events, it has been shown in fact that individuals with a psychological disorder are more susceptible to further distress in the aftermath of a disaster (Neria, et al., 2008). Vulnerability is influenced by social networks since we have seen that a lack of perceived or received social support may lead to greater post-disaster distress (Norris et al., 2008).

Mental health fields intervene both pre-disaster in emergency planning and post-disaster in crisis intervention, debriefings, psychotherapy and evaluation of emergency management efforts (Flannery & Everly, 2000).

### **3. The concept of Resilience**

Pedagogy, sociology, anthropology, medicine and psychology have studied the effects of disasters on victims. The term *resilience* refers to the ability to recover from adversity and adapt to change even in the presence of challenging and threatening circumstances. Thus we are referring to an individual's successful adaptation to an emergency situation or crises despite risk, adversity and acute stressors (Zimmerman, 1990).

Resilience has been defined as a dynamic process that can be learned at any given point in life by an individual (Mash & Barkley, 2003; Masten, 2007).

Barnard (1994) identified an individual phenomena that literature repeatedly has shown to correlate with resiliency: a higher level of intelligence; capacity and skills for developing intimate relationships; achievement orientation in and outside of school; the capacity to construct productive meanings for events in their world that enhances their understanding of these events; being able to selectively disengage from the home and engage with those outside, and then to reengage; being internally oriented and having an internal locus of control and the absence of serious illness during adolescence.

Ahangar (2010) has recently reported listed studies of resilience in relation to personality, cognitive styles and decision making style.

Resilient young people are said to possess two basic sets of skills - inner (intrinsic) and outer (extrinsic) - which contribute to the factors that protect them from falling in the midst of adversity and allow them to continue thriving.

*Inner components (intrinsic)* include: empathy, caring, equity and social justice, safety, restraint and resistance skills, planning and decision making (goal setting, problem solving and creativity), self efficacy, self esteem, acceptance, cultural awareness and spirituality.

*Relationship factors and social skills (extrinsic)* include: caring family, family communications, family support, high-expectations, achievement, family role models, school engagement, parental involvement with school, high expectations school, bonding to school, school boundaries, achievement, caring, community values, adult relationships, positive peer relationships and positive peer influence (Ahangar, 2010). Sills et al. (2004) investigated the relationship between resilience and personality traits, coping styles, and psychiatric symptoms in a sample of college students. In general, the results of this study provided evidence that cognitive hardiness, aspects of coping style and negative life events had a direct impact on measures of psychological and somatic distress. Subjects presenting negative cognitive styles generated more negative life events (dependent events and interpersonal events, while fewer independent or achievement-related events) in comparison with individuals with more positive cognitive styles (Margaret et al., 2001).

A smaller amount of research has explored and outlined individual differences in cognitive and decision making style. A fundamental factor of high resilience is the belief that the individual has control over what is happening in his or her life. To acquire this attitude of ownership an individual needs opportunities to learn and apply decision making and problem solving skills (Tebes et al., 2004).<sup>1</sup>

#### **4. Learning during emergency conditions**

Studying is a complex activity involving an intentional application of the mind to the acquisition and memorizing of knowledge and information needed to carry out a task or test (Domenici, 2011). It may be associated with the perception of a threat to one's self-esteem, safety and way of life.

Repeated failure can lead to conditions of learned helplessness in students, while success and progress in a scholastic setting can stimulate students' confidence in their abilities and develop a sense of empowerment allowing them to acquire coping strategies that can help to limit the debilitating effects of stress (Mak et al., 2011; Ning & Downing, 2012).

Learning during emergency and post-emergency situations is instead conditioned by the stress and trauma the individual is exposed to.

Subjects being taught are facing high levels of stress and in 7-14% of cases suffering from post traumatic stress disorder (PTSD). If these conditions are not taken into consideration within the teaching strategies adopted, various types of learning disorders may arise (Anderson, 1982; Castelli & Sbattella, 2003; DSM IV, 2001; Rossi et al. 2011; Turley & Obrzut, 2012). This theory has been verified in various studies conducted on students who experienced the 2009 earthquake in the city of L'Aquila, Italy (Casacchia & Rossi, 2010).

In the aftermath of the devastating earthquake that hit the capital of the Abruzzi Region, leaving 309 dead, thousands injured and 52,000 homeless, a group of pedagogists at the University of L'Aquila conducted research on pedagogy and teaching during emergency and post-emergency situations in order to create a general plan to cope with such situations and experiment it at the same time.

This study revealed that motivation towards learning, defined mainly as time and commitment dedicated to a task, is greater in the group of students who experienced the 2009 earthquake. Two years following the quake we can assume that student dedication to their studies was twofold: on one hand studying represented a way towards a better future (studying could make up for the damage and loss) on the other hand, through their studies students expressed their will to survive and not be overcome by the adversity the earthquake had caused in their lives (Isidori & Vaccarelli, 2012).

Students who drop out of high school but later manage to obtain a diploma can be defined as educationally resilient because they are able to succeed despite the adverse conditions they face as high school drop-outs. The studies identify and promote factors that allow the individual to gain protection against the adverse effects caused by an at-risk situation, and which ultimately produce students who are academically successful (Wayman, 2002).

### **5. Resilience: educational and teaching model**

In general such an intervention must focus on helping young people acquire strategies that will allow them to develop skills for social emotional, cognitive and physical resilience. Conditions that are imperative in constructing this type of pedagogic-educational model (Isidori, 2011; Isidori & Vaccarelli, 2013; Mantegazza, 2003).

This model is defined as: the heightened likelihood of educational success despite personal vulnerabilities and adversities brought about by environmental conditions and experiences.

The personal strengths most often associated with resilience-with healthy development and successful learning despite risks, include the following:

1. social competence: empathy, communication skills, cross-cultural competence, humor;
2. problem-solving and metacognition: planning, goal-setting, critical thinking, resourcefulness;
3. sense of autonomy and identity: self-efficacy, internal locus of control, mastery, self awareness, detaching from negative influences;
4. sense of purpose and belief in a bright future: a special interest, imagination, goal direction, achievement motivation, educational aspiration, persistence, optimism, sense of meaning.

Research identifies three environmental protective factors that buffer risk and allow development: caring relationships, positive and high expectations, and opportunities to participate and contribute (Waxman et al., 2003).

It is, in any case, important to ask: how can teaching and education allow individuals and groups to regain hope for the future after having gone through a catastrophic event? Can learning represent a means of re-elaborating individual and collective trauma? How can we develop teaching strategies able to enhance the learning process under traumatic and post-traumatic situations?

Bernard (2004) provided a set of works in classrooms and schools:

Teachers and other adults in the school do not take the students' behavior personally (*respect and compassion*) and do not use past behavior or current risks to predict future outcome (*high expectations*). Turnaround teachers assist the student in transforming their personal life narratives from damaged victim to resilient survivor (*reframing*); structured environment that youth develop the attitudes and competencies characteristic of healthy development and successful learning: social competence, problem-solving, and a sense of self and future (*opportunities for participation and contribution*). Finally, the recognition of how their thinking influences their feelings and behaviors (*teaching metacognition*).

In conclusion the intervention on an educational level during emergency and post-emergency situations must focus on helping young people in: overcoming learned helplessness which afflicts subjects facing adverse conditions; developing control and coping strategies. Finally carrying out a recognition of the event experienced focusing on three emotional-cognitive dimensions: causal attribution, assessment strategies and prefiguring a better future.

## Note

1. *Cognitive styles* refer to the impact of mental processes on behaviour. A *style* is reference to habitual patterns or preferred ways of doing something (thinking, learning and teaching) that are consistent over long periods of time and across many areas of activity, remains virtually the same. *Decision style* is primarily a cognitive process that combines the mental activities of perception, information processing or cognition, making a judgment, and coming to closure of the problem. Sternberg, R.J. & Zhang, Li-Fang (2001). *Perspective on Thinking, Learning and Cognitive Styles*. Lawrence Erlbaum Associates. Tebes, J.K., Irish, J.T., Puglisi, V.M.J., Perkins, D.V. (2004). Cognitive transformation as a marker of resilience. *Substance Use Misuse*, N.39 (5), 769-788.

## References

- Aguirre, B.E. & Quarantelli, E.H. (2008). Phenomenology of Death Counts in Disasters: the invisible dead in the 9/11 WTC attack. *International Journal of Mass Emergencies and Disasters*. Vol. 26 (1), 19-39.
- Ahangar, R.G. (June 2010). A study of resilience in relation to personality, cognitive styles and decision making style of management students. *Africa Journal of Business Management*, Vol. 4(6), 953-961.
- Anderson, J.R. (1982). Acquisition of cognitive skill. *Psychological Review*, 89, 369-406.
- American Psychiatric Association (2000). *Manuale Diagnostico e Statistico dei Disturbi Mentali*, Quarta Edizione Rivista (Trad. it.). (2001). Milano: Masson.
- Bandura, A. (2000). *Autoefficacia: Teorie e applicazioni*. Trento: Erickson.
- Barnard, C.P. (1994). Resiliency: a shift in our perception? *Am. J. Fam Therapy*, N. 22, 135–144.
- Bernard, B. (2004). *Resiliency: What we have learned?* Washington: WestEd.
- Casacchia, M. & Rossi, A. (luglio 2010). *Relazione di presentazione del progetto “Benessere psicologico”, finalizzato allo studio dei disagi legati al post sisma*. Università degli Studi dell'Aquila.
- Castelli, C. & Sbattella, F. (2003). *Psicologia dei disastri: interventi relazionali in contesti d'emergenza*. Roma: Carocci.
- Domenici, G. (2011). Valutazione e autovalutazione come risorse aggiuntive nei processi di istruzione. In *Valutazione e competenze*, «Education Sciences & Society», anno 2, n.2, luglio-dicembre 2011, Roma: Armando, pp. 69-82.
- Flannery, B.R. & Everly, G.S. (2000). Continuing Education. Crisis Intervention: A Review. *International Journal of Emergency Mental Health*, N.2, 119-125.
- Isidori, M.V. (2011). *Educatamente con l'emergenza*. Roma: Monolite.
- Isidori, M.V. & Vaccarelli A. (2012). *Formazione e apprendimento in situazioni di emergenza e di post-emergenza*. Roma: Armando Editore.
- Isidori, M.V. & Vaccarelli A. (2013). *Pedagogia dell'emergenza, didattica nell'emergenza. I processi formativi nelle situazioni di criticità individuali e collettive*. Milano: Franco Angeli.
- Mak, W.W.S., Ng, I.S.W., Wong, C.C.Y. (Oct.2011). Resilience: enhancing well-being through the positive cognitive triad. *Journal of counseling psychology*, v.58, n.4, 610-617.
- Mantegazza, R. (2003). *Pedagogia della resistenza. Tracce utopiche per educare a resistere*. Torino: Città Aperta.
- Margaret, B.,- Ted, T., John, D. (2001). Resilience in response to life stress: the effects of coping style and cognitive hardiness. *J. Pers. Individual Differences*, N.34(1), 77-95.
- Mash, E.J. & Barkley R.A. (2003). *Child Psychopathology*, Second edition. New York: The Guilford Press.

- Masten, A.S. (2007). Resiliency in developing systems: Progress and promise as the fourth wave rises. *Development and psychopathology*, N.19, 921-930.
- Neria, Y., Landi, A., Galea S. (2008). Post-traumatic stress disorder following disasters: a systematic review. *Psychological Medicine*, N.38, 467–480.
- Ning, H. & Downing, K. (2012). Influence of student learning experience on academic performance: the mediator and moderator effects of self-regulation and motivation. *British educational research journal*, v.38, n.2, 219-237.
- Norris, F.H., Stevens, S.P., Pfefferbaum, B., Wyche, K.F., Pfefferbaum, R. L. (2008). Community Resilience as a Metaphor, Theory, Set of Capacities and Strategy for Disaster Readiness. *Am. J. Community Psychol*, N.41, 127–150
- Perry, R.W. & Quarantelli E.L. (2005). *What Is A Disaster? New answer to old questions*. London: Routledge.
- Rossi, A., Maggio, R., Riccardi, I., Allegrini, F., Stratta, P. (2011). A quantitative analysis of antidepressant and antipsychotic prescriptions following an earthquake in Italy. *Journal of Traumatic Stress*, 24 (1), 129-132.
- Sills L.C., Cohan L.S., Stein B.M. (2004). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behav. Res. Ther.*, N.44, 585-599.
- Sternberg, R.J. & Zhang, Li-Fang (2001). *Perspective on Thinking, Learning and Cognitive Styles*. Lawrence Erlbaum Associates.
- Sundin, E.C. & Horowitz, M.J. (2009). Impact of event scale: evaluation of 20 years of use. *Psychosom Med.*, N.65, 870-876.
- Tebes, J.K. - Irish, J.T.- Puglisi, V.M.J.- Perkins, D.V. (2004). Cognitive transformation as a marker of resilience. *Substance Use Misuse*, N.39 (5), 769-788.
- Turley, M.R.& Obrzut, J.E. (2012). Neuropsychological effects of posttraumatic stress disorder in children and adolescents. *Canadian Journal of School Psychology*, n.27, 166-182
- Waxman H.C., Gray J.P., Padrón Y.N. (2003). *Review of research on educational resilience*, Center for research on education, diversity & excellence. Santa Cruz: University of Houston.
- Wayman, J.C. (2002). *The Utility of Educational Resilience as a Framework for Studying Degree Attainment in High School Dropouts*, *Journal of Educational Research*, N.95 (3), pp.167-178.
- Wisner, B., Blaikie, P., Cannon, T., Davis, I. (2004). *At Risk - Natural hazards, people's vulnerability and disasters*. Wiltshire Routledge.
- Zimmermann, M.A. (1990). Toward a theory of learned hopefulness: a structural model analysis of participation and empowerment. *Journal of research in personality*, N.2.