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► **To cite this version:**

Hubert Mazurek. Paths for resilience-promoting leaders in the face of ontemporary trends and challenges. CBR-SOBARE 5th Brazilian Congress on Resilience, 2020, Sao Paulo, Brazil. hal-03143616

HAL Id: hal-03143616

<https://hal.science/hal-03143616>

Submitted on 16 Feb 2021

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PATHS FOR RESILIENCE-PROMOTING LEADERS IN THE FACE OF CONTEMPORARY TRENDS AND CHALLENGES

Objective

Resilience exists in many areas. Its use dates back to Antiquity, when jurists gave it the meaning of "bouncing back". "The richness of the metaphor of rebounding and its vitality is reflected in the use of the word resilience in many fields, and their number continues to increase" (Ionescu, 2016, p.16). Attributed first to physics (the resilience of materials), the term is then used in ecology, then in psychology and psychiatry, and today in practically all scientific disciplines: geography, sociology, biology, neurophysiology, town planning, literature, painting, etc.

The craze for this term, before talking about a concept, is stimulating for research, because it allows to change a number of paradigms on the transformations of ecosystems and societies after trauma. Because resilience is linked to trauma, which makes it unique in the study of dynamics: earthquake, fire, economic crisis, accident, medical shock, emotional shock, bullying, failure at school or at work, etc.

The other side of the coin is that the term resilience applies to everything, and to any situation. There follows a trivialization of the term, which becomes polysemous. For some, resilience will be a recovery from previous conditions, for others, it is a development process, for others it is a personal capacity, after a trauma which, for some, is sudden (traumatic event) , for others more constant and sometimes subtle (stress). Faced with this polysemy, interdisciplinary work is needed to make resilience a real concept rather than a rather imprecise notion. I will not define resilience here, many authors have done so (Adger, 2000; Adger, 2006; Brown, 2015; Carpenter et al., 2005; Cote & Nightingale, 2012; Cyrulnik, 2000; Cyrulnik, 2012; Cyrulnik & Jorland, 2012; Folke, 2006; Folke et al., 2002; Folke et al., 2004; Folke et al., 2010; Gunderson, 2000; Haines, 2009; Ionescu, 2011; Ionescu, 2016; Masten, 2014 ; Mazurek, 2020; Meerow et al., 2016; Moberg & Simonsen, 2012; Pourtois et al., 2012; Walker et al., 2004; Walker & Salt, 2006; Xu et al., 2015).

Another problem around resilience lies in its application to subjects or ecosystems, objects of trauma. For some (Cyrulnik, 2000) there are tutors who facilitate the process of resilience, but this process is to be drawn from the very capacities of the individual; for others (Ionescu, 2011) resilience can be assisted and induced by specific techniques. In some disciplines, it is possible to carry out experiments or "resilience assistance" protocols (psychology, business management, education, etc.) but for others, this proves impossible without greatly modifying the object itself (ecology, risk management, etc.).

It is not sure that today, faced with the trivialization of the term, professionals know exactly what a "practice of resilience" is. Yet all the experiments carried out in psychology, psychoanalysis, neuro-psychiatry, ecology, natural risk management, business organization, education, literature, art, etc. have shown that a practice through resilience gave much more interesting results from both the professional and the patient point of view, in the recovery of "patients" or in the definition of new life trajectories.

This is shown by the presentations of the 4th World Congress on Resilience held in Marseille in June 2018 (Mazurek, 2020).

We propose here to expose the challenges of these practices, first of all by developing the major debates of current research in all the fields which claim resilience, then by taking some examples of practices which impose a change in the training of professionals.

Debates and controversies

I will launch five major debates that it would be necessary to develop within research in the coming years, with the objective of specifying a theory of resilience applicable to most scientific disciplines. Not that it is necessary to seek universality, if not to provide a rigorous theoretical framework that allows professionals to develop tools and methods.

The first debate concerns the polysemy of the term and the need to stabilize a definition that makes resilience a real concept (and not just “an idea”), ie finding “similarities in diversity” (Ionescu, 2016).

- Resilience is believed to be the amount of disturbance that can be tolerated by a system (Carpenter et al., 2001);
- It would be the viability of a system (Berardi et al., 2013);
- It would also be the relationship between resistance, adaptation and governance (Lebel et al., 2006);
- It would be “a biological, psychoaffective, social and cultural process which allows a new development after a psychological trauma” (Cyrulnik & Jorland, 2012);
- It would be "to anticipate in order to adapt" (Tubiana et al., 2010);
- “The capacity of a social or ecological system to absorb disturbances while maintaining the same basic structure and the same modes of operation, the capacity for self-organization and the capacity to adapt to stress and change” (IPCC, 2007 in Bulkeley, 2013);
- "Resilience cannot be understood from the pre-existing vulnerability to the disaster", on the other hand, "resilience must help to modify this vulnerability" (Adger et al., 2005);
- Etc.

We thus have a definition which takes into account the amount of disturbance, the viability, the resistance, the adaptation, the process, the anticipation, the adaptability, a new development or the conservation of the same structure, as well as something that revolves around vulnerability, etc., so many definitions generate a “catch-all” concept, as Rufat, 2011 puts it.

All these terms participate in the construction of the concept of resilience, because resistance, adaptation, vulnerability, are parameters that allow a system to "bounce back" or not. The term resilience reflects above all the need to better understand the famous “springs” (Cyrulnik, 2000) of what allows certain individuals, populations or ecosystems to integrate, in a structural and functional manner, often drastic changes in their conditions of existence and development, while in others, phenomena of irreversible collapse occur. Whether it is called resilience or adaptability, researchers and practitioners need a better conceptual understanding of this intuition of the conjunction of factors making it possible to express the capacity to react and act in the face of disturbances. (Genin & Mazurek, 2016).

This debate is not over, and in fact needs to be stabilized.

The second debate concerns the position of resilience in relation to pre or post trauma. In particular, it is important to detach the resilience from the vulnerability, and especially from the pre and post vulnerabilities. “We consider anything vulnerable that is likely to be upset by something else.” (Mazurek, 2020). So it is, in a way, the reverse of resilience. A vulnerability constrains the object (Negative idea), while resilience releases it (Positive idea).

What we do not know is whether there is (as Adger et al., 2005) a relationship between the two. Does higher vulnerability prevent a better process of resilience? Can this resilience process improve the object's vulnerability condition?

Many situations can arise in relation to trauma, and often the vulnerability before the trauma is very different from the vulnerability that the trauma itself generates. There are many examples of these situations. In the case of natural risks (an earthquake for example) the population will be vulnerable if they do not have the conditions to resist the earthquake (unsuitable housing, poor health, isolated or dependent person, illiteracy, etc.). After the trauma, it is not certain that these people are less resilient. On the other hand, other people can develop other forms of vulnerability, very different (people who have lost everything including loved ones, injuries, psychological disorders, etc.). In the field of psychology, this difference is frequent, a healthy person being able to generate phenomena of depression, anxiety, psychosis, etc., after a trauma; or conversely, found a new path (in the case of drugs for example); “The pre-traumatic and post-traumatic factors being just as important as the factors inherent in the very nature of the trauma. (Côté, 1996).

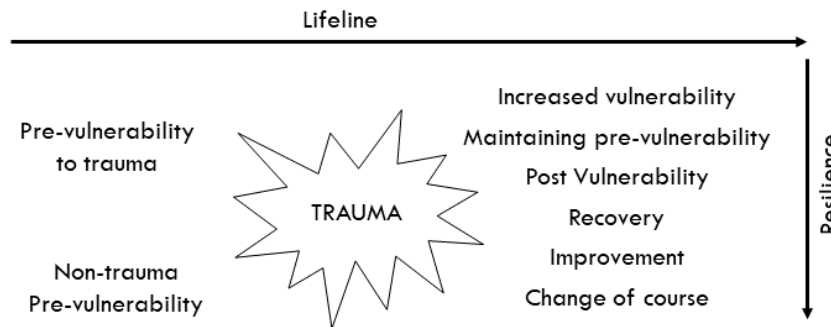


Figure 1: the pre-post vulnerability relationship and the possible impact of resilience

As shown in Figure 1, post-trauma trajectories are multiple, influenced or not by resilience, the relationships between pre and post are difficult to demonstrate.

This debate is important because it determines the possibility of increasing a capacity for resilience before possible traumas, and of establishing action protocols for professionals, not only in post-traumatic situations (assisted resilience), but also upstream by strengthening tutors or capacities. In the case of foreseeable trauma (stress, climate change, particular social situations, hazardous work, the army, etc.), this is an extremely promising field of research.

The third debate concerns the objective of resilience in terms of post-trauma trajectories.

Definitions diverge, and there is confusion between resilience and the terms resistance and adaptation. In physics, “Resilience originally designates the resistance of a material to shocks”, definition which is a bit disturbing; to resist would be to be resilient!

Etymologically, to resist is to face something, especially a problem, to stand up; one might therefore think that the resistance is before or during the trauma. To be resilient is to bounce back, to cancel a situation, to take a step back from it.

It is therefore possible to understand that resistance is the ability to cope with a situation, while resilience is the ability to recover after this situation; the first facilitating the second.

Adaptation is the ability to adjust one thing to another; to change a situation when faced with a problem; it has a strong application connotation. The place of adaptation between resistance and resilience is not obvious, because one does not necessarily end by adapting, by changing the situation.

This leads us to the notion of trajectory, which is also not consensual among publications.

Three states are possible after a trauma (excluding disappearance):

- If the pre and post dynamics are the same, this is recovery, resistance; the person faces a traumatic situation and recovers his capacities.

- If the post dynamic adapts to the pre, this is a bifurcation; the person changes their behavior to respond to the trauma.
- If the post dynamic changes completely, it is about the construction of a new system; the person totally changes condition with the goal of no longer having to deal with the trauma.

Should we therefore reserve the term resilience only for the third possibility? Or are all three possibilities varying degrees of resilience?

This may seem like a totally abstract and philosophical debate, but it sets the conditions for assisted resilience and the practices that can be implemented, in particular by the tutors of resilience. The aim is to develop methods for evaluating the capacity for resistance, adaptation or change, and associated protocols, which makes it possible to refine the diagnosis and interventions.

In the area of climate change, which constitutes stress and sometimes a sudden event, it is important to understand whether the population can resist (economic, social or psychological conditions), adapt (change their behavior in the face of certain phenomena, such as lack of water), or change trajectory (of politics, way of life, place of life).

In the case of bullying at school, the child may resist (say nothing), adapt (fight), or change his behavior (report it to parents or to the school).

Where then is the cursor on resilience?

It is an important debate that allows us to set the focus of our actions.

The fourth debate relates to the nature of trauma.

First, there is an important debate at this level about the nature of trauma.

Can we consider the threat of climate change, the threat of dismissal, or overwork as a trauma? Does the trauma have to be an unforeseeable or uncontrollable event to allow a process of resilience?

Boris Cyrulnik gives a very specific definition of trauma: "Trauma, as an event in the life of the subject or of a community, strikes with violence, intensity and surprise (importance of the unpredictable and uncontrollable character), destroying by these three joint processes all the usual and previous functions (defense mechanisms, behaviors, attitudes, habits, thoughts, values, fantasies, etc.). ". Many disciplines (Ecology, sociology, education, work psychology, etc.) go beyond this very restrictive field to talk about resilience in the event of stress for example (Angeler & R., 2016; Meyer, 2010; Wilks & Spivey, 2009). In the article by Angeler, 2016, which sets out to quantify resilience, we find the confusion between several levels: "In many cases, ecological and social systems can adapt to these changes over time, but when a critical threshold is surpassed, a system under stress can undergo catastrophic change and reorganize into a different state. ". One might indeed think that coping is related to stress, and resilience only occurs when stress exceeds an acceptable level. The limits between these notions become very complex!

It seems to us that trauma remains an essential element in the definition of resilience. In the event of stress, the vulnerability and the perception of the danger which generates the stress remains constant, it can be modified according to its intensity, but their nature remains the same. In the event of trauma, there is a before and an after: the risk perception becomes different; the risk is no longer the same; the protective envelope of risk acceptance is broken; action is compulsory, a matter of survival, while stress may be overlooked. We are certainly talking about post-traumatic stress, but more in reference to lasting psychological or biological symptoms, than a social or environmental situation that can generate trauma.

The fifth debate is on scales, object of study and time.

On the other hand, there is a collective dimension of resilience, which does not necessarily apply to resistance or adaptation. Post-traumatic risk factors are mainly individual or specific, the collective context is forgotten. But depending on the type of trauma, and in connection with the territory, a feeling of "I no longer exist" socially and territorially may appear. Resilience is seen as an individual achievement, but supported by collective components. Resilience tutors (Cyrulnik & Jorland, 2012; Rubio & Puig, 2015) are

essential in a resilience process, and can be very diverse in nature. They can come, as shown in Figure 2, from the condition of the individual (his dreams, state of health, religion, etc.) or more or less close environments (family, neighborhood, city, situation policy, etc.). We can apply the same scheme to ecosystems if we consider the state of the individual (grass, tree), according to the characteristics of his species, his immediate or distant environment, the stage of vegetation where he is in succession.

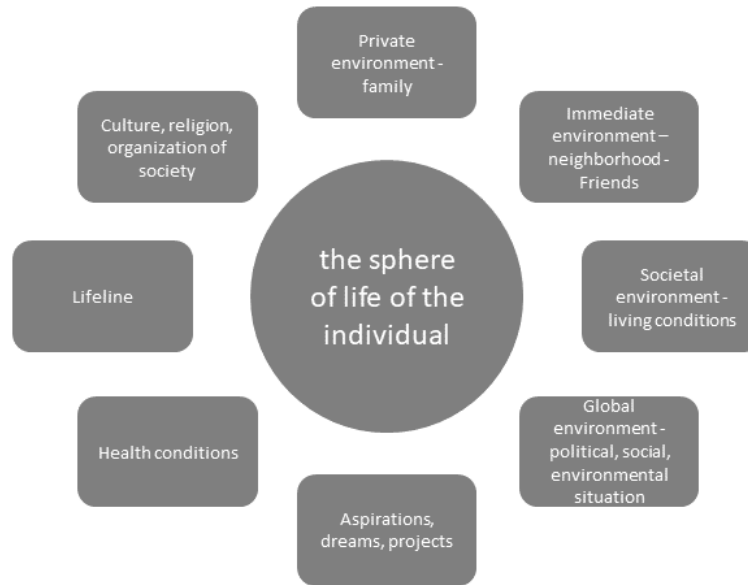


Figure 2: The sphere of life of an individual, guardians of resilience

But can resilience be applied to a collective? This is also a question under debate, and new schools are being built in the field of ecology, natural hazards, cities or territories.

Post-traumatic stressors are mainly individual (dependent on gender, history, distress, environment, etc.), but there may also be collective factors such as disorganization, violence, depression, etc. on the side of victims, such as rescuers, but also spectators (Ducrocq et al., 2007; Saul, 2014). Resilience is seen as an individual achievement, but there is a need to be concerned with how this resilience would generate awareness and collective action to foster a better response to disasters. In particular, a memory of collective resilience beyond individual memory.

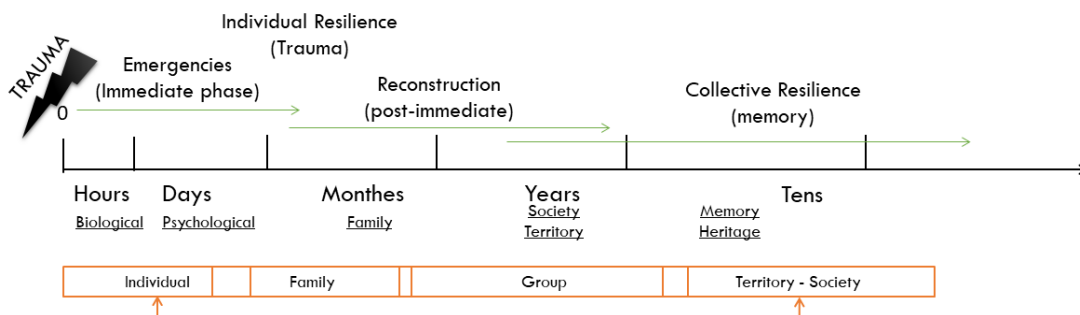


Figure 3: The timescale of resilience

The scale of resilience is often determined by time, as shown in Figure 3. Immediately after a trauma, urgency is often the rule, the process of resilience can be initiated at this time, but it is most often after a period, more or less long, during which the family will play an important role. After several months, or even years, it is the social group, the territory, which will be able to play a role in the reconstruction; an individual or collective memory will then be created which is an interesting factor to cultivate, in order to build new processes of resilience.

We therefore talk a lot about resilient communities, resilience cities, resilient territories, etc. of which we do not yet fully understand the meaning and modalities of the action, but which are very promising areas for research, since they promote innovation in action practices.

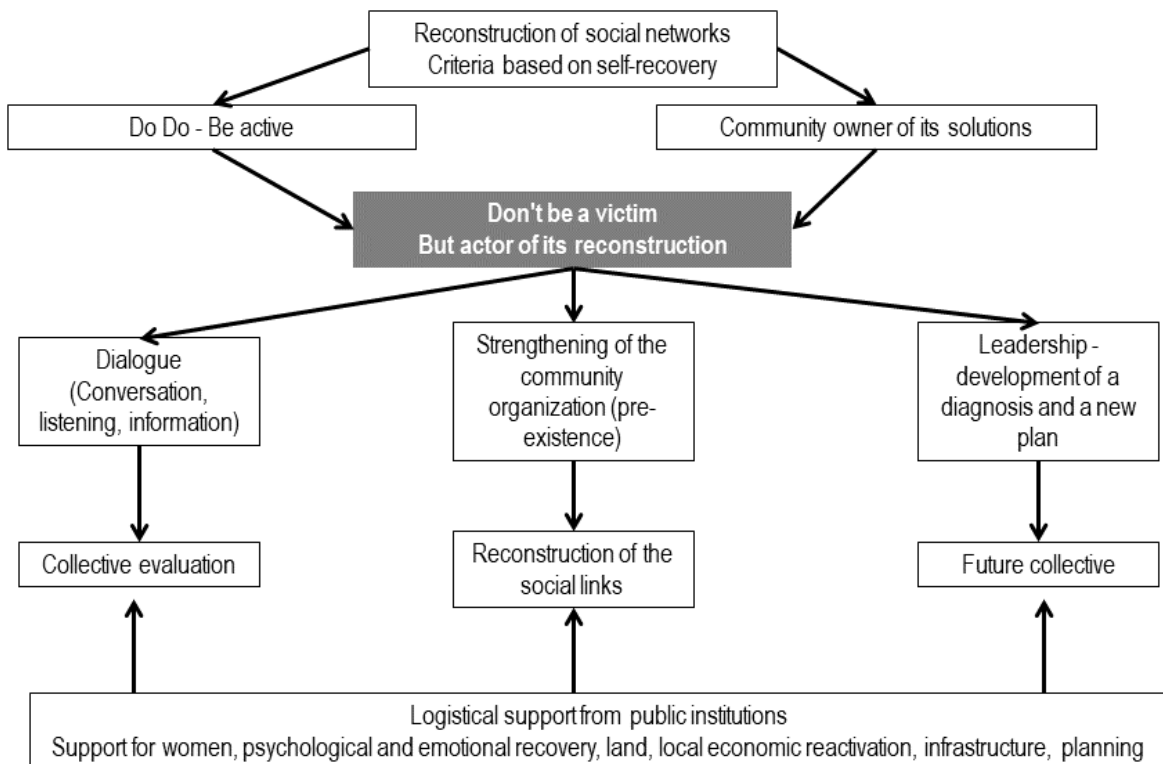


Figure 4: Resilience involves rebuilding social networks

Figure 4 shows us the importance of the reconstruction of social networks in the resilience of individuals and groups, placing at the center the need to think "actor of reconstruction" and not "victim". Three factors accelerating the process are then: the collective assessment of the situation, the reconstruction of the link and the construction of a future. The interest of the research is above all to know how it is possible to anticipate these conditions in order to consider risk policies that are not based on vulnerability but on resilience. The capacity for collective resilience thus becomes a powerful tool for social innovation.

The need for training and the exchange of experiences

“Studying resilience is simply asking what are the conditions that allow a new development to resume after traumatic agony” ((Cyrułnik & Jorland, 2012)

How can we work, as professionals, to find these conditions and the modalities of action to apply them?

Practices based on resilience are also part of the essential fields of research, which will make it possible to validate resilience as a theoretical and operational concept in many disciplines. It is important that professionals, and not just researchers, take ownership of these debates.

This is what the 4th Congress on Resilience attempted, by offering conferences, round tables, seminars, on ten different themes¹:

- Organizational resilience
- Methodologies
- Violence and adaptive strategies
- Ecology and Society
- Literature and Art
- Resilience and cancer
- Resilience of practitioners and professionals
- Resilience and family
- Trauma of childhood and adolescence
- Resilience, school, education

The diversity of exchanges allow an interdisciplinary reading of how to approach, in practice, resilience; practice that applies to the practitioner, patient, family, community, etc. Likewise, it is important to see how the resilience approach can change our own practices. In many cases, new methodologies or techniques have improved recovery after trauma; many publications can be found on bibliographic sites, in all fields, by simply searching for “Resilience” and “Practice”².

In all cases, the exchange of experiences of practices related to resilience should be developed, by participating in conferences or by organizing specialized training sessions. The next world congress, which will take place in Yaoundé, Cameroon, will focus on development, and will also encourage the highlighting of new practices³.

Three examples of practices

To illustrate this notion of practice related to resilience, here are three examples, intentionally not located in the field of psychology, which show the importance of a resilience approach in the resolution of pre and post-traumatic problems.

Natural risk management

The management of natural hazards has always (and still) been approached from an engineering perspective. The conception of risk as the conjunction between natural hazard and vulnerability means that the fight against the hazard is solved by technical structures (dikes, firebreaks, dams, etc.) or by reducing vulnerability (earthquake-resistant houses, construction standards, reinforcement of fire brigades, etc.), which corresponds to a strategy of resistance, of confronting risk. However, it has been clearly shown, for several years, that these measures are not sufficient, and that many other factors intervene to carry out an effective prevention and a post-disaster treatment more adapted to the various situations (Aldunce et al., 2015; Dauphiné & Provitolo, 2007; Lavell & Maskrey, 2014; Reghezza-Zitt & Rufat, 2015).

Changes in practices through resilience go beyond "coping", and aim to prevent risk itself. The risk must be accepted and measures must be taken to ensure that its impacts are minimal. In a specific site, we will then favor, in a resilience approach, the creation of a natural park in a flood zone rather than a dike to protect a

¹ See the published book, available at <https://hal.archives-ouvertes.fr/hal-02465380v3>

² It is difficult here to make a reference list, as there are so many publications in multiple fields.

³ From 26 to 28 may 2021, <https://resilience2020.ess-ucac.org/>

campsite or homes. The resilience approach is often more restrictive, but makes it possible to generate monetary benefits or in terms of ecosystem services: a dike is expensive, a park provides ecological benefits. This approach supposes drawing from society the elements which make it possible to understand risk and to overcome it. The role of collective memory is essential, it allows more effective action, and a collective appropriation of risk also more effective. Of course, in the face of natural risk, engineering capacities are essential, but it is also more interesting to draw on the organizational and reaction capacities of companies, at all scales, in order to generate support processes, ownership, education and more effective responses. In this resilience-based approach, the interdisciplinary approach is essential, and this is undoubtedly the greatest difficulty in its application. “Hard” sciences and technical expertise (geology, geomorphology, hydrology, engineering, etc.) are no longer sufficient, we must work primarily with society, which includes sociology, psychology, education, etc. in the areas of risk perception, behavior and organization (Ivcevic et al., 2020; Ivcevic et al., 2019).

In terms of both prevention and post-disaster treatment, a resilience-based approach requires practices that anticipate dysfunctions, maintain essential infrastructure and services, prepare populations for a return to “normal”, and manage behavior in anticipation, transfer the responsibilities of the institution to civil society, install a “risk culture” through education among other things, etc.⁴

Resilience opens up an important field of new practices, which still remains to be discovered.

Education

UNESCO has appropriated the concept of resilience in education processes, primarily using education to build resilience in children, families and societies

Likewise, educational resilience makes it possible to work integrally between professionals in education, psychology, sport, philosophy, etc., to solve many problems related to school, school or extra-curricular life. (stress, school failure, security, social cohesion, relationship with the teacher, language disorder, dyslexia, cognition, disability situation, etc.). Resilience-based practices make it possible to put in place protective factors (internal and external) that counterbalance risk factors (shame for example), the transition from school to professional life, etc.

Here too, it is by drawing on children's abilities, or by teaching them to do so, that one builds a capacity for relationship with others, emotional aptitudes, skills, optimism and self-esteem. Work between parents, teachers and the environment is an excellent tutor of resilience (Cyrulnik & Pourtois, 2007).

Among the practices, there may be specific discussions on topics that bring the student out of his or her personal problems. "By decentring from personal problems, by broadening thought in a universalist way, the links, cognitive, affective, experienced in discussion, provide the appropriate tools for the emergence of different types of thought. Lipman's strategy, promoting genuine dialogue, allows people to get out (even momentarily) from the lived school seclusion. » (Henrion Latché & Auriac-Slusarczyk, 2019). Specific strategies between parents and school interveners facilitate the entry into the world of work for children with intellectual disabilities (Martin-Roy et al., 2019). Analyzing life stories helps students understand the meaning of resilience - that is, their success in exams, despite the challenges and adversities they have faced. This support for understanding resilience makes it possible to face a professional future with more certainty "However, by promoting the discovery of resilience among the students, it generated positive expectations when they realized that despite the fact whatever they had lived, they had managed to enrol and remain at a postgraduate program" (Benítez Corona & Martínez Rodríguez, 2019).

The appropriation of the concept in educational methods, taking into account the environments (educational ecology) and the capacity of tutors, who must obviously be trained, represents a major challenge in the coming years.

Business organization

⁴ See the many publications of the United Nations Office for Disaster Risk Reduction (UNDRR): <https://www.unisdr.org>

In companies that have suffered a shock, a crisis, a failure, it is important to know how to “bounce back”. Usual reaction-action practices look for loopholes, those responsible, management errors, etc. and tend to substitute them. The organizational resilience approach will address the collective rather than individual responsibility, and provide toolboxes in order to "put in place the conditions for resilience in an organization" (Koninckx & Teneau, 2010).

In this area, many methodologies and practices have been defined and validated (Teneau, 2019). They are in the fields of psychology at work (accomplishment, empathy, commitment), therapy or psychiatry (anxiety, disorders, depression) for the individual level; focused on the emotions of individuals who gravitate within the organization (self-assessment, emotion at work, emotional states, stressors, anxiety) for the emotional level; on tools for measuring relationships at work (motivation, self-esteem, work relationships, stress and work-life balance) at the collective level; and on measures of crisis indicators, Strategic Resiliency Scoring, and Measurement of Organizational Resilience Indicators.

Other publications (Bégin & Chabaud, 2010) are based on absorption, renewal and appropriation capacities to analyze how a company is able to survive over time in the face of multiple shocks. This analysis highlights the characteristics of the transition from shock effects to that of remobilization, reconstruction, and opens the perspective of emerging forms of learning resulting from this ordeal. The confrontation with failure is not a "state" of the person but a process in its own right that deserves to be explained, decoded and interpreted from a different perspective.

In all cases, the share of the collective, of its intrinsic capacities, and of social relations is, as in the other two cases, the main factor which makes it possible to build a business that is more viable and undoubtedly better to live on!

Conclusion

Despite its multiple flaws, resilience has generated, for the past ten years, debates and methodologies on another way of thinking about trauma. The advantage of a resilience approach is that it reveals the capacities of the subjects or objects to which the trauma applies. It is often seen as an anti-interventionist practice and even, in the extreme, a liberal "at least intervention" concept. In reality, the intervention is strong, but does not point to the same places. The tutors of resilience, the professionals involved, the practitioners, etc. develop a mental schema where one accepts risk and failure to better cope with them when they arise; they develop anticipation, or recognition of trauma, to enable the person or group to draw on their resources and react. The other advantage is that the resilience process is "similar" for multiple situations, also biological, ecological, psychological, etc., for natural hazards as for bullying, and for multiple scales. It therefore allows comparison, which makes it a powerful instrument of innovation. But today it is necessary to stabilize the vocabulary and the definitions, to make it a real concept.

Many authors have insisted on the integral, multidisciplinary, systemic nature of a resilience approach. This point is undoubtedly the main problem in the development of resilience practices, because scientific disciplines, like the practices of professionals, remain very sectoral. There is resistance, in the academy, in the professional world, in society itself, and it is not always easy to make one admit that he does not have the exclusivity of a treatment or an action. Interdisciplinary work is learned, as a constructive dialogue, with respect for everyone; In any case, this is one of the bases of resilience training, which is part of resilience itself: listening and collective action.

It must be said that there is little systematization of practices in the literature and in vocational training. This is an important gap, which must be filled by more meetings, more specialized training, in order to motivate professionals and academics that an approach through resilience constitutes the future of actions in the face of crises, multiple traumas, and to the great challenges of our humanity.

The ways of promoting resilience thus go in 4 directions:

- Support theoretical research to build a real theory of resilience;
- Reflect on practices that improve the resilience process;

- Establish regular reviews of these practices, through meetings between professionals;
- Encourage interdisciplinary meetings to synthesize the use of resilience practices and develop specific methodologies.

It is learned societies like Sobrare, and the conferences they organize, that need to be persuaded of the benefits of a resilience approach, and of the need to expand interdisciplinary work.

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