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Recovery, Rehabilitation and Positive Psychology for Chronic Post-Traumatic Stress Disorder: Theoretical and Practical Aspects among French Veterans

Célia Belrose, Lionel Gibert and Marion Trousselard

Abstract

Recovery, in terms of psychological health, is a complex concept that has to be distinguished from the notions of healing and remission. The latter refers to the evolutionary terms of the disease, while recovering from mental illness means to emerge from a psychiatric patient identity and regain an active and satisfying social life. It is clear from the literature that recovery is a complex and elusive concept in a global perspective. Two complementary visions coexist in literature and direct the rehabilitation interventions: a vision focused on mental illness (pathogenic approach) and a vision focused on the concept of sense of subjective well-being and positive mental health (salutogenic approach). Positive psychology studies the conditions, the processes and the actions that contribute to the flourishing or optimal functioning of individuals, groups and institutions. We present results evaluating the psychological resources which remain sustainable for these trauma-exposed soldiers according to their post-traumatic stress disorder (PTSD) symptoms and the dynamics of resource reappropriation after the military rehabilitation program, which focuses on values in action (VIA) as character strengths. They suggest that this approach might bring concepts to better conceptualize the dynamics of recovery and offer levers of action to enrich rehabilitation.

Keywords: recovery, reintegration, positive psychology, post-traumatic stress disorder, veterans

1. Introduction

Recovery is a complex multidimensional concept, which entails at least clinical (“healing”, “remission”), mental (“resilience”) and socio-behavioural (rehabilitation) dimensions. These dimensions belong to different theoretical fields, and an integration of these complementary approaches about PTSD could be helpful for improving the course of the disorder. At the clinical level, the interchangeable use of the words “healing” and “remission” to mention recovery indicates a confusion of concepts. Whether both “healing” and “remission” target a progressive aspect of the disease, “healing” focuses on the binary outcome of the course of PTSD (sick

or cured), whereas “remission” indicates a dynamical process with a risk of coming back in a similar condition at some point in the future.

Recovering from a mental and/or physical disease means, beyond the evolutionary result, to disengage oneself from a patient’s identity in order to regain a satisfactory quality of life at the socio-psycho-professional levels. This definition fully enters recovery in the field of positive psychology as this branch of psychology aims at promoting the conditions of an optimal functioning for everyone in a situation of disease or not. The issue of this article is to present the dynamic of recovery and the available conditions for rehabilitation in the light of positive psychology concepts in the specific case of post-traumatic stress disorder (PTSD).

2. The post-traumatic stress disorder

2.1 Definition

PTSD is a debilitating mental disorder that may develop after experiencing or witnessing a life-threatening event. The main characteristics of PTSD are re-experiencing symptoms, avoiding situations that recall the event, increased negative beliefs and feelings and hyperarousal [1]. The recent 11th revision to the World Health Organization’s International Classification of Diseases (ICD-11) proposes that PTSD is comprised of three symptom clusters including (i) re-experiencing of the trauma in the here and now, (ii) avoidance of traumatic reminders and (iii) a persistent sense of current threat that is manifested by exaggerated startle and hypervigilance. Furthermore, strong associations are commonly described between PTSD and comorbid conditions, which include depression, substance use disorders and general physical health effects [2, 3]. To be diagnosed with PTSD, a person must experience those symptoms for at least 1 month. Once the symptoms have been observed for 3 months, PTSD is considered as a chronic disorder [1].

PTSD prevalence was found to range from 1 to 7% in Europe [3]. Authors described a prevalence, ranging from 25 to 50% depending on the type of trauma [4]. A prevalence of more than 60% is observed for the direct victims of November 13, 2015 attacks [5]. In the military environment, the prevalence is around 20% according to the violence of the conflicts [6].

The clinical progression, whatever the therapeutic management, shows that (i) more than 20% of the persons are resistant to any treatment [7] and (ii) that around 40% of the persons who recover relapse within the year [8, 9]. With appropriate care, treatment efficiency is variable, and around 20% of the patients do not respond to psychological treatment [7]. On the one hand, there is little research to indicate which treatments are most effective for which patients. For example, whereas significant research to improve treatment for full criteria PTSD exists [7], the evaluation of treatments targeting subclinical PTSD is still in nascent stages [10]. Furthermore, patient treatment preference may affect the differential effectiveness of standardized treatment [11]. On the other hand, a 20-year longitudinal study on a cohort of 214 veterans showed how initial combat stress reaction could lead to volatile chronic stress, with ~40% of recovering subjects relapsing within 1 year of remission [12].

2.2 PTSD: learned mental disability

Unresolved, PTSD can become chronic, causing anguish and suffering in the primary victim and their loved ones. Due to the relatively high prevalence of PTSD in the population, particularly the military, there is an urgent need for treatments

that effectively improves recovery. Such statements imply the establishment of an integrated system for the intake of chronic PTSD patients and the evaluation of its impact on the usual impairments of occupational and academic functioning [13–15], marital and family functioning [14, 16], parenting [16, 17] and friendships and socializing [18].

First and foremost, regardless the evolutionary terms of PTSD, it should be highlighted that the traumatic experience deeply transforms the patient. Making everything like it used to be, erasing the trauma, is a rarely feasible wish. Beyond that, the clinical data consider the PTSD as a disease with a high risk of chronic progression. This chronic aspect is expressed by a more or less restrictive but persistent symptomatology or by alternating periods of remission and relapses. Currently, if neither clinical or functional risk factor nor relapse is clearly identified, it is clearly assumed that a stressful environment represents a situational risk factor [6]. So it must be considered that the post-PTSD needs to look at a majority of the patients in a context of a learned mental disability and that this learned disability is expressed by a residual symptomatology and/or by post-traumatic relapse risks.

It has to be noted that the post-traumatic clinical data are numerous and there is no agreed epidemiological data which provide information about the post-traumatic socio-professional experience: how many patients, suffering from a chronic PTSD, do work? Do those who had a job before the onset of the disease frequently lose it? Do they experience great difficulties to keep it when the disease is established? This lack of information is set in recent current events, bearers of a large number of victims of attacks and other acts of terrorism posing the problem of the socio-professional future of these victims as a matter of future public health [10]. It seems necessary to think over the dynamics of the PTSD recovery; to make it feasible, it is important to consider two singular points of the PTSD: (i) the learned mental disability context and (ii) the responsiveness to surroundings, including the one in which the rehabilitation interventions are implemented.

3. The recovery

3.1 Definitions

In 1946, the World Health Organization (WHO) defined in its preamble the notion of health as “a state of complete physical, mental and social well-being and does not merely consist in the absence of illness or infirmity.” It therefore requires taking into account the mental and physical health in a comprehensive manner, in order to regain some balance on both a professional and social level.

Thinking over recovery means thinking over the means to allow the sick person to develop and to restore a positive self-image in order to rebuild his/her life despite the limitations imposed by his illness [19, 20]. Recovering from a mental or physical pathology implies becoming autonomous again as far the social professional future is concerned, psychologically getting rid of the identity of being sick in order to regain a mental well-being as a separate individual.

3.2 Approaches for recovery

There are two main approaches of recovery divided into two approaches [21]: (i) a vision focused on the mental disorder (pathogenic) and (ii) a vision focused on the sense of subjective well-being notion or positive mental health (salutogenic).

The pathogenic vision is result-oriented; it deals with assessing the level of recovery for an individual from the result indicators directly and only associated

with the disease. This is the most frequent approach among the health professionals, particularly in the field of psychiatry for the chronic progressive mental disorders. This vision is assessed according to a line of action with both poles characterizing the presence versus the absence of the target disease symptoms [19]. It defines rehabilitation interventions targeting healthcare programmes classically defined by the consensual interventions that are designed by the experts to facilitate rehabilitation [20].

The salutogenic vision focuses on the recovery process from the suffering patients' subjective point of view. It characterizes the condition of the sick individual on a positive mental health continuum, which is part of the comprehensive mental health [22]. It is declined according to a well-being/unease axis in terms of emotional, social and psychological resources. The actions referring to it target the set of positive transformations faced by the person along the recovery process and on all the factors that can have a positive or negative impact onto it. These transformations go beyond the frame of the disease and include the optimization of the subjective well-being of the person despite the disease [23].

Taking into account this double dimension of recovery allows to determine a level of clinical severity (pathogenic approach) and of resources (SMP approach) to provide a characterization for the patient's functional ability. This view suggests to think over recovery in terms of functional stages which must be specified according to the targeted mental disorder. For each target, this raises the question of the recovery dynamics based on the assumption that there would be an interdependence of the clinical severity and the resources in the functional by-effects.

3.3 The recovery dynamics

The recovery dynamics is not a linear process. It must be considered as a series of interlinked steps that the patient overcomes at his own pace, with more or less difficulties according to the clinical severity and to the personal and interpersonal resources. The relations maintained by the patient with his emotional and medical support are essential for this dynamics, and the previous negative medical experiences are widely acknowledged as obstacles in the recovery process [24].

It has been proposed that recovery process should implicate six steps [23] (**Table 1**):

- i. A so-called standstill step characterized by a feeling of deep despair resulting in a withdrawal position of the individual.
- ii. An awareness step that corresponds to the emergence of a sense of fight against fatality. It reflects the recovered control of a personal feeling of action and the emergence of a possible projection in the future.
- iii. A preparation step along which the individual reviews his/her forces and his/her weaknesses to achieve it.
- iv. A rebuilding step which means an active work to define targets and to revive the altered self-determination in order to restore a positive self-image. It deals with maintaining an active acceptance of the disease allowing the patient to reconnect with his/her personal identity.
- v. A preparation step throughout which the patient evaluates the personal and interpersonal lever implementation modalities he/she has to allow the "development" step.

- vi. The last “development” step demonstrates the culmination of resilience mechanisms. “The resilience represents the set of protective factors, of processes and mechanisms which contribute to a successful outcome despite the exposure to stressors known to cause a significant risk to the development of a mental disorder” [25].

This last stage characterizes the condition of a patient able to live independently a satisfactory life.

Thinking over the recovery dynamics, regardless the proposed models and stages, suggests to think over the patients’ capacities of resilience, not in terms of a patient’s trajectory prediction but of personal journey. This journey is the experience of the patient’s recovery, per se. The rhetoric of the patient proposes an accessible entry point to this subjective experience. A better characterization of personal, family and social protective factors which support the journey will contribute to define which modalities are the more able to sustain a favourable outcome when exposed to adversity.

3.4 Recovery and PTSD

Faced to the psychological changes when PTSD, there are several questions to understand for improving recovery.

A first question deals with the resources which remain sustainable for these patients. A systematic appraisal of the positive mental health during the clinical diagnose would be a first step. Is there any resources reappropriation dynamics likely to be characterized? In other words, do some resources represent better levers likely to be support candidates to initiate the way to recovery? Is it also necessary to evaluate whether the still available positive resources are linked to the clinical severity despite the psychological trauma? These questions are to be considered both for the patients responding to treatment and for those who progress towards a chronic PTSD.

Answering these questions is an absolute prerequisite to build rehabilitation pathways adapted to the available patients’ resources profiles with a focus on the resources, which could be optimized. It is necessary to develop prospective studies to define some operational psychological markers along the path towards recovery. The markers should take into account not only the learned disability situational determinants, to identify the existential issues of “living with a disability”, but also the resources to overcome it. Having such tools will then allow to define actions suitable to patients and to assess their added value in the PTSD patient’s recovery.

Steps	Description
1. Standstill step	The patient feels of deep despair
2. Awareness step	The patient recovers the feeling of a control in his/her action with a possible projection in the future
3. Preparation step	The patient reviews his/her forces and his/her weaknesses to achieve it
4. Rebuilding step	The patient actively works to define targets and to revive the altered self-determination in order to restore a positive self-image
5. Preparation step	The patient evaluates the personal and interpersonal lever implementation modalities he/she has to allow the “development” step
6. Development step	The patient is implied in resilience dynamic

Table 1.
Six steps of the recovery [23].

4. Mental health rehabilitation

4.1 Definitions

The rehabilitation is defined as “a set of therapeutic interventions enabling the person’s potential while giving him/her back the power to improve his/her life” [26]. The mission of psychiatric rehabilitation is to assist persons with long-term psychiatric disabilities increase their functioning, so they are successful and satisfied in the environments of their choice with the least amount of ongoing professional intervention. It is at the heart of the recovery process and applies the principles and objectives of this process in a concrete way. Six main objectives can be identified: (i) reduce the symptoms, (ii) reinforce the family support and the network, (iii) reduce discrimination and stigmatization, (iv) improve the social skills, (v) reduce the negative results of an intervention or a hospitalization and (vi) encourage the power to act while improving the self-determination and the self-perception. Reaching these objectives, in fine, leads to develop interventions supporting the patient throughout a conscious journey towards a purpose that is not based upon his/her healing but upon his/her well-being and his/her functionality.

It deals with how to recover a full rich life for oneself after a functional alteration by redefining a new function for oneself. From a practical standpoint, psychiatric rehabilitation can be done through clinical interventions, specifically aiming at developing abilities and support interventions. The SAMSHA’s National Registry of Evidence-Based Programs and Practices recommends that the different actors involved have a practical and theoretical knowledge base, facilitating attitudes and values as well as abilities fostering a strong therapeutic alliance [27]. For the services implementing it, they pose the need for a collaborative, patient-focused and individualized functioning [26, 28]. It relies on probative experimental data to define the best clinical practice and the psychopathological scope. These elements make of psychiatric rehabilitation a field of research and practice [29].

4.2 Positive psychology and rehabilitation

Psychiatric rehabilitation is developing while integrating in its interventions some tools aiming at “spreading and developing” positive resources which are part of positive psychology field of studies [30, 31]. In particular, the interventions are based on “mindfulness” [32] and on reorienting the intention towards the positive aspects of life (inspired by the researches in the field of positive psychology) [33]. They have thus developed in order to improve the individuals’ well-being, their flourishing level and their adaption capacity. These interventions are witnessing a growing interest in the scientific literature [33, 34] in the light of their positive impact on well-being. These benefits concern the subjective well-being, defined by a high frequency of positive effects, a low frequency of negative aspects and a high level of satisfaction in terms of quality of one’s life [35, 36], but also the psychological well-being which includes the self-acceptance, the sense of autonomy, the quality of relationships, the level of flourishing and the sense of one’s environment control, as well as considering that life makes sense [37]. If the interventions that include positive psychology approaches primarily target the salutogenic axis of recovery, they also induce the development and/or the regain of a cognitive functioning, which is part of the resilience process.

They promote a spread attention, leading to a flexible and creative thought, and they boost social, physical and psychological to deal with the different issues related to disease [30]. Currently, these interventions have been successful in the optimization of performance (cognitive and sports performance) and in the

management of professional stressors (psychosocial risks). They begin in the field of rehabilitation. Studies targeting the role played by the optimal experience (state of intense concentration, of commitment, of situation control and of clarity of the objectives, associated to a positive emotional state) in the personal growth have been carried out in the field of mental health [38]. A longitudinal study conducted on a patient who had developed an anxiety disorder has notably shown that a therapy aiming at identifying and cultivating optimal activities contributes to reduce symptomatology [39]. It has also been observed that in the case of physical pains with a disability that occurred during teenage years or as an adult, a very specific phenomenon called *optimal experience transformation* [40]: the disability that arose does not prevent the individual from continuing to cultivate the optimal activities he used to practice before, unless some limits, due to his new physical condition, force him to stop or to give up these activities forever. In the latter case, to keep on living optimal experiences, the person can decide to modify the activities he/she used to practice before by adapting them to his new physical condition; he/she can replace them or add new activities and look for new fields in which he/she could engage and develop his/her abilities. Thus, developing optimal experience supports the promotion of the well-being with at least two lines of action: contributing to help the person to recover his/her physical and social functioning during the process of rehabilitation and/or contributing to the building of a new commitment in life focused on the emergence of new interests [41, 42]. These studies also reflect the interest in setting up interventions in positive psychology for the rehabilitation actors; not only does it deal with fostering their health protection but also with fostering the conditions of a therapeutic alliance efficiently supporting the steps for rehabilitation [42]. Lastly, positive psychology has developed and validated numerous psychometric tools in the field of positive health [43]. A correctly proper use in a protocol of rehabilitation appears to be necessary to get a rigorous evaluation of the interventions and of their dynamics. This use must take into account not only the individuals (patients and rehabilitation actors) but also their interaction in terms of therapeutic alliance.

4.3 Psychiatric rehabilitation and PTSD

The western armies have developed programmes of psychiatric rehabilitation for the veterans with systematized assessments. Regardless of the interventions carried out, the transfer to the civil environment is difficult, especially because the duration of the developed programmes is limited in the sense that they fit into a time window determined by the military institution of the country and the military's status. In the case of civilians suffering from PTSD, there are few studies about recovery, and there is no community of practice of psychiatric rehabilitation.

In positive psychology, the concept of post-traumatic growth (PTG) has been proposed [44–46]. This field of research takes an interest in the links between serious life events (often sources of major crisis for the individuals suffering or not from PTSD) and the positive psychological changes. Not only has the person survived a situation putting at stake the question of his/her own survival (accident, natural disaster, serious disease, etc.), he/she has also experienced major and positive inner changes in fields as varied as the appreciation of others, of one's intimacy and/or of life. This concept directly targets the experience of individuals whose development has surpassed what they were before the crisis. Some researchers suggest that the PTG following adversity represents a natural normal and natural process and that each of us has been provided with an inner and innate dynamics (capacity for endurance); to reach it, it sometimes has to be stimulated, guided or accompanied [45, 46].

So, the potentiation of growth as a goal for the therapeutic activity is of growing interest. However, within the context of the PTSD, the relationship between the severity of PTSD and the PTG seems to follow a curvilinear rather than linear curve [44]. When the level of post-traumatic stress increases, the level of post-traumatic development also rises. But beyond a certain threshold, the level of development seems to drop.

5. Towards a positive psychiatric rehabilitation

Positive psychology groups the set of studies together under one heading concerning comprehension and optimization of the human potential [31]. It targets the individual and interpersonal levers but also groups and institutional levers to study the dynamics of positive changes at the individual and collective level. At the individual level, it aims at better understanding the building mechanisms of the subjective experiences (e.g., well-being—in the past), of the optimal experiences (for the present) and of optimism (for the future). It is de facto intended for any individual in his life environment, whether he/she is suffering or not from physical and/or psychic disease. This approach supports an autonomous conception of recovery in the psychic disability, free of the medical model. It targets three main determinants of the recovery potential:

- i. The perception of autonomy defined as a cognitive source resulting from the interaction between inner positive resources (dispositions for being mindful, motivation and optimism contributing to personality) and “coping” resources (contributing to adaptation strategies).
- ii. The experiential dimension (subjective experience of the disability) but also the respect of his autonomy of action. These determinants require taking into account the “first person” patient’s point of view.
- iii. The reversibility of the dependence relationships between illness, disabilities and social disadvantage has to be taken into account.

This characteristic of the psychic disability has practical implications: when bringing an improvement in the consequences of the illness, in the social disadvantage that it induces (e.g., social isolation), it is permissible to expect in return a benefit on certain disabilities to support the recovery and in fine on the illness itself [30].

The recovery process implicates four axes for changes [47]: (i) finding and keeping hope (believing in oneself, personal feeling of being able to take action, being optimistic), (ii) finding a positive restored identity (having a new identity with the illness while keeping a positive self-image), (iii) giving meaning to one’s new life and (iv) controlling one’s life (taking back control of one’s life). These changes appear to be echoed with the notion of health behaviours reinforced by practicing mindfulness exercises. Three salutogenic health behaviours are developed/reinforced by the practice of mindfulness [48]: intention, attention and attitude. Intention is associated with the medical care compliance as it is observed through the constancy in mindfulness practice and along the training: the persons who engaged themselves in mindfulness tend to be more conscientious [49, 50] and to keep going in this direction [50, 51]. Attention aims at developing skills to remain focused on an object (body, breathing) in the present moment [52]. It fosters a non-elaborative consciousness about thoughts, emotions and perceived sensations. This allows not to be captured by negative effects and to cultivate

one's resources [53]. The attitude developed by the mindfulness practice finally insists on a trend towards experience leading to a cognitive curiosity allowing to open one's mind to new experiences [51]. It is set up in a non-judgmental attitude enabling an acceptance with a clear conscience. It is a lever for taking into account health advice and environmental supports. These three main behaviours developed thanks to mindfulness result in a change of perspective enabling to recapture positive resources. Taking into account the mechanism of an individual's positive changes which positive psychology focuses on understanding constitutes a prerequisite for the development of rehabilitation programmes targeting the valorization, the reinforcement and/or the recapturing of individual potential. This view allows to reinforce the health behaviours which are essential to maintaining the recovery dynamics. It integrates each individual's uniqueness to support the recovery process towards discovering a new meaning and a new goal for one's life.

6. Some results

In light of the psychological changes in an individual suffering from chronic post-traumatic stress disorder, questions are being raised in order to understand and facilitate recovery and a return to work. This is particularly challenging for soldiers suffering from chronic PTSD. A French military rehabilitation program proposes the broadening of the relationships between recovery and reintegration by incorporating approaches from the field of positive psychology for soldiers with chronic PTSD. The aim of the study was to evaluate (i) the psychological resources which remain sustainable for these trauma-exposed soldiers according to their PTSD symptoms; (ii) the dynamics of resource reappropriation after the military rehabilitation program, which focuses on values in action as character strengths; and (iii) how these resources and their reappropriation facilitate civilian professional reintegration.

We conducted a prospective study with 56 trauma-exposed soldiers with a clinical diagnosis of chronic PTSD [54]. PTSD severity and psychological resources (optimism, mindfulness, well-being, motivation, self-esteem and VIA) were assessed before and after the rehabilitation program. After the identification of resource profiles, we analysed the impact of the program on resource levels and successful reintegration into a civilian job.

Three profiles were identified based on the psychological resources of the soldiers. Profiles 1, 2 and 3 differed in terms of clinical severity (PCL5). Profile 1 exhibited both the highest level of resources and the lowest clinical severity of PTSD but did not modify its resources after the intervention program when compared to profile 3. Profile 3 was characterized by the lowest level of resources, the highest clinical severity of PTSD and the highest reappropriation in all VIAs. This profile was associated with the highest rate of reintegration success 1 year after the intervention.

7. Conclusions

The temporality of the rebuilding is set in a complex progression in which technology differs depending on the individuals. It is a "fundamentally personal and unique process aiming at changing one's attitudes, one's values, one's feelings, one's goals, one's skills and one's missions. It is a way of living a satisfying life full of hope and a productive life despite the limits resulting from the illness (...)" [53].

If the recovery experience is personal to the individual, positive psychology targets generic resources and develops interventions to reinforce them. Its development in the context of the chronic illness should contribute to better define the actions to implement and their temporality.

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