Pol J Aviat Med Bioeng Psychol 2019; 25(4): 27-34
DOI: 10.13174/pjambp.07.09.2022.04

REVIEW ARTICLE

MORAL INJURIES, PSYCHOLOGICAL RESILIENCE AND POST-TRAUMATIC GROWTH AS A POSSIBLE CONSEQUENCE OF SOLDIERS' AND CIVILIANS' PARTICIPATION IN TRAUMATIC SITUATIONS

Olaf E. TRUSZCZYŃSKI
Institute of Psychology, Cardinal Stefan Wyszynski University in Warsaw, Warsaw, Poland

Source of support: Own sources.

Author's address: O. Truszczyński, Cardinal Stefan Wyszynski University in Warsaw, Dewajtis 5 Street, 01-815 Warsaw, Poland, e-mail: olaf1960@wp.pl

Abstract: This paper addresses the psychological consequences associated with experiencing traumatic events during warfare. The negative aspect of these experiences is discussed, which should be associated with post-traumatic stress syndrome, but also with the possibility of "moral injury" that may occur as a result of transgression of ethical and cultural norms. The positive aspect of traumatic events is also presented, which is connected with the possibility of increased psychological resilience, as well as experience of "post-traumatic growth" understood as experiencing positive psychological change as a result of coping with very difficult life circumstances.

Keywords: traumatic stress, moral injury, psychological resilience, post-traumatic growth

References: 43 • **Full-text PDF:** http://www.pjambp.com • **Copyright** © 2022 Polish Aviation Medicine Society, ul. Krasińskiego 54/56, 01-755 Warsaw, license WIML • **Indexation:** Index Copernicus, Polish Ministry of Science and Higher Education

INTRODUCTION

A traumatic experience should be understood as a life-threatening experience that can lead a person to a state of great despair [30]. People who have experienced this are often overwhelmed by a flood of uncontrollable emotions, manifest powerlessness, feelings of alienation and misunderstanding, lack of trust in others and loss of sense of security. The psychological state associated with traumatic experiences can last for weeks or even years, depending on the case. An additional factor weighing on a person's psyche is possible moral injuries inflicted on the conscience when a person commits, witnesses, or fails to prevent acts that violate their religious beliefs, moral values, or ethical code [24]. The emphasis on the moral dimension is related to scientific observations that moral injury exacerbates the possible consequences of traumatic stress by possibly manifesting the so-called complex PTSD syndrome, complicating also the temporal aspect of the traumatic stress reaction, as one observes during such an experience a destruction of the sense of continuity between past and present [43] and, worse, a very shortened perspective regarding the future. Traumatic experiences are not forgotten, they return again and again in the form of images, sounds, memories, and with time they may take on a distorted, indistinct form, but still have a negative impact on the psyche. Often an objectively neutral stimulus triggers an avalanche of difficult emotions and memories because it resembles in some element a traumatic event [17]. For example, many soldiers who have experienced war show hypersensitivity to noises that in some way resemble the sound of gunfire (e.g., the sound of a door closing loudly). Trauma, therefore, is not a one-time frightening experience but is replayed in the memory many times, thus influencing the future of the given person, their over-sensitivity and problems in interpersonal relations. War experiences leave a permanent mark on the psyche of soldiers, co-create their suffering and contribute to shaping their psyche, in fact for life. In the context of warfare, including hybrid warfare, which involves not only antagonized states, but also ethnic and social groups, and is carried out with the use of various means of combat, with the participation of soldiers, but also civilians, and additionally takes place in a situation of acute social or ethnic conflict [27,38], it is possible to consider human behavior in extreme situations, at least from two points of view. The first concerns the so-called normal response to an abnormal situation. Thus, proponents of this thesis see a lack of normalcy in an external situation of a life-threatening nature, rather than in a person's reaction to such an event. The second view rejects the thesis that these behaviors are normal. On the contrary, it sees the consequences of traumatic events as psychiatric disorders, including PTSD. For those who perceive PTSD as an inevitable outcome of trauma, it is necessary to implement therapy aimed at those at risk, including pharmacological treatment. Others do not see the need because they believe that support (e.g., family, social) and understanding for the sufferer is sufficient [42]. Such views therefore do not treat suffering as a mental dysfunction. However, placing boundaries between what is normal and what is abnormal always raises many questions, both among mental health professionals and more broadly among all those who may decide a person's fate (e.g., military personnel, politicians). For society is a collective of individuals whose functioning and views on various issues (including the behavior of soldiers) change over the years. What was the norm for society decades ago may not be the norm today. Thus, one must admit that the view of no need for treatment is optimistic. According to it, humans react to traumatic events in a specific way, but still normal. However, this optimism has some basis both in science and in the observations of soldiers on the battlefield. Indeed, it is estimated that between 80% and 87% of those suffering from traumatic experiences are able to recover without any therapy. At the same time, this optimism comes with a high risk because failure to recognize PTSD syndrome can be dangerous for the soldier themselves and their family, as well as for other soldiers [34, 39].

THE CONCEPT OF PTSD

PTSD can be defined as a set of physiological, psychological, and behavioral symptoms. Co-occurring impairments in family, social, and occupational functioning follow exposure to traumatic, life-threatening events. In 2013, the American Psychiatric Association revised the diagnostic criteria for PTSD in the Fifth Edition (DSM-5), moving traumatic disorders from the category of "anxiety disorders" to a new category of "trauma and stressor-related disorders" [3]. The DSM-5 classifies symptoms characteristic of PTSD into four groups:

1. An influx of distressing memories, thoughts, feelings, and emerging flashbacks in the form of suddenly searing memories of traumatic events and flashbacks or other long-term psychological problems.

2. Avoidance of distressing memories, thoughts, feelings, or sensitivity to external stimuli somehow associated with the traumatic event.
3. Negative mood, blaming oneself for events regardless of objective circumstances, persistent negative emotions (e.g., guilt, shame, tendency to isolate oneself).
4. Aggressive behavior associated with significantly elevated arousal levels.

Some factors are also known to further trigger a traumatic response among soldiers. These include young age, lower military rank, lower education, prior psychological problems, insufficient support from family, friends, and other soldiers, etc. PTSD is also associated with earlier physical and mental health deterioration. An interesting issue is the differences between men and women in the prevalence of trauma and PTSD. Research suggests that men are more likely to experience traumatic events, while women are more likely to develop PTSD [40]. The diagnosis of PTSD in a soldier is often met with opposition from the military community because it is believed that there is a risk of stigmatization of the victim (both institutional war trauma and self-stigmatization) and it is by this fact alone that adverse symptoms such as lowering of the soldier's self-esteem, environmental ostracism and isolation tendencies are exacerbated [31]. The process of diagnosing PTSD and the consequences of such a diagnosis should also take into account that PTSD is a diagnosis of a medical condition that, if left untreated, can lead to loss of life [6]. Therefore, it seems that the diagnosis of PTSD (despite the caveats mentioned above) is nevertheless necessary to start the therapy process, reduce suffering and feelings of harm, as well as comorbid symptoms such as cardiovascular abnormalities and other psychosomatic symptoms, including an increased risk of suicide [29].

In terms of therapeutic methods, cognitive-behavioral therapy (CBT) and eye movement desensitization and reprocessing therapy (EMDR) are currently favored . CBT teaches how to evaluate and reinterpret unpleasant thoughts and misinterpretations of traumatic events and their consequences. CBT therapy involves, among other things, considering other, not exclusively negative, ways of thinking about the situation and possibly adopting a new perspective. It is meant to give new meaning to life and is directed towards the positive aspects of a person's existence in the future. [11]. In EMDR, on the other hand, the therapist prompts patients to make eye movements in a specific direction as they recall traumatic events. The theory is that this leads to a situation in which the focus on external stimuli registered through saccadic eye movements and subsequent fixations lead to the disintegration of the previously established pattern in which the recall of a traumatic event from memory is accompanied by the appearance of fear and increasing anxiety [36]. EMDR is known as trauma-focused therapy. It is designed to aid processing of unpleasant memories, thoughts, and feelings associated with the trauma, and as a result, may alleviate the symptoms of PTSD. As for pharmacotherapy, mainly antidepressants, e.g. Zoloft and Paxil, are used as effective treatments. Treatment with selective serotonin reuptake inhibitors (SSRIs) has also been shown to be effective in some studies [16]. However, it is important to remember that this treatment is symptomatic and is considered an adjunct to psychotherapy.

The negative mental health consequences of traumatic war events are well documented in the current psychological literature. Most studies in post-conflict settings and among war-affected populations indicate a significant association between war trauma and the occurrence of various mental health disorders. For example, Priebe et al. [28] studied psychiatric disorders after war in five countries (Bosnia and Herzegovina, Croatia, Kosovo, Republic of Macedonia, and Serbia) and found that potentially traumatic experiences during and after the war were associated with higher rates of mood deterioration and anxiety disorders. Al-ghzawi et al. [1] reviewed nine studies on the impact of war and conflict on mental health among populations in Arab countries and also confirmed the significant impact of war trauma on mental health. Furthermore, they found that post-traumatic stress disorder (PTSD) was one of the most common psychological complications among war trauma victims. Ayazi et al. [5] examined the relationship between exposure to traumatic events and anxiety disorders in post-conflict South Sudan. They found that exposure to trauma was significantly associated with a diagnosis of high anxiety. A similar link was found by [12] who studied the impact of war-related life events on well-being among civilians in southern Lebanon. Recently, Atwoli et al. [4] reviewed epidemiological studies of traumatic events and found high prevalence rates of PTSD in post-conflict settings.

THE CONCEPT OF MORAL INJURY

In the military, the term **"**soldier morale" is used but this term is completely removed from the moral dimension of trauma. Rather, it is used to describe the state of positively motivating a soldier to take up and continue the fight against the enemy. It also refers to a group of soldiers willing to make a concerted effort to achieve a common goal. The most important factors that preserve "morale" are belief in a common goal, confidence in the leadership, belief in each other, adequate health, and balance of military service in relation to leisure and recreation [14].

Moral injuries are manifested as a person's profound psychological suffering, which may be an expression of negative psychological reactions in response to traumatic events that cross the boundaries of accepted ethical code and cultural norms. They include such things as betrayal, failing to help those in need, intentionally contributing to the death of innocent people, and can also be the result of a perceived disgust with another person or in violent bouts of uncontrollable anger and disgust. This phenomenon has been recognized primarily in military settings but studies are now being conducted in other settings as well, such as among health care workers struggling with the COVID-19 pandemic [32]. Before the pandemic, the moral dimensions of traumatic events were rarely related to the workplace. However, the term "moral injury in the workplace" is now beginning to be used, emphasizing the occupational aspect of violating moral norms. The Covid-19 pandemic brought an entirely new and unprecedented experience, potentially carrying the risk of moral injury to medical personnel that may result from taking (including failing to take) actions that violate ethical principles with sick people or subordinate medical personnel. This may be the result of excessive work responsibilities and stress burdens resulting from the profusion of incoming patients and the lack of resources (medical and logistical) to provide the best care [15] or even to provide conditions for a "dignified death" for terminally ill people.

However, the moral dimension of trauma is most often considered extremely important in the context of warfare. Shaw [33] describes moral injury as "injuring the soul by doing something that violates the ethics, ideals, or principles to which a person is committed (p.5). This type of psychological trauma is not included in the diagnostic criteria for PTSD, because how should these criteria describe, for example, an extreme adversity that can potentially harm a person greatly but escapes medical diagnosis according to DSM-V and ICD-10 criteria? However, it is believed to cause negative emotional reactions and mental dysfunction that result in long-term psychiatric disorders [10]. So what distinguishes moral injury from PTSD? Above all, moral injury is a multidimensional problem, involving a number of important aspects of life, mainly related to behaviors that are not accepted or rejected by society. It seems that establishing diagnostic criteria for moral injury, along the lines of PTSD, is very difficult because it touches on issues that remain at the intersection of religion, philosophy, ethics, psychology, and psychiatry. The very reference of "moral injury" co-occurs and sometimes precedes PTSD, especially in the context of military operations and now in the health care system. It can be hypothesized that moral injury catalyzes the onset of PTSD and, therefore, ensuring the moral and ethical "purity" of warfare can be viewed as a prophylaxis for PTSD. However, such a task is extremely difficult, if not impossible. Because wherever there is an intentional attack on the life of another person, there must also be moral doubts about the legitimacy of the act. It must also be stated that wherever soldiers defend their Homeland, their families and their fellow citizens, the occurrence of moral injury must be considered unlikely. Currently, moral injury is not considered a disorder and no formal psychiatric diagnosis is made [24]. However, it is worth considering the origins of this phenomenon in relation to PTSD. A diagnosis of PTSD begins with determining whether a traumatic experience has occurred, whereas moral injury rather results from circumstances and events that may violate a soldier's (including another person's) beliefs about right and wrong. Shaw [33] suggests that morally damaging events are those that involve a betrayal of what a person believes to be right, are committed by people who have power, and involve matters of high responsibility, including making decisions about the risk of other people's lives. While victims of PTSD view the world through the lens of extremely dangerous events, victims of moral injury view the world as unworthy and devoid of value and social good. Worse, people can become evil as a consequence of their own behavior, which not only causes harm to other people but exacerbates destructive tendencies in themselves. Restoring psychological well-being after a moral injury is difficult. It is also difficult to talk about effective therapeutic methods [25].

Soldiers who suffer moral injury must accept the past, even if they still cannot come to terms

with it. This should be viewed as some sort of process that does not necessarily end in being "cured." Rather, it should be assumed that this process should seek to moderate the usually uncompromising attitude characterized by drawing a sharp line between right and wrong. Thus, efforts should be made to accept the ambiguity in moral dilemmas concerning much of human behavior, not just war-related.

THE CONCEPT OF RESILIENCE AND POST-TRAUMATIC GROWTH

Resilience is defined as the process of adaptation in the face of adversity, trauma, and even significant threats to human life [2]. It should be considered as a combination of genetic, psychological, biological and social factors [26]. One may also come across a view that it is something unique, which happens only exceptionally, and people with such a psychological profile are predisposed to act in extremely difficult conditions, including those of war [22]. However, it is now thought that such manifested immunity is not at all rare, on the contrary quite common. In contrast, an important issue is the ability to improve this resilience. The key is to be able to use the state of stress to the advantage of the person experiencing it. While no single gene or gene variation explains resilience, genetic factors play an important role in determining how an individual responds to traumatic events, particularly the hypothalamus-pituitary-adrenal axis influence the strength of our biological response. Other psychological factors that contribute to the formation of resilience include the ability to expand contacts with people with personality profiles that demonstrate high coping skills and the ability to face one's fears [19]. It is also known that people subjected to high stress loads are less effective in seeking alternative solutions to the situation they find themselves in [37]. Thus, educational issues and training strategies such as stress implantation training [20] become important for coping processes in this context. Resilience is defined as a phenomenon that is characterized by the ability to adapt positively when faced with significant adversity and high levels of risk. Walsh [41], on the other hand, defined it as the ability to regenerate one's psychological strength following a traumatic event in such a way that one emerges from the experience strengthened or at least in a similar psychological condition as before the event. There is no clear translation of the English term *resilience*. It is understood differently depending on the context and scientific discipline. Literally it can mean: elasticity, resistance, regenerative capacity. Lepore and Revenson [23] analyzed the term resilience from a post-traumatic growth (PTG) perspective, focusing on three possible forms: correction, resilience, and reconfiguration. To illustrate the difference between these concepts, the authors used the analogy of a tree bending in the wind. Human behavior after a traumatic event is supposed to resemble the bending of a tree, and when the wind ceases, the tree "corrects itself" and returns to its original position. This form of psychological flexibility can be understood as the yielding of the human psyche under the influence of a stressor but with the possibility of returning to the previous mental state. Resilience is in turn expressed in comparison with a tree subjected to the influence of wind, which does not bend but resists and still remains in the same position. This type of resilience should be understood as an expression of great mental strength and lack of vulnerability to the stressor. And finally, the notion of reconfiguration evokes the comparison to a tree that bends but, because the wind repeats its gusts, changes its shape and behavior to suit the current situation. It seems that it is the dimension of behavioral reconfiguration and plasticity of the human psyche in response to trauma that carries the most interesting theoretical and practical implications. Relatively recently, the psychological literature has begun to address this possibility in relation to traumatized soldiers who may be experiencing positive mental changes. It has been noted, for example, that a soldier's reactions to trauma, which mental health professionals refer to as "symptoms," but which can actually wreak havoc on a soldier's psyche when they return home from war, is an essential survival skill in a war zone [18]. This provides a clue to building the soldier's specific resilience and a basis for making sense of those experiences that can serve to build both resilience and positive growth. An important factor shaping the resilience of an individual soldier is group cohesion, i.e. a military subunit jointly executing combat tasks. Greater unit cohesion was also found to be associated with fewer symptoms (PTSD). Better psychological well-being is related to overall social support and results in fewer mental health consequences after combat [21].

Over the course of a lifetime, a person is very likely to experience at least one or more traumatic events. Only 20-40% of people [7] may suffer severe psychological distress as a result and manifest a permanent reduction in social and occupational functioning. This means that most will go through

this kind of experience without serious consequences. This finding opens an interesting space for further scientific research focusing on potential determinants of human immunity. Bonanno et al. [7] conducted a study of US military personnel deployed to Iraq and Afghanistan. They showed that 83% of the soldiers demonstrated resilience, despite the impact of severe stress factors. Factors contributing to the development of resilience include the ability to maintain an optimistic outlook on life, the development of positive social support through a peer network, and the functioning of leaders who are viewed as personal role models. Resilient soldiers develop and live by their own designated rules, pay great attention to physical fitness and do not tend to withdraw from contact with other people. They are able to actively solve problems, find something positive even in adverse situations, and experience post-traumatic growth. PTG is also a response to traumatic events that result in the deterioration of the injured person's mental state. This manifests itself in the need to constantly think about the experience, accompanied by an increased level of anxiety. However, over an indefinite period of time, these symptoms naturally subside and are replaced by positive thoughts concerning some reflection on one's life. People become better and stronger mentally, care about improving relationships with other people. They change their philosophy of life, by setting new priorities in life, they also pay more attention to spiritual and religious issues. According to such assumptions, more resilient soldiers are those who naturally employ positive coping mechanisms, making them more likely to come to terms with their new reality and process traumatic events effectively. Thus, this resembles the concept of "reconfiguration," but in this case "psychological growth" occurs after the event, and only the soldier's individual coping abilities determine how quickly this occurs. PTG may also contribute to a secondary increase in psychological resilience [35].

However, the phenomenon of positive growth should be approached with great caution, as there is a risk that positive growth can be mistaken for the illusion of positive growth. The illusion in such a case is nothing more than a defense mechanism to block the thoughts that arise that perhaps we are suffering from some kind of medical condition as a result of the impact of the trauma. In this case, the coping strategy is completely ineffective and a period of some improvement is followed by a worsening of symptoms in both the short and long term.

CONCLUSIONS

Suffering a moral injury results in what is known as moral disorientation, which is linked to feelings of guilt that manifest in both the short and long term. The process of healing moral trauma is extremely difficult, whereas it should be noted that victims should engage in what is known as ethical dialogue. For this to happen, moral reactions must be recognized as existing facts. Without it, soldiers will be alone with their memory of traumatic events. It is also necessary to strive for further understanding of the conditions that must be met in order to talk about the formation of psychological resilience, also in the context of moral injury. Building mental resilience is important not only in times of war but also in times of peace. The wars in Iraq and Afghanistan have intensified interest in the concepts of building a soldier's resilience or mitigating the effects of post-traumatic stress. It seems that it is still not fully understood why some soldiers suffer from PTSD while others do not experience such problems. Furthermore, it is possible to hypothesize that soldiers may, for example, perform well in their military duties and at the same time exhibit deterioration in family and social functioning associated with PTSD symptoms. The main factor shaping resilience is the ability to draw on existing internal (own) and external resources (which involves receiving support from other people) during a crisis. So we need to develop work to better understand, as well as define, the concept of "resilience." It should also be emphasized that the process of resilience formation, which is variable depending on the moment in time in which it is analyzed, and the individual traits of the soldier's personality, which may indeed contribute to resilience to trauma but do not constitute a holistic picture of the formation of this process are two different things.

AUTHORS' DECLARATION:

Study Design: Olaf E. Truszczyński. **Data Collection:** Olaf E. Truszczyński. **Manuscript Preparation:** Olaf E. Truszczyński. The Author declares that there is no conflict of interest.

REFERENCES

1. Al-ghzawi HM, ALBashtawy M, Azzeghaiby SN, Alzoghaibi IN. The impact of wars and conflicts on mental health of Arab population. Int. J. Humanit. Soc. Sci. 2014; 4:237–242.
2. American Psychological Association. The road to resilience. 2004. From http://apahelpcenter.org/featuredtopics/ feature.php?id=6.
3. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, (5th ed.). Washington, DC 2013.
4. Atwoli L, Stein DJ, Koenen KC, McLaughlin KA. (2015). Epidemiology of posttraumatic stress disorder. Curr. Opin. Psychiatry. 2015; 28:307–311.
5. Ayazi T, Lien L, Eide A, Swartz L, Hauff E. Association between exposure to traumatic events and anxiety disorders in a post--conflict setting: a cross-sectional community study in South Sudan. BMC Psychiatry. 2014; 14:6. doi: 10.1186/1471-244X-14-6.
6. Bisson J, Andrew M. Psychological treatments of post-traumatic stress disorder (PTSD), (Review). The Cochrane Library 2009. From http://www.thecochranelibrary.com.
7. Bonanno GA, Mancini AD, Horton JL, Powell TM, LeardMann LA. Trajectories of trauma symptoms and resilience in deployed US military service members: Prospective cohort study. The British Journal of Psychiatry. 2012; 200(4):317-323.
8. Bonanno GA, Mancini AD. Beyond resilience and PTSD: Mapping the heterogeneity of responses to potential trauma. Psychological trauma: Theory, research, practice, and policy. 2012; 4(1):74.
9. Calhoun L, Tedeschi R. The foundations of posttraumatic growth: An expanded framework. In L. Calhoun & R. Tedeschi (Eds.), Handbook of posttraumatic growth: Research and practice. New York: Routledge. 2006; 1-23.
10. Drescher KD, Foy D, Kelly C, Leshner A, Schutz K, Litz B. An exploration of the viability and usefulness of the construct of moral injury in war veterans. Traumatology. 2011; 17:8.
11. Egenberg S, Øian P, Eggebø TM, Arsenovic MG, Bru LE. Changes in self-efficacy, collective efficacy and patient outcome following interprofessional simulation training on postpartum haemorrhage. J Clin Nurs. 2017; 26:3174-3187.
12. Farhood L, Dimassi H, Strauss NL. Understanding post-conflict mental health: assessment of PTSD, depression, general health and life events in civilian population one year after the 2006 War in South Lebanon. J. Trauma. Stress Disord. Treat. 2013; 2:1-8.
13. Frazier P, Tennen H, Gavian M, Park C, Tomich P, Tashiro T. Does self-reported posttraumatic growth reflect genuine positive change? Psychol Sci. Jul. 2009; 20(7):912-9.
14. Grinker RR, Spiegel JP. Men undes stress. Blakiston 1945. doi: 10.1037/10784-000.
15. Greenberg N, Docherty M, Gnanapragasam S, Wessely S. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. British Medical Journal, 2020; 368:m1211. doi: 10.1136/bmj.m1211.
16. Grunebaum MF, Keilp JG, Ellis SP, Sudol K, Bauer N, Burke AK, Oquendo MA, Mann JJ. (2013). SSRI versus bupropion effects on symptom clusters in suicidal depression: post hoc analysis of a randomized clinical trial. J. Clin. Psychiatry. 2013; 74:872-879.
17. Hayes JP, Van Elzakker MB, Shin LM. Emotion and cognition interactions in PTSD: a review of neurocognitive and neuroimaging studies. Frontiers in Integrative Neuroscience. 2012; 6:89.
18. Hoge CW. Once A Warrior Always A Warrior. Guilford, CT: Globe Pequot Press, 2010.
19. Iacoviello BM, Charney DS. Psychosocial facets of resilience: implications for preventing posttrauma psychopathology, treating trauma survivors, and enhancing community resilience. European Journal of Psychotraumatology. 2014; 5:23970.
20. Jackson S, Baity MR, Bobb K, Swick D, Giorgio J. Stress inoculation training outcomes among veterans with PTSD and TBI. Psychological Trauma: Theory, Research, Practice, and Policy. 2019; 11(8):842-850.
21. King DW, King LA, Fairbank JA, Keane TM, Adams G. Resilience-recovery factors in posttraumatic stress disorder among female and male Vietnam Veterans: Hardiness, postwar social support, and additional stressful life events. Journal of Personality and Social Psychology. 1998; 74:420-434.
22. Kowalczyk M, Orzechowska A, Talarowska M, Zboralski K, Macander M, Truszczyński O, Gałecki P. Resilience in the proces of coping with traumatic situations among pilots in the missions overseas. The Polish Journal of Aviation Medicine and Psychology. 2015; 21(4):6-13.
23. Lepore SJ, Revenson TA. Resiliency and posttraumatic growth recovery, resistance and reconfiguration, In: L. G. Calhoun, & R. G. Tedeschi (eds.), Handbook of posttraumatic growth: Research and practice. Mahwah, New Jersey: Lawrence Erlbaum Publishers. 2006; 264-290.
24. Litz BT, Stein N, Delaney E, Lebowitz L, Nash WP, Silva C, Maguen S. Moral injury and moral repair in war Veterans: A preliminary model and intervention strategy. Clinical Psychology Review. 2009; 29:695-706.

25. Maguen S. Litz B. Moral Injury in Veterans of War. PTSD Research Quarterl. 2012; 23(1):1-6.

26. Newman R. APA's resilience initiative. Professional Psychology: Research and Practice. 2005; 36:227-229.

27. Pacek B. Wojna hybrydowa na Ukrainie. Warszawa: Rytm 2018.

28. Priebe S, Bogic M, Ajdukovic D, Franciskovic T, Galeazzi GM, Kucukalic A, Schützwohl M. Mental disorders following war in the Balkans: A study in 5 countries. Archives of General Psychiatry. 2010; 67:518-528.

29. Pompili M, Gonda X, Serafini G, Innamorati M, Sher L, Amore M, Rihmer Z, Girardi P. Epidemiology of suicide in bipolar disorders: a systematic review of the literature. Bipolar Disord. 2013; 15(5):457-90.

30. Ratcliffe M, Ruddell M, Smith B. What is a "sense of foreshortened future?" A phenomenological study of trauma, trust, and time. Frontiers in Psychology. 2014; 5:1026.

31. Rawat S. Enhancing Self-esteem of the soldier. Journal of Defense Studies. 2011; 5:122-137.

32. Shale S. Moral injury and the COVID-19 pandemic: Reframing what it is, who it affects and how care leaders can manage it. BMJ Leader. 2010; 4(4):224-227. doi: 10.1136/leader-2020-000295.

33. Shay J. Achilles in Vietnam: Combat trauma and the undoing of character. Simon & Schuster. 2010; 20.

34. Tanielian TL, Jaycox L. Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery. Arlington, VA: RAND Corporation 2008.

35. Tedeschi RG, Calhoun LG. The Posttraumatic Growth Inventory: measuring the positive legacy of trauma. J Traum Stress. 1996; 9:455-471.

36. Triscari MT, Faraci P, Catalisano D, D'Angelo V, Urso V. Effectiveness of cognitive behavioral therapy integrated with systematic desensitization, cognitive behavioral therapy combined with eye movement desensitization and reprocessing therapy, and cognitive behavioral therapy combined with virtual reality expo. Neuropsychiatr. Dis. Treat. 2015; 11:2591-2598. doi: 10.2147/NDT.S93401.

37. Truszczyński O. Photoecological Condtition of Human Visual Attention.Theory and Research. Peter Lang.Berlin, Bern, Bruxelles, New York, Oxford, Warszawa, Wien 2020.

38. Truszczyński O, Pacek P. Hybrid war and its psychological consequences. Toruń International Studies. 2020; 1(13):23-30.

39. Vasterling JJ, Proctor P, Friedman MJ, Hoge CW, Heeren T, King LA, King DW. PTSD symptom increases in Iraq-deployed soldiers: comparison with nondeployed soldiers and associations with baseline symptoms, deployment experiences, and postdeployment stress. J Trauma Stress. 2010; 23(1):41-51. doi: 10.1002/jts.20487.

40. Wittchen HU, Gloster A, Beesdo K, Schönfeld S, Perkonigg A. Posttraumatic stress disorder: Diagnostic and epidemiological perspectives. CNS Spectrum. 2009; 14:5-12.

41. Walsh B. Treating self-injury: A practical guide. New York: Guilford Press 2006.

42. Wessely S. War and the mind. Psychopathology or suffering? Palestine-Israel J. 2003; 4:6-16.

43. Zimbardo GP. Paradoks czasu. Wydawnictwo Naukowe PWN 2009.

Cite this article as: Truszczyński O. Moral Injuries, Psychological Resilience And Post-Traumatic Growth As A Possible Consequence Of Soldiers' And Civilians' Participation In Traumatic Situations. Pol J Aviat Med Bioeng Psychol 2019; 25(4): 27-34. DOI: 10.13174/pjambp.07.09.2022.04