
REMARKS ON MENTAL AND PHYSICAL HEALTH CONSEQUENCES OF CRISIS SITUATIONS

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Abstract. The author of the article focuses on the issue of psychological and physiological consequences of crisis situations experienced by an individual. Stress experienced by an individual is the first consequence of a crisis. Therefore, psychological and physiological effects resulting from stress are what is directly detrimental. These effects can lead to a physical or mental disease or even death.

Keywords: crisis; crisis situation; stress; phases of stress; consequences of stress

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1. Introduction

Many crises happen in contemporary world at the level of individual people, groups of people, regions or entire societies (Bilczak, 2021; Grega, Nečas, 2022; Rak et al., 2022).

Crises happen in various areas of personal, social or business life. The term ‘crisis’ comes from Greek and has the general meaning of a choice, decision-making, struggle or fight where acting under the pressure of time is necessary. Characteristics of a crisis:

- suddenness,
- trauma and,
- subjective consequences of trauma in the form of negative experiences.

Human beings have been encountering crisis situations from the very beginning of their existence. Such situations result from fortuitous events, personal failures or life’s misfortunes. Each person’s life includes continuous changes following critical events. We live in an uncertain environment where negative values accompany positive ones, causing inner imbalance.

Human behaviour cannot be fully controlled and predicted. It is also impossible to fully anticipate the action of natural forces. We can limit situations that cause a crisis and minimise consequences but we cannot eliminate them entirely. A crisis is a unique phenomenon that occurs in a general, sometimes very long process of changes taking place around us.

A crisis is a general term whose meaning depends on the context. According to the Polish language dictionary, a crisis is:

- a situation in which a conflict becomes so serious that it entails the risk of a war, a change of government or some other radical solution;
- collapse of the economic growth process and regression in the economic development of the state;
- the sense of discouragement and loss of motivation for life and work,
- upsetting a value system or the position of something,
- the gravest, breakthrough moment in the progress of a disease.

When divided according to the subject criterion, the crisis is divided into:

- Physiological crisis;
- Psychological crisis;
- Social crisis;
- Economic crisis;
- Ecological crisis;
- Political and military crisis (Otwinowski, 2010).

Crises may affect individuals, or embrace a whole country or region. There are numerous examples and case studies, which still have to be systematized and consistent patterns revealed.

Below there are examples of the very recent research in the area, illustrating the of how broad a spectrum is.

Kovács (2022) points to ransomwares caused by the exponentially increasing cybersecurity threat. Usually individuals or companies are exposed. Alas, it has to be noticed, that in special situations even countries may be threatened. Matasová, Vochozka and Rowland (2022) examine crises encountered by coal mining companies caused by the Russian Invasion into Ukraine. Agbaje (2022) analyses national peril of kidnapping in Nigeria. Ighoshemu and Ogidiagba (2022) focuss on poor governance and massive unemployment in Nigeria, what cause brain drain ultimately. Beňuška and Nečas (2021) research societal insecurity of the state immigration. Kolomoiets, Tsybulnyk, Moroz, Prymachenko and Khashev (2021) point to destructive role of shadow economy, which diminished security and resilience of counties. Shumilo, Lytvyn, Shablysty, Korniyakova and Popovich (2021) claim that legal mechanism is needed to ensure national security. Ilchenko, Brusakova, Burchenko, Yaroshenko and Bagan (2021) emphasize role of defence industry in crises prevention. Radchenko, Tulush and Leontovych (2023) draw attention to importance of financial mechanisms in crises management.

The provided examples reveal multifacetedness and complexity of crises. Crises have to be recognized, classified and managed; consequences have to be foreseen.

2. Crisis situation

It is one of the main concepts related to the crisis. The Act on crisis management of 26 April 2007 defines a crisis situation as a situation that negatively impacts the safety level of people, property to a significant degree or the environment, causing significant limitations in the operation of respective public administration agencies due to the inadequacy of available powers and means.

The crisis is a stage (element) of a crisis situation and the peak phase of a crisis situation. Each crisis is a crisis situation but not every crisis situation is a phase of the crisis. Each crisis situation can cause a crisis many times.

A crisis situation is usually a consequence of a threat, natural disasters or technical faults. Crisis situations can also appear in the case of:

- Terrorist activities,
- Distribution of weapons of mass destruction,
- Substance dependence,

- Hunger,
- Excessive cultural and religious differences,
- Disparities in civilizational and social development,
- Public order disturbances such as demonstrations, blockades of roads, border crossings or government offices, etc.;
- A threat to the constitutional system of the state or to the security of the citizens;
- A threat of war as a particular crisis situation.

The crisis situation is a combination of external and internal circumstances influencing a specific system in such a manner that a variable process starts and continues within it, resulting in equilibrium being maintained and, when necessary, restored by means of regulatory measures (extraordinary measures) (Wróblewski, 1986).

The crisis situation begins as soon as its symptoms appear and consists of the pre-crisis phase, the crisis and the post-crisis phase. Failure to address the situation appropriately could lead to an escalation of the risks, as well as to the development of another crisis situation. The crisis situation often causes a shock and often also fear for one's personal safety. During a crisis situation, there is a scarcity of information on the causes, course and consequences of crises, so a chaotic search for information begins. There is a loss of control over the information reaching the public, which is often late or out of date. Summing up, it has to be noted that the crisis is the peak phase of increasing emergency as a result of unexpected circumstances. In this phase, the fact that there is a real or perceived loss of control over the developing situation and no concept of how to control it plays a dominant role. The following features determine the nature of a crisis situation:

- Each crisis is a crisis situation,
- The concept of a crisis situation prevails over the concept of a crisis,
- A crisis is the peak element of a crisis situation,
- A crisis situation consists of the pre-crisis phase, the crisis and the post-crisis phase,
- Failure to take appropriate action can lead to the collapse of an organisation or to its different operation and to another crisis situation (Otwinowski, 2010).

3. Stress

What is stress?

'Stress' as a concept was used for the first time by Hans Selye to describe a non-specific reaction of the body in response to noxious stimuli (stressors), known as the General Adaptation Syndrome (Seyle, 1960).

Selye's work were criticised, mainly due to the insufficient consideration of psychological factors in the understanding of stress as a phenomenon and its consequences (Seyle, 1976). Nevertheless, it has resulted in numerous studies in this area in many biological and social sciences.

Phases of stress

The syndrome has three consecutive stages:

1. Alarm reaction stage – when defences are mobilised; physiological (biochemical) changes are the body's first response to the cause of stress (stressor).
2. Resistance stage, i.e. full adaptation to the stressor – if contact with the stressor continues the body becomes resistant to this particular stressor. Symptoms from the first stage disappear even though the disturbing stimulation continues. Physiological processes return to normal. This entails the secretion by the anterior lobe of the pituitary gland and the adrenal cortex (ACTH, corticosteroids). ACTH is a polypeptide hormone synthesised and secreted by the frontal (glandular) part of the pituitary gland. Adrenocorticotropin stimulates adrenocortical glands, stimulating the secretion of steroid hormones (e.g. cortisol). The secretion of ACTH is controlled in the hypothalamus and particles of secreted hormone already circulating in the body (by way of a feedback mechanism).

The next stage of stress is another factor stimulating ACTH secretion.

3. Exhaustion stage appears when the stressor is suitably intense and operates for a sufficiently long time. If a stressor is active for too long there comes a moment when the body is no longer able to retain its resistance. Further secretion of hormones is impossible and the body cannot adapt to stress; physiological dysfunctions reappear. Continuous exposure to the stressor often results in death.

As mentioned above, excessive or long-lasting stress leads overloads the body and the body's primary function is disrupted, e.g. a person who anticipates failure in an exam will not cope as well with preparation (will either avoid preparation or severe stress symptoms will disorganise effective learning) (Fogle, Pettijohn, 2013).

4. Consequences of stress

A range of physiological reactions are triggered in response to stress in order to mobilise energy from its storage areas and inhibiting further energy accumulation:

- for the duration of a crisis, the body stops all the costly building processes because energy has to be used elsewhere (ensuring survival).
- growth and repair of damaged tissues stops, digestion is inhibited, sexual desire is reduced, women are less likely to ovulate, men react with erection problems and produce less testosterone.
- stored glucose has to be delivered to key muscles as quickly as possible,
- heart rate, respiratory rate and blood pressure increase to transport nutrients and oxygen even faster,
- sympathetic nervous system helps retain high levels of vigilance, stimulation, activation and mobilisation. Nerve endings in this system release adrenalin and noradrenalin used to intensify the operation of all organs.

If stress is long-lasting it may be difficult to switch off the alarm adaptation responses and return to a state of homeostasis (just as an overtired person finds it difficult to sleep).

Long-term, unresolved life problems (e.g. failing relationship, unsatisfactory job, conflicts with important people) are sources of chronic stress. Such stress disrupts the body's psycho-physical immunity, which can manifest itself as:

- reduced immunity of the body (higher incidence of infections),
- occurrence of psychosomatic diseases (e.g. ulcers, allergies, cardiovascular diseases),
- emotional disorders (depression, anxiety disorders, neuroses, addictions) (Furnham, 2008).

Other biological consequences of chronic stress:

- high blood pressure – as a result of stress, the vessels of the visceral organs contract and blood flows in greater quantities to the muscles of the trunk and limbs (alarm response), the heart works more intensely, i.e. beats faster, the pulse rate and blood pressure increase.

If stress is chronic high blood pressure can be come chronic too.

- increased blood pressure leads to cardiovascular diseases such as atherosclerotic changes in the heart and blood vessels, coronary heart disease, risk of hypertension, heart attack or stroke, as well as kidney diseases.
- due to high blood pressure, blood returns to the heart with greater force and causes greater strain on the heart muscle wall, which thickens over time (left ventricular hypertrophy) – the heart becomes asymmetrical, leading to arrhythmias,
- atherosclerosis combined with stress leads to ischaemic heart disease accompanied by severe chest pains (angina pectoris),
- migraine headaches,
- gastrointestinal disorders,
- weakening of the immune system - increased susceptibility to disease,
- intensified pathogenic reaction – faster and more intense progress of diseases under stress,
- faster aging (systematic loss of adaptive energy adds up),
- higher risk of addictions,

- higher risk of certain types of cancers,
- death,
- sudden cardiac death is considered by cardiologists to be an extreme version of acute stress, causing ventricular arrhythmia or fibrillation accompanied by cardiac ischemia (Yaribeygi et al., 2017).

Psychological consequences of chronic stress:

- progressive reduction of the perceptual field,
- increased rigidity of cognitive processes,
- difficulty in objectively assessing the situation and existing alternatives,
- difficulty in creating realistic plans for the future,
- trouble concentrating,
- irritability,
- excessive impulsiveness (Lazarus et al., 1952).

The article presents various authors' opinions about stress and crisis situations, as well as their impact on mental and biological processes taking place in the body. The focus is on pathological effects of a crisis, which is why mainly negative effects resulting from stress were presented.

5. Summary and conclusions

Crises are a common occurrence in the contemporary world, affecting individuals, groups, and societies at various levels. These crises occur in different areas of personal, social, and business life and are characterized by suddenness, trauma, and negative subjective experiences. While it is impossible to completely eliminate crises, proactive measures can be taken to minimize their consequences. Crises are unique phenomena that occur within the broader context of ongoing changes in our environment.

Stress, a concept first described by a researcher, refers to the body's non-specific reaction to harmful stimuli. It has three phases: the alarm reaction stage, the resistance stage, and the exhaustion stage. Prolonged or excessive stress can lead to physiological dysfunctions and disrupt the body's primary functions. Chronic stress, often caused by unresolved life problems, can have various consequences, such as reduced immunity, psychosomatic diseases, emotional disorders, and cardiovascular problems.

This article highlights the negative effects of stress and crisis situations on mental and biological processes. By understanding these effects, we can better recognize and address the challenges posed by crises, working towards minimizing their impact and promoting resilience.

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