

# Catastrophizing and Pain

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**Abstract:** *Catastrophizing is a clinical-psychological phenomenon, comparatively frequently encountered in clinical practice. The idea that it is a predictor of pain and it is not always related to the expressiveness of the affective disorder has been more and more convincingly maintained in the last few years. The recognition of catastrophizing and the appropriate therapeutic behavior by psychologists, neurologists, anesthesiologists and others are a prerequisite for the successful treatment of patients with this kind of problem.*

**Keywords:** catastrophizing, pain, stress

## 1. Introduction

The phenomenon *catastrophizing* was described for the first time over half a century ago. The concept of catastrophizing appeared for the first time in the work of the American

psychologist A. Elis in 1962. (12), (6). Later on, Beck A. observed this phenomenon in patients with anxiety and depression and determined it as a maladaptive cognitive style characterized by groundless expectations that something bad will happen in the future (Figure 1). (2)

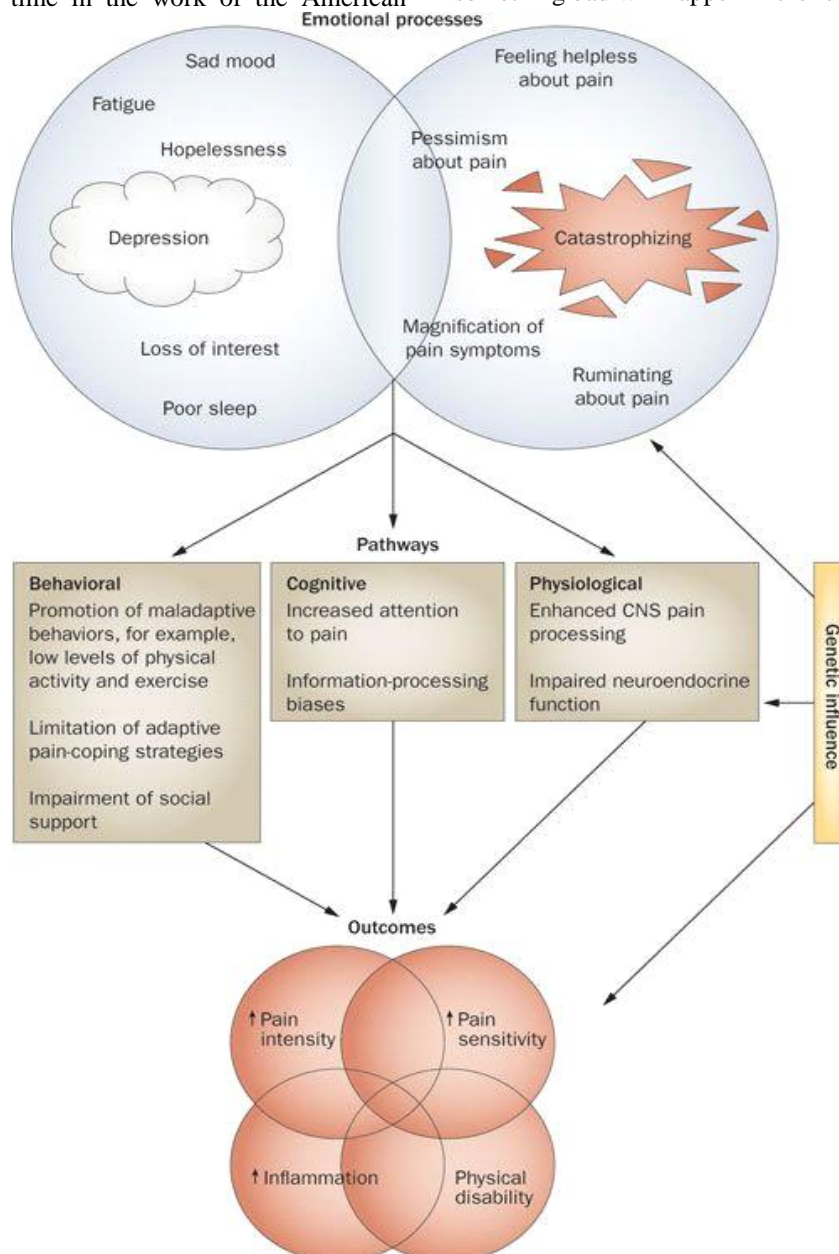


Figure 1: Catastrophizing (2)

It is stated that the earliest record of catastrophizing of pain was discovered in the classical tract of the traditional Chinese medicine “Ji Gui Yao Lue” (“Essays of the Golden Chamber”), written in year 200 A. D., as a clinical state called Zhong Zao, where the patient (frequently a woman), manifests a feeling of anxiety, recurring thoughts about helplessness and exaggerated reaction for pain and stress. (17)

In 1889 the French writer Guy Maupassant, described in his work “Sur L'eau” his migraine attacks as “cruel torture”, “the worst in the world”, “dissipation of thoughts”. (13)

In 1940 Mexican artist Frida Kahlo described her intolerant neuropathic pain and fibromyalgia due to an accident with a vehicle with a series of surrealist pictures concentrated

onto the subject-matter of brokenness and hopelessness depicted in her paintings “The Broken Column” and “Helplessness”. (3)

In general, catastrophizing represents a psychological process characterized by a maladaptive negative assessment of certain symptoms and enhanced attention to them. Three components are outlined in them (Figure 2). (12), (14).

- **Rumination** – the patient keeps speaking of some symptoms;
- **Magnification** – the patient expects that something bad will happen magnifying the seriousness of his/her disease;
- **Helplessness** – the patient thinks that his/her condition is terrible and the situation he/she is in is overwhelming.



**Figure 2:** Hierarchical factor structure of pain catastrophizing and corresponding elements of the pain catastrophizing scale (12), (14)

Later on, Sullivan proved that the level of catastrophizing is a predictor of pain and is not always related to the expressiveness of the affective disorder. (16)

There are several described mechanisms for the development of pain catastrophizing:

**Neuropsychological mechanism**, according to which there is enhanced attention to pain and the related to it cognitive-emotional processes. (8), (5), (18), (19)

Another theory for the development of catastrophizing was proposed by Lazarus and Folkman. According to it, a person in the conditions of stress (inclusive of pain), makes a primary and secondary assessment of the stress (the stressor). The primary assessment is stated in the clarification of the characteristics of the stressor and the degree of its potential threat and the secondary assessment is related to the selection of a variant for overcoming the stress and the formation of an opinion for the possibilities for successful attainment of the objective set up. (9)

### **Biological mechanisms**

From the biological point of view, the development of the phenomenon catastrophizing is related to nerve-transmitter disorders, which result in changes of the cognitive, emotional and motor reactions of the sensation of pain. (11)

It is admitted that the neuroendocrine and immunological mechanisms play a certain role in the development of catastrophizing. (1)

Fear is an emotional reaction to specific, recognizable and direct threat as, for instance, trauma. (15), (7)

It may protect the individual from an impending danger, as it provokes defensive behavior, which is related to the reaction “fight or escape”. (4), (10)

A number of scientists describe the so-called “*model of avoidance of fear*”. According to it the normal reaction of a person at the appearance of pain is its overcoming without negative thoughts and with the clear consciousness that it is a temporary process. In some events, however, when pain is erroneously (catastrophically) interpreted by the patient, a

cycle of thoughts develops resulting in intensification of fear related to the pain experience and the related to that behavior for seeking safety (escape). This may deteriorate pain,

decrease its threshold and it may enter its chronic phase (Figure 3). (20), (10)



Figure 3: "Model for avoidance of fear" (20)

## 2. Conclusion

Catastrophizing is a clinical-psychological phenomenon, which is comparatively frequently encountered amongst the patients who experienced trauma. It is in a position significantly to disturb the quality of life of the person, which sets up the requirement for a multidisciplinary approach at the diagnostication and treatment of people with this problem.

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