JST Educational Online Support

Modul: Modul 2 Bigger Picture - Lesson 1 The Foundations

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Stress

Knowing Stress

Stress is omnipresent. "I am so stressed", "My life is so stressful" - these and similar sentences are familiar to all of us. From fellow men or even yourself. When something exhausts us mentally, we speak of stress. These sentences give "stress" a rather negative value. But this does not have to be the case, stress is also positive and important for our development and performance and this is what I would like to point out in this article and create a changed relationship/perception on the topic of stress.

ABOUT STRESS

The physician Hans Selye defines stress as an "unspecific reaction of the body to any demand". The stressors, i.e. the things that trigger a stress reaction are manifold and cannot be limited to individual, general situations such as stress at work or in relationships. Furthermore is important: How we evaluate stress depends on our body's own resources and experiences. Furthermore, the assessment of stress depends to a large extent on the psychological intensity of the stimulus. This means that even if the physical impact (i.e. the force acting on us) is the same in two stress situations, we show greater/ stronger reactions in the situation where there is a higher emotional threat. To have different experiences with stress, we need a different way of dealing with it and this in turn is only possible if we know our stressors. In the following I would like to show you different stressors, which you can use to reflect on which of them occur in your daily life and to what extent.

First there are **physiological stressors**. These include a "bad" posture, a one-sided, non-nutrient rich diet, pain of all kinds, taking medication, drugs as well as lack of sleep and sleep disorders. Secondly, there are **physical stressors** such as radiation, heat and cold, air pollution, noise and altitude. Thirdly, I would like to mention the **psycho-social stressors**, which in my opinion are often underestimated, but play a very important role in terms of overall performance and quality of life. I've often caught both my students and myself being angry at (non-arriving) training performances and "taking responsibility" for it, belittling and judging negatively. In these moments, one usually never honestly reflects on what led to the (non) performances. In most cases, other stressor like psycho-social factors play a greater role than the training itself. However, the search is only in training, instead of broadening the view and looking at the whole picture. These stressors in this category include time pressure, overwork (I have some students who tell me about overwork at work, for example), loss of control, exam situations, lack of resources, as well as interpersonal conflicts such as unresolved problems, competition situations, experiences of loss, separation and fear of separation and loneliness.

It is really important to realize how many potential stressors we are exposed to every day.
At this point I would like to mention that every stress stimulus (whether intentional or unintentional) must be followed by a recovery phase so that the organism can process and adapt (remember the principle of supercompensation you know from the Theoretical Training Introduction document). If this regeneration phase is often or permanently disregarded, the body will eventually succumb to chronic fatigue (burn-out, injuries). Getting out of this phase is not an easy task, but a great challenge that takes a lot of time. So better try to be smart before it hits you in the face.

How I regenerate best, i.e. get the recovery phase, depends on the volume and intensity of my personal stressors. As described above, it is important to know your stressors and to take them seriously - all of them, remember the holistic picture. For example, if I train a lot and hard, these are intentional stressors for my organism. For this alone the body needs time to refresh itself again. In addition, however, there are usually unwanted stressors from the above-mentioned categories and these too must be taken into account in my recovery phase. You should not compare yourself with anyone here. For example, even if you are physically on the same level as your training partner, you may need a longer recovery time than him because the other stressors are different.

Let's take a quick look at how stress is created in organism in general: Responsible for stress is the body's own hormone cortisol. It is produced by the adrenal glands and the signal for release is sent out by the hypothalamus and the pituitary gland in your brain.

Side note: The hypothalamus, like the thalamus (the largest part of the diencephalon, which receives sensory stimuli from the environment, sorts them out or passes them on to the cerebrum), is located in the diencephalon and acts as a "feeling controller", so to speak. The pituitary gland, on the other hand, is the central control organ for many hormonal functions in the body. The hypothalamus sends various hormonal messengers to the pituitary gland.

Whenever you expose yourself to potential danger, a stress reaction is triggered in your organism. Before the cortisol is released, the stress hormones noradrenaline and adrenaline are also released. These stress hormones can cause a performance-enhancing effect. After the cortisol is released, the organism tires, which is not a problem once, because the cortisol level will drop again after a subsequent rest phase. However, as I wrote above, a chronically elevated cortisol level can considerably reduce the function of the immune system and thus promote diseases.

The autonomic nervous system is both fascinating and complex. One thing is clear, everyone processes stimuli differently. How a stimulus is evaluated and whether we are stressed by it depends on how strong our control over events is and how good our technical or tactical skills are at handling the stimuli.
Here is an example: A high-class parkour athlete, who has been dealing with the environmental practice, i.e. jumping, balancing, being at altitude etc. every day for many years, has completely different technical-tactical physical and mental abilities than Grandma Ursula. This means that while the parkour athlete feels hardly or no stress stimulus, Grandma Ursula is on the threshold of a heart attack when she has to jump from A to B at a height of three meters.
In order to lower the cortisol level and to balance the stress stimulus, things like sleeping more, drinking more water and less coffee or using breathing and relaxation techniques help.

Probably the most important regeneration phase is sleep. During sleep, our body gets rid of all the toxins. Among other things, regeneration-promoting hormones such as somatotropin are released during the deep sleep phase and cell regeneration is promoted. While too little or bad sleep blocks or even prevents these positive regeneration processes, it also has an effect on our psychological well-being and our sense of stress. Remember what I wrote at the beginning: How we evaluate stress depends among other things on our resources. If we are not rested and not recovered, they are scratched and emptied. Here a negative spiral can begin. You will learn more about the importance of sleep and sleep in general in another lecture during your time with us.

If you are now asking yourself: And why did I read all this now?
Well, stress plays an important role in every life and it is, I would say, essential to understand what stress is, how it occurs, what it causes and how I can deal with it.

On the one hand, stress must not be demonized and must not be perceived exclusively as something negative. A certain level of stress, whether intentional/planned or unintentional, is necessary to maintain and develop one's own physical and mental performance.
On the other hand, the disparagement of stress is very dangerous, because if the affected systems are brought permanently out of balance (homeostasis), serious physical and mental illnesses threaten.

How a stressor affects our organism therefore depends strongly on whether the stress occurs specifically and acutely and can be compensated with subsequent regeneration measures or whether it is chronic and therefore there is no possibility for regeneration due to the constant stimulus. Do not avoid stress, but learn to be attentive, to recognize and classify stressors and to use the stimulus positively by specific measures. In return, be careful how you set stimuli and that they don't come into your life permanently and too much unplanned or if so that you recognize it and allow yourself enough recovery time between stress stimuli.

The Credo reads: Stress yourself, but also praise idleness.