



# Boredom

A monotonous environment lacks stimuli, and an individual's reaction to monotony is called boredom. Boredom is a complex mental state characterized by symptoms of decreased activation of the higher nervous center, with accompanying feelings of weariness, lethargy, and diminished alertness.

**Many psychologists** have concerned themselves with the problem of boredom. Psychologists have mainly described the external causes of boredom and the behavior of persons.

Prolonged repetitive work is not very difficult, yet boredom does not allow the operator to think about other things entirely.

Prolonged, monotonous supervisory work calls for continuous vigilance, called boredom. The

decisive factor in these situations is that there are not enough matters that call for action.

Observations in the industry have shown that certain conditions make boredom more likely, such as a very brief cycle of operations, few opportunities for bodily movements and dimly lit or warm workrooms, and solitary working without contact with fellow workers.

Personal factors have a considerable impact on boredom and the ability to withstand boredom. Proneness to boredom is higher for:

- People are in a state of fatigue.
- Not-adapted night workers.
- People with low motivation and little interest.
- People with a high level of education, knowledge, and ability.
- Keen people who are eager for a demanding job.

Conversely, the following are very resistant to boredom:

- People who are fresh and alert.
- People who are still learning.
- People who are content with the job because it suits their abilities.

Many authors distinguish boredom itself and its emotional manifestations, which they call satiation, which means a state of irritation and aversion to the activity which provokes boredom. Boredom is a state of conflict between a feeling of duty to work and the desire to have done with it, which puts the person involved under increasing internal tension. The person feels that he or she has had enough.

A decline in work satisfaction is a precursor of mental satiation. Several studies have shown that work satisfaction is lower where monotonous, repetitive work is concerned than in jobs that allow greater freedom of action.

### **The physiology of boredom**

Boredom is not difficult to explain in neuro-physiological terms: When stimuli are few, the stream of sensory impulses dries up, bringing about a reduction in the level of activation of the cerebrum functional state of the body as a whole.

Besides the reduced sensory inflow during calm conditions, adaptation and habituation are two other physiological processes for the decline in stimulation level.

Most sense organs have the peculiarity that the discharge from the receptor organ declines under a prolonged steady stimulus. One function protects the CNS against prolonged overloading with impulses from the peripheral sense organs. Hence the term adaptation: the stream of sensory impulses adapted to the organism's needs.

Adaptation is not confined to the peripheral sense organs' receptors but also occurs in the synapses joining one nerve fiber. In principle, all sense organs have this power of adaptation even though they differ in the extent and speed. An example of "adaptation" is the skin's sensitivity to pressure; we soon get used to wearing a wristwatch.

What significance has adaptation in the problem of boredom? The sense organs adapt themselves to external circumstances to respond mainly to stimuli changes and are relatively insensitive to a sustained level.

Habituation is an adaptation on a higher plane. It reduces brain activation by repetitive stimuli that operate in the zone between the cerebral cortex and the limbic and reticular activating systems. The following is an example of habituation. If a note having a regular pitch goes off close to a sleeping cat, the cat will wake up the first time. If the same note sounds off at regular intervals, the effect on the cat will gradually diminish. If the note's pitch is changed, the original effect on the cat returns. A note of the original pitch will still fail to wake the cat, exhibiting that identical stimuli lose their impact with repetition. The trigger is meaningless. The essential nature of habituation is the elimination of reactions to meaningless stimuli.

The biological significance of habituation is the same as adaptation: the protection of the cerebral cortex (and thereby the entire organism) against being inundated with irrelevant alerting or alarm stimuli. Without habituation, the organism would need to maintain itself always in maximum alertness.

It appears that adaptation and habituation are neurophysiological mechanisms of monotonous conditions. Situations in the office that give rise to adaptation and habituation phenomena involve an increased risk of monotony and boredom.

A few decades ago, the science of work physiology was mainly interested in finding out how to relieve excessive physical load.

Increasing mechanical work and automation and the tendency to divide the work into numerous simple operations led to a new problem: insufficient physical and mental capacities. The unique physical and mental capabilities characterize a state we call under load.

Nearly all the human body organs have the essential biological characteristic of responding to stress by stepping up their performance. The exception is the muscles, the heart, the lungs, and the brain. Human development from childhood onwards is heavily dependent upon this ability to adapt to the stresses of life.

Conversely, if an organ is not working, it atrophies. A good example is wasting muscle, which becomes distinctly noticeable only a few weeks after a limb's fracture. Cessation of development, followed by a decline, occurs on a mental and physical level.

These considerations under-load, such as a person's experiences from monotonous, repetitive work, are unhealthy from a medico-biological standpoint. The relationship between stress and biological reactions can be broadly summarized as follows:

Under load leads to atrophy. The right amount of load leads to healthy development.

### **Overload wears out the body.**

Several Swedish studies made an exciting contribution to a better understanding of the different aspects of monotonous work. They

analyzed the catecholamine excretion in the urine. They found that the most diverse physical and emotional stress situations led to a measurable increase in the adrenalin excreted in the urine, which mobilized the performance reserves and yielded the following results:

1. Overload, created by a long-lasting serial reaction time test, produced an increased adrenalin flow (about 9.5 ng/min).
2. A moderate load as reading a newspaper gave only a tiny increase in adrenalin excretion (about 4ng/min).
3. An underload produced a higher flow of adrenalin, amounting to about 5.7 ng/min, falling between the levels of 'overload' and 'moderate load.'