

A Study on Self Regulation Techniques Training Towards Achievement of Students' HRV

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ABSTRACT

This experiment was about the implementation of self regulation techniques training in order to achieve the targeted HRV score. 20 secondary school students at the age of sixteen were chosen for this experiment. The students involved were known to have some behavioral problems. The experiment was to observe and study the importance of self regulation within the students in order to achieve the required HRV score. The students were taught and instructed to perform resonant breathing and dzikr recitation. Both were the self regulation techniques implemented for the experiment. A biofeedback device was used to monitor the changes in the students' HRV as the experiment progressed. At the end of the experiment, it clearly showed the importance of self regulation in order to achieve the HRV score and thus changes in behaviors.

Keywords

Self regulation, slow/resonant breathing, 'dzikr', biofeedback, heart rate variability (HRV).

1. INTRODUCTION

Self Regulation

Self regulation can be defined as the capacity to control one's impulses, both to stop doing something, if needed (even if one wants to continue doing it) and to start doing something, if needed (even if one doesn't want to do it).[1] It is the ability to act in a long-term best interest, consistent with one's deepest values. (Violation of one's deepest values causes guilt, shame, and anxiety, which undermine well being.) Emotionally, self-regulation is the ability to calm oneself down when feeling upset and cheer up when feeling down.[2] Self regulation is considered as a skill. Being a skill, it could be improved by learning and training. In order to improve self-regulation skill, a good place to start is an understanding of the biology and function of emotions in general and specifically feelings. Emotions move humans. The word, "emotion," derived from the Latin, literally means "to move." The ancients believed that emotions move behavior; in modern times it is said that emotions motivate behavior. They energize us to do things by sending chemical signals to the muscles and organs of the body; they prepare us for action.[2] It means that the self regulation skill needs to be mastered in order to achieve great things in life and emotions play a crucial role in mastering the said skill.

Self regulation can be divided into a few classes, that are closely related to this experiment:

- Emotional self-regulation
- Homeostasis, in systems theory

- Self-control, in sociology / psychology
- Self-regulated learning, in educational psychology
- Self-regulation theory (SRT), a system of conscious personal health management

The following are brief descriptions of each of the different classes:

Emotional self-regulation or regulation of emotion is the ability to respond to the ongoing demands of experience with the range of emotions in a manner that is socially tolerable and sufficiently flexible to permit spontaneous reactions as well as the ability to delay spontaneous reactions as needed.[4] It can also be defined as extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions.[5] Emotion self-regulation belongs to the broader set of emotion-regulation processes, which includes the regulation of one's own feelings and the regulation of other people's feelings.[6]

Homeostasis, also spelled homeostasis (from Greek: ὁμοιος homos, "similar" and στάσις stasis, "standing still"), is the property of a system in which variables are regulated so that internal conditions remain stable and relatively constant. Examples of homeostasis include the regulation of temperature and the balance between acidity and alkalinity (pH). It is a process that maintains the stability of the human body's internal environment in response to changes in external conditions.[1]

Self-control is the ability to control one's emotions, behavior, and desires in the face of external demands in order to function in society.[7] In psychology it is sometimes called self-regulation. Self-control is essential in behavior to achieve goals and to avoid impulses and/or emotions that could prove to be negative.[8] In behavior analysis self-control represents the locus of two conflicting contingencies of reinforcement, which then make a controlling response reinforcing when it causes changes in the controlled response.[9][10]

Self-regulated learning (SRL) is learning that is guided by metacognition (thinking about one's thinking), strategic action (planning, monitoring, and evaluating personal progress against a standard), and motivation to learn.[11] "Self-regulated" describes a process of taking control of and evaluating one's own learning and behavior.[12] Self-regulated learning emphasizes autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement" [13]