PSYCHOLOGİCAL FEATURES OF SELF-REGULATİON MECHANİSMS İN STRESSFUL SİTUATİONS

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Abstract: The article is devoted to the study of the psychological characteristics of self-regulation mechanisms in students in stressful situations. In the article, the theoretical analysis and generalization of works related to the problem, a set of psychodiagnostic methods were used. The research base was the requirements of Odlar Yurdu University and various faculties of Baku State University. 135 second and third year students aged 18-23 participated in the study. A systematic approach was applied to the description and study of the research object for the reliability and validity of the research results. Mathematical methods were used for empirical data processing. Thus, according to the results of the correlation analysis, a relationship between stress resistance and self-regulation was found among the respondents. We see a negative relationship ($r \leq 0.01$) between stress resistance and self-regulation and one of its styles. This shows that there is a correlation between stress resistance, self-esteem and emotional stability and self-regulation. As self-regulation increases, the impact of stressful situations decreases. We believe that the present analysis can contribute to a better understanding of the mechanisms underlying successful and unsuccessful stress regulation. It should be taken into account that this will help prevent mental disorders and improve treatment.

Keywords: stress situations, students, self-regulation mechanisms, psychological characteristics, stress resistance,

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Introduction

There is a large body of research on self-regulatory mechanisms in non-life-threatening situations, and the results from these studies can only be applied to appropriate situations. How should self-regulation mechanisms be applied in difficult situations, including stressful situations? In general, how do self-regulation mechanisms manifest themselves in stressful situations? Is it possible to find a link here?

Research shows that self-regulation is very important for success in social life and health [Jabbarov, 2017]. Self-regulation has been shown to predict better health, higher economic status, and lower levels of criminal behavior [Moffitt et al, 2011]. These same studies show that children who lack self-regulation skills have more social skills. [Aghajani et al., 2014]. Self-regulation is a general process of managing feelings, thoughts, and behaviors to meet common personal goals and standards [Fujita, 2011]. Components of self-control include self-control, persistence, and emotion regulation. These abilities are important to every aspect of our lives, including personal relationships, financial decisions, academic and professional achievement, and health behaviors. Empirical studies have consistently demonstrated the importance of self-regulation in learning skills. People who score poorly on self-control tests have been found to have more debt than others [Achtziger et al., 2015]. Among people with equal sexual desire, those with low self-control are more likely to cheat on their partner. Self-control can also be altered and depleted through experiences and behaviors, which leads to the possibility that when self-control is depleted, people may do things they would not normally do.

Literature review

Studies have shown that when people lose self-control, their sexual desires turn into bolder romantic intentions and betrayal. A number of studies devoted to the problem have focused on the general topic of self-regulation and how it relates to sleep, stress, behavior, and emotional functioning

with health behaviors and outcomes [Burke, 1988; Jabbarov, 2021].

In order to focus on how self-regulation affects both health behaviors and objective and subjective experiences of stress, we consider it appropriate to analyze research from different directions. However, it should be noted at the outset that research investigating the relationship between self-regulation and stress is very limited. Although the relationship between these two categories has been studied to some extent.

One study examined the effect of a self-regulation task on illness-related clinic visits in college students. Students were divided into two groups according to optimistic and pessimistic tendencies and assigned to the self-regulation task group as either the disclosure task group or the control group. Among the optimists, the relationship between self-regulation and disclosure tasks and clinic visits was sought, and among pessimists, only the self-regulation task and clinic visits were found. This means that the self-regulation task helped all participants to reduce their stress [Evans and Fuller-Rowell, 2013].

A study of 241 youth, half of whom lived at or below the poverty line and half of whom grew up in the majority of the population, found a significant relationship between stress, economic status, and self-regulation [Evans and Fuller-Rowell, 2013].

Cross-sectional studies show that children who grow up in poverty have increased chronic stress and worse working memory than before. However, self-regulatory ability was found to have a protective effect on this relationship. Children who grew up in poverty but demonstrated good self-regulation skills demonstrated better working memory and skills than children who lacked self-regulation. High levels of self-regulation appear to reduce the effects of chronic stress in poor populations. This is related to self-regulatory skills that allow children to develop better coping strategies and distract them from stressors [Evans and Fuller-Rowell, 2013].

Behaviors can be divided into two main categories to measure self-regulation and general social-emotional health functioning: internalizing behaviors and externalizing behaviors. These categories are defined simply by whether the behavior is aimed inward or outward. External behaviors are behaviors whose goal is outside of the individual performing them and can be seen as a type of

behavior. The categories of externalizing behavior used in this study are aggressive behavior and disruptive behavior. Internalizing behaviors are behaviors that are not harsh toward others. These behaviors are kept within the individual and are often withdrawn, lonely, depressed or anxious. It is important to identify individuals with disorders associated with these behaviors. Because they can have dangerous health consequences for the individual.

Internalizing behaviors can manifest in dangerous physical conditions such as anorexia or bulimia, as well as serious problems such as depression. Externalizing behaviors such as aggression are exhibited early in life and are associated with long-term problems, including dropping out of school, delinquency, and violence. These behaviors generally begin on a smaller scale as teasing and bullying among young children and then escalate throughout life [Smith, 2008].

In studies focusing on the relationship between self-regulation and stress, behaviors are divided into three categories: withdrawal, somatic complaints, anxiety, and depression. Research has shown a relationship between self-regulation and externalizing and internalizing behaviors. Low self-control, aggression, and delinquent externalizing behaviors were found to be correlated in twelve- and thirteen-year-old boys. The ability to delay gratification also reduces the risk of these externalizing behaviors [Krueger et al, 1996]. On the contrary, it has been argued that children struggling with internalizing behaviors have very high self-regulatory abilities, causing these children to be "over-controlled" [Eisenberg et al., 2001].

Within self-regulation, five subcategories were examined, delay of gratification, effortful control, and three subcategories: attentional control, activation control, and inhibition control. This allows research to examine how aspects of a person's self-regulation affect important health outcomes through specifically selected surveys. Besides , the magnitude of the data collected in the study allows for further analysis of these interacting variables. This allows for a clearer and more complete picture of human health and how it is achieved and maintained in relation to these variables. Overall, the results show that increased attentional control, volitional control, and inhibitory control are negatively associated with increased sleep problems. Self-regulation is often framed and may involve sacrificing

something material in the context of a decision now for a greater reward in the future [Fujita, 2011].

Research shows that the relationship between stress and emotional regulation is complex and results from the interaction of biological, psychological, and environmental factors. It should be taken into account that a better understanding of the main mechanisms of successful and unsuccessful stress regulation will help to improve strategies for the prevention and treatment of mental disorders [Nasso et al, 2019]. The difficulty in studying the relationship between stress and emotional regulation is related to the need to think about a dynamic perspective that analyzes the regulatory role of stress. In fact, stress involves different stages, and the neurocognitive processes involved in emotion regulation differ significantly between stages. In general, the stress process includes at least three stages: anticipation, coping with the stressor (stress) and recovery.

For a long time, these stages were viewed in general terms. Only recently has the need to look at each stage differently has emerged. In this direction, Ottaviani (2018) and Nasso (2019) note that the study of neurocognitive processes involved in the anticipation of stressful events can be the basis for understanding the process of stress regulation [[Ottaviani, 2019.; Nasso et al, 2019]. In this context, De Raedt and Hooley (2016) proposed the Neurocognitive Framework for Regulatory Expectancies (NFRE), a framework in which stress expectancy plays a central role in the process of stress regulation and the development of depression and other stress-related psychopathologies. The obtained results show that the activation of the dorsolateral prefrontal cortex during the stress anticipation phase reduces the stress response through indirect and inhibitory connections with the amygdala [De Raedt and Hooley, 201].

Methodology

A set of psychodiagnostic methods (tests) was used from the theoretical analysis and generalization of works related to the problem. The survey "Self-regulation style of behavior-98" survey - SSP-98 (V.I.Moros¬an¬ova, E.M.Konoz), Psychological Stress Scale PSM-25 (PSM-25 Lemyr-Tessier-Fillion scale of stress experiences) It was designed to measure the phenomenological structure of the

questionnaire (V.V. Stolin). The research base was the requirements of different faculties of Odlar Yurdu University. 135 students aged 18-23 participated in the study A systematic approach to the description and study of the object, based on the original methodological and theoretical principles, the logic of conducting experimental research in accordance with the purpose, task and hypothesis was provided by conducting scientific research, using mathematical methods for processing empirical data. SSPS 22).

Results

As a result of the methodology and their analysis, it can be concluded that a high level of self-determination manifests itself in two cases. This shows that the respondents' ability to consciously control their behavior in different situations, to understand and manage their situations and motives depends on their stress resistance characteristics. The study showed that 30% of respondents had a high level of the "Planning" scale. This shows that students consciously plan their activities, correctly prioritize the implementation of their plans and act independently when setting their goals.

48% of respondents indicated the average level on the "Planning" scale. 23% of the respondents showed a low level on the "Planning" scale. Such students rarely achieve their goals, their goals are unrealistic and often change.

The study showed that 26% of the respondents had a high level on the "Modelling" scale - such students are able to identify important conditions for achieving goals both in the current situation and in the prospective future.

The average level on the scale of "Modeling" was determined at 58% of respondents. A low level of 30% was determined on the "modeling" scale of the respondents - such students are characterized by an inadequate assessment of the relationship between internal resources and external conditions, which manifests itself in fantasy, which can be accompanied by sharp changes. At this time, negative situations are observed in relation to the development of the situation, as well as the consequences of one's own actions.

21% of the respondents indicated a high level in the "Programming" scale - these students have a high need to think in detail about the ways of their actions in order to achieve their goals. 36% of respondents indicated the average level on the "Programming" scale. 42% of respondents indicated a low level in the "Programming" scale. Such students are characterized by the inability and unwillingness to think through the sequence of their actions, they prefer to act impulsively, facing the inadequacy of the results later.

A high level on the "Evaluation of results" scale was determined in 25% of respondents. At this time, students have developed adequate self-esteem, they are aware of the stability of subjective criteria for evaluating results, and the fact of inconsistency between them. The obtained results and the purpose of the activity and its main reasons are analyzed at this level. The average level on the "Evaluation of results" scale was determined at 66% of the respondents. A low level on the scale of "results assessment" was determined in 12% of respondents. Such students do not see mistakes in their activities and are not critical of their actions. Subjective success criteria are not stable enough, and as a result, the quality of results can be affected as the volume of work increases. 24% of respondents showed a high level on the "elasticity" scale. Such students demonstrate the flexibility of all regulatory processes. He is able to quickly assess changes in important conditions and, if necessary, rearrange his plans. In case of inconsistency between the obtained results and the accepted goal, the fact of inconsistency itself is evaluated promptly and appropriate changes are made.64% of the respondents indicated the average level on the "Elasticity" scale. 27% of respondents showed a low level on the "elasticity" scale. Such students find it difficult to get used to the rapid changes in the environment, they cannot adequately react to the situation, they evaluate the inconsistency between the achieved results, they are unable to make changes in the short term and the purpose of the activity.

The study showed that 26% of respondents "independence". a high level has been determined for lasi. Such students are characterized by independence in organizing activities to achieve goals, monitoring its progress, analyzing and evaluating both intermediate and final results. The average level on the "Independence" scale was determined at 56% of respondents. A low level of "independence"

was determined in 16% of respondents. Such students depend on the opinions and evaluations of others. When organizing activities, in the absence of this help, they act with the help of other people, experience regulatory failures; 22% of the respondents indicated a high level on the "General level of self-regulation" scale - the peculiarity of such students is that they are independent, easily and quickly adapt to changing conditions, consciously set goals and achieve them. With high achievement motivation, they can form a self-regulation style that allows them to compensate for the influence of personal characteristics, which sometimes become an obstacle to achieving goals. 46% of the respondents indicated the average level on the "General level of self-regulation" scale. 30% of the respondents showed a low level in the "general level of self-regulation" scale. Such students have not formed conscious planning of activities, and the ability to compensate for personal characteristics that are unfavorable for achieving goals decreases. They depend on the situation, as a result of which the success of mastering new types of activity depends to a large extent on the compatibility of the stylistic features of the adjustment and the requirements of the type of activity being mastered.

Based on the obtained results, summarizing the test results for all the methods used, we found that the subjects had a higher probability of 68% of moderate stress resistance and 62% of high level of voluntary self-regulation. We also determined the average level of the "results assessment" (65%) and "independence" (68%) scales, which prevailed among other self-regulation styles.

In order to determine the relationship between the level of stress resistance and the level of self-regulation of the subjects, we correlated the data obtained from testing all the above methods and processed them using the Spearman rank correlation coefficient, which can be used for statistical analysis between certain events.

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Table 2. Indicators of the relationship between self-regulation and stress situations

Indicators	Scale B	Scale C	Scale H	Flexibility scale
Resistance to stress	-,224*	0,176*	-,160*	-,344*
The ability to self-regulate	0,390**	-134*	0,220*	0,368*
Emotional stability	0,199**	0,206**	0,214**	0,220**
Self respect	0.264*	0,420*	0,115**	0,426**

Note. * – p<0.05; ** – p<0.01. level is important.

The obtained results are presented in a table showing all significant statistical relationships. Thus, according to the results of the correlation analysis, a relationship between stress resistance and self-regulation was found among the respondents. According to the table, we see a negative relationship (r≤0.01) between stress resistance and self-regulation and one of its styles. This shows that there is a correlation between stress resistance, self-esteem and emotional stability and self-regulation. As self-regulation increases, the degree of impact of stressful situations decreases.

Discussion and Conclusion

These studies have enabled the development of various psychological interventions aimed at improving stress regulation. Studies have shown that anticipatory distraction and self-control strategies reduce the physiological response to a stressful task. Similarly, Nasso et al (2019) observed that the use of knowledge reappraisal in anticipation of stress resulted in a muted response to stress [Nasso et al, 2019]. The period of anticipation of stressful events may be the basis for understanding the process of stress regulation. However, surprisingly few studies have analyzed the differential activation of brain networks involved in cognitive regulation during stress and recovery phases. Taking this into account, we propose to comprehensively analyze the psychological and neurobiological processes in the stress and recovery phase in order to improve our understanding of the mechanisms underlying

successful and unsuccessful stress regulation. will give. Inability to regulate stress is associated with the development of various psychological disorders and negative long-term health problems. In this sense, various psychopathological models of chronic stress have been proposed as a trigger for various disorders [Taylor et al.. 2019]. For this reason, clarifying the emotion regulation mechanisms involved in the stress process has a great transdiagnostic value. Conducted studies show that the implementation of self-regulation in stressful situations is also related to social-psychological values in many cases [Ramiz and Vakil, 2020; Vakil, 2021].

The relationship between stress and emotion regulation is complex and results from the interaction of biological, psychological, and environmental factors [Gotlib et al., 2008]. The difficulty in studying the relationship between stress and emotion regulation is due to the need to consider a dynamic perspective that analyzes the regulatory role of stress. In fact, stress involves different stages, and the neurocognitive processes involved in emotion regulation differ significantly between these stages.

The processes involved in the cognitive and emotional regulation of stress can be divided into two main systems. System 1 (bottom-up) is characterized as being automatic and reactive to a stressful stimulus, and system 2 (top-down) involves more complex cognitive processes and involves subsequent deliberative efforts. Based on the interaction of both systems, the resulting cognitive regulation can lead to a reduction or intensification of the stress response. Although this distinction between automatic-reactive and processed-active system has different names, it corresponds to several theoretical models [Kahneman, 2011].

Although the main brain structures involved in both systems are known, the interactions between them and the factors that lead to the superiority of one over the other still require further investigation. In this direction, the concept of temporal dynamics of emotions and stress and dynamic functional connection approach was proposed [Dosenbach et al, 2008]. In particular, components of emotions and stress responses, including cognitive states, are thought to induce different neuronal dynamics that are reconfigured over time as a function of the body's internal regulatory factors [Cohen & Edwards, 1989]. Thus, different neurodynamically independent brain networks are activated during

a negative or stressful situation. This activation is primarily related to negative and positive affect, and secondly to the regulation processes of these initial affective reactions [Hofmann et al., 2012].

This latter functional system of brain networks does not act as an independent factor (unlike affect), but rather interacts with negative and positive affect systems in the regulation and control of affect and behavior [Weiner, 1992]. This means that: a) networks related to the generation of effects can contribute uniquely and simultaneously in stress situations [Bernard , 1961]; b) which is observed in the regulation of affective response and influence depending on the content of stimuli rather than a separate and specialized function, it is the relationship with functional processes between these structures that explains the differences [Anand et al.. 2019].

A dynamic factor that is not clearly considered is the factor related to the stages of stress. In general, the stress process includes at least three stages: anticipation, confrontation with the stressor (stress) and recovery. During each of these phases, the neurocognitive processes involved in emotional regulation differ significantly, and depending on the phase and level of the stress response, one system may have an advantage over the other. For this reason, it is important to develop dynamic models that consider the regulatory role of stress in the regulation of emotions. Conducted studies show that the role of neurocognitive processes involved in the period of anticipation of stressful events has been analyzed more [Nasso et al., 2019; Ottaviani, 2018]. In this study, the main task is to focus on the analysis of the cognitive and neural mechanisms involved in stress and recovery. In general, it can be confirmed that the dominance of bottom-up processes in which signals from limbic subcortical structures (for example, hypothalamus and amygdala) influence the activity of higher cortex structures through their connections with the medial prefrontal during stress experience. is hidden. In contrast, prefrontal (top-down) control reduces amygdala activation associated with the experience of negative emotions through a cortical-subcortical pathway [Wager et al., 2008]. Several studies have linked prefrontal activation with the use of reappraisal [Dillon and Pizzagalli, 2013; Vanderhasselt et al. 2013]. A better understanding of the mechanisms underlying successful and unsuccessful stress regulation will help improve prevention and treatment interventions for mental disorders [De Raedt and Hooley, 2011]. This theoretical model is of

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clinical importance because it will help determine which different aspects of stress resilience should be targeted by therapeutic interventions and how such interventions can be better tailored.

In this sense, cognitive behavioral therapy (CBT) has been shown to be effective in treating stress and emotional disorders. However, pooled meta-analytic response rates for CBT vary between 38% and 82%, depending on the specific disorder [Hoffmann et.al, 2012]. Thus, there is still great room for improvement. Even if a treatment is found to be effective, it is unlikely to be effective for everyone. Adapting treatments to individual characteristics is one of the goals of personalized medicine, which has attracted increasing attention in the field of mental health in recent years [Simon and Perlis, 2010].

In this sense, the current review is a step forward, as it will allow for a clearer strategy and precision when making interventions for patients with stress regulation difficulties. In fact, the two patients may have trouble regulating their stress response for different reasons. In one case, difficulties could be observed during the stress phase, and in the other case, during the recovery phase. Therefore, both patients will present with similar symptoms, but treatment will require different interventions. For example, training in distraction techniques may be beneficial during the recovery phase of stress, but may be counterproductive during coping with the stressful situation [Nasso et al., 2019]. Similarly, interventions focused on reinterpretation during the stress phase have been observed to reduce responding and inhibit amygdala activation [186], but the use of interventions focused on gratitude and compassion is not as effective during this period. Although they would work better for a recovery strategy [Salzmann et al,2018]. It will also create a foundation for the self-realization of educational subjects in the learning process [Jabbarov, 2012].

It is unreasonable to assume that the same strategy will be equally effective at different stages of the stress process. Thus, when coping with anticipation or a stressful situation, focusing on plans will be a more functional strategy than positive focus, while the opposite process will be observed in the recovery phase [Medrano et al., 2013].

Adequate training in the use of emotion regulation strategies involves analyzing the stages of the stress process where the most difficulties are observed. We believe that in the present analysis

we have been able to contribute to a better understanding of the mechanisms underlying successful and unsuccessful stress regulation. It should be taken into account that this will help prevent mental disorders and improve treatment.

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