

# Self-Sufficiency as a Factor in the Development of the System of Psychological Self-Regulation of Personality

Nelia BIHUN <sup>1</sup>

Iuliia ALIEKSIEIEVA <sup>2</sup>

Svitlana HERASINA <sup>3</sup>

Tetiana YELCHANINOVA <sup>4</sup>

Oleksandr MESHKO <sup>5</sup>

Svitlana SOBKOVA <sup>6</sup>

<sup>1</sup>National Pedagogical Dragomanov University, <https://orcid.org/0000-0002-1767-5181>, [nelabigun@gmail.com](mailto:nelabigun@gmail.com)

<sup>2</sup>National Pedagogical Dragomanov University, <https://orcid.org/0000-0003-2248-1573>, [yulya-alekseeva-74@ukr.net](mailto:yulya-alekseeva-74@ukr.net)

<sup>3</sup>Hryhorii Skovoroda University in Pereiaslav, <https://orcid.org/0000-0002-8733-2600>, [sv.herasina@gmail.com](mailto:sv.herasina@gmail.com)

<sup>4</sup>Skovoroda Kharkiv National Pedagogical University, <https://orcid.org/0000-0002-7403-4700>, [t.m.elchaninova@gmail.com](mailto:t.m.elchaninova@gmail.com)

<sup>5</sup>Ternopil Volodymyr Hnatiuk National Pedagogical University, <https://orcid.org/0000-0003-4463-7073>, [meshko\\_o@ukr.net](mailto:meshko_o@ukr.net)

<sup>6</sup>Yuriy Fedkovych Chernivtsi National University, [s.sobkova@chnu.edu.ua](mailto:s.sobkova@chnu.edu.ua)

**Abstract:** *In the conditions of transformation of contemporary society there are dynamic transformations, which primarily affect changes in the individual psychological sphere of each person. These changes lead to formation of a holistic, confident and self-sufficient personality, capable of high self-regulation and self-control, which will ensure one's successful integration into society. The purpose of the article is to substantiate the importance of self-sufficiency in the development of the system of personality self-regulation. The article uses a theoretical analysis of scientific publications on self-regulation and self-sufficiency of the individual; generalization and systematization of the results of current researches and approaches. The considered main approaches to the study of self-regulation, which reflects a conscious control of behavior, contributes to the effective achievement of goals, ensures successful adaptation to changing environmental conditions. Self-regulation includes a whole system of emotional and behavioral reactions, personality traits, internal and external factors that determine one's development, among which an important place is occupied by self-sufficiency. Self-sufficient personality has a well-established system of claims, autonomy and independence, high self-esteem and determination. Self-sufficiency is associated with personality-oriented growth, self-realization, which provides motivation to effectively regulate behavior and psycho-emotional state. The conducted theoretical research allowed to state that self-regulation of personality is a complex and multidimensional phenomenon, an important place in the structure of which is occupied by self-sufficiency. It is concluded that there is a necessity to update and achieve self-sufficiency, which will promote development of self-regulation.*

**Keywords:** *Self-control, adaptation, self-efficacy, perseverance, motivation for achievement, purposefulness.*

**How to cite:** Bihun, N., Aliksieieva, I., Herasina, S., Yelchaninova, T., Meshko, O., Sobkova, S. (2023). Self-Sufficiency as a Factor in the Development of the System of Psychological Self-Regulation of Personality. *Revista Românească pentru Educație Multidimensională*, 15(3), 15-30. <https://doi.org/10.18662/rrem/15.3/750>

## Introduction

A rapid development of contemporary society clearly demonstrates the relevance and significance of changes in human life. However, along with the rapid globalization and information changes, there are transformations in the attitude to an individual as a value, as an element of the existence of society. For effective existence a contemporary personality must have such qualities as confidence, independence, self-efficacy, self-control, responsibility for one's own decisions and actions, reflection, self-realization, self-sufficiency and self-regulation, ability to act according to planned goals and persevere (Bezliudnyi et al., 2019; Demchenko et al., 2021; Kosholap et al., 2021; Palamarchuk et al., 2020). In particular, an important quality for successful life self-realization is self-regulation, which reflects the ability to control one's behavior and actions, take responsibility for them and shows high emotional stability.

The ability to self-regulation in the current stressful conditions of society is a vital necessity of the individual, who is a holistic system of means that allow to manage purposeful activity (Groß, 2021). Having a developed self-regulation, a person is much more likely to succeed in work or study (Buckley et al., 2014), social relations or personal life (Berger et al., 2007). Developed self-regulation indicates high psychological well-being and emotional stability (Hakun et al., 2020), which significantly reduces the risk of negative behavioral trends (Baumeister & Kathleen, 2006).

The process of self-regulation is assumed as a complex structural and psychological category (Berdibayeva et al., 2015); as a clear control over one's thoughts, emotions, impulses and behavior and has health-related consequences (Reed et al., 2020); as the ability to regulate one's emotions, actions, behaviors and feelings, i.e. as a concept related to the regulation of emotions (Gagne et al., 2021); as control over one's thoughts, emotions, behaviors, and impulses associated with better life outcomes (Moffitt et al., 2011).

In recent researches the issue of such a factor of self-regulation as self-sufficiency, as a necessary personal quality of an individual, which ensures one's effectiveness in various spheres of life has been raised increasingly (van den Toren et al., 2020). The concept of "self-sufficiency" began to actively enter the scientific world and various practical fields during the twentieth century. Nowadays, self-sufficiency is widely used in many spheres of life to identify the main goal that the contemporary society strives for: to cultivate a full-fledged highly educated, confident personality, able to function productively for the benefit of society (Ziegler & Opdenakker, 2018).

Self-sufficiency is considered by the authors through the prism of different approaches: the ability of a person to achieve an acceptable level of functioning in certain areas of life (van den Toren et al., 2020); as the implementation of a sufficient level of self-functioning and adequate organization of assistance from others (Bannink et al., 2015); confidence and independence of behavior and actions (Ljubimova et al., 2014); responsibility in achieving goals, development of motivation, ability to cooperate, learning new experiences (Rutkienė & Tandzegolskiene, 2015); it is a socio-psychological behavior that emphasizes the belief in the effectiveness of one's own thoughts, actions and behavior, and determines a person's motivation (Tufana et al., 2015). Self-sufficiency is defined as the ability of individuals to achieve a certain optimal level of functioning in specific areas of life (van den Toren et al., 2020). Psychological self-sufficiency affects economic self-sufficiency and ensures the effectiveness of a person's labor activity (Hong et al., 2018; 2019).

Therefore, there is a need to address the issue related to effective self-regulation of individual behavior. The solution to this problem can be achieved through targeted self-influence through the development of psychological factors of self-regulation, the main of which we consider self-sufficiency.

### **The content and the concept of psychological self-regulation of the individual**

Any person in the process of one's life requires the use of such means of influencing behavior, which would allow to achieve the set goals in the most optimal way with minimal expenditure of personal resources of the organism. Notably, the choice of such means must be reasonable and unambiguous. Therefore, the key to effective living can be surely identified as the self-regulation, which is a complex systemic process that ensures plasticity of the subject at any level. Self-regulation acts as the ability to control emotions and behavior in order to achieve goals and better adaptation to environmental conditions (Berger et al., 2007). The process of self-regulation includes both automatic unconscious processes and self-control of activities (Bridgett et al., 2015). Self-regulation can help reduce internal stress and learn the skills of effective self-control (Gagne et al., 2021).

Thoroughness of self-regulatory processes affects the success, efficiency, reliability, productivity of an individual (Saraff et al., 2020). In particular, the importance of psychological self-regulation should be noted, which allows to control one's own actions and emotional states at the psychophysiological level.

The first thorough study of the concept of self-regulation was conducted by Bandura and described in his socio-cognitive theory. According to the author, the system of self-regulation is the basis of cause-effect processes and the result of purposeful action. The essence of this theory is that due to the ability to predict the consequences of one's actions, a person is able to correct them at the planning stage. Specifically, behavior is purposeful, and at the same time, due to such foresight, people motivate themselves and control their actions. Future events may not be causes of motivation, but being desirable in the future, they become current motivators and regulators of behavior (Bandura, 1991).

The socio-cognitive theory states that human behavior cannot be guided solely by external factors. Moreover, under such influences, a person is able to analyze one's actions and deeds according to specific situations, using the ability to reflection as a way of making decisions. And this, in turn, allows to control one's thoughts, feelings and actions. Thus, according to Bandura, "functioning of an individual is regulated by the interaction of self-generated and external sources of influence" (Bandura, 1991).

Metacognitive self-regulation acts as one of the structural components of self-regulation. Using metacognitive strategies of self-regulation, it is possible to control one's behavior, monitor one's actions and, if necessary, adjust them to achieve the set goals (Ziegler & Opdenakker, 2018). Such skills are described in great detail by scientists who study the educational process, in particular the ability to cognitive action. In addition, it is noted that metacognition and self-regulation contribute to the awareness of the learning process (Young & Fry, 2008) and provide an opportunity to learn specific strategies for planning, monitoring and evaluating the process of self-learning. Self-regulation as a construct involves controlling and maintaining one's behavior, and therefore metacognitive strategies influence self-regulated learning (Zimmerman, 1989) and intrinsic motivation to learn (Saraff et al., 2020). Thus, motivation and the ability to metacognition are an important factor in achieving effective self-regulation (Evans et al., 2016).

Hall and Fong developed the Temporal Self-Regulation Theory (TST), according to which self-regulation is an integrative model of human behavior that retains the features of familiar socio-cognitive models but expands them, including resources of neurobiological control and considering temporary unpredictable external behavioral factors (Hall & Fong, 2013).

Self-regulation is the ability to attract cognitive, motivational and emotional resources in order to achieve specific long-term goals. In particular, self-regulation acts as a structure that allows for a higher level of well-being by changing modes of behavior to more constructive ones.

Analyzing maladaptive behavior and its destructive forms, it is possible to develop specific measures based on self-regulation that will be able to change a mode of behavior to more effective one (Eisenberg & Zhou, 2016; Eisenberg et al., 2018; 2019).

Based on this, it can be argued that self-regulation is a process that needs to be developed and trained, which can ensure better human health.

People with high self-regulation and people with higher cognitive abilities tend to have better health and well-being (Hakun et al., 2020). This is especially true of the physical health. Some studies suggest that cognitive self-control provides successful self-regulation of physical activity, which helps to improve human well-being (Buckley et al., 2014). It follows that people with more developed self-regulation are healthier and more successful in achieving their intentions and goals.

Thus, a large number of studies claim that self-regulation plays a role in various spheres of life, both by promoting positive mode of behavior and preventing undesirable one. However, the positive impact of high self-regulation on the quality of social functioning (Berdibayeva et al., 2015), mental health (Eisenberg et al., 2018) and the improvement of functional status (Jouhari et al., 2015) have been reported.

In a study of children from birth to adulthood, Moffitt found that self-control and self-regulation ensured better physical health, less risk of substance abuse, and lower crime rates (Moffitt et al., 2011).

Self-regulation is an integrated process of complex organized and purposeful construction, maintenance and management of arbitrary activity of an individual aimed at achieving one's own goals (Werner & Milyavskaya, 2018). The process of self-regulation can take place at different levels of complexity and content. At the first level, physiological (biological) self-regulation is manifested, which involves a successful adaptation of an individual to environmental conditions. The second level is mental self-regulation, which includes mental mobilization of willpower and activity to achieve goals.

Despite a large number of definitions for self-regulation, summarizing them, one can say that self-regulation has dual meaning: as a process and as a result. As a process, self-regulation is a certain action, the condition of which is the control of one's own behavior and actions, psychological states. As a result, self-regulation acts as a complete construct that provides for the existing system of adaptive ways and strategies of behavior that ensure successful functioning of the individual.

Most scientists agree that self-regulation is a process of adaptation to the external conditions of a changing environment in order to adapt (Soundy

et al., 2016). However, scientists describe the mechanism and individual features of self-regulation differently.

Self-regulation provides a change in one's own behavioral responses in accordance with social conditions and standards (Reed et al., 2020). Moreover, a significant part of the organism's strength and energy is spent on self-regulation, which can lead to temporary emotional and physical exhaustion. That is why some scientists note that the use of special exercises to develop self-regulation can improve psycho-emotional state and reduce exhaustion (Baumeister et al., 2006; Gailliot et al., 2007).

Self-regulation is a conscious process that ensures achievement of goals by means of self-control and regulation of one's own actions. An important role in the self-regulation of the individual is played by their assessment and self-assessment (Vink et al., 2020), which allow to adjust the process of self-regulation, thus increasing the effectiveness of activities.

Based on the analysis of previous research, it should be noted that the vast majority of scientific studies consider self-regulation as a clear self-control, supplemented by willpower, sometimes even exhausting, but effective in the short term. However, contrary to such theories, there are studies that suggest that moderate self-regulation is more effective and adaptive in achieving long-term goals. At the same time, it is important to motivate the willpower of the individual, which can facilitate or hinder achievement of effective self-regulation (Werner & Milyavskaya, 2018).

The basis of self-regulation is the adaptation of the individual as a category that reflects the immediate level of adaptation to new conditions for the individual. At that adaptation is characterized by the unity of biological, psychological and social prerequisites for the effective functioning of the individual (Groß, 2021).

Self-regulation is a major aspect of adaptive human behavior. At the same time, the psychophysiological mechanisms of the organism are able to influence self-regulation and increase the risk of situational factors. Proceeding from this, improving self-regulation and its training can promote more adaptive human interaction with society, especially in vulnerable groups (Hofmann et al., 2012).

Low self-regulation is the cause of many disorders not only psychological but also of social nature. Considering adaptation of the individual to the social environment through the prism of personality-individual approach, it can be noted that at low rates of self-regulation a person is unable to control oneself, constructively solve problems, interact effectively with others.

Studying the neuropsychological features of self-regulation and its impact on the adaptive behavior of the individual, Heatherton and Dylan note that successful self-regulation depends on consistent control of the prefrontal cortex over the subcortical areas involved in the regulation of behavior and emotions. Decreased self-regulation occurs when the balance of the subcortical areas is disturbed, or the prefrontal area is disturbed. Based on this theory, a balanced model of self-regulation primarily includes a clear work of the organism at the psychophysiological level (Heatherton & Dylan, 2011).

Some scientists point out that self-regulation ensures formation of sustainable forms of behavior and response. Lack of internal control can be compensated by external influences and motivation, thus ensuring achievement of the goal (Buzinski & Kitchens, 2017).

Scientists pay attention to the importance of motivation in the process of self-regulation. Thus, Baumeister and Kathleen note that “self-regulation is the ability of an individual to change one’s behavior, which provides flexibility and adaptability of human behavior, allowing people to adapt their actions to an extremely wide range of social and situational requirements.” The goal orientation can be exhausting for the organism, even with strong motivation, and self-regulation can relieve this stress and help achieve many desired results. As a result, motivation stimulates self-regulation (Baumeister & Kathleen, 2007).

It should be emphasized that motivation is not sufficiently taken into account in the theories of self-regulation, as it occupies one of the main positions. Studies show that a person’s strong motivation promotes higher self-regulation and self-control.

Self-regulation also acts as a set of skills that allow individuals to purposefully control their thoughts, emotions and behavior. Strengthening self-regulation skills is important because they help plan goals and achieve them (Anderson et al., 2018).

Berdibayeva and Nurdaulet (2015) found that gender relations have a significant impact on self-regulation. Positive gender relations have a positive effect on the process of self-regulation. An individual is a self-regulatory system, so gender relations have a direct impact on self-regulation.

No less important feature of self-regulation are the age characteristics of the individual. Thus, according to some scientists, self-regulation increases with age. (Gwyther & Holland, 2020). Others, on the other hand, believe that the ability to self-regulation improves in middle adulthood (Bettschart et al., 2021). A study of the structure of self-regulation and its impact on the psychological and physical health of older adults has shown that in the process of self-regulation they are more likely to rely on

practice and experience rather than to use neurobiological resources. Subjective self-regulation at that is the basis of mental and physical health in more advanced age (Reed et al., 2020).

The analysis showed that self-regulation is a very complex and multifaceted concept, which includes a significant number of structural elements that allow to exist effectively in the world around. Among many factors that determine development of self-regulation, it is appropriate to single out self-sufficiency as one of the most important, which stimulates the individual to achieve a certain level of self-realization by means of self-control and regulation of behavior.

### **The essence of self-sufficiency of an individual in the structure of self-regulation**

Self-sufficiency is a quality that reflects the state of self-satisfaction, a sense of inner fullness and stability, integrity, harmony, emotional balance, motivation to succeed and determination.

Formation of self-sufficiency is a dynamic process that ensures the formation of inner personal potential. Availability of such potential contributes to personal growth and self-realization of the individual in all spheres of life. It follows that the individual is self-actualizing and self-developing with the help of internal psychological resources. At that, self-sufficiency is ensured by the level of consistency of personal potential with the level of claims (Buzinski & Kitchens, 2017).

An important indicator of the formed self-sufficiency is self-determination, which is manifested in the ability to independently choose ways and directions of action, to be responsible for one's own actions.

Most research on self-sufficiency is aimed at determining material satisfaction, financial status, i.e., reflect more economic self-sufficiency. This is due to the fact that self-sufficiency, according to scientists, forms a sufficient level of financial status of an individual, their need for a certain financial level. Research shows that there is growing evidence that psychological self-sufficiency is positively associated with achieving economic self-sufficiency (Hong et al., 2021).

According to Adler, the formation of self-sufficiency of the individual is a necessary condition for eliminating various forms of psychological distress (Garrin, 2014). According to the author's theory, the driving force of personal development is a feeling of inferiority, which includes subjective feelings of psychological or social failure. In an effort to overcome this feeling, a person tries to achieve perfection, completeness in a particular area of life. Adler called this desire "the desire for dominance."



To some extent, this concept can be identified with self-esteem, as both concepts characterize a sufficient level of self-satisfaction. However, self-sufficiency is a deeper concept that manifests itself on both the cognitive and emotional levels and provides a sufficient level of emotional well-being of the individual. A distinctive feature of self-sufficiency is the ability to self-control and self-regulation depending on needs and external influences (Ziegler & Opdenakker, 2018).

At the same time, self-sufficiency as a factor in the development of self-regulation provides higher adaptability of the individual. People with strong self-sufficiency are less prone to destabilization, have a fairly high emotional stability and self-efficacy (Soundy et al., 2016). Some scientists consider self-sufficiency as a protective mechanism by which the body limits the negative impact of external factors on the process of self-affirmation (Song et al., 2012).

Self-sufficient people have a strong internal locus of control (Tufana et al., 2015). That is, they have the ability to plan and model their own life perspective, make their own important life decisions and attribute all the achievements to their own actions and abilities, or external circumstances.

Self-sufficiency is a category that reflects the degree of satisfaction of the individual with one's own social status, one's successes, achievements, skills. This state provides emotional well-being and a sufficient level of self-esteem. It follows that self-sufficiency can be identified with the concept of "social maturity", which is traditionally characterized by acquisition by an individual of properties of independence. A socially mature person is completely independent, able to effectively learn social norms and rules, effectively interact with others, is able to evaluate oneself and one's actions, correct them in case necessary (Garrin, 2014). Therefore, self-sufficiency can be presented as an adequate satisfaction with the results of one's activities, and social maturity is a mandatory component of the structure of "self-sufficiency".

Analyzing the structure of self-sufficiency, we can identify several of its main components that provide effective self-regulation of the individual. The first component is independence, which reflects a person's ability to perform actions and make decisions independently without involvement of external resources and assistance. Independence is important for the development of self-sufficiency because in case of complete absence of skills of independence, the individual a priori cannot be self-sufficient (Anderson et al., 2015). The essence of independence amounts to achieving success through one's own efforts, which brings additional satisfaction from achieving the goal and forms self-sufficiency.

Another component of self-sufficiency can be defined as perseverance, which reflects the ability to act effectively in a stressful situation or when making an important decision. Emotionally stable individuals are characterized by inner peace, balance of the emotional sphere, harmonious well-being (Kim, 2021). Perseverance to external circumstances determines the degree of satisfaction with one's achievements and the ability to overcome difficulties to achieve the goal.

The third component that can be distinguished is purposefulness as the desire to achieve the goal, the focus on obtaining the desired results. Some authors include in the structure of self-sufficiency the motivation to succeed (Werner & Milyavskaya, 2018), which in principle can be considered purposeful.

Another component of self-sufficiency can be defined as autonomy and independence, which characterizes the independence of the individual from external influences. Autonomy in this case reflects the ability of the individual to be independent of the assessments of others, making one's own decisions, characterizes a clear responsible behavior.

No less important component than the previous ones in the structure of self-sufficiency is self-attitude, which reflects a person's attitude to oneself and one's actions, life in general. A self-sufficient individual should have a high level of self-esteem, as this is primarily the level of awareness of one's self-worth, which determines the range of needs and goals that shape self-sufficiency (Rutkienė & Tandzegolskiene, 2015).

And it is also worth to include in the self-sufficiency such a concept as self-efficacy, because it determines how well the achieved result meets the needs of the individual and pre-set levels. Developed self-efficacy contributes to the constructive solution of even very complex problems, the ability to find a way out of contradictory situations. It provides mobilization of willpower, mental and physical capabilities (Bandura, 1991).

According to Bandura, self-efficacy, which is associated with the expectation of success, contributes to more effective results, and as a consequence, to high self-esteem. A person who feels one's effectiveness usually has a high potential to solve tasks and has the ability to optimally choose appropriate options for successful actions among all possible and promising (Bandura, 1991).

Proceeding from the above, self-sufficiency is a complex personal formation in the structure of self-regulation and one of the important factors of its development. Including such structural elements as self-relation, independence, perseverance and purposefulness, self-sufficiency forms a self-confident person who has sufficient skills of self-regulation and is able to act

effectively regardless of external circumstances and internal conditions. At the same time, the higher the self-sufficiency of the individual, the more developed their self-regulation and ability to self-control is. Such properties determine the integrity and formation of human personality.

## **Conclusion**

Analysis of the peculiarities of the phenomenon of self-regulation gives grounds to conclude that self-regulation is a complex mental formation that ensures stability of the organism. Self-regulation is based on adaptation to the external conditions of the social environment, as well as the ability to regulate the forms of one's activity and behavior in accordance with the needs and norms of the social environment. Based on this, in the structure of self-regulation we can outline three levels: physiological (normalization of one's biological state, stability of the CNS, maintenance of blood pressure, regulation of stress); behavioral (skills of self-control, motivation to achieve, stable forms of behavioral response, habits, etc.); psychological (regulation of one's individual and personal characteristics, psycho-emotional state, attitudes, value systems, etc.).

Among the factors of self-regulation development, one of the most effective is the achievement of self-sufficiency, which is a state of self-satisfaction and one's own life. Self-sufficiency is a natural personality trait, thanks to which a person is able to feel one's integrity and independence, shape potential for self-realization, build relationships with others, make independent important decisions and feel one's importance. Achieving self-sufficiency is a continuous process of formation of personal qualities and characteristics that ensure one's full adaptive development, level of aspirations, self-esteem, productive life and through which a person has the opportunity to be most efficient and self-fulfilled, according to time and space requirements where one exists.

Self-sufficiency is the end product of self-regulation, the achievement of a certain result, due to which the individual feels complete inner harmony and complete satisfaction with oneself and one's achievements. Being self-sufficient, the individual chooses specific ways of self-regulation to maintain internal balance and regulate the motivational-need sphere. Using various means of self-regulation (motivation, self-control, self-esteem, etc.) self-sufficient personality is adaptive, effective and purposeful. And this in turn ensures one's successful integration into society, promotes effective interpersonal interaction with others and the achievement of personal results.

## References

---

- Anderson, M. A., Brown, E., Cavadel, E. W., Derr, M., & Kauff J. F. (2018). Using Psychology-Informed Strategies to Promote Self-Sufficiency: A Review of Innovative Programs. *OPRE Report #2018-41*. Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/report/using-psychology-informed-strategies-promote-self-sufficiency-review-innovative>
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248-287. [https://doi.org/10.1016/0749-5978\(91\)90022-L](https://doi.org/10.1016/0749-5978(91)90022-L)
- Bannink, R., Broeren, S., Heydelberg, J., van't Klooster, E., & Raat, H. (2015). Psychometric properties of self-sufficiency assessment tools in adolescents in vocational education. *BMC Psychology*, 3, 33. <https://doi.org/10.1186/s40359-015-0091-2>
- Baumeister, R. F., Gailliot, M., DeWall, C. N., & Oaten, M. (2006). Self-regulation and personality: How interventions increase regulatory success, and how depletion moderates the effects of traits on behavior. *Journal of Personality*, 74(6), 1773-1802. <https://doi.org/10.1111/j.1467-6494.2006.00428.x>
- Baumeister, R. F., & Kathleen, D. V. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass*, 1(1), 115-128. <https://doi.org/10.1111/j.1751-9004.2007.00001.X>
- Berdibayeva, S., Nurdaulet, I., Saparbaikyzy, S., Akhmetova, G., Mursaliyeva, A., & Maigeldiyeva, S. (2015). Psychological features of gender relations in self-regulation of personality. *Procedia - Social and Behavioral Sciences*, 171, 203-208. <https://doi.org/10.1016/j.sbspro.2015.01.108>
- Berger, A., Kofman, O., Livneh, U., & Henik, A. (2007). Multidisciplinary perspectives on attention and the development of self-regulation. *Progress in Neurobiology*, 82, 256–286. <https://doi.org/10.1016/j.pneurobio.2007.06.004>
- Bettschart, M., Wolf, B. M., Herrmann, M., & Brandstätter, V. (2021). Age-related development of self-regulation: Evidence on stability and change in action orientation. *Journal of Research in Personality*, 91, 10463. <https://doi.org/10.1016/j.jrp.2020.104063>.
- Bezliudnyi, O., Kravchenko, O., Maksymchuk, B., Mishchenko, M., & Maksymchuk, I. (2019). Psycho-correction of burnout syndrome in sports educators. *Journal of Physical Education and Sport*, 19(3), 230, 1585-1590. <https://doi.org/10.7752/jpes.2019.03230>
- Bridgett, D. J., Burt, N. M., Edwards, E. S., & Deater-Deckard, K. (2015). Intergenerational transmission of self-regulation: a multidisciplinary review

- and integrative conceptual framework. *Psychological Bulletin*, 141, 602–654.  
<https://doi.org/10.1037/a0038662>
- Buckley, J., Cohen, J. D., Kramer, A. F., McAuley, E., & Mullen, S. P. (2014). Cognitive control in the self-regulation of physical activity and sedentary behavior. *Frontiers in Human Neuroscience*, 8, 747.  
<https://doi.org/10.3389/fnhum.2014.00747>
- Buzinski, S. G., & Kitchens, M. B. (2017). Self-regulation and social pressure reduce prejudiced responding and increase the motivation to be non-prejudiced. *The Journal of Social Psychology*, 157, 629-644.  
<https://doi.org/10.1080/00224545.2016.1263595>
- Demchenko, I., Maksymchuk, B., Bilan, V., Maksymchuk, I., & Kalynovska, I. (2021). Training Future Physical Education Teachers for Professional Activities under the Conditions of Inclusive Education. BRAIN. *Broad Research in Artificial Intelligence and Neuroscience*, 12(3), 191-213.  
<https://doi.org/10.18662/brain/12.3/227>
- Eisenberg, I. W., Bissett, P. G., Canning, J. R., Dallery, J., Enkavi, A. Z., Whitfield-Gabrieli, S., Gonzalez, O., Green, A. I., Greene, M. A., Kiernan, M., Kim, S. J., Li, J., Lowe, M. R., Mazza, G. L., Metcalf, S. A., Onken, L., Parikh, S. S., Peters, E., Prochaska, J. J., Scherer, E. A., Stoeckel, L. E., Valente, M. J., Wu, J., Xie, H., MacKinnon, D. P., Marsch, L. A., & Poldrack, R. A. (2018). Applying novel technologies and methods to inform the ontology of self-regulation. *Behaviour Research and Therapy*, 101, 46-57.  
<https://doi.org/10.1016/j.brat.2017.09.014>
- Eisenberg, I. W., Bissett, P. G., Enkavi, A. Z., Li, J., MacKinnon, D., Marsch, L., & Poldrack, R. (2019). Uncovering the structure of self-regulation through data-driven ontology discovery. *Nature Communications*, 10, 2319.  
<https://doi.org/10.1038/s41467-019-10301-1>
- Eisenberg, N., & Zhou, Q. (2016). Conceptions of executive function and regulation: When and to what degree do they overlap? In: J. A. Griffin, P. McCordle, L. Freund (Eds.), *Executive Function in Preschool-Age Children: Integrating Measurement, Neurodevelopment, and Translational Research*, (pp. 115–136). American Psychological Association, Washington.  
<https://doi.org/10.1037/14797-006>
- Evans, D. R., Boggero, I. A., & Segerstrom, S. C. (2016). The nature of self-regulatory fatigue and “ego depletion”: Lessons from physical fatigue. *Personality and Social Psychology Review*, 20, 291–310.  
<https://doi.org/10.1177/1088868315597841>
- Gagne, J. R., Liew, J., & Nwadinobi, O. K. (2021). How does the broader construct of self-regulation relate to emotion regulation in young children? *Developmental Review*, 60, 100965.  
<https://doi.org/10.1016/j.dr.2021.100965>

- Gailliot, M. T., Plant, E. A., Butz, D. A., & Baumeister, R. F. (2007). Increasing Self-Regulatory Strength Can Reduce the Depleting Effect of Suppressing Stereotypes. *Personality and Social Psychology Bulletin*, 33(2), 281–294.  
<https://doi.org/10.1177/0146167206296101>
- Garrin, J. M. (2014). Self-Efficacy, self-determination, and self-regulation: The role of the fitness professional in social change agency. *Journal of Social Change*, 6(1), 41–54. <https://doi.org/10.5590/JOSC.2014.06.1.05>
- Groß, D. (2021). In the self-control and self-regulation maze: Integration and importance. *Personality and Individual Differences*, 175, 110–728,  
<https://doi.org/10.1016/j.paid.2021.110728>
- Gwyther, H., & Holland, C. (2012). The effect of age, gender and attitudes on self-regulation in driving. *Accident Analysis & Prevention*, 45, 19–28  
<https://doi.org/10.1016/j.aap.2011.11.022>
- Hakun, J., Margaret, A., & Findeison, (2020). Cognitive control moderates the health benefits of trait self-regulation in young adults. *Personality and Individual Differences*, 152, 109572.<https://doi.org/10.1016/j.paid.2019.109572>
- Hall, P. A., & Fong, G. T. (2013). Temporal self-regulation theory: Integrating biological, psychological, and ecological determinants of health behavior performance. In P. A. Hall (Ed.), *Social neuroscience and public health: Foundations for the science of chronic disease prevention* (pp. 35–53). Springer Science + Business Media. [https://doi.org/10.1007/978-1-4614-6852-3\\_3](https://doi.org/10.1007/978-1-4614-6852-3_3)
- Heatherton, T. F., & Dylan, D. W. (2011). Cognitive neuroscience of self-regulation failure. *Trends in Cognitive Sciences*, 15(3), 132–139.  
<https://doi.org/10.1016/j.tics.2010.12.005>
- Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in cognitive sciences*, 16(3), 174–180.  
<https://doi.org/10.1016/j.tics.2012.01.006>
- Hong, P. Y. P., Choi, S., & Key, W. (2018). Psychological self-sufficiency: A bottom-up theory of change in workforce development. *Social Work Research*, 42(1), 22–32. <https://doi.org/10.1093/swr/svx025>
- Hong, P. Y. P., O'Brien, T., Park, J. H., Hong, R., Pigott, T., & Holland, B. (2019). Psychological Self-Sufficiency: An Empowerment-Based Theory for Workforce Training and Adult Education. In C. T. King, & P. Y. P. Hong (Eds.), *Pathways to Careers in Health Care* (pp. 303–349). W.E. Upjohn Institute for Employment Research.  
<https://doi.org/10.17848/9780880996679.Ch10>
- Hong, P.Y.P., Hong, R., Choi, S., & Hodge, D. R. (2021). Examining psychological self-sufficiency among low-income jobseekers with mental health barriers. *Community Mental Health Journal*, 57,178–188.  
<https://doi.org/10.1007/s10597-020-00630-7>

- Jouhari, Z., Haghani, F., & Changiz, T. (2015). Factors affecting self-regulated learning in medical students: A qualitative study. *Medical Education Online*, 20(1), 28694. <https://doi.org/10.3402/meo.v20.28694>
- Kim, J. H. (2021). Effect of family resilience of self-sufficiency program participants on the will to be self-sufficient: Focusing on the mediating effect of family support. *Journal of Korean Family Resource Management Association*, 25, 1-15. <https://doi.org/10.22626/jkfrma.2021.25.3.001>
- Kosholap, A., Maksymchuk, B., Branitska, T., Martynets, L., Boichenko, A., Stoliarenko, O., Matsuk, L., Surovov, O., Stoliarenko, O., & Maksymchuk, I. (2021). Neuropsychological Bases of Self-Improvement of Own Physical Health of Future Teachers in the Course of University Education. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 12(3), 171-190. <https://doi.org/10.18662/brain/12.3/226>
- Ljubimova, E. M., Galimullina, E. Z., & Ibatullin, R. R. (2014) The development of university students' self-sufficiency based on interactive technologies by their immersion in the professional activity. *International Education Studies*, 8(4), 192-200. <http://dx.doi.org/10.5539/ies.v8n4p192>
- Moffitt, T., Arseneault, L., Belsky, D., Dickson, N., Hancox, R., Harrington, H., & Sears, M. R. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, 108, 2693-2698. <https://doi.org/10.1073/pnas.1010076108>
- Palamarchuk, O., Gurevych, R., Maksymchuk, B., Gerasymova, I., Fushtey, O., Logutina, N., Kalashnik, N., Kylivnyk, A., Haba, I., Matviichuk, T., Solovyov, V., & Maksymchuk, I. (2020). Studying Innovation as the Factor in Professional Self-Development of Specialists in Physical Education and Sport. *Revista Romaneasca Pentru Educatie Multidimensionala*, 12(4), 118-136. <https://doi.org/10.18662/rrem/12.4/337>
- Reed, R., Combs, H. L., & Segerstrom, S. C. (2020). The structure of self-regulation and its psychological and physical health correlates in older adults. *Psychology*, 6(1), 23. <https://doi.org/10.1525/collabra.297>
- Rutkienė, A., & Tandzegolskiene, I. (2015). Students' attitude towards learning methods for self-sufficiency development in higher education. society, integration, education. *Proceedings of the International Scientific Conference*, 1, 348. <https://doi.org/10.17770/sic2015vol1.291>
- Saraff, S., Tripathi, M., & Biswal, Ramakrishna & Saxena, Anupama. (2020). Impact of metacognitive strategies on self-regulated learning and intrinsic motivation. *Journal of Psychosocial Research*, 15(1), 35-46. <https://doi.org/10.32381/JPR.2020.15.01.3>
- Song, I., Park, J., & Kim, R. (2012). Gender differences in factors affecting willingness for self-sufficiency: Analysis of male and female self-sufficiency

- program participants. *Journal of the Korean Psychological Association: Women abbreviation*, 17(3), 457-474. [doi.org/10.18205/kpa.2012.17.3.008](https://doi.org/10.18205/kpa.2012.17.3.008)
- Soundy, A., Roskell, C., Elder, T., Collett, J., & Dawes, H. (2016). The psychological processes of adaptation and hope in patients with multiple sclerosis: A thematic synthesis. *Open Journal of Therapy and Rehabilitation*, 4, 22-47. <https://doi.org/10.4236/ojtr.2016.41003>
- van den Toren, S. J., van Grieken, A., de Kroon, M. L. A., Mulder, W. C., Vanneste, Y. T. M., Raat, H. (2020). Young adults' self-sufficiency in daily life: the relationship with contextual factors and health indicators. *BMC Psychology*, 8(1), 89. <https://doi.org/10.1186/s40359-020-00434-0>
- Tufana, M., Erdena, F., & Elhan, E. (2015). Ozusa evaluation of the self-sufficiency of the ready made clothing and ready made clothing teaching for candidate teachers. *Procedia - Social and Behavioral Sciences* 182(1), 448–455. <https://doi.org/10.1016/j.sbspro.2015.04.825>
- Vink, M., Gladwin, T. E., Geeraertsf, S., Pas, P., Bos, D., Hofstee, M., Durston, S., & Vollebergh, W. (2020). Towards an integrated account of the development of self-regulation from a neurocognitive perspective: A framework for current and future longitudinal multi-modal investigations. *Developmental Cognitive Neuroscience*, 45, 100829. <https://doi.org/10.1016/j.dcn.2020.100829>
- Werner, K., & Milyavskaya, M. (2018). Motivation and self-regulation: The role of want-to motivation in the processes underlying self-regulation and self-control. *Social and Personality Psychology Compass*, 13(1), e12425. <https://doi.org/10.1111/spc3.12425>
- Young, A. T., & Fry, J. D. (2008). Metacognitive Awareness and Academic Achievement in College Students. *Journal of the Scholarship of Teaching and Learning*, 8, 1-10. <https://www.semanticscholar.org/paper/Metacognitive-Awareness-and-Academic-Achievement-in-Young-Fry/9e06f9a6207a49fd83b9d0ce375dba00a21a0514>
- Ziegler, N., & Opendakker, M. C. (2018). The development of academic procrastination in first-year secondary education students: The link with metacognitive self-regulation, self-efficacy, and effort regulation. *Learning and Individual Differences*, 64, 71-82. <https://doi.org/10.1016/j.lindif.2018.04.009>
- Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, 81(3), 329–339. <https://doi.org/10.1037/0022-0663.81.3.329>