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**PSYCHOPEDAGOGICAL CONDITIONS  
FOR DEVELOPING SOCIAL SELF-EFFICACY IN ADOLESCENTS  
TO REDUCE VIRTUAL SPACE ADDICTION**

**Specialty 531.01 – General Theory of Education**

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### List of abbreviations:

#### in Romanian:

ASA - autoeficacitate socială a adolescenților

SEL - Învățare socială și emoțională

GC - grup de control

GE - grup experimental

TI – tehnologii informaționale

TIC - tehnologia informației și a comunicațiilor

SNS - Site-uri de rețele sociale

UNESCO - Organizația Națiunilor Unite pentru Educație, Știință și Cultură

OMS - Organizația Mondială a Sănătății

#### in English:

ASSE - Adolescent Social Self-Efficacy

SEL - Social and Emotional Learning

ICT – Information and Communication Technology

IT – Information Technology

EG – Experimental Group

CG – Control Group

SNS - Social Network Sites

UNESCO - The United Nations Educational, Scientific and Cultural Organization

WHO - World Health Organization

## CONCEPTUAL FRAMEWORK OF THE RESEARCH

**The topicality of the research subject** is underscored by the rapid global advancements in technology in recent years, which have „significantly increased the number of individuals engaging in virtual activities as a direct consequence of globalization, intensified competition in the labor market, the proliferation of diverse services, and the pervasive influence of consumerism” [6]. Although the extensive digitalization of contemporary society has yielded numerous benefits, it has concurrently given rise to significant risks and addictive behaviors that can adversely affect adolescents' social conduct. The younger generation, frequently termed the 'digital generation,' has grown up in an environment defined by the pervasive and intensive use of information technologies [4].

**The significance of exploring this topic** stems from increasing concerns regarding the impact of excessive Internet use on the social development of adolescents, most of whom engage extensively with the Internet for diverse purposes, including *information retrieval, social networking, and entertainment*. While these technologies are invaluable in educational contexts, excessive engagement may detrimentally impact personal autonomy, inhibit creativity, and contribute to chronic fatigue, ultimately resulting in mental exhaustion. Empirical research demonstrates a significant correlation between elevated levels of self-efficacy and resistance to Internet addiction, especially considering the increasing incidence of aggressive behavior observed in adolescents [5, p.13].

*Education and research policy documents* explicitly highlight the importance of developing students' social self-efficacy. For example, *Global Development Agenda 2030* promotes the idea that the use of information technologies has become an indispensable necessity for the creation and storage of information and, as a result, for the personal development of the individual [1]. *The Education for Democratic Citizenship and Human Rights Education (EDC/HRE) program* stresses the importance of building social self-efficacy in adolescents by engaging them in educational activities that promote active participation in social life. Similarly, *UNESCO's Initiative for Education and Global Citizenship* promotes the development of social and civic competencies on a global scale, providing resources for their validation within educational institutions. Additionally, *the Guide for the Implementation of the National Strategy for the Reduction of School Dropout (Romania)* includes strategies aimed at enhancing adolescents' social self-efficacy to prevent school dropout. *The National Strategy for Education and Vocational Training 2021-2027 (Romania)* also outlines specific objectives and methodologies for developing students' socio-emotional competencies, thereby enhancing their social self-efficacy. These documents are grounded in research that offers an

explanatory framework for developing social self-efficacy in adolescents, emphasizing the significance of a multidimensional approach to personal development within education. Notably, *the National Curriculum for Pre-University Education* (Romania) highlights the importance of social and civic competencies, outlining objectives related to enhancing social interaction, cooperation, and conflict resolution skills. Additionally, *the Counseling and Guidance Program* focuses on fostering social self-efficacy by specifically targeting the development of empathy, social communication skills, and teamwork skills. International policy documents concerning *key competencies for lifelong learning*, such as those issued by *the European Parliament and the Council of the European Union*, underscore the critical role of social and civic competencies in the personal and professional development of students. *The CASEL Guide (Collaborative for Academic, Social, and Emotional Learning)* provides a comprehensive framework for social and emotional learning (SEL) within educational institutions, emphasizes the pivotal importance of social self-efficacy, and offers methodologies for integrating this dimension into national curricula. Concurrently, *the 'Școala Altfel' (Alternative School) Program* describes extracurricular activities that promote the development of students' social self-efficacy through self-education projects.

**Research Context and Background.** Social self-efficacy is a multifaceted subject extensively explored within the pedagogical literature (Bandura, 2009; Vasiliu, Pascal (Marinescu), & Marinescu, 2015; Vasiliu, 2015; Goleman, 2018; Sava, 2018; Furdui, 2021, among others). Nonetheless, its application as a pedagogical intervention for addressing Internet addiction among adolescents remains inadequately investigated [34], [36], [37], etc.

Preoccupied with the study of virtual space addiction, authors in the field (Cruzado, Matos, & Kendall, 2006; Yarlequé et al., 2013; Matalinares et al., 2013; Araujo, 2015; Bulcão De Lima, 2016; Garcia, 2020; Heiman & Olenik-Shemesh, 2022) highlight the concerning fact that, alongside the proliferation of the Internet, the first cases of psychopathologies associated with its use have emerged. *Internet addiction*, a term introduced by Goldberg (1995) and later popularized by Young (1998), is also known as *Internet addiction disorder*, *compulsive Internet use*, or *pathological Internet use* (Matalinares et al., 2013). This condition has been documented across diverse sociocultural contexts (Griffiths M., 2000; Kendall M., 2023) and raises significant research concerns due to its „detrimental effects on interpersonal relationships among affected individuals, as well as its impact on family dynamics and workplace interactions” [23].

Internet addiction is not currently recognized as a formal diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), as it is often regarded as a problem primarily affecting youth (Lam, 2015, 2024). This perspective is attributed to the fact that adolescents are more engaged with and, consequently, more vulnerable to issues stemming from excessive Internet use (De la Villa & Suárez, 2016; Jasso, López, & Díaz, 2017). Unlike adults, who generally possess greater capacity to regulate their time online, adolescents are more prone to developing behaviors associated with Internet addiction (Rojas et al., 2018). From this perspective, adolescence represents a stage of pronounced vulnerability (Lam et al., 2011; McLaughlin & King, 2015), and as a result, issues arising from excessive Internet use become increasingly evident. Emotional regulation develops gradually (Aponte, Castillo & González, 2017), and adolescents often struggle to control their impulses during communicative interactions (Bulcão De Lima, 2016), leading to a range of behavioral patterns that spans from balanced communication to ICT addiction.

**The theoretical-methodological framework of this research** encompasses a comprehensive system of ideas centered on human-computer interaction, along with global policies regulating the use of information and communication technologies (ICT) aimed at fostering the development of digital culture. This framework includes the following key contributors: Bandura A. (2009) discusses *self-efficacy in changing societies* [27]; Heiman T., Olenik-Shemesh D. (2022) examine *cyber-victimization experiences* [32]; Gremalschi A. (Ed.) (2015) presents *standards for digital competencies* [14]; Carr N. (2012) analyzes *the effects of the internet on the human brain*; Antoci D. explores *the formation of value orientations in adolescents* [3]; Borozan M., Țurcan-Balțat L. (2023) investigate *pedagogical communication in the digital age* [6]; Bețivu A. (2022) discusses *the effects of cyberbullying on adolescent well-being* [4]; Cojocaru-Borozan M. examines *the theory, research methodology, and technology in developing emotional culture* (2012) [8] as well as *the pedagogy of emotional culture* [9]; Negară C. (2011) outlines *didactic strategies in the training of computer science and ICT teachers*; and Țurcan-Balțat L., Bîrsan El. focus on *digital competencies* (2023) [24]; Vasiliu D., Pascal D. & Marinescu G. (2015) explore *self-efficacy assessment* [26], and other authors that explore relevant themes in relation to the research framework.

**The research problem** stems from the increasing prevalence of Internet addiction among adolescents, which reduces their motivation to engage in real-world social interactions. From a clinical perspective, current studies document a range of physical, cognitive, emotional, and social symptoms associated with adolescents' daily computer use. In these circumstances, adolescents face numerous socialization

challenges and risk losing their sense of identity, as unrestricted Internet use exacerbates isolation and anxiety, heightens feelings of loneliness, and hinders their ability to fully utilize opportunities for face-to-face social interaction. This, in turn, reduces the satisfaction derived from the social support offered by online networks. Consequently, **the research problem** centers on the growing addiction to virtual space, which hinders the development of social self-efficacy among adolescents. Therefore, the excessive use of the Internet has emerged as a significant issue in contemporary society, highlighting the urgent need to conceptualize educational programs aimed at reducing the prevalence of Internet addiction among adolescents.

**The aim of this research** is to design, develop, and implement *a Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction*.

**Research Objectives:**

1. To identify the theoretical foundations of social self-efficacy, virtual culture, virtual space addiction, and resistance to Internet addiction.
2. To describe the meaning, structure, and content of the concept of Adolescent Social Self-Efficacy (ASSE).
3. To conduct an experimental study on the social self-efficacy of adolescents within virtual environments, with a specific focus on fostering resistance to internet addiction and ensuring mental health.
4. To develop and articulate *a Conceptual Model of Adolescent Social Self-Efficacy from the Perspective of Resistance to Virtual Space Addiction*, including indicators, criteria, and ASSE values.
5. To experimentally assess and elucidate the levels and characteristics of social self-efficacy among adolescents, including the profile of adolescents who demonstrate resistance to virtual space addiction defined by the values of digital culture.
6. To design and experimentally validate the *Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction*.
7. To derive scientific conclusions about the risks and effects of excessive Internet use on behavior and the imperative of fostering social self-efficacy among adolescents.

**Research Hypothesis:** the psychopedagogical conditions identified in this study will demonstrate their formative effectiveness if the following criteria are met: the theoretical foundations of Adolescent Social Self-Efficacy (ASSE) will be clearly delineated; the stimulating factors for the ASSE development will be established; the evolution of the ASSE concept will be thoroughly described and

articulated within a scientifically grounded new ASSE Conceptual Model; the evaluation criteria, indicators, and values necessary for characterizing ASSE will be defined; a *Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction* will be developed and experimentally validated; and the impact of virtual space addiction on adolescent behavior will be analyzed, thereby substantiating the necessity for fostering social self-efficacy among adolescents.

**The methodology of scientific research** encompasses various methods used in the investigative approach, including analytical-synthetic methods, modeling techniques, pedagogical experiment, self-assessment scale, testing, observation, interviews, questionnaires, and mathematical processing of experimental data, etc.

**The novelty and originality of this research** are derived from several key contributions: the development and description of the *Conceptual Model of Adolescent Social Self-Efficacy from the Perspective of Resistance to Virtual Space Addiction*, including indicators, criteria, and ASSE values; the elucidation of the distinctive aspects of social development during adolescence and the characterization of the profile of adolescents who demonstrate resistance to virtual space addiction, as defined by the values of virtual culture; elaboration and experimental validation of the *Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction*; the scientific conclusions that highlight the importance of enhancing adolescents' social self-efficacy to address their vulnerability in the virtual environment.

**The theoretical significance of this research** stems from several key areas: the exploration of theoretical frameworks related to social self-efficacy, digital culture, virtual space addiction, and resistance to Internet addiction; the elucidation of the meaning, structure, and content of the social self-efficacy concept; the theoretical and practical analysis of the role of social competencies in mitigating Internet addiction; and the formulation of scientific conclusions regarding the positive influence of social self-efficacy in adolescents on their resistance to virtual space addiction, as well as the inherent risks and effects of Internet addiction on adolescents' social behavior.

**The practical value of the research** is substantiated by: the description of the scientific significance, structure, and content of the term *Adolescent Social Self-Efficacy* (ASSE) in the context of Internet addiction, with a focus on ensuring adolescents' mental health; the examination of age-specific characteristics during adolescence and the profile of adolescents who demonstrate resistance to virtual space addiction, as defined by their social-emotional competencies; and the assessment of levels and characteristics of virtual space addiction in adolescents,



derived from the formulation and delineation of *the Pedagogical Strategy for the Development of Social Self-Efficacy to Ensure Resistance to Virtual Space Addiction*.

**The implementation of scientific findings** was accomplished through theoretical and experimental research involving 327 eleventh-grade adolescents enrolled at 'Iolanda Balas' High School with a Sports Program and 'Henry Coandă' Technological High School in Buzău County, Romania.

**The publications relevant to the thesis consist** of 9 scientific papers, including 3 articles published in journals listed in the National Register of Journals, 2 methodological guides and, 4 articles in the proceedings of international and national conferences published in Romania and the Republic of Moldova.

**Thesis Structure:** the introduction, 3 chapters, general conclusions, 224 references, and appendices.

**Key Concepts:** social self-efficacy, adolescents, virtual space addiction, social competencies, virtual space, profile of the adolescent resistant to virtual space addiction, resistance to Internet addiction.

## SUMMARY OF THE THESIS SECTIONS

**The introduction** describes the relevance and importance of developing social self-efficacy in adolescents as a pedagogical solution to Internet addiction; outlines the research problem, aim, and objectives; presents the theoretical foundations of the study; and argues for the novelty and originality of the research, as well as its theoretical significance and practical value.

**Chapter 1, titled 'Theoretical Frameworks on Social Self-Efficacy and Adolescents' Addiction to Virtual Space,'** explores the evolution of the concept of social self-efficacy, provides terminological distinctions related to virtual culture and virtual space addiction, examines the psychological implications of social networks during adolescence, and describes the specific characteristics of adolescents' social development.

The concept of *self-efficacy* has been extensively examined in the specialized literature, as it is not a general construct but rather pertains to specific domains. According to A. Bandura (1982), *perceived self-efficacy* refers to “beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations. Efficacy beliefs influence how people think, feel, motivate themselves, and act.” A. Bandura identifies four main sources of influence that can develop people's beliefs concerning their efficacy: *mastery experiences, social modeling, social persuasion, psychological and emotional states*. Notably, experiencing success in a particular activity is a crucial factor in enhancing self-

efficacy. The more frequently an individual encounters success, the greater their level of social self-efficacy is likely to develop [28].

*Self-efficacy* is recognized as a motivational construct that guides individuals toward the attainment of their goals [27]. The concept of self-efficacy is delineated along three prioritized dimensions: magnitude, strength, and generality. Magnitude pertains to the perceived difficulty of adopting a particular behavior, while strength reflects an individual's confidence in their ability to perform successfully, maintain persistence in the face of frustration, pain, and other performance barriers. Generality, on the other hand, refers to the extent to which experiences of success or failure shape expectations within a specific domain and context [29, p. 124]. Researchers employing multidimensional approaches contribute significantly to the development of the concept of social self-efficacy. M. Rus and I. Dafinoiu (2020) assert that „social self-efficacy implies confidence in one’s own abilities to navigate and resolve complex social situations through psychological interventions.” Similarly, C. Cucus and A. Nedelcu (2021) emphasize that „social self-efficacy is the belief in one’s capacity to exert social influence and demonstrate leadership skills across diverse social contexts.” Furthermore, V. Lisenco (2021) defines social self-efficacy as „the belief in one’s own abilities to exert social influence and assert oneself through social-emotional competencies.” The varying perspectives presented by these authors elucidate the multiple dimensions relevant to the operational concept of this research.

*Virtual culture* refers to the set of social practices, values, and behaviors that emerge and evolve within online environments or virtual spaces. This encompasses all cultural aspects that develop and manifest within the digital world [23]. In his book *Cyberculture* (2007), Pierre Lévy examines the notion of *culture in the digital age*, emphasizing the impact of the Internet on learning and communication. He introduces the concept of "*cyberculture*" or "*virtual culture*" to describe the new forms of cultural practices and interactions that emerge from the continuous connectivity and interactivity provided by information technologies [apud 30].

*Addiction to information technologies* refers to a condition characterized by an obsession with various digital devices, including computers, video games, the Internet, tablets, cell phones, etc. It is noteworthy that a wide range of human activities—such as work, eating, sexuality, collecting valuables, record-setting, and the use of alcohol and drugs—can significantly influence the behavioral signs of Internet addiction. Excessive use of the Internet can lead to emotional disturbances [15].

The World Health Organization defines *addiction* as a state characterized by compulsive engagement in rewarding stimuli, despite adverse consequences. This

includes both physical and psychological addiction on a substance or behavior that leads to changes in behavior and a need to continue or periodically reengage with it to experience its effects. In virtual environments, the physical body undergoes a form of dematerialization, or 'evaporation,' allowing individuals to merge seamlessly with the virtual world [15, p. 53].

Prolonged use of computers can lead to behavioral disorders, including *social withdrawal*, *verbal or physical aggression*, and *explosive irritability*. The psychological implications of social media during adolescence, caused by excessive computer use, are manifested through: *anxiety*, *irritability*, *low frustration tolerance*, *depression*, etc. Consequently, computer addiction has emerged as a significant social issue that impacts the lives of an increasing number of adolescents, posing risks of various imbalances within contemporary society.

Chapter 2, titled '**The Methodology of Research and Conceptualization of Social Self-Efficacy in Adolescents**,' outlines the experimental research design aimed at exploring social self-efficacy in adolescents as an educational intervention to prevent and reduce the levels of addiction to virtual space.

A comprehensive theoretical synthesis of the evolution of the concept of social self-efficacy has led to the identification of key research variables. For the component *Harnessing Personal Resources*, the following ASSE variables have been established: a healthy lifestyle, emotional self-regulation, stress resistance, emotional energy management, reliability, problem-solving awareness and monitoring, resilience to multiple challenges/addictions, spirituality, internal value consistency, self-confidence, and risk-taking. The research variables pertaining to the *Self-Directed Social Learning Efficiency* component include several essential dimensions: effective management of success factors and performance, self-motivation and prospective orientation, curiosity and initiative, perseverance and optimism, creativity and ongoing personal development, problem-solving ingenuity, and self-esteem. *Social Success Management* as a ASSE component, includes variables such as constructive thinking and social persuasion, assertiveness in social interactions, individual and societal resilience, prosocial behavior, exploration of social skills, the affirmation of personal dignity, and social responsibility and adaptation. Collectively, these variables facilitate a thorough evaluation of adolescents' social self-efficacy and their level of addiction to virtual space.

*Experimental Research Design on Social Self-Efficacy in Relation to Adolescents'  
Vulnerability in Virtual Environment*

The pedagogical experiment was conducted from September 2021 to May 2022 at the 'Iolanda Balaș' High School with Sports Program in Buzău County. The experimental group (EG) comprised 168 adolescents from five eleventh-grade

classes, while the control group (CG) included 159 adolescents from the eleventh-grade classes of the 'Henry Coandă' Technological High School. The experimental procedures involved a total sample of 327 subjects, who were investigated according to the experimental research methodology outlined in Table 1.

**Table 1. Experimental Pedagogical Research Design**

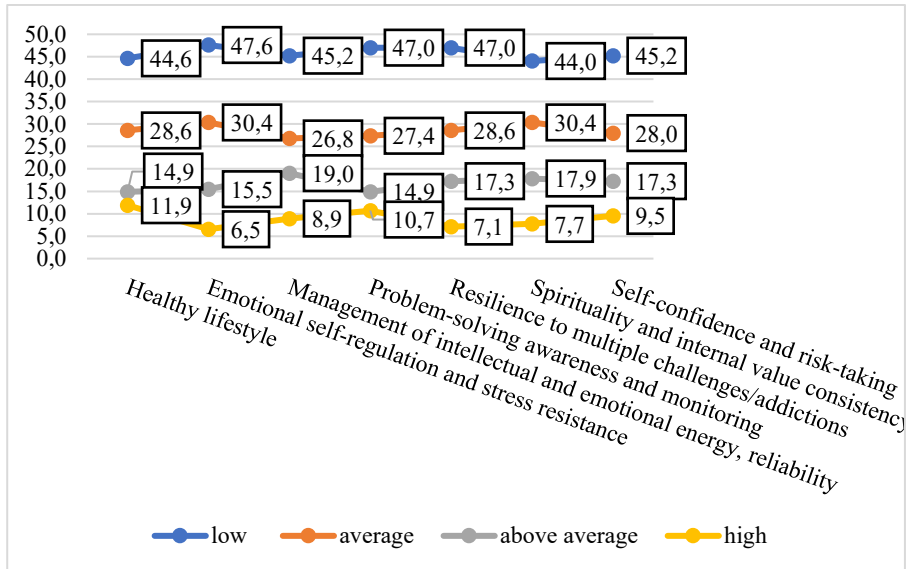
Stages	Period	Research Subjects		Research Instruments
Ascertainment	September 2021	EG - 168 subjects CG - 159	Total: 327 adolescents	<ul style="list-style-type: none"> <li>• Generalized Social Self-Efficacy Scale (adapted from R. Schwarzer &amp; M. Jerusalem), version 1;</li> <li>• Computer Addiction Questionnaire;</li> <li>• Internet Addiction Test (Roland Doron).</li> </ul>
Formation	September 2021 – May 2022	EG	168 subjects	<ul style="list-style-type: none"> <li>• Survey on Computer Use;</li> <li>• Student ICT Usage Survey.</li> <li>• Social Network Sites (SNS) Questionnaire.</li> </ul>
Control	May 2022	EG - 168 subjects CG - 159	Total: 327 subjects	<ul style="list-style-type: none"> <li>• Generalized Self-Efficacy Scale (R. Schwarzer &amp; M. Jerusalem) version 2;</li> <li>• Internet Addiction Resistance Test</li> </ul>

The objectives of the experimental investigation during the ascertainment stage included: identifying the challenges associated with the development of social self-efficacy among adolescents; developing and experimentally validating an instrument to assess the degree of social self-efficacy formation in adolescents; elucidating the specific characteristics of social self-efficacy development in adolescents; presenting research findings regarding the characteristics of virtual space addiction in adolescents.

*The research methodology* was designed by selecting and adapting research instruments to the particularities of social self-efficacy development and the specifics of cultivating resistance to virtual space addiction. The items of the research methods were developed in accordance with the variables identified in the study through an analysis of the relevant literature on social self-efficacy and virtual addiction. The research variables and the items of the *Social Self-Efficacy Self-Assessment Scale* were formulated based on the Conceptual Model of Adolescent Social Self-Efficacy from the Perspective of Resistance to Virtual Space Addiction.

### Specifics of Social Self-Efficacy Development in Adolescents

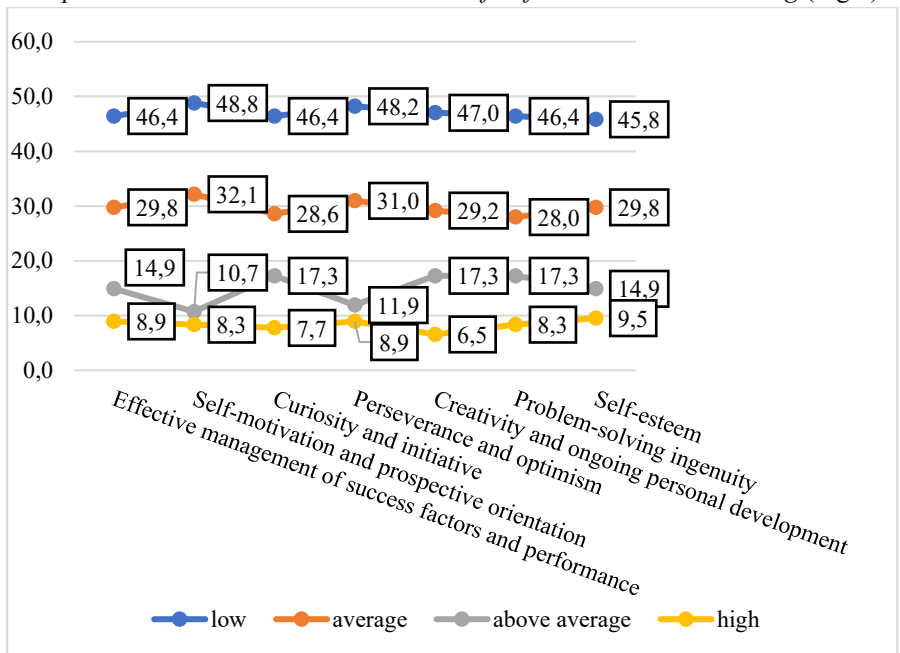
Quantitative experimental data on developmental levels, collected during the ascertainment stage of the pedagogical experiment, provide insights into the quality of social self-efficacy value formation in adolescents. Figures 1, 2, and 3 present data on social self-efficacy levels among adolescents in the experimental group (168 subjects), focusing on the three components: *harnessing personal resources* (Fig. 1), *self-directed social learning efficiency* (Fig. 2), and *social success management* (Fig. 3).



**Figure 1. Harnessing Personal Resources Levels (EG, Ascertainment)**

The research results indicate that the *harnessing personal resources* component yielded significant and thought-provoking findings. The subjects studied demonstrated *average levels of social self-efficacy*, with scores ranging between 26.8% and 30.4%. Among the evaluated variables, the aspect of maintaining a *healthy lifestyle* showed the *lowest high-level* experimental value, achieved by only 11.9% of adolescents. Similarly, only 10.7% of adolescents in the experimental group exhibited *high levels of problem-solving awareness and monitoring*. Additionally, 47.6% of adolescents displayed the *lowest levels of emotional self-regulation and stress resistance*. Comparable patterns were observed, with 47% of adolescents showing *low resilience to various challenges and addictions*.

The evaluation of the *self-directed social learning efficiency* component reveals concerning trends among adolescents. Specifically, 48.8% of adolescents exhibit a *low level of self-motivation and prospective orientation*, with only 9.5% of those in the experimental group achieving a high level. Additionally, a mere 7.7% of adolescents demonstrated a *high level of curiosity and initiative for self-directed social learning*, while only 6.5% displayed significant *creativity and commitment to ongoing personal development*. In terms of data interpretation, scientific inquiries have classified values within the range of 14.9% to 17.3% as above average. This underscores the evident *challenges* faced by adolescents in effectively *managing their personal resources within the context of self-directed social learning* (Fig.2).

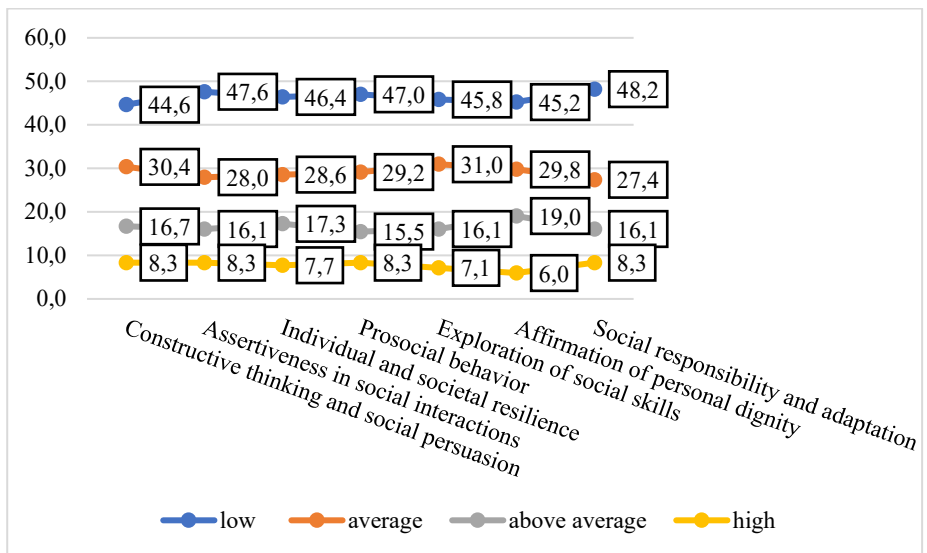


**Figure 2. Self-Directed Social Learning Efficiency Levels (EG, Ascertainment)**

The data show that adolescents in the control group have modest levels of self-directed social learning, with a notable percentage exhibiting low levels in this domain. Notably, only 7.5% of participants reached high levels concerning the *effective management of success factors and performance*, as well as in variables related to *curiosity, initiative, and self-esteem*. These findings highlight existing social issues and underscore the need for a rigorous formative approach. There is a

pressing necessity for discussions and debates focused on addressing adolescents' vulnerabilities to cyber victimization.

The analysis of research variables related to *social success management* revealed significant challenges, particularly concerning the affirmation of personal dignity. It is notable that only 6.0% of participants in the experimental group exhibited high levels of *personal dignity affirmation*. More alarmingly, 48.2% of the adolescents assessed displayed low levels of *social responsibility and adaptability*. Additionally, the data indicated that 47.6% of the subjects demonstrated low levels of *assertiveness in social interactions*, while 47.0% showed limited proficiency in *exploring social competencies* (Fig. 3).

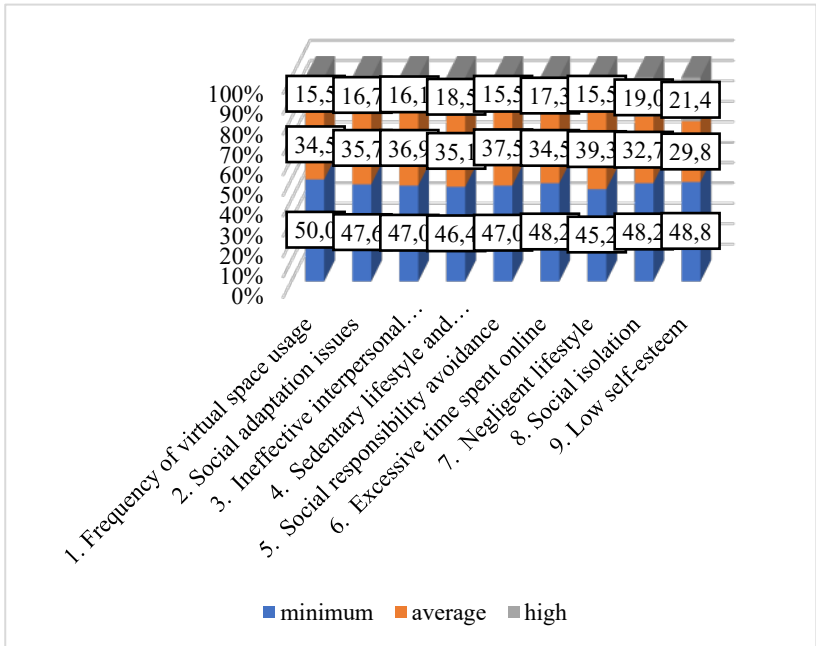


**Figure 3 Social Success Management Levels (EG, Ascertainment)**

The comparative analysis of data from the experimental groups at the ascertainment stage reveals negligible differences, prompting the consideration of maintaining a singular sample for the formation stage. A detailed examination of the experimental data from the ascertainment phase of the pedagogical experiment indicates relative homogeneity among the groups concerning age-specific and individual characteristics. Furthermore, there is a noticeable concentration of experimental values at both low and medium levels in both the experimental group (EG) and the control group (CG). Within the experimental group, it is particularly striking that 46.4% of adolescents self-assessed their social self-efficacy as low, while 29.2% rated it as medium, 16.1% as above average, and 8.3% as high. This

empirical reality, when analyzed alongside data from the adolescent Internet addiction test, suggests an increased propensity among adolescents to seek refuge in the online environment.

***Interpretation of Research Data Based on the Internet Addiction Test***



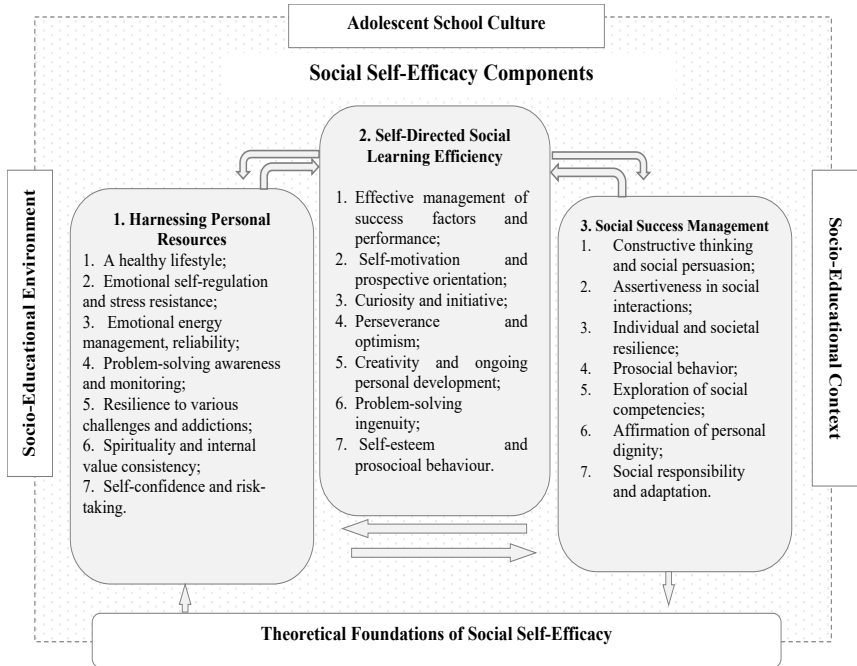
**Figure 4. Internet Addiction Levels Among Adolescents (EG, Ascertainment Stage)**

Given that self-efficacy is complex and context-specific, it is necessary to plan effective assessment measures that consider the multidimensionality of self-efficacy processes and their dynamic interactions. Assessing self-efficacy is crucial for understanding the nature and intensity of the beliefs that influence individual performance. The evaluation of self-efficacy is most effectively conducted by considering relevant contextual factors [27].

The specialized literature extensively examines cyberbullying among adolescents, highlighting that their significant engagement with information and communication technologies (ICT) increases their vulnerability to developing addictions to virtual spaces. The theoretical analysis presented in Chapter 1 regarding virtual culture and virtual space addiction, the psychological implications of excessive Internet use during adolescence, and the specific characteristics of adolescents' social development, along with the experimental data from the



ascertainment stage, highlighted the need to develop a *Conceptual Model of Adolescent Social Self-Efficacy from the Perspective of Resistance to Virtual Space Addiction* and to formulate scientific conclusions regarding the necessity of designing and orienting the experimental approach in the formation stage towards developing social self-efficacy in adolescents as a means of building resistance to virtual space addiction.



**Figure 5. The Conceptual Model of Social Self-Efficacy in Adolescents**

*Social self-efficacy can be assessed* through a variety of indicators that reflect adolescents' confidence in their ability to effectively navigate and address existential challenges. The theoretical foundations of social self-efficacy are rooted in Albert Bandura's theories of self-efficacy and social learning, supplemented by B. Weiner's attribution theories, H. Gardner's theory of multiple intelligences, and J. Bowlby's attachment theory, among others. These theories collectively *provide a nuanced understanding of the development and manifestation of social self-efficacy*, highlighting the importance of successful experiences. They emphasize the critical roles of self-confidence, observational learning, and the social context in fostering social competencies.

***The first component of adolescents' social self-efficacy — harnessing personal resources***—entails the development of a set of competencies and personal qualities essential for achieving success in life. Personal resources can be harnessed through the adoption of specific behaviors. These behaviors are described as follows: *a healthy lifestyle* characterized by a commitment to health through the adoption of a balanced diet and the engagement in regular physical exercise, adequate rest, as well as the cultivation of positive habits and the prevention of harmful behaviors, such as smoking or excessive alcohol consumption; *emotional self-regulation and stress resistance* reflected in the ability to manage stress through practices such as meditation, deep breathing, and progressive muscle relaxation, as well as in the capacity to regulate emotions in challenging or tense situations; *the management of intellectual and emotional energy*, along with reliability, expressed through the identification and prioritization of activities that enhance energy and satisfaction, while eliminating or reducing those that deplete resources, maintaining a balance between intellectual and emotional activities to prevent exhaustion and burnout; *problem-solving awareness and monitoring* reflected in the development of skills for exploring alternatives, assessing consequences, making informed decisions, monitoring progress in problem-solving, and adjusting strategies based on outcomes; *resilience to various addictions* characterized by a resilient mindset, which entails adapting to challenges and rapidly recovering from failures or obstacles, as well as managing harmful behaviors through the development of effective coping mechanisms; *spirituality and internal value consistency* expressed through the exploration of personal values and spiritual beliefs, as well as their integration into daily life, fostering a profound inner relationship and cultivating a sense of purpose; *self-confidence and risk-taking* manifested through the development of trust in one's abilities, the willingness to embrace risks, and the exploration of new opportunities and experiences, harnessing personal resources which involves engaging in continuous processes of self-discovery, personal development, and the effective utilization of inner resources to achieve success and well-being in life.

***The second component of adolescents' social self-efficacy — self-directed social learning efficiency*** — refers to an individual's ability to independently and effectively manage their own learning and personal development by utilizing the necessary resources. The following values underpin this component: *effective management of success factors and performance* exhibited through the identification and oversight of elements influencing learning, such as the learning environment, available resources, and personal objectives, as well as through the strategic planning and organization of time and resources to achieve learning goals; *self-motivation and prospective orientation* articulated through a clear definition of

learning objectives in personal development complemented by internal motivation cultivated through self-reflection and the visualization of future success; *curiosity and initiative* manifested through a willingness to engage in learning by exploring diverse discussion topics and demonstrating proactive engagement in new learning experiences; *perseverance and optimism* expressed through the development of a positive orientation and a growth mindset that promote resilience amidst adversity, the management of obstacles and setbacks with optimism, and a tendency toward progress; *creativity and ongoing personal development* reflected in the pursuit of innovative problem-solving strategies and the exploration of new ideas, as well as active engagement in projects that facilitate personal growth; *problem-solving ingenuity* demonstrated through critical and analytical thinking aimed at identifying creative and effective solutions to learning challenges, alongside experimentation with a variety of strategies to enhance problem-solving skills; *self-esteem* manifested through positive perceptions of one's own learning and development potential, the recognition and utilization of personal successes in the learning process to reinforce self-confidence, continuous commitment to personal development, and the effective use of internal resources to achieve learning objectives and attain personal progress.

***The third component of adolescents' social self-efficacy — social success management*** — involves employing effective strategies to manage success, which are demonstrated through the explicit affirmation of behaviors within social contexts. This component is supported by the following values: *constructive thinking and social persuasion* evidenced by the development of critical thinking skills and objective evaluation within social contexts, employing rational argumentation and empathy-driven strategies to effectively influence and persuade others; *assertiveness in social interactions* defined by the clear, direct, and respectful articulation of personal needs, coupled with the cultivation of negotiation skills and the capacity for assertive conflict resolution; *individual and societal resilience* manifested through adaptive and resilient attitudes toward social changes and challenges, as well as the development of supportive social networks and personal resources to cope with stress and adversity within social contexts; *prosocial behavior* reflected in actions that facilitate cooperation within communities and foster interpersonal relationships, encompassing active engagement in activities and projects designed to enhance the quality of social life; *exploration of social skills* expressed through the development of social skills necessary for navigating diverse social and cultural contexts, and participation in programs that provide opportunities for improving social abilities; *affirmation of personal dignity* displayed through the promotion and defense of dignity in social interactions, the rejection of abusive or contemptuous behaviors, and the endorsement of a culture of respect and equality within social

relationships; *social responsibility and adaptability* expressed through the ability to embrace diversity in social environments and to integrate constructively into various communities.

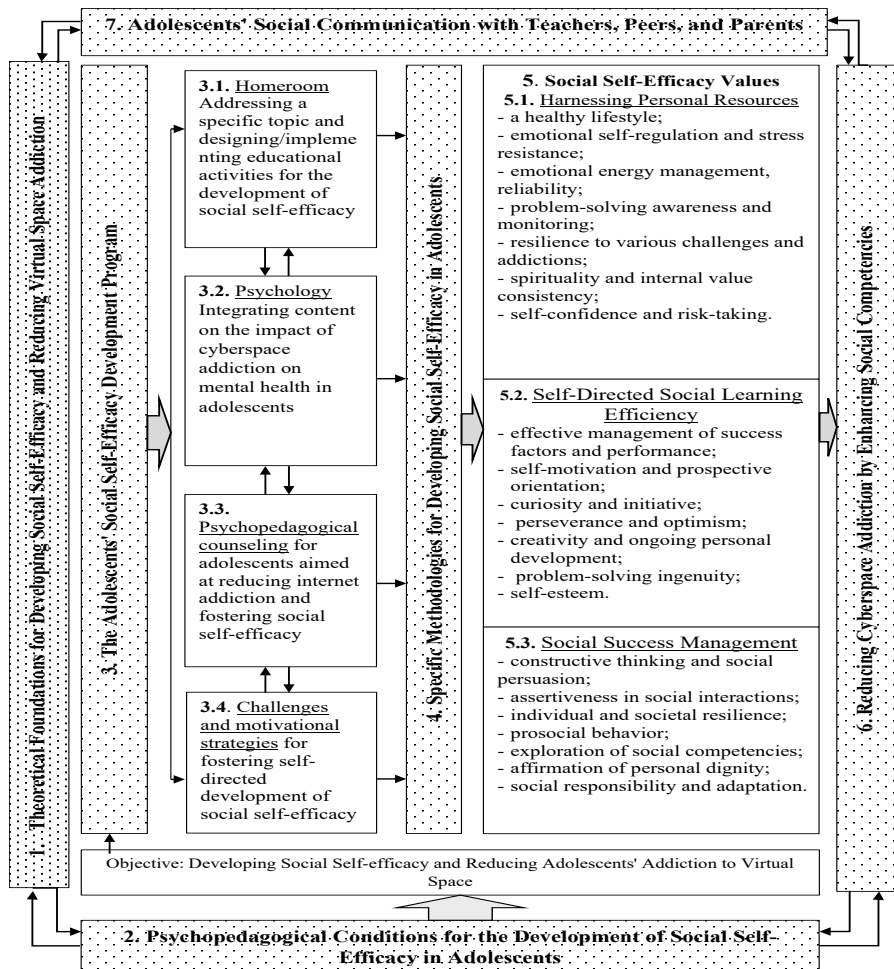
Consistent with the research objectives, *the indicators of adolescents' social self-efficacy* were developed based on the structural components of social self-efficacy specific to this age group (Table 3).

**Table 3. Indicators of social self-efficacy in adolescents**

<b>Indicators of social self-efficacy in adolescents</b>
<b>I. Harnessing Personal Resources</b>
<ul style="list-style-type: none"> <li>• Engages in a healthy lifestyle;</li> <li>• Demonstrates resilience to stress;</li> <li>• Consistently exhibits balanced behavior;</li> <li>• Generates effective solutions to address encountered problems;</li> <li>• Does not succumb to collective challenges, remaining free from addictions;</li> <li>• Adheres to moral norms and life principles;</li> <li>• Exercises prudence in tense situations.</li> </ul>
<b>II. Self-Directed Social Learning Efficiency</b>
<ul style="list-style-type: none"> <li>• Understands and leverages success-generating factors;</li> <li>• Demonstrates high motivation for achieving future goals;</li> <li>• Formulates initiatives driven by curiosity;</li> <li>• Exhibits perseverance and optimism;</li> <li>• Exhibits creativity and persistence in efforts toward personal development;</li> <li>• Maintains the conviction that every problem has a potential solution;</li> <li>• Affirms self-worth through self-respect.</li> </ul>
<b>III. Social success management</b>
<ul style="list-style-type: none"> <li>• Exhibits a constructive approach in interactions with others;</li> <li>• Demonstrates assertive conduct in social environments;</li> <li>• Demonstrates coherence and resilience in navigating societal challenges;</li> <li>• Is friendly;</li> <li>• Displays well-developed social competencies;</li> <li>• Demonstrates a high level of personal dignity;</li> <li>• Easily adapts due to a sense of responsibility.</li> </ul>

*Social development* refers to the acquisition of social competencies that are essential for successful integration of adolescents into society [11]. M. Weinstein emphasizes that the technologization of education has negatively impacted adolescents' value systems and social functioning.

Chapter 3, titled 'The Technology for the Prevention and Reduction of Virtual Addiction through the Development of Social Self-Efficacy in Adolescents' elucidates the stimulating factors that contribute to the development of social self-efficacy in adolescents and the comparative experimental values obtained from the implementation and experimental validation of the Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction (Fig. 6) [35].



**Figure 6. The Pedagogical Strategy for the Development of Social Self-Efficacy to Ensure Resistance to Virtual Space Addiction**

*The psychopedagogical conditions essential for cultivating social self-efficacy in adolescents* delineate the factors that impact the effective implementation of pedagogical actions, ensure successful learning, and establish the contexts in which the educational process achieves cohesion. This framework constitutes a methodological inventory with empowering and complex potential over short, medium, and long terms. From a psychopedagogical perspective, it encompasses a series of carefully designed and implemented activities that promote the active and responsible engagement of adolescents in the learning process and their adaptation to the school environment, thereby yielding significant outcomes in self-education.

A fundamental psychological condition in the development of adolescents' social self-efficacy is the *psychological climate* which establishes essential prerequisites for educational activities. This climate is characterized by several key elements within a group, including the quality of psychosocial relationships among students, their behavior in various situations, the type of authority exercised, and the level of trust between teachers and students. *A favorable psychological climate* supports the effective assimilation of learning content within the classroom, fosters student motivation and personality development, contributes to emotional engagement, enhances psychological well-being, and generates attitudes that positively impact the quality of relationships while optimizing teacher-student communication [12].

**The development of social self-efficacy in adolescents was facilitated by:**

**1. Homeroom sessions** structured around specific thematic areas and centered on the design and implementation of educational activities aimed at fostering social self-efficacy including: *the development of interpersonal communication skills* (understanding verbal and non-verbal communication, practicing active listening and constructive feedback, and engaging in public speaking and presentation exercises); *the management of relationships and conflict resolution* (identification and management of emotions in conflict situations, negotiation and mediation techniques, and role-playing exercises for peaceful conflict resolution). Homeroom sessions provide an ideal context for conducting educational activities aimed at developing social self-efficacy in adolescents. The following educational activities were conducted: interpersonal communication workshops, assertiveness training, social participation projects, and emotional self-regulation sessions, etc.

**2. Psychology classes** provide an excellent framework for the development of social self-efficacy in adolescents by allowing an in-depth exploration of psychological concepts and their application to daily life. *The integration of content related to the impact of virtual space addiction on adolescent mental health* has been a key initiative in promoting resistance to Internet addiction. This integration has

been achieved through specific educational activities embedded within psychology lessons to support the enhancement of social self-efficacy.

**3. Psychopedagogical counseling for adolescents aimed at reducing Internet addiction and fostering social self-efficacy** involves a comprehensive approach that integrates individual and group interventions, educational techniques, and psychological support strategies.

*The strategies and activities implemented* involved an *initial assessment phase* and an *objective-setting process* that were instrumental in ascertaining the levels of Internet addiction and social self-efficacy among adolescents. *The counseling interventions* entailed the administration of standardized questionnaires to measure Internet addiction and social self-efficacy, supplemented by individual consultations designed to elucidate online behaviors, identify social difficulties, and collaboratively establish specific objectives. *The educational workshops* were conducted to address the detrimental effects of excessive Internet use on mental health and social relationships. These workshops featured discussions on effective time management, the establishment of boundaries for Internet usage, and development of a personalized Internet use plan. *Group activities aimed at fostering active social engagement* were conducted through the organization of extracurricular initiatives, including sports, arts, volunteer work, participation in community projects and school events, as well as the creation of opportunities for collaboration and teamwork. *Individual counseling sessions* encompass personalized psychological support aimed at managing emotional issues and behaviors associated with Internet addiction, cognitive-behavioral therapy to identify and modify unhealthy patterns of thought and behavior, techniques for managing stress and anxiety related to Internet use, and the exploration and development of personal interests and passions. *Family involvement* aimed at creating a supportive home environment to facilitate positive behavioral changes in adolescents through counseling sessions for parents to educate them on supporting and monitoring their adolescents' internet usage, as well as discussions and family activities designed to promote authentic communication. *Mentorship programs and role models* involved providing positive examples and support through several key approaches: connecting adolescents with mentors who can offer guidance and inspiration, organizing meetings and discussions with individuals who have overcome Internet addiction and developed robust social skills, and implementing mentoring projects. Psychopedagogical counseling further assists adolescents in reducing their Internet addiction and enhancing their social self-efficacy, thereby contributing to their overall well-being and success in personal life.

4. **Challenges and motivational strategies for fostering self-directed development of social self-efficacy** involved applying targeted methodologies designed to enhance social self-efficacy and reduce Internet addiction among adolescents. These methodologies incorporated interactive, student-centered approaches that actively engage adolescents in the educational process.

**The educational methodologies utilized were applied within the framework of:**

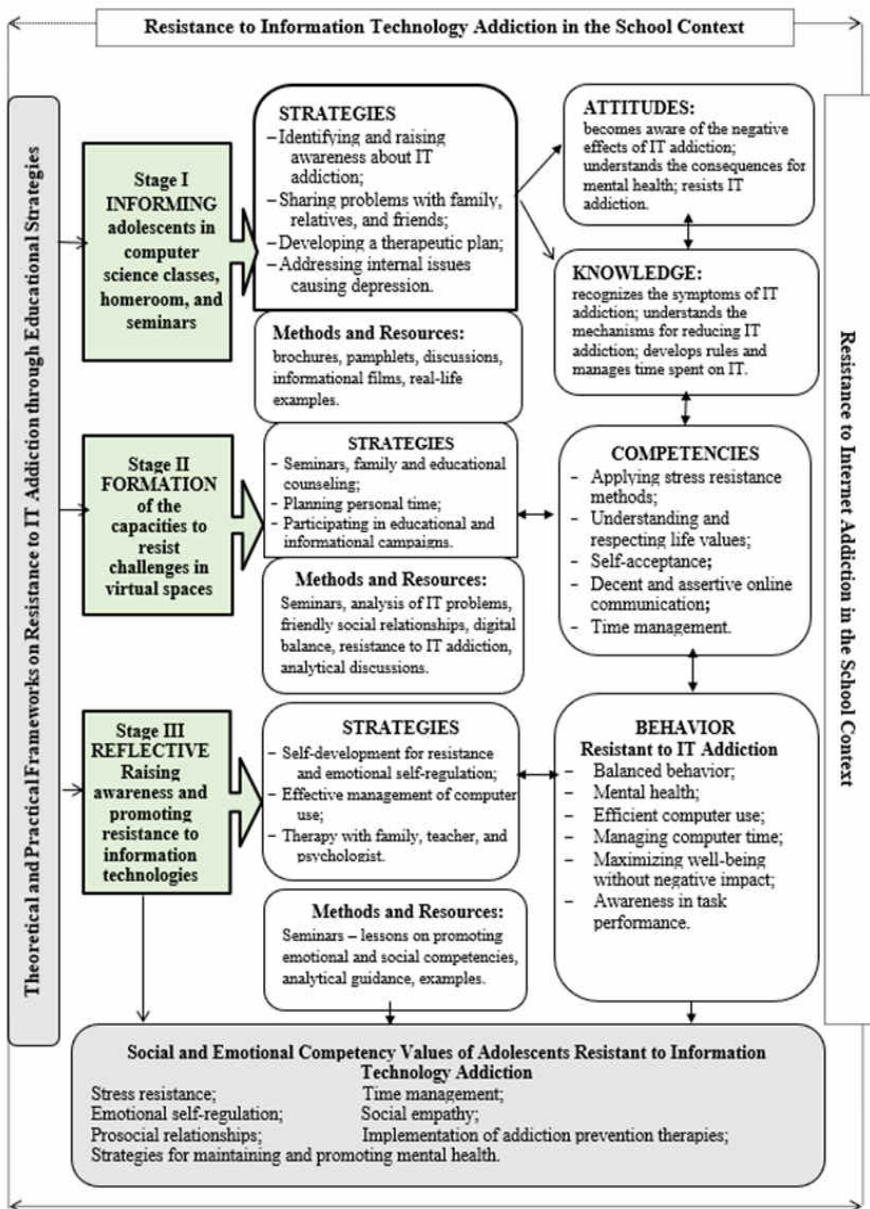
**1. Educational activities aimed at developing social self-efficacy within the dimension of *Harnessing Personal Resources*** implemented through *self-regulation and time management techniques*, focusing on applying specific strategies to reduce online time consumption through time-planning exercises, including the creation of a daily schedule, the introduction and practice of mindfulness and meditation techniques to diminish the impulse to use the Internet, and the use of time management applications to monitor online usage.

**2. Educational activities aimed at fostering social self-efficacy within the dimension of *Self-Directed Social Learning Efficiency*** conducted through *assertiveness training workshops*. These workshops focused on teaching participants how to articulate their needs and desires in a respectful manner, engaging in *self-expression exercises, role-playing scenarios* designed to simulate assertive communication, and expressing disagreement. Additionally, the activities involved analytical discussions and debates regarding passive, aggressive, and assertive behaviors.

**3. Educational activities aimed at developing social self-efficacy within the dimension of *social success management*** conducted through *simulations and role-playing* to practice social skills in a controlled environment, including: *social interaction scenarios, debates on social issues, and negotiation workshops organized through negotiation and conflict mediation exercises*. Figure 7 illustrates the stages of developing resistance to virtual space addiction in adolescents through information dissemination, management of attitude formation, and the cultivation of behavioral values that promote resilience against internet addiction.

*The informative stage* focuses on developing a dataset within personal development classes, homeroom sessions, seminars, and lessons that integrate the concept of addiction and criteria for identifying deviant behavior. Effective strategies in this stage include raising awareness about Internet addiction, encouraging communication about related issues with family, and addressing internal factors such as depression, anxiety, and escapism.





**Figure 7. The processuality of reducing Internet addiction through the development of social competencies in adolescents.**

Consequently, adolescents learn to recognize the negative effects of the Internet and articulate its harmful consequences for mental health. The knowledge gained during this stage empowers them to activate mechanisms that help reduce the risk of Internet addiction.

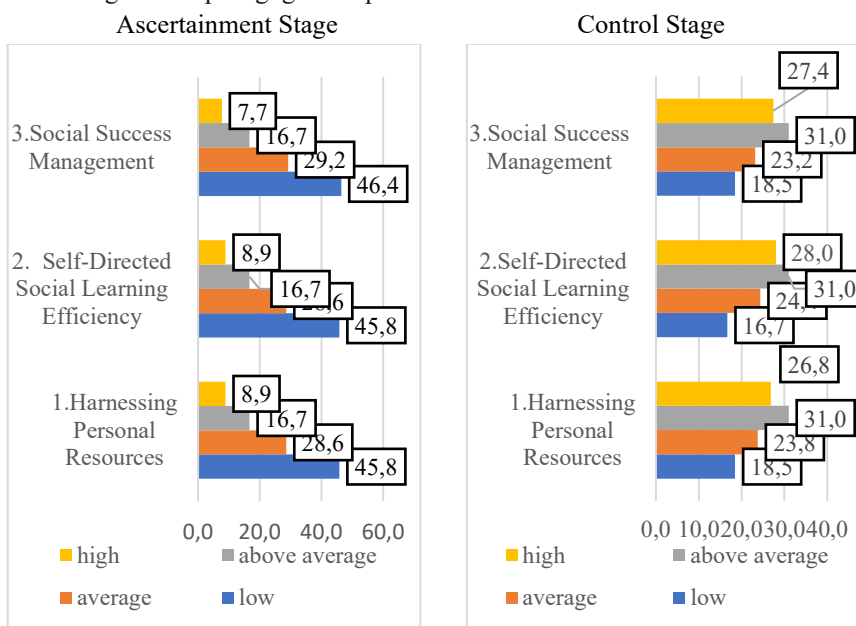
*The formative stage* is characterized by the establishment of a foundational knowledge base that is essential for withstanding the challenges of the virtual space. The significance of this stage lies in its potential to mitigate addiction by fostering socio-emotional competencies through various strategies, including seminars, family counseling, time management training, and participation in educational workshops. Adolescents demonstrate stress resistance by adhering to core life values, embracing self-acceptance, practicing assertive communication, and effectively managing their time and interaction with information technologies.

*The reflective stage* involves raising awareness of the issue, fostering resistance to ICT addiction, mediating and positively transforming one's life, and encouraging the development of social competencies. Strategies are implemented to support the self-development of resistance, effectively manage computer use, and provide family therapy through the use of seminars, lessons designed to promote social competencies, guidance, real-life examples, films, magazines, etc. As a result, adolescents have demonstrated resistance to Internet addiction, improved mental health, engaged more effectively with computers, and gained control over their screen time. Based on the outlined stages, the values of social competency in adolescents resistant to Internet addiction are reflected in their ability to manage stress, build prosocial relationships, practice effective time management, show empathy, regulate their emotions, implement preventive therapies for digital addiction, and adopt strategies for maintaining mental health.

#### *Comparative Experimental Values of Social Self-Efficacy in Adolescents at the Control Stage of the Pedagogical Experiment*

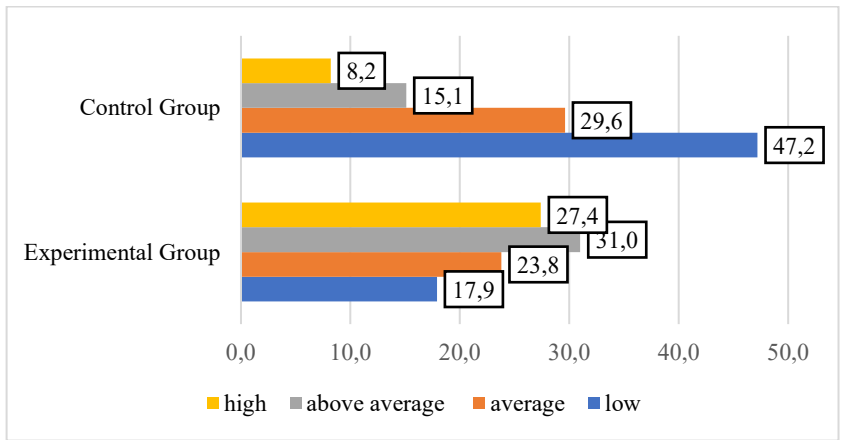
At the control stage of the pedagogical experiment, the assessment of adolescents' social self-efficacy involved analyzing its components: *harnessing personal resources, self-directed social learning efficiency, and social success management*. The harnessing of personal resources by adolescents who followed the *Strategy* is demonstrated by an increase in the percentage at both high and medium levels, coupled with a reduction at the low level. Conversely, for the *a healthy lifestyle* variable, lower percentages were recorded at the *high level* (26.8%) compared to 33.3% of adolescents in the experimental group who were at the *medium level*. The levels of social self-efficacy in adolescents refer to variations in self-efficacy beliefs and perceived self-efficacy power, which have influenced their social performance. The average results observed for each component (*harnessing*

personal resources, self-directed social learning efficiency, and social success management) in the experimental and control groups enabled the measurement of the overall level of self-efficacy through a comparative analysis of the groups at the control stage of the pedagogical experiment.



**Figure 8. Levels of Social Self-Efficacy Progress in Adolescents (EG, Ascertainment-Control Stages)**

The results of the pedagogical experiments indicate that the hypothesis proposed for testing was confirmed by the high results achieved by the experimental group that underwent *the formative strategy*. The pedagogical strategy anticipates the emergence of cyberbullying as a form of aggressive interpersonal behavior that manifests during the exploration of electronic media, including text messaging, online chat rooms, and social media platforms [22]. It is characterized as intentional, aggressive conduct perpetrated by an individual or group with the aim of inflicting harm on another person through digital means, such as the Internet, mobile phones, and other forms of digital communication. Unlike traditional forms of harassment, cyberbullying can reach a broader audience at an accelerated pace, transcending temporal and spatial limitations [5]. The distinctive features of cyberbullying complicate the recognition of adolescents' online vulnerabilities, resulting in emotional repercussions and a negative social impact on their self-image.



**Figure 9. Social Self-Efficacy Levels in Adolescents (Control Stage, EG - CG)**

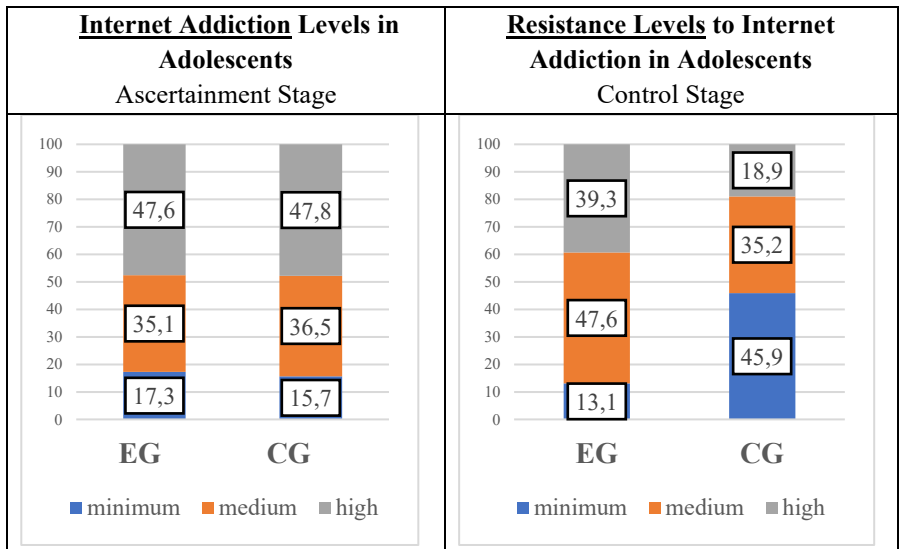
When analyzed comparatively, the results for the *low level of social self-efficacy* reveal a significant gap, with 17.9% of subjects in the experimental group versus 47.2% in the control group.

Individualized task requirements and specific teacher feedback enhance adolescents' self-efficacy, while social self-efficacy is fostered through a positive classroom climate with mutual support among adolescents and teacher sensitivity to students' individual needs. Adolescents who participated in the training activities reported improved motivational orientations for stress management and conflict resolution.

*The scientific explanation for the increase in social self-efficacy* and the reduction in virtual space addiction—achieved through the reinforcement of social competencies—supports the observed progress in resisting Internet addiction. Successful social persuasion encompasses the development of skills and the control of the environment to enhance performance and achieve desired outcomes. Recently, there has been a growing trend to engage successful, mature adults from the community as mentors for adolescents, thereby broadening their social capital beyond the boundaries of family and school.

As a logical consequence of these training processes, the comparative analysis of experimental results demonstrates a clear enhancement in resistance to virtual space addiction, as evidenced by the increased values for medium and high levels at the control stage (Fig. 10).

The positive development of resistance to Internet addiction among adolescents is promoted by an increase in social self-efficacy.



**Figure 10. Comparative Mean Values Regarding the Evolution of Resistance to Internet Addiction in Adolescents (EG and CG at the Ascertainment - Control Stages)**

### **Profile of Adolescents Resistant to Virtual Space Addiction**

As a result of the theoretical-experimental research process, *a profile of the adolescent resistant to virtual space addiction* was developed through *information dissemination, training, and the cultivation of social competencies* such as interaction skills, emotional awareness, emotional intelligence, and emotional maturity.

*The fundamental characteristics of adolescents who are resistant to Internet addiction* include: a strong understanding of their own emotions and those of others; balanced reactions; controlled and respectful behaviors; good mental health; positive interpersonal relationships; polite communication; self-assertion and self-confidence; empathy; adherence to rules and life values; face-to-face interactions with friends; affection for family; effective use of information technologies; tolerance for situations that might trigger Internet addiction; and a courteous response to suggestions to disconnect from the computer.

### *Characteristics and Levels of Resistance to Internet Addiction*

**Adolescents with a high level of resistance to internet addiction** exhibit a variety of positive social behaviors. They use the internet rationally and moderately, primarily for intellectual development. These adolescents consistently engage in social and academic activities that enhance their social adaptation and demonstrate

well-developed social competencies that facilitate effective communication. They are committed to maintaining a healthy lifestyle, fulfill their social responsibilities, and exhibit empathy and assertiveness in face-to-face interactions. Moreover, they allocate a reasonable amount of time for online activities while cultivating constructive and meaningful social relationships that support their social adaptation and self-esteem.

**Adolescents with a medium level of resistance to internet addiction** exhibit social behaviors that suggest negligible resistance to such addiction. These behaviors are characterized by prolonged internet use, partial social isolation, episodes of communicative intolerance, and social withdrawal due to tendencies to violate moral norms associated with internet use. Additionally, these adolescents may display insufficiently developed empathy for interpersonal communication, a tendency toward sedentary lifestyles leading to physical health issues, an increase in destructive communication attitudes, the emergence of social conflicts, a lifestyle that is occasionally unbalanced, disruptions in value prioritization, and unsatisfactory self-esteem.

**Adolescents with a minimal level of resistance to Internet addiction** exhibit behaviors indicative of psychological distress and a pronounced addiction to virtual spaces. These behaviors include social anxiety, excessive Internet use, social stress, frequent visits to unsuitable online portals, social intolerance, irritability, and withdrawal from social groups. They demonstrate a high frequency of Internet browsing and social media exploration, experience cyber-victimization, exhibit emotional exhaustion and psychological fatigue, fear self-assertion in face-to-face communication, and have a pronounced sense of social failure.

*The Pedagogical Strategy for the Development of Social Self-Efficacy to Ensure Resistance to Virtual Space Addiction, applied to adolescents in the experimental group*, had a significant impact by dynamically influencing their self-efficacy beliefs. Responses to the question, "What could adults do to guide children in using social networks constructively?" include several suggestions: adolescents should have structured Internet access to promote discipline; they need education on online safety, the risks, and the effects of prolonged technology use; and they should be encouraged to inform parents or teachers about any abusive or threatening messages and to report any irregularities. Central to this process is honest and trustworthy communication between parents and children, which can help anticipate and prevent various forms of addiction.

## GENERAL CONCLUSIONS

*Theoretical research on adolescents' social self-efficacy and Internet addiction* has highlighted the importance of advanced information technology systems that accurately represent the virtual world in which adolescents live. *Scientific evidence indicates that these technologies create a computer-generated universe* that adolescents navigate continuously, perceiving it as integral to their reality. Furthermore, *studies have shown that Internet addiction can lead to various detrimental emotional states*, which have become increasingly common in our digitized world. This excessive online engagement negatively affects mental health and hinders the development of adolescents' social identities.

Building on the theoretical synthesis of the current self-efficacy paradigm, *we focused on identifying the key aspects of social self-efficacy in adolescents, particularly in relation to their resistance to Internet addiction*. Theoretical studies emphasize the need for *a new conceptual model of social self-efficacy* that captures the characteristics of adolescent social behavior in the modern era. *This conceptual model is manifested through the quality of its three components, which are essential for ensuring resistance to Internet addiction*. Adolescents with high social self-efficacy exhibit behaviors marked by decency, balance, control, mental health, sound reasoning, self-awareness, positive interpersonal relationships, self-esteem affirmation, adherence to social self-efficacy values, and productive online activity. *The values of social self-efficacy in adolescents*, as evidenced by social success management, involve active personal development and the establishment and maintenance of satisfactory relationships across diverse social contexts.

*Theoretical and practical arguments have been presented regarding European policies aimed at promoting information and communication technologies in educational settings, highlighting their role as valuable resources for personal development during adolescence*. The European Commission plays a catalytic and leadership role by advocating for the proper use of ICT and has issued the "Learning in the Information Society" action plan, which reflects the political commitment of member states to integrate multimedia into education and to anticipate students' challenges in the virtual world.

*A pedagogical experiment was designed and conducted* to investigate social self-efficacy among adolescents in the virtual environment. *The continuous exploration of virtual spaces has been observed to contribute to a range of issues, including fostering addiction. Preventing computer addiction among adolescents is essential and can be achieved through several strategic actions: fostering networks between schools and students to facilitate effective monitoring of student communication, accelerating the development of multimedia educational resources,*

*and providing systematic counseling to parents regarding the potential of multimedia and audiovisual resources in the social education of adolescents.*

Theoretical and experimental research *has revealed specific characteristics related to the development of social self-efficacy in adolescents, while also highlighting distinctive features associated with virtual space addiction during this critical developmental stage.* Although many social networks impose age restrictions that prohibit users under 18, an increasing number of parents feel powerless to regulate their children's access to and time spent on these restricted platforms. Therefore, educating adolescents about the real dangers that excessive exploration of virtual spaces poses to their personalities has become imperative.

*The praxiological investigation into the stimulating factors affecting social self-efficacy in adolescents has identified issues linked to internet addiction,* including robotic social behavior devoid of emotions, a preference for easy solutions, exacerbation of problems that underscore the inefficacy of social life, energy deficits, and overall life dissatisfaction, etc. The problems identified both theoretically and experimentally underscore the pressing need for the development and implementation of *a Pedagogical Strategy for the Development of Social Self-Efficacy to Ensure Resistance to Virtual Space Addiction. The implementation of the Pedagogical Strategy for the Development of Social Self-Efficacy to Ensure Resistance to Virtual Space Addiction has confirmed the research hypothesis:* the psychopedagogical conditions identified in the study will demonstrate formative efficacy if: the theoretical frameworks for the adolescent social self-efficacy (ASSE) are determined; the stimulative factors contributing to ASSE development are established; the evolution of the ASSE concept is described, and a new Conceptual Model of ASSE is scientifically formulated and substantiated; the evaluation criteria, indicators, and necessary values for assessing and describing ASSE are established; *the Pedagogical Strategy for the Development of Social Self-Efficacy to Ensure Resistance to Virtual Space Addiction is elaborated and experimentally validated.* Addressing information overload—manifested in compulsive behaviors such as database searching or web surfing—can have a destructive impact and reduce social interaction.

The controlled and socially informed use of information and communication technologies by adolescents is anticipated to encourage the formation of authentic social communication networks beyond the virtual realm. *Research has established that increasing social self-efficacy enhances resistance to Internet addiction. A profile has been developed for adolescents who are resistant to virtual space addiction, characterized by high levels of social self-efficacy. Furthermore,*



*specific indicators and criteria for assessing social self-efficacy in adolescents have been established.*

As a synthesis of our research findings, we offer the following **methodological recommendations:**

**(a) Recommendations for Researchers:**

- Investigate the factors leading to the emergence of Internet addiction, a phenomenon specific to adolescents.
- Assess the impact of Internet addiction on social behavior in adolescents.

**(b) Recommendations for Curriculum Designers:**

- Reevaluate curricular documents to prevent Internet addiction among adolescents and promote social self-efficacy as a means to develop resistance to Internet addiction.

**(c) Recommendations for Educators:**

- Raise awareness among parents about the issues arising from excessive Internet use and the symptoms of Internet addiction in adolescents.
- Provide ongoing pedagogical support to parents regarding effective strategies for fostering *resistance to Internet addiction* in adolescents.
- Promote the values of digital culture within the adolescent community.
- Utilize ASSE indicators to effectively describe and enhance strategies that build resistance to internet addiction.

**(d) Recommendations for Parents:**

- Minimize risk factors associated with the development of Internet addiction in adolescents.
- Encourage participation in alternative leisure activities, such as supporting individual or group sports, dance lessons, painting, walks, excursions, and other engaging activities.
- Monitor and manage the amount of time adolescents spend on the computer.
- Support the development of social-emotional skills and social self-efficacy in adolescents.
- Contribute to the development of family-school partnerships aimed at preventing Internet addiction in adolescents.
- Educate themselves about the symptoms of Internet addiction through various sources, including media, schools, psychologists, doctors, documentaries, seminars, and training.
- Promote real-world communication among adolescents, among other efforts, etc.

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Adnotare

BARBU Elena Gabriela

**„Condiții psihopedagogice ale dezvoltării autoeficacității sociale a adolescenților  
pentru reducerea dependenței de spațiul virtual”,  
Chișinău, 2024**

**Structura tezei:** introducere, trei capitole, concluzii generale și recomandări, bibliografie din 224 de surse, adnotare (română, engleză), concepte-cheie în limbile română și engleză, lista abrevierilor, 140 pagini de text de bază, 17 de tabele, 29 figuri, 9 anexe.

**Publicații la tema tezei:** 9 lucrări științifice.

**Concepte – cheie:** autoeficacitate socială, adolescenți, dependență de spațiul virtual, competențe sociale, spațiul virtual, profilul adolescentului rezistent la dependența de spațiul virtual, rezistență la dependența de internet.

**Scopul cercetării** constă în conceperea, elaborarea și implementarea *Strategiei pedagogice de dezvoltare a autoeficacității sociale pentru asigurarea rezistenței la dependența de spațiul virtual la adolescenți*.

**Obiectivele cercetării:** determinarea reperelor teoretice privind autoeficacitatea socială, cultura virtuală, dependența de spațiul virtual și rezistența la dependența de internet; descrierea semnificației, structurii și a conținutului autoeficacității sociale a adolescenților (ASA); studiul experimental al autoeficacității sociale a adolescenților în mediul virtual în perspectiva formării rezistenței la dependența de internet și a asigurării sănătății psihice a adolescenților; elaborarea și descrierea Modelului conceptual al autoeficacității sociale a adolescenților din perspectiva rezistenței la dependența de spațiul virtual, a indicatorilor, a criteriilor și a valorilor ASA; stabilirea experimentală și elucidarea nivelurilor, a specificului ASA, a profilului adolescentului rezistent la dependența de spațiul virtual definit prin valorile culturii digitale; elaborarea, validarea experimentală a *Strategiei pedagogice de dezvoltare a autoeficacității sociale pentru asigurarea rezistenței la dependența de spațiul virtual la adolescenți*; elaborarea concluziilor științifice privind riscurile, impactul consumului excesiv al internetului asupra comportamentului și necesitatea dezvoltării autoeficacității sociale a adolescenților.

**Noutatea și originalitatea cercetării** rezultă din: elaborarea și descrierea *Modelului conceptual al autoeficacității sociale a adolescenților din perspectiva rezistenței la dependența de spațiul virtual*, a indicatorilor, a criteriilor și a valorilor ASA; elucidarea particularităților dezvoltării sociale la adolescență și a profilului adolescentului rezistent la dependența de spațiul virtual definit prin valorile culturii virtuale; elaborarea și validarea experimentală a *Strategiei pedagogice de dezvoltare a autoeficacității sociale pentru asigurarea rezistenței la dependența de spațiul virtual la adolescenți* și din elaborarea concluziilor științifice privind necesitatea dezvoltării autoeficienței sociale a adolescenților pentru abordarea vulnerabilității adolescenților în mediul virtual.

Rezultate obținute ce contribuie la soluționarea unei probleme științifice importante în cercetare se referă la condițiile psihopedagogice, ce-și certifică eficiența formativă prin formularea și întemeierea științifică a unui nou Model conceptual al ASA; stabilirea criteriilor de evaluare, a indicatorilor și a valorilor necesare pentru descrierea ASA; elaborarea și validarea experimentală a *Strategiei pedagogice de dezvoltare a autoeficacității sociale pentru asigurarea rezistenței la dependența de spațiul virtual la adolescenți*; descrierea impactului dependenței de spațiul virtual asupra comportamentului argumentând necesitatea dezvoltării autoeficienței sociale la adolescenți.

**Semnificația teoretică a cercetării** derivă din: studiul reperelor teoretice privind autoeficacitatea socială, cultura digitală, dependența de spațiul virtual și rezistența la dependența de internet; descrierea semnificației, structurii și a conținutului conceptului de autoeficacitate socială; examinarea teoretico-praxiologică a importanței competențelor sociale pentru reducerea dependenței de internet; formularea concluziilor științifice privind impactul benefic al autoeficacității sociale a adolescenților în dezvoltarea rezistenței la dependența de spațiul virtual, la riscurile inerente și impactul dependenței de internet asupra comportamentului social al adolescenților.

**Valoarea aplicativă a cercetării** este confirmată de: descrierea semnificației științifice, a structurii și a conținutului termenului de autoeficacitate socială a adolescenților (ASA) în condițiile dependenței de internet în perspectiva asigurării sănătății mintale a adolescenților; elucidarea particularităților de vârstă în adolescență și a profilului adolescentului rezistent la dependența de spațiul virtual, definit prin competențele socio-emoționale; determinarea nivelurilor și a caracteristicilor dependenței de spațiul virtual la adolescenți, din elaborarea și descrierea *Strategiei pedagogice de dezvoltare a autoeficacității sociale pentru asigurarea rezistenței la dependența de internet*.

**Implementarea rezultatelor științifice** s-a realizat prin cercetări teoretice și experimentale desfășurate cu 327 adolescenți din clasele a XI-a din liceul cu Program Sportiv „Iolanda Balaș” și cu adolescenții din clasele a XI-a din liceul Tehnologic „Henry Coandă”, județul Buzău, România.

**Annotation**  
**BARBU Elena Gabriela**  
**„Psychopedagogical Conditions for Developing Social Self-Efficacy in Adolescents to Reduce Virtual Space Addiction”,**  
**Chişinău, 2024**

**Thesis Structure:** introduction, three chapters, general conclusions and recommendations, a bibliography comprising 224 sources, annotations (in both Romanian and English), key concepts in Romanian and English, a list of abbreviations, 140 pages of core text, 17 tables, 29 figures, and 9 appendices.

**Publications related to the thesis topic:** 9 scientific papers.

**Key Concepts:** social self-efficacy, adolescents, virtual space addiction, social competencies, virtual space, profile of the adolescent resistant to virtual space addiction, resistance to Internet addiction.

**The aim of this research** is to design, develop, and implement a *Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction*.

**Research Objectives:** identification of the theoretical foundations of social self-efficacy, virtual culture, virtual space addiction, and resistance to Internet addiction; description of the meaning, structure, and content of the concept of *Adolescent Social Self-Efficacy (ASSE)*; experimental study of adolescents' social self-efficacy in the virtual environment, with a particular focus on fostering resistance to Internet addiction and ensuring adolescents' mental health; development and articulation of a *Conceptual Model of Adolescent Social Self-Efficacy from the perspective of resistance to virtual space addiction*, including indicators, criteria, and ASSE values; experimental identification and elucidation of ASSE levels and characteristics, along with the profile of the adolescent resistant to virtual space addiction, defined by the values of digital culture; design and experimental validation of the *Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction*; formulation of scientific conclusions regarding the risks and effects of excessive Internet use on behavior and the necessity of fostering social self-efficacy among adolescents.

**The novelty and originality of this research** are derived from: the development and description of the *Conceptual Model of Adolescent Social Self-Efficacy from the Perspective of Resistance to Virtual Space Addiction*, including indicators, criteria, and ASSE values; the elucidation of the particularities of social development during adolescence and the profile of adolescents resistant to virtual space addiction, as defined by the values of virtual culture; elaboration and experimental validation of the *Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction*; and from the scientific conclusions that highlight the importance of enhancing adolescents' social self-efficacy to address their vulnerability in the virtual environment.

The results obtained, which address a significant scientific problem in the research, pertain to the psychopedagogical conditions confirming their formative effectiveness through the formulation and scientific grounding of a new *ASSE Conceptual Model*; the establishment of evaluation criteria, indicators, and values necessary for describing ASSE; the development and experimental validation of a *Pedagogical Strategy for the Development of Social Self-Efficacy in Adolescents to Ensure Resistance to Virtual Space Addiction*; and the description of the impact of virtual space addiction on behavior, substantiating the necessity of developing social self-efficacy in adolescents.

**The theoretical significance of this research** stems from: the exploration of theoretical frameworks related to social self-efficacy, digital culture, virtual space addiction, and resistance to Internet addiction; the elucidation of the meaning, structure, and content of the concept of social self-efficacy; the theoretical and practical analysis of the role of social competencies in mitigating Internet addiction; and the formulation of scientific conclusions regarding the positive impact of social self-efficacy in adolescents on their resistance to virtual space addiction, as well as the inherent risks and effects of Internet addiction on adolescents' social behavior.

**The practical value of the research** is substantiated by: the description of the scientific significance, structure, and content of the term *Adolescent Social Self-Efficacy (ASSE)* in the context of Internet addiction, with a focus on ensuring adolescents' mental health; the examination of age-specific characteristics during adolescence and the profile of adolescents who demonstrate resistance to virtual space addiction, as defined by their social-emotional competencies; and the assessment of levels and characteristics of virtual space addiction in adolescents, derived from the formulation and delineation of the *Pedagogical Strategy for the Development of Social Self-Efficacy to Ensure Resistance to Virtual Space Addiction*.

**The implementation of scientific findings** was accomplished through theoretical and experimental research involving 327 eleventh-grade adolescents enrolled at 'Iolanda Balaş' High School with a Sports Program and 'Henry Coandă' Technological High School in Buzău County, Romania.

**BARBU Elena Gabriela**

PSYCHOPEDAGOGICAL CONDITIONS FOR DEVELOPING SOCIAL SELF-EFFICACY IN ADOLESCENTS TO REDUCE VIRTUAL SPACE ADDICTION

SUMMARY of the  
Doctoral Thesis in Education Sciences

**Specialty 531.01 – General Theory of Education**

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