

**VIRTUAL ADDICTION OF MOLDOVA YOUTH  
AND CONTRIBUTING PSYCHOSOCIAL FACTORS**  
**DEPENDENȚA VIRTUALĂ A TINERILOR MOLDOVENI  
ȘI FACTORII PSIHOSOCIALI CONTRIBUTIVI**

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**Abstract**

Noting the fact that most of the youth's free time is spent in augmented reality (on social media platforms and virtual games), several studies have reported the issue of their virtual addiction in Moldova, they are not interested in the development of personal and professional skills and competencies, civic activities, as well as practical skills in real life.

Spending time on social media is directly related to the formation of self-concept at this age of psychological development and personality formation, being obvious the influences at the level of the ideal self, self-image, and self-esteem. It is known that the self-concept is strengthened through the prism of the identity matrix, which contributes to obtaining psychological flexibility in individual self-control situations, and the discrepancy between the augmented experiences and those in real life represent moderating factors in adapting to real life and in empowering the condition of psychological well-being.

Focused on self-concept and identity matrix, this article engages in knowing what psychosocial aspects and triggers need to be taken into account in therapy, intervention, and counseling practices that would increase the level of life skills and teach youth how to manage stress, and high-risk situations in the recovery by changing attitudes and behaviors, at a more conscious level; as well as the effective development and integration of age aspects through addiction prevention policies among young people in Moldova.

**Keywords:** *addiction, technology, self-concept, augmented reality, etc.*

**Rezumat**

Remarcând faptul că majoritatea timpului liber al tinerilor este petrecut în realitate augmentată (pe platformele de social media și jocuri virtuale), mai multe studii au raportat problema dependenței lor virtuale în Moldova, aceștia nefiind interesați de dezvoltarea abilităților personale și profesionale. și competențe, activități civice, precum și abilități practice în viața reală.

Petrecerea timpului pe social media este direct legată de formarea conceptului de sine la această vârstă a dezvoltării psihologice și a formării personalității, fiind evidente influențele la nivelul sinelui ideal, al imaginii de sine și al stimei de sine. Se știe că conceptul de sine este întărit prin prisma matricei identitare, care contribuie la obținerea flexibilității psihologice în situațiile individuale de

autocontrol, iar discrepanța dintre experiențele augmentate și cele din viața reală reprezintă factori moderatori în adaptarea la real. viață și în împrumutarea condiției de bunăstare psihologică.

Focusat pe conceptul de sine și pe matricea identității, acest articol se angajează în cunoașterea aspectelor și factorilor psihosociali care trebuie să fie luate în considerare în terapie, intervenție și practici de consiliere care ar crește nivelul de abilități de viață și ar învăța tinerii cum să gestioneze stresul și situații de mare risc în recuperare prin schimbarea atitudinilor și comportamentelor, la un nivel mai conștient; precum și dezvoltarea și integrarea efectivă a aspectelor legate de vârstă prin politicile de prevenire a dependenței în rândul tinerilor din Moldova.

*Cuvinte-cheie: dependență, tehnologie, concept de sine, realitate augmentată etc.*

### 1. The link between virtual accessibility and addiction, key questions and research aspects

Have we ever thought about how many times we check our phone every day, actually on average 200 times a day? In this situation if we ask to recognize some apps in fact, we would recognize them all with the exception of a picture from our real life. In virtual spaces we communicate on the web pages, through emails, in social media, through blogs, we see advertorials and more social network search engines online stores with news portals blogs, commerce platforms, existing ads etc. that makes us to be much more engaged in virtuality day by day (see fig. 1).

Virtual addiction among adolescents is a significant and pervasive mental health issue that has garnered considerable attention in recent years. It is a complex condition that affects the emotional well-being, daily functioning, and overall quality of life of young individuals [4, 5, 7, 9]. Understanding the symptoms and causes of addiction in adolescents is crucial for effective intervention and prevention strategies. This research aims to explore the multifaceted nature of addiction in adolescents by examining its symptoms and investigating the underlying causes. By shedding light on this topic, the study seeks to contribute to the existing body of knowledge in the field of psychology and provide insights that can inform clinical practice, policy-making, and further research.

The comfort of surfing the Internet is influenced by several factors. These are: the nominal tariff speed, the technology applied for the network connection, the interference of the wireless signal, the network load, but also the quality of the visited page and the distance from its server.

Among the countries that pay the most for Internet access with a speed of 100 Mb/s, is the Republic of South Africa – on average €79/month. Residents of Northern Europe – Iceland and Norway – pay more than €62/month. At the opposite pole, for a fairly fast Internet, 100 Mb/s, users of Eastern European countries such as the Republic of Moldova (€8.74/month), Russia (€6.96/month) and Ukraine (€5.60) pay /month) [15]. The relevance of researching virtual addiction in adolescents stems from its profound impact on individuals, families, and society as a whole. Adolescence is a critical period characterized by significant physical, emotional, and cognitive changes, as well as an increased susceptibility to mental health disorders. Addiction, in particular, poses a significant public health concern due to its high prevalence, long-lasting consequences, and the potential for recurrence in adulthood. It affects various aspects of an individual's life, including academic performance, social relationships, and overall well-being. Thus, understanding the symptoms and causes of addiction in

adolescents is crucial for early detection, accurate diagnosis, and the development of effective treatment approaches.

Research problem are focused on the decision to focus on virtual addiction in adolescents was influenced by several factors. Firstly, the alarming increase in mental health issues among young people in Moldova, including addiction, has garnered attention from researchers, clinicians, and policymakers worldwide. It is essential to delve deeper into this specific population to gain a comprehensive understanding of the unique challenges they face. Secondly, adolescence is a crucial developmental stage where mental health issues can significantly impact future trajectories and outcomes. Investigating the symptoms and causes of virtual addiction in this age group allows for targeted interventions and support during this critical period. Lastly, while extensive research has been conducted on addiction in adults, there is a relative scarcity of studies that specifically examine virtual addiction in adolescents. Addressing this research gap can contribute to a more comprehensive understanding of the disorder and inform evidence-based interventions. It is a human tendency to start reading from the left side of the page and move to the right. The f-shaped reading pattern attests to the same. As a visitor lands on a page, they automatically pay more attention to elements placed on the left side of the page than those on the right, and this continues even as they scroll down.

The research object of this study is virtual addiction of youth, and the symptomatics that align specifically with diagnostic criteria. Adolescence is defined as the transitional period between childhood and adulthood, typically spanning from ages 10 to 19. The study focuses on exploring the symptoms and causes of addiction within this age group, with the aim of contributing to the existing knowledge base and informing effective interventions.

Purpose of the research is to provide a comprehensive examination of the multifaceted nature of youth addiction, the study aims to enhance understanding and promote effective interventions and prevention strategies. It seeks to contribute to the field of psychology by providing insights into the specific challenges faced by adolescents experiencing virtual addiction and guiding future research endeavours.

Objectives of this research are as follows: to identify and analyse the common symptoms and diagnostic criteria used to diagnose virtual addiction in adolescents; to explore the psychosocial, cognitive, and biological factors that contribute to the development and maintenance of addiction in this population; to investigate the role of environmental factors, such as family dynamics, peer relationships, and academic stress, in the onset and progression of addiction among adolescents and to investigate potential gender differences in the presentation and aetiology of virtual addiction in adolescents.

Research hypothesis for this study is as follows: adolescents experiencing virtual addiction will exhibit a distinct primary set of symptoms that align with diagnostic criteria described in the algorithm of diagnosis Addiction, as reduced concentration and attention, disturbed sleep, ideas of guilt and unworthiness.

Conceptual basis of research is rooted in the field of developmental psychology and psychopathology. It draws upon theories and frameworks that explore the complexities of adolescence, mental health, and addiction. The research is grounded in the interplay between,

psychological, and social factors in understanding mental health disorders. Theoretical perspectives such as the cognitive-behavioral model, attachment theory, and socioecological frameworks provide a foundation for examining the symptoms and causes of Addiction in adolescents.

Methods, procedures, and techniques of research make up to achieving the purpose and objectives of the research at the ascertainment stage among young's required the use of the following research methods: theoretical (analysis, synthesis, interpretation, generalization of the literature and the hypothetical-deductive method of data interpretation and evaluation); empirical (questionnaire as a research tool to collect and analyse data from a group of and statistical-mathematical (assessment of the reliability of the differences between the values of two means, when the standard deviations are equal, generating tables and diagrams for calculating the prevalence of addiction among young people and the difference between genders).

The research consists of a comprehensive review of the existing literature that was undertaken to establish the current state of knowledge on addiction in adolescents. This review informed the development of research hypotheses and identified potential research gaps. The next stage involved obtaining ethical approvals and permissions to conduct the study. Data collection then commenced, involving the administration of questionnaires to adolescents and the recruitment of participants for qualitative interviews. Following data collection, the quantitative and qualitative data were analyzed separately, and the findings were integrated to provide a holistic understanding of the symptoms and causes of addiction in adolescents. The final stage involved the interpretation of the findings, drawing conclusions, and making recommendations for clinical practice, policy development, and future research.

Experimental basis of research did not involve experimental manipulation, it utilized a quantitative design to investigate the symptoms and causes of addiction in adolescents. The study observed and assessed the variables of interest within their natural contexts and collected data from participants' self-report measures and qualitative interviews. This approach allowed for a rich understanding of the complex and dynamic factors contributing to addiction in this population.

## **2. Why self-concept, identity matrix and communication are linked to addiction?**

The Republic of Moldova ranks 13th out of 117 countries in terms of internet accessibility [11, p. 491]. As for children's access to the Internet and daily online activities, 60% declare that they can always connect to the Internet, 75% use chats such as Viber, WhatsApp, Messenger every day; 74% of these 12-14 year olds watch videos on platforms like YouTube, Vimeo and others; 63% learn something new every day because they look for information online; 52% of children play online games daily, 50% chat with family members or friends who live far away via video calls; 28% send photos, video sequences of themselves with them to a person they know in real life; and 10% send photos or video sequences of themselves with them to a person they only know on the Internet, and 9% publish a personally created video or music online [15 , p. 45]. Our research found that per general: 91% of 16-24 year olds use the internet for social networks; social media has been described as more addictive than cigarettes and alcohol; rates of anxiety and depression in young people have increased by 70% in the last 25 years; social media use is linked to increased rates of anxiety,

depression and poor sleep; cyberbullying is a growing problem, with 7 in 10 young people saying they have experienced it; social media can improve young people's access to other people's health experiences and expert health information and those who use social media report that they are more emotionally supported by their contacts.

To achieve the research, aim and objectives, a mixed methodology was used, which included the analysis of quantitative and qualitative data. Quantitative research: An online self-completion survey was conducted among 9–17-year-olds. The sample included a number of 3829 children, of which: children aged between 9-11 years - 1535, children aged between 12-14 years - 1597, children aged between 15-17 years - 698. The sample of research is a stratified multistage one, being representative for children aged 9-17 from the Republic of Moldova. In order to ensure a sample proportional to the number of the population, from a geographical point of view, the data were weighted. The margin of error is  $\pm 1.6\%$  for a 95% confidence level.



**Figure 1.** Virtual communication spaces

One of the risks identified in the current study was that of children communicating with strangers on the Internet. 35% of all children have chatted with unknown people online, and 18% of them have physically met people they met online. 18% of children said that, in the last 12 months, things happened on the Internet that disturbed or upset them. Of these, 55% stated that these things happened once or twice in the last 12 months, 19% - at least once a month, 6% - at least once a week and 5% - daily or almost daily.

At an Apple event in January 2010, Steve Jobs introduced the iPad: What this device does is extraordinary. . . It offers the best way to surf the web; much better than a laptop and much better than a smartphone. . . It's an incredible experience. . . It's phenomenal for mail; It's a dream to be able to write about. For ninety minutes, Jobs explained why the iPad was the best way to look at photos, listen to music, take classes on iTunes U, browse Facebook, play games, and browse through thousands of apps. He demanded that everyone own an iPad. But she refused to let her children use the device [3].

The most popular messaging app among children aged 9-17 is Viber, used by 68%, followed by the social network Instagram - 54%, Tik Tok (53%), Facebook Messenger (28%), WhatsApp (23 %). To create an Instagram account, you must be at least 13 years old. In Moldova, however, Instagram is used by 34% of children aged 9-12 [2, p.10].

In 2017, a UK study of 1,479 14- to 24-year-olds concluded that Instagram is the network with the biggest negative impact on mental health and well-being [12]. While the photo-based platform scored points for self-expression and self-identity, it was also associated with increased levels of anxiety, depression, aggression and "fear of missing out."

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Self-concept is the image we have of ourselves. It is influenced by many forces, including our interaction with important people in our lives and social virtuality. This is how we perceive our unique behaviors, abilities, and characteristics [10]. For example, beliefs such as "I am a good friend" or "I am a good person" are part of a general self-concept. Other examples of self-concept include:

- How you view your personality traits, such as whether you are an extrovert or an introvert
- How you see your roles in life, such as whether you feel that being a parent, sibling, friend and partner are important parts of your identity.
- Hobbies or passions that are important to one's sense of identity, such as being a sports fan or belonging to a particular political party.
- How you feel about your interactions with the world, such as whether you feel you are contributing to society.

In the Temple of Apollo at Delphi, the ancient Greeks wrote the words: "Know thyself." For at least 2,500 years, and probably longer, human beings have pondered the meaning of the ancient aphorism. In the last century, psychological scientists have joined the effort. They have formulated many theories and tested countless hypotheses that speak to the central question of the human self: How does a young person know who they are if most of their time is spent in virtuality?

Bilton's technology experts also found that the environment and circumstances of the digital age are far more conducive to addiction than anything humans have experienced in our history. In the 1960s, we were swimming through waters with only a few addictions: cigarettes, alcohol, and drugs that were expensive and generally unaffordable. In the 2010s, the same waters are full of addictions. There is Facebook addiction. Instagram addiction. Porn addiction. addiction to email and messaging. Online shopping addiction. And so on. The list is long – much longer than it has ever been in human history, and we are only just learning the power of these addictions [1].



**Figure 2.** Types of communication

Psychologist Bruce A. Bracken had a slightly different theory and believed that self-concept is multidimensional, consisting of six independent traits: academics (success or failure in school), affective: awareness of emotional states; competencies and skills: the ability to meet basic needs, family (how well you relate in the family unit), physical (how we feel about our appearance, health, fitness and general appearance) and social as the ability to interact with others. In 1992, Bracken developed the Multidimensional Self-Concept Scale, a comprehensive assessment that assesses each of these six elements of self-concept in children and adolescents [6]. The identity matrix consists of three basic elements:

- identifying something in the world (an event, an idea or a feeling);
- identifying this as self-relevant;
- invests or ensures through actions and behavior that gives meaning to the interpretation of the self-concept.

It is a central process that operates all the time, but the key elements are often outside our awareness. Identity is a psychological term that refers to the distinctive qualities or traits that make a person unique. Identity is related to self-concept, self-image, self-esteem and individuality [8, p.192]. Identity can also be influenced by social factors such as group membership, privilege and oppression. Identity is not the same as the Self, which is the unconscious part of the personality that seeks to fulfil its basic needs.

The identity matrix is the process of identifying the self with things in the world and assigning them meaning, this fact is achieved through communication with the Self and with those around. By learning about the identity matrix, a person can learn to see and know the Self [13, p. 365]. The identity matrix can help you gain psychological flexibility and learn what your self-concept is.

The concept of a "Self-Identity Matrix" refers to a mental construct where individuals define and perceive themselves across various dimensions, such as personal traits, social roles, cultural affiliations, and more. This matrix is dynamic and can be influenced by a multitude of factors, including personal experiences, societal expectations, and, in the contemporary context, digital interactions. IT experts were vigilant because they knew they were designing irresistible technologies.

Compared to the primary technology of the 1990s and early 2000s, modern technology is efficient and addictive. Hundreds of millions of people share their lives in real time through posts on Instagram, and just as quickly those lives are evaluated in the form of comments and likes. Songs that once took an hour to download now arrive in seconds, and the gap that deterred people from downloading in the first place has evaporated. Technology offers convenience, speed and automation, but it also brings high costs. Human behavior is driven in part by a sequence of reflexive cost-benefit calculations that determine whether an act will be performed once, twice, a hundred times, or not at all. When the benefits outweigh the costs, it's hard not to do the act again and again, especially when it hits just the right neurological notes. On the other hand, "virtual addiction" refers to excessive and compulsive engagement with online or virtual activities, often to the detriment of one's physical, mental, or social well-being. This addiction can manifest in various forms, such as excessive use of social media, online gaming, or other digital platforms.

### Conclusions

It's important to note that the relationship between the Self-Identity Matrix and virtual addiction is complex and varies from person to person. While digital interactions can enhance self-expression and connection, excessive virtual engagement may also pose risks to mental health and contribute to a distorted self-perception. Balancing virtual and real-world experiences is crucial for maintaining a healthy and integrated sense of self. The link between the Self-Identity Matrix and virtual addiction can be observed in the following ways:

- Individuals may construct a digital persona or identity that differs from their real-world identity within the Self-Identity Matrix. This virtual identity may be shaped by the content they share, the interactions they have online, and the feedback they receive.
- Virtual spaces, especially social media, can become significant sources of validation for individuals. The number of likes, comments, or followers can influence one's perception of self-worth. In extreme cases, individuals may become addicted to seeking constant validation in the virtual world to bolster their self-esteem.
- Virtual addiction can serve as a coping mechanism for individuals dealing with stress, anxiety, or dissatisfaction in their real-world lives. The virtual world provides an escape where they can assume different roles or engage in activities that temporarily alleviate real-world challenges.
- Social media platforms often facilitate social comparison, where individuals compare their lives to others. This can lead to an identity shift within the Self-Identity Matrix as individuals may perceive themselves based on external comparisons, potentially contributing to feelings of inadequacy or the need for constant improvement.
- Excessive virtual engagement can impact real-world relationships, as individuals may prioritize online interactions over face-to-face connections. This shift in priorities can alter one's perceived identity within the Self-Identity Matrix, leading to a potential disconnect between the virtual and real-world selves.
- Virtual spaces often allow individuals to curate and present a carefully crafted image of themselves. This curated self-image may not align with the realities of their lives, leading to



a distorted self-image within the Self-Identity Matrix. Individuals may become addicted to maintaining and perpetuating this idealized virtual self.

Communication plays a fundamental role in shaping and influencing identity. Identity is a multifaceted concept encompassing various aspects of an individual's self-concept, including personal, social, cultural, and relational dimensions. Communication, both verbal and nonverbal, serves as a powerful tool that contributes to the construction, expression, and negotiation of identity (see fig. 1 and 2). Through communication, individuals engage in self-disclosure, sharing personal thoughts, feelings, and experiences. The process of revealing oneself to others contributes to the development of one's self-concept. The way individuals express themselves and the responses they receive shape their understanding of who they are.

The language used in communication plays a crucial role in shaping identity. Labels, categories, and descriptors used by others and oneself can influence how individuals perceive their identity. Language contributes to the construction of social identities, including gender, ethnicity, and cultural affiliations.

Communication facilitates social comparison, where individuals assess themselves in relation to others. Comparisons with peers, societal standards, or media representations can influence the development of identity, contributing to feelings of belonging, uniqueness, or conformity.

Communication involves the enactment of social roles in various contexts. The way individuals communicate in professional, familial, or social settings contributes to the performance of different aspects of their identity. The roles they play influence how they are perceived by others and how they perceive themselves.

And the most important fact is that **digital communication, including social media interactions, contributes to the formation of a digital identity**. The content individuals share online, their online personas, and the interactions they have in virtual spaces influence how they are perceived and how they perceive themselves. Through language, interaction, and relationship-building, individuals navigate the complexities of self-concept and social identity, contributing to a rich and multifaceted understanding of who they are.

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