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Netholism and Technological Interference as Manifestations of Communication in the Digital Environment

Vladimíra Hladíková[1], Adam Madleňák[2]

[1]University of Ss. Cyril and Methodius in Trnava, Faculty of Mass Media Communication, Trnava, Slovakia

[2]University of Ss. Cyril and Methodius in Trnava, Faculty of Mass Media Communication, Trnava, Slovakia

Correspondence: Vladimíra Hladíková, University of Ss. Cyril and Methodius in Trnava, Faculty of Mass Media Communication, Námestie J. Herdu 2, 917 01, Trnava, Slovakia. E-mail: vladimira.hladikova@ucm.sk

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Abstract

The Internet, communication in cyberspace, digital technologies and smart devices have a stable place in the educational process moreover due to the COVID-19 pandemic. They bring several advancements and benefits, quick search for current information and their immediate availability. In addition to the positives, there are several risks associated with the Internet, which are even more dramatic in connection with technological interference, in which users of technologies and the Internet are disturbed through various applications or notifications. One of the extremely significant risks is the phenomenon of netholism, which is gaining even more risk in connection with the educational process, as its negative consequences in this area (multitasking, procrastination, problems with concentration, comprehension of texts, etc.) are proven, especially among university students. It can be confirmed that the Internet causes a certain transformation in human cogitation, the way of thinking and perception. The aim of this paper is to examine the phenomenon of netholism and its impact on the education of university students from a theoretical and empirical point of view. The research sample consists of 785 respondents, qualitative methods (phenomenological and hermeneutic approach) and a quantitative research strategy in the form of a questionnaire were used. The findings of the research are presented verbally and graphically, in the conclusion, proposals are formulated to improve the current situation with an appeal to media education and literacy.

Keywords: netholism, the Internet, education, university students, technological interference, academic procrastination, digital detox

1. Introduction

Information technologies, the Internet along with the cyberspace have seen a huge boom in recent years. They remove physical boundaries, facilitate work, accelerate demanding and lengthy processes. The Internet as a modern communication tool is causing changes not only in the field of communication, but also in the field of social relations. The Internet environment is a virtual space, it brings independence and freedom, the loss of social limitations, it represents different dimension of communication between people. It helps to eliminate anxiety in communication, erases social differences, provides considerable anonymity, but also offers space for various frauds and manipulations. In addition to many benefits, spending time online is associated with several negative consequences – cyber violence, internet fraud, health concerns and especially the phenomenon of netholism.

It can be stated that the 21st century is characterized by a peremptory expansion in digital and information and communication technologies, networking, informatization and hyperconnectivity. The Internet has become an integral aspect of life for contemporary adolescents who can rightly be described as digital natives. This is the first generation to grow up completely in the digital era, while internet penetration among adolescents is nearly 100 % in most developed countries. At the same time, compared to adults, young people are more involved in time-consuming online applications like social networking sites and games. Therefore, public and academic discussions about the potential harmful effects of internet use on child development have brought terminology ranging from “problematic internet use” to “internet addiction” (Beard, 2011).

The aim of this paper is to examine netholism as the risk phenomenon of communication in the 21st century and its correlation to the educational process in university students from a theoretical and empirical point of view.

1.1 Communication in Cyberspace and its Specifics

Through cyberspace, the Internet connects continents and allows people not only to receive information passively, but also to participate in its creation and transmission. It is primarily an interactive communication environment which, in addition to an information database or a way of spending spare time, also serves as a useful working tool or educational environment. However, it is evident from the nature of the Internet and cyberspace that real communication, in which a person meets another person directly, operates on different principles than the virtual one. Unique communication conditions related to the nature of the media and the social and communication background of communicants enable the use of interdisciplinary approaches, discursive, conversational, or semiotic analysis in the study of the phenomenon of communication in cyberspace.

It gives us the opportunity to broaden the horizons of our possibilities and look beyond the existing boundaries much faster and easier than in the past. Beyond these boundaries, there is a space with different dimensions than the real one, it has its own laws and specifics. Often, these strengths are also its weaknesses, which can lead to real threats. Communication participants in cyberspace are not dependent on their physical body, appearance, or social status. We agree with J. Šmahaj (2014) that there is a certain absence of oneself as a physical object. Therefore, cyberspace comprises its own specific psychological features. "How one behaves here depends on the interaction of these features with the personality characteristics of each individual" (Spálová et al., 2021). The more comprehensive specifics of the Internet / cyberspace and its psychological aspects are elaborated by the American professor of psychology and therapist J. Suler (2004), who particularly deals with the behaviour of people online and determines several of the following features:

- Reduced Sensation – since the most common means of communication in cyberspace is written text, there is a reduction of sensory stimuli for other sensory organs, e.g., taste, smell, or touch. The ability to empathize and communicate face to face is also declining;
- Texting – e-mail, chat, IM, SMS, or blogs are probably the most represented in virtual communication. People in cyberspace use written expression as a certain presentation of their own identity (which may or may not correspond to reality), perceive the identities of others, and through that they establish relationships. In recent years, the written text has strengthened its popularity, especially in the environment of social networks;
- Identity Flexibility – by choosing written communication or using anonymity, users can create or change various identities through which they present their opinions. In virtual worlds (e.g., Second Life) they use the so-called avatars, which are often their visual representations in virtual reality. Identity flexibility in combination with anonymity can be used in two ways: 1. in a negative way, when users use them to "discharge" unpleasant needs or emotions, often by attacking others; 2. in a positive way, when they use the altered identity to honestly or openly solve certain personal problems or topics that they would not talk about in face-to-face interaction;
- Altered Perception – people often describe that in synchronous communication they experience a certain connection with the mind of their communication partner. In addition, it is a very creative environment in which they are outside their physical body, they can fly, walk through walls, hover, create objects out of nothing, etc., which can lead to a changed state of consciousness. These, for many very attractive experiences, are currently amplified, for example, by 3D technologies or new ways of playing digital games (e.g., via Kinect, etc.);
- Equalized Status – indicates the same opportunity to express one's views in cyberspace, regardless of status, wealth, race, gender, education, religion, etc. The limit may be technical equipment, knowledge of working with ICT or the quality of users' ideas;
- Transcendent Space – the geographical distance between people does not determine the boundaries in communication in cyberspace. The Internet is global and provides the opportunity to be online almost anywhere, anytime. This aspect is especially useful for support groups helping people solve their problems (e.g., internet counselling);
- Temporal Flexibility – cyberspace has its own space-time, which its participants perceive very subjectively. It is a very variable environment in which interactions can be extended or "stretched" in various ways. In some applications or games, it is even possible to manipulate over time, e.g., stop, rewind, undo, slow down or accelerate it;
- Social Multiplicity – cyberspace offers the opportunity to make contacts with hundreds and thousands of people, yet we choose according to certain attributes, conscious or unconscious motives. In connection with cyberbullying and other forms of aggression, this can be considered a dangerous aspect of the Internet, as some

aggressors deliberately modify their false profiles or identities to evoke in a victim a targeted interest in contact;

- Recordability – the Internet does not forget. Its capacity is not limited in any way and therefore everything that the user writes, shares or creates is recorded and stored in its digital form. In some cases, data can be synchronized in real time (e.g., cloud computing) or even completely recovered, even if they have been deleted from the hard drive. However, in addition to the content, other information is also stored, e.g., what was told to whom and when. In the case of sharing, this data commences to live its own "virtual life", which its author has nearly no chance to influence further;
- Media Disruption – the Internet and cyberspace often put us in situations where we expect "perfect reciprocity". It often happens that communication is suddenly interrupted, messages are not delivered, work is not saved, data is lost, etc. These situations can evoke negative emotions, panic, stress, frustration, and sometimes even aggressive behaviour, which the author calls a "black hole experience". Transmission disruption can occur on several levels – between the user and the device, instability, or failure of software / hardware, between the device and the internet connection, etc.

Several experts (Vybíral, Šmahaj, Šmahel, Kupec&Pisar, Švec&Horecký) characterize the Internet along with the cyberspace as an environment without barriers, which can have a positive and negative impact on its users. Users are more open and have much fewer barriers to making virtual contacts and communication. These facts are mainly related to the attribute of anonymity, which further enhances the whole character of cyberspace and is very attractive for many participants in the virtual environment. As D. Šmahel (2003, 14) states: "...if an internet user has confidence in his anonymity, and therefore in his security, he or she behaves differently than if he or she does not have that trust".

Therefore, anonymity, whether in a subjective or objective matter, is a very important feature of cyberspace and largely predicts the behaviour of people in this environment.

In correlation with anonymity and the character of cyberspace as an environment without barriers, it is possible to incorporate the disinhibitory effect, which is one of the important elements of online communication. The effect of disinhibited behaviour can be described as the loss of social barriers (Štrbová&Boldišová, 2021). Psychology has been recording this concept since the 1960s – it is therefore not a completely new concept, associated solely with the virtual environment. J. Holdoš (2016, 64) refers to Zimbard (1977), who characterizes this type of behaviour as "any behaviour that is characterized by a reduction in concerns about self-presentation and condemnation of others". It can therefore be seen as the opposite of social inhibition, which includes impulse control, non-expression of emotions and overall social control. In general, according to Holdoš, we could understand disinhibited behaviour on the Internet as behaviour that is less socially hampered than comparable behaviour outside cyberspace. According to B. Horská et al. (2010, 18) disinhibition in the virtual environment means "greater relaxation and audacity of participants in electronic communication, loss of barriers, embarrassment, doubts. It thus becomes a source of greater openness and straightforwardness". According to Z. Vybíral (2005), typical manifestations of disinhibition can be considered, for instance, loss or postponement of inhibitions, shame, feelings of embarrassment; circumvention of censorship (nothing is forbidden, everything is allowed), exclusion of conscience, increased curiosity, interest in taboo topics (violence, extremism, paedophilia, etc.), instinctive behaviour, impulsive decision-making, exhibitionism, deviation from reality, impatience, and many others.

Cyberspace is created using communication technologies, within which the Internet is dominant. If a large part of our lives, such as our thoughts, ideas, or communication, are reflected in cyberspace, we can say that it becomes an extension of our lives (Gálik, 2014; Serpa, 2019). All the above factors, as well as new possibilities, informatization of society and almost unlimited boundaries of existence in cyberspace can also cause the emergence of socio-pathological phenomena in individuals. One such phenomenon is internet addiction, which is the central theme of this paper.

1.2 Netholism

In general, addiction is a state that is conditioned by a particular situation or circumstance that a person needs or believes that he or she needs to exist. To some extent, addiction is a common phenomenon because almost all organisms are dependent on water, food, or oxygen for survival. Pathological addiction is a significant negative phenomenon, as it is an uncontrollable urge to repeat a certain action regardless of its consequences. In this context, it is therefore possible to define physical addiction, which is substance addiction, and psychological addiction, which has a non-substance form. Even though the issue of substance addiction is increasingly researched and presented, non-substance addictions are an increasingly topical social issue in the context of today.

Non-substance forms of addictions belong to the modern form of addictions and are referred to as behavioural addictions or process addictions. This is a specific situation where the addiction has not developed on a particular

substance, but on a certain activity and other factors associated with it. The essence of such addictions is its addictiveness, impulsivity, and compulsivity, which is conscious and desirable and a morbid desire to engage in a certain activity (Krížová, 2021, 37). In this context, the leading Czech addictologist K. Nešpor (2015) defines the term craving, which can be explained as the so-called lust, uncontrollable desire, the urge to repeat behaviour. Craving is the aspect based on which it is possible to initially observe any form of addiction. Craving is an equally strong and motivating factor in both forms of addiction – substance and non-substance.

In this context, three basic characteristics of behavioural addictions can be acknowledged. The first sign is the inability or unwillingness to resist the temptation to do something that can potentially harm the actor in some way or that is not accepted by society. The second criterion is the growing tension and pressure associated with craving, which increase before engaging in addictive activity and decrease during its execution. The last characteristic is that the individual in question perceives addictive activity as a state of excitation. Unlike obsessive-compulsive behaviour, the addictive act is egosynthonic and the person in question wants to do it consciously and voluntarily because he or she feels good about it. Remorse, defiance, or regret, which come later, are more related to the social impacts of addictive activity (Křížová, 2021).

Non-substance forms of addiction can include anything that causes uncontrolled passion, mania, which consciously or unconsciously damages and destroys a person. New modern technologies have brought not only various positives and conveniences, but also a negative dimension producing the problems of today. The so-called new or modern non-substance addictions are often directly related to information and communication technologies. In addition to the already mentioned technological addictions, some experts also mention specific forms of addiction, e.g., addiction to relationships, addiction to television programs, soap operas, dependence on mother, father, sports, or hobbies. According to Ľ. Sejčová (2011), the non-substance addictions include internet addiction, gambling, pathological shopping (oniomania / CBD), workaholism, addiction to sects and cults, to diets and starvation (anorexia nervosa, dieting), food addiction (obesity, bulimia nervosa) and addiction related to the cult of body (tanorexia, orthorexia, bigorexia).

Addictions related to the cult of the body are often mentioned amongst specific as well as modern phenomena, e.g., tanorexia – addiction to tanning and brown skin, addiction to sports, orthorexia – addiction to a healthy lifestyle associated exclusively with the consumption of organic food and bigorexia – addiction to exercise and muscle growth associated with diet modification and often associated with abuse of anabolics or steroids.

The phenomenon of internet addiction behaviour was introduced by the American psychiatrist I. Goldberg in 1995, who referred to this problem as Internet Addiction Disorder (IAD) as a new mental disorder (Čásarová, 2010). Most authors classify netholism among modern non-substance addictions. In connection with addictive internet behaviour, we can also discuss technological dependencies. Technological addiction is defined as a non-substance addiction that involves human-device interaction and is a subset of addictive behaviour that is associated with five main addiction criteria, including mood swings, increased tolerance, conflict, relapse, changes in current life, etc. (Hawi&Samaha, 2016).

To date, established uniform terminology has not been used to denote the socio-pathological phenomenon of netholism. In the literature, we find several different names, such as internet addiction (Young, 1998), problematic internet use (Thatcher&Goolam, 2005), compulsive (Meerkerk et al., 2009) or even pathological internet use (Gentile, 2009) or risky internet use (Yellowlees, Marks, 2007) or cyber-addiction. The first description of the signs and characteristics of addictive behaviour on the Internet was provided by the American psychologist K. Young in 1996. Since then, this phenomenon of virtual environment and addictive behaviour has gradually attracted the attention of the professional public almost all over the world. Some countries (e.g., China, South Korea) even consider problematic internet use to be one of the most serious threats to public health. Douglas et al. (2008) defined internet addiction as "the inability of an individual to control internet use, leading to feelings of anxiety and functional impairment of daily activities". According to Šmahel (2003), netholism falls into the active type of addictions (passive types include, for example, television addiction). We also identify with the opinion of Hupková&Liberčanová (2012), that define addiction to the Internet as such use of the Internet, which brings with it psychological, social, work and / or school complications in the life of an individual.

Several researchers (Kuss – Griffiths, 2014; Šmahel, 2003; Young, 1998) argue that one does not become dependent specifically on the Internet, but rather on certain activities on the Internet, or on specific internet applications.

Psychologist K. Young (1998), the founder of the so-called *Netaddiction*, Centre for Online Addiction (1995), divides addictive behaviour on the Internet into five basic categories:

1. addiction to virtual sexuality, which is manifested by the compulsive use of websites with pornographic content,
2. addiction to virtual relationships,
3. internet compulsions, such as online computer games or online shopping,
4. information overload, which may include excessive surfing on the Internet or searching in online databases,
5. computer addiction, most referred to as excessive gaming.

The diagnostic criteria of netholism vary and are determined by various aspects. Therefore, several tests and methods are selected in the professional sphere, by means of which it is possible to determine the degree of addiction. Each of them is defined by a different methodology and method of evaluation, so we can state that there is no uniform and fixed expression of addiction to the Internet. It can be stated that one of the most used tests of netholism is the Internet Addiction Test (IAT) by K. Young, which is culturally transferable but was developed at the end of the 20th century and therefore does not consider technological changes and modern trends in this field.

Škarupová et al. (2015) state that there are more than 30 different diagnostic scales that range from 6-44 items and measure excessive internet use. The results of the research show that netholism can be diagnosed if the user spends more than 38 hours a week online (Young, 1998). According to other theorists, the basic criteria of netholism include excessive time spent online, compulsive use of the Internet, difficulty in controlling the time an individual spends online, feeling that the world without the Internet is dull, user irritability if he or she is not online or has no access to the Internet, reduced social interactions with real people in the real world, and increased loneliness and depression (Yellowlees&Marks, 2007). A key factor in the development of internet addiction is a positive emotional experience, which then leads users to repeat the activity (Kupec, 2021). Kalibová&Milková (2016) add that a common feature of all forms of netholism is quickly and easily acquired pleasant feeling.

According to Gregussová and Drobný (2013), we recognize several symptoms of netholism:

- the Internet is the most important element in a person's life. If the individual is not online, he or she is looking forward to connecting and is thinking about the Internet,
- mood swings unless one engages in a favourite activity,
- increasing tolerance – for a pleasant feeling from the activity, one needs to spend more time online,
- withdrawal symptoms,
- conflicts with the surroundings, neglecting of the family, school, work, etc.,
- relapse,
- the presence of mixed feelings – on the one hand, pleasant feelings from the activity, at the same time the individual may experience stress, frustration, shame, etc.

In examining the different types of internet-dependent users, it is also possible to rely on the categorisation of D. Greenfield (1999), who defined three basic groups of addictive users:

a) he called the first group electronic vagabonds – they surf the Internet without a specific goal, they perceive the very act of being online as encouraging, they prefer multimedia stimulation, getting to know and finding new places and learning new information,

b) the second group of addicts over-uses services such as chats or e-mails. Online contacts provide them with a source of social and interpersonal rewards, the virtual world can replace less satisfying real life,

c) the third group of addicts engages in highly stimulating online activities such as trading, pornography, gambling, shopping, or auctions. Greenfield also adds that even in pre-internet times, there were many people who had problems with these activities. The emergence of the electronic environment and the new digital medium meant much greater opportunities to carry out these activities online.

1.3 Netholism and Education in the Context of Technological Interference

The 21st century can be described as the digital age (Floegel et al., 2021). The contemporary digital and communication devices, tablets and smartphones are becoming increasingly popular due to their attractive effects and applications, providing permanent internet connection and availability almost anywhere and anytime. Many people have them constantly in their proximity, even in bed during sleep – a phenomenon known as the "always on" environment (Middleton, 2007) or in a state of "eternal, constant contact" (Katz&Aakhus, 2002). It can be said that mobile phones in particular have become an extension of ourselves. All these factors can lead to uncontrollable or obsessive use of one's own technological devices and the Internet or directly to the creation of addiction (Madleňák, Žuľová, 2019). As a result

of these possibilities, these devices provide endless space to disturb their owners. In the psychological-media context, this phenomenon is called technological interference or technoference. In general, we can address technoference as any disruption of a real event caused by modern technologies and digital devices. It refers to "incidents where the use of digital technologies disrupts people-to-people exchanges (e.g., conversations)" (Zayia et al., 2021, 65). Netholism can therefore also be understood in the context of technoference, which can have a significant effect on addictive behaviour. Since especially smartphones with an internet connection constantly disturb us by various notifications, messages from applications, e-mails, or other suggestions to which we should pay attention (e.g., articles in popular online newspapers, new videos on subscribed YouTube channels, etc.), this can also increase the addiction itself.

Netholism and excessive use of the Internet and digital devices also affect the educational process. We agree with the opinion of P. Ambrožová (2021) that activities that negatively affect the teaching process (in connection with technology) but also the use of illicit digital devices during teaching are significantly related to the manifestations of internet addiction. Thus, netholism can cause various problems related to students' cognitive processes, memory, attention, reading and comprehension of texts, and overall concentration. These are mainly the following problems:

- digital (media) multitasking – simultaneous execution of several activities at the same time (e.g., searching for information on a computer, reading e-mails on a smartphone, listening to music and at the same time communicating via IM). This way of "thinking" can be understood regarding education as unfavourable, the learning process is less flexible and specialized. N. Carr (2017, p. 128) confirms that "by combining different types of information on a single screen, the multimedia Internet further fragments content and disrupts our concentration". Therefore, it is more difficult to think and focus on only one task in depth. We thus lose the ability to be contemplative and to realize the process of deep thinking, concentrating, and reading texts with real understanding. In the context of technoference, it is interesting to mention the research of Rosen et al. (2013), who observed students during home study for 15 minutes and inspected their behaviour. They found that students were distracted and disturbed by their smartphones on average every six minutes, most often by social media and text messages. Those who were more often disturbed by devices also had worse academic results.
- academic procrastination – constant postponement of work or study obligations for later. Academic procrastination refers to the voluntary delay, postponement of study-related activities and tasks, despite the conscious expectation that the student will be even worse off in terms of time and have less time to prepare for study (Steel&Klingsieck, 2016). In connection with internet addiction, it can be stated that the student uses the Internet as a means of escape and distraction from the duties he or she engages in only at the last possible moment. Procrastinators are very active people, but always at the expense of a task that is much more important and on which they should work. According to several studies (Rabin et al., 2011; Steel, 2007; Kim&Seo, 2015; Dolobáč et al., 2016), 30-60 % of university students regularly suffer from this phenomenon. Similar results were obtained by Özer et al. (2009), who reported that 52 % of students regularly procrastinate, most notably during exam preparation. Holdoš (2013) even states that procrastination can be a key indicator of internet addiction. In this context, the relatively new concept of cyberloafing can also be highlighted, although it is primarily associated with the work environment. In cyberloafing, the individual carries out activities via electronic media and the Internet that are not directly related to his or hers work or study (Askew et al., 2014). "Cyberloafing is basically a waste of time at work through the computer – often under the guise of real work" (Blanchard&Henle, 2008, 1068). In conclusion, it can be stated that all the above phenomena can be perceived as indicators and determinants of increasing netholism, especially in students with a significant negative impact on the educational process.

2. Method

The main aim of this paper is to examine the phenomenon of netholism and its subjective perception in university students based on theoretical background and empirical research, with specific emphasis on the correlation of this phenomenon with the educational process. Several qualitative and quantitative methods were used to achieve this aim. In the theoretical part, a phenomenological and hermeneutic approach was applied. The phenomenological approach was used to explore the primary structure of media – the Internet and deduce their influence on man, culture, and society. The hermeneutic approach helped us understand the nature of the Internet and netholism. In the empirical part, the main method was a quantitative research strategy, the tool was a questionnaire of own design. The questionnaire contained several questions of different focus. In the process of evaluation and interpretation of results, other supporting research methods such as analysis, synthesis, generalization, comparison, and graphical representation of the obtained data were used. The object of the research represents students at Slovak universities aged 18-24, members of both genders, while 785 respondents participated in the research. Women represented 57.8 % of the research sample. Since the research was exploratory, the hypotheses were not formulated but several assumptions were made, based on the comparison of the literature and

previous research of the issue. Regarding this paper, the following assumptions were made:

1. We assume that most respondents will not subjectively report a feeling of addiction to the Internet.
2. We assume that respondents will most often report positive feelings about spending time online, e.g., joy, feeling of happiness.
3. We assume that most respondents execute academic procrastination through digital media and technology.
4. We assume that most respondents will be immediately disturbed by notifications during their home study (e.g., on a smartphone).

The obtained data were analysed and evaluated, and certain conclusions and opinions were drawn from them which are presented in the following chapter of the paper.

3. Results

The first part of the questionnaire focused on the respondents' preferences in relation to spending time online. We were interested in how many hours a day respondents spend connected to the Internet, as this is one of the basic indicators and determinants of the origin and development of netholism. It can be stated that the respondents really are online for too long – only 6.4 % of respondents spend one to two hours a day online. Almost 45 % of respondents said they spend 3-5 hours online every day, which can be considered a threshold for the emergence of netholism. Almost 50 % of all students said they are online for at least 6 hours every day, with 23.5 % of them online for more than 7 hours a day.

In the questionnaire, we also asked how students spend time on the Internet, what activities and tasks in cyberspace they perform and prefer. Students were able to mark all the options that are relevant to them. The results of the research are not surprising, the most preferred activity in the online environment is communication, which was indicated by up to 93.6 % of respondents (most often through IM, chats, video chats, etc.) and following up social networks, which is executed by more than 90 % of respondents. It is very popular to watch entertainment content, especially series and movies through various streaming services such as Netflix, HBO GO, which was marked by more than 80 % of students. It was a gratifying finding that almost 78 % of students also use the Internet for educational purposes (finding information for assignments, seminar papers). Many respondents spend time online playing digital games (27.7 %) or searching for and watching erotic content (19.4 %) or shopping (2.4 %).

We were also interested in how respondents perceive their relationship to the Internet and whether they consider themselves addicted – netholics. The results of the research were not surprising, as we assumed that despite the answers to other questions confirming excessive use of the Internet, most respondents did not subjectively consider themselves addicted. Only 35.8 % of students admitted that they would not be able to function without the Internet and consider themselves addicted. Based on these results, it can be stated that assumption 1, that most respondents will not subjectively report a feeling of addiction to the Internet, was confirmed.

Other questions that could be characterized as controlling to the subjectively perceived degree of netholism were also interesting in this context. In question 10 we asked if the respondents would like to spend less time on the Internet. More than 88 % of students said they would like to reduce the amount of time online “completely” or “partially”. It can be deduced from this that they themselves really realize that they are connected for a long time, yet they do not admit it in the direct question of addiction.

At the same time, we wanted to know if the respondents have experienced a situation that they have been on the Internet for longer than originally planned. We asked if they remained connected in the online space even though they had other responsibilities. 22.7 % of students experience this situation “regularly”, “often” almost 34 % of students and “sometimes” more than 27 % of them. Only less than 17 % of respondents find themselves in such a situation “rarely” or “never”. These results also confirm the increased incidence of netholism, as such a question is one of the basic diagnostic criteria for this phenomenon. The results of the physical problems caused by the excessive time spent on the Internet by the respondents were also interesting. Almost 47 % of students report fatigue and back pain, cervical spine (44.3 %) and eye pain or impaired vision (41.1 %). Headaches (37.3 %), insomnia (22.5 %) and general body stiffness (19 %) are also common problems among respondents. An exceptionally significant result of the psychological / mental consequences of netholism in the context of education is especially the difficulty in concentrating, reading, and understanding texts, which are stated by more than 23 % of students. This reaffirms the correlation between excessive internet use and the educational process, which is negatively affected.

In direct connection with netholism, we wanted to know what type of communication students prefer in everyday life (the following situation was given as an example: You need to let your friends know that you will be late for a meeting). Respondents' answers confirmed our expectations, as almost 78 % of the research sample said they would use some form of online communication (sending a message via communication applications or e-mail). Only 22.1 % of students

prefer direct interaction through a telephone conversation. In question 7, we were interested in the feelings of the respondents during the online connection, and they were able to mark several answers. The results are extremely interesting, as most respondents feel joy (39.6 %) and satisfaction (30.5 %) and 14.5 % of respondents feel accepted and understood on the Internet. However, almost 29 % of students report experiencing loneliness and frustration, anxiety (23 %). About 22 % of them also suffer from remorse. Based on these data, it can be stated that assumption 2, that respondents will most often report positive feelings about spending time online, e.g., joy, feeling of happiness, was not confirmed.

The second part of the research was focused on the correlation of netholism and the educational process, so we asked the respondents if they happen to not be able to complete school assignments, seminar papers and other tasks because they spend too much time on the Internet. Most students have such experiences "regularly" (37 %) or "multiple times" (15.1 %). These data also confirm the results of the question focused on the realisation of academic procrastination, which to some extent is implemented by more than 97 % of respondents, while "regularly" procrastinates 24.1 % of respondents and "often" 30.1 % of students and "sometimes" almost a third of the research sample postpones obligations. All respondents who carry out academic procrastination stated that they spend time on social networks, surfing the web or watching series and movies via online streaming platforms. Based on these results, it can be stated that assumption 3, that most respondents execute academic procrastination through digital media and technology was unquestionably confirmed.

At the same time, we were interested in whether students subjectively feel that the amount of time they spend online has a negative effect on their learning outcomes. Almost 43 % of respondents do not feel the negative consequences in this context, but about 15 % said that internet connection and the amount of time they spend online have a clear negative impact on their education and study performance, 42.7 % of respondents feel this effect "sometimes". Concerning technoference, we wanted to know whether the respondents also have experience with technological disruption or interruption of preparation for education or the learning process. Therefore, in question 9 we asked how they react if they receive a smartphone notification during a home study. The results of the research were not surprising, as more than 96 % of the entire research sample said they checked the phone "immediately" (71 %) or "almost immediately". We can therefore confirm the significant impact of technological interference on the educational process of university students and at the same time state that assumption 4 that most respondents are immediately disturbed by notifications during a home study (e.g., on a smartphone) was confirmed.

Since we presented in the theoretical and empirical part of the paper that there are several phenomena that can negatively affect the educational process (netholism, technoference, multitasking, procrastination, information overload, etc.), in the last question we asked respondents what form of digital detox they implement to be able to focus more on their studies (Graph 4). Most respondents practice sports as a form of digital detox (42.8 %) or go to nature without smartphones and other technological devices (41.3 %). Approximately one third of the sample is devoted to the literature, which can be appreciated, a frequent means of detox is a targeted scheduled day offline (14.4 %) or the use of applications to control time spent online (13.9 %), however, one-fifth of the sample said they did not need a digital detox at all. Some students stated within the answer "other" that they are engaged in their hobbies (painting, drawing, singing, playing musical instruments, pets), while others mentioned board games or gardening as a form of detox. An unpleasant surprise was that several respondents perceive the consumption of alcoholic beverages as a form of digital detox, which may reduce netholism and "cyberstress", but thus form a habit of new – substance – addiction.

Regarding all the results of the research and the confirmation or refutation of assumptions, it is possible to state an occurrence of netholism in university students and its proven impact on study and the educational process.

4. Discussion and Research Limits

The international prevalence of netholism ranges between 8-13 % among university students and between 1.4-17.9 % in adolescents (Chou et al., 2015). Researchers Kuss&Griffiths (2014) report that the prevalence of Internet addiction varies between 0.8 % -26.7 %, with an increased rate in men (Müller et al., 2014) and younger people. The most endangered group are people aged 12-19 (Vondráčková, 2011). The research of Soukup et al. (2009) shows that netholism affects the age group 12-15 years the most, in the age group 16-19 years it is still very topical and decreases gradually with the age over 20 years. A study of college students found strong positive correlations between stress, anxiety, and depression and IA (Akin&Iskender, 2011). The connection between netholism and anxiety, stress and frustration has also been confirmed in our research. The ever-increasing incidence of netholism is also determined by the fact that the Internet is much more accessible (also from a financial point of view) than drugs that cause substance addiction. In the context of academic procrastination, research confirms the occurrence of this phenomenon in 80-90 % of university students (Ellis&Knaus, 1977; O'Brien, 2002), and approximately 95 % wish to reduce their own procrastination tendency (O'Brien, 2002). Ferrari (2010) states that his studies indicated that 70-75 % of university

students procrastinate in study-related tasks, and even 70 % of doctoral students do not complete their dissertation thesis due to procrastination. Wolters (2003) also confirms that procrastination can be the cause of late university student assignments, inadequate learning to make up for lost time, restlessness during exams, or even early school termination. Madleňák and Žuľová (2019) in the context of technoference and digital detox strongly appeal to mental hygiene. Ko et al. (2015) showed that addiction to the Internet and smartphones decreased significantly after two weeks of digital detoxification. Regarding the research limits, we record the two most important ones: 1. the inability to examine the answers in a deeper sense, but rather only to quantify the individual answers of the respondents; 2. the absence of complex statistical data processing, which would bring other interesting correlations of the researched topics.

5. Conclusions and Recommendations

The current generation of young people and university students is rightly considered the online generation, because the daily use of the Internet and digital technologies is absolutely linked to their lives. The Internet can be considered the epicentre of change and is the cause of several social upheavals. We also agree with the viewpoint of García-Santillán et al. (2021) that internet addiction must be the subject of growing concern and importance and we call for the development of new techniques for better diagnosis of this phenomenon. It can also be stated that the target group of university students is also a very relevant sample for future research. Informing society about the risks of netholism, especially in the context of education, should come to the fore, as children and young people are the future creators of each country's educational society. At the same time, it is important to highlight the role of media literacy and media education, which can be key strategies in the fight against netholism.

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