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The internet addiction and the impact on the cognitive, psychological and social side of people's personality with disabilities

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Abstract. Today, Information and Communication Technologies (ICT) prevail in all areas of society, while their consolidation has brought about significant changes. Children and young people come into contact with them every day and the skills and knowledge they have acquired empirically are many. Nowadays, new technologies are considered very essential and anyone who does not have skills in this field is considered as “illiterate” as was used to be in the past for those who did not know writing and reading. Their establishment at all levels makes the use of new technologies indispensable to everyone because without such knowledge people cannot participate in key areas and processes that define them both as people and as citizens. New technologies are increasingly developing and, combined with the globalization and the economic changes that are taking place, even more intense changes are expected to occur that will have a critical impact on all people in the future, regardless of gender.

Keywords. access, equality, diversity, technology, people with special needs

Introduction

The revolution in the field of new technologies and information began with the invention of the telegraph, the telephone and the radio. These inventions prepared the conditions for the advent of computers. A computer is the device that “solves problems by applying predefined functions to information elements or data input, which are then processed with absolute precision and speed, without the need for human intervention” (Larousse-Britannica, 1994). After the discovery of the computer, the next biggest technological revolution was the emergence of the Internet. The Internet offered greater access to material, people and learning environments. It allowed for the greater worldwide dissemination and propagation of information and developed the cooperation and communication between people and computers regardless of the geographic position or time (Papadima-Sofokleous, 2004).

It is now common to note that this era is characterized by the rapid development of new technologies and there is no doubt that computers and network technologies, due to their nature and the dimensions they have acquired, have been gradually penetrating all human activity and are present in much of everyday activities. Today, there is also an integration of distinct technological fields of information, communication and audiovisual media (Komis, 1999).

The gradual increase in the use of computing and networking technologies affects society and inevitably leads to the perception that each person must acquire basic knowledge and skills in these technologies. From this perspective, access to computers and technology will help to avoid inequalities, forms of social exclusion and additional difficulties of entering the world of work (Rees & Noyes, 2007).

In the modern era, the Internet is used to search for a variety of sources of information, thus opening up the gate to knowledge, information and entertainment. However, the problems of the Internet do not cease to exist and to appear mainly in relation to underage users and especially underage users with disabilities. Children with disabilities, due to their mental and intellectual immaturity, are more vulnerable to the dangers of the Internet. Incorrect and extensive use of the Internet by disabled children can harm their personality (Mathiak & Weber, 2006). In particular, online games can shape the personality of children in such a way that they seek strength, sovereignty, control, or even violence in their everyday lives (Goodale, 2005). At the same time, the constant engagement with the Internet deprives children with special needs of the opportunity to develop close interpersonal real-life contacts, friendships with their peers, which are an important component in shaping the personality of children (Boyd & Ellison, 2007). Therefore, the use of the Internet requires special attention from children with special needs as the Internet poses many risks, which can harm the personality of children with special needs.

Definitions

People with special needs

The definition of disability is not easy to clarify and to be determined because it depends on the way in which it is dealt with, both scientifically and daily. That is, the definition varies according to the respective scientist's approach, since the perspective varies among teachers, physicians, sociologists, psychologists etc. Similarly, each person understands disability differently, and the perceptions vary according to age and social circumstances.

Although there are different perspectives and approaches to disability, however, most experts agree on certain specific features of it such as that (Zoniou-Sideri, 2000): the disability either exists from the moment of the birth of the person, or it occurs sometime later the disability is a functional impairment and causes problems in the life of the person who is disabled. the disability is the result of deformations or injuries or traumatic effects on the development or the functions of posture or motor systems the social response to disability is negative. The definition of Jantzen (1974 by Zoniou- Sideri, 2000) for disability also contains the social dimensions and one of them is the critical character. More specifically, Jantzen considers that "the disability cannot be considered a natural phenomenon. It becomes evident and begins to exist as a disability only from the moment that some traits and characteristic manifestations of the traits of a person are compared to the respective perceptions on the minimum level of subjective and social abilities".

Dimitropoulos (1995), however, relates the definition of disability with the society in which the person with special needs lives and how this feature is being projected. More specifically, he states that: "A person with disabilities is the person who is not able to participate in all activities and enjoy all the goods offered to the other members of the society in which the person lives, due to the condition of one or some of their psychosomatic or social traits".

Chartokollis (1981) clarifies that the term disability is used only for the people. "Disability means an incurable functional impairment, lack or disorder, congenital or acquired,

usually the result or residue of illness or accident, an abnormality that somehow prevents the fulfillment of basic social needs, such as working and moving”.

For Chancerel (1987), disability is identified in its relations with the social norms, at the level of social structures of production, consumption and learning, in its relations with individual rules (norms: intelligence, personality, etc.), and in the interaction between social and individual rules.

Friedson (1966 by Zoniou-Sideri, 2000) argues that “what is common to all acts of defining someone as disabled and in need of reintegration is not a set of physical traits, which are always disabilities, but rather the act of definition itself, which may be regarded as ‘incrimination’ rather than a statement of reality”.

The definition of disability defined by Deering and Hellbrügge also has a social dimension. According to these authors “disability is the disadvantage that a disabled person will have in relation to a non-disabled, physiologically developed person when compared in terms of performance with a person of the same age and gender in the social and cultural field” (Zoniou-Sideri, 2000).

Apart from the social dimension, Klee (1980 op cit. Zoniou-Sideri, 2000) also gives an economic dimension to the definition of disability since “the measure of disability is the decline in labor power. The decline in labor power measures whether the physical and mental performance is reduced compared to a ‘normal’ labor power”.

This is also supported by Bardeau (1977, op cit. Zoniou-Sideri, 2000) who considers that disability in modern society is a result of the output created by institutions in terms of the wage and class society. Similarly, the medical knowledge created on the subject of disability is suppressing and reproducing the disability institutionally.

Bleidick (1976, Zioniou-Sideri, 2000) considers that a person can be defined as disabled by means of different definitions that have different orientations such as:

When the person has a disability that is not treatable like spastic individuals. In this case the orientation of the definition is on the individual.

When it has a behavior or an image that does not meet the expectations the society has for people like the obese individuals. In this case, the orientation of the definition is based on the interaction and more specifically on the social interaction. When it is categorized on the basis of a compulsory division such as students with special learning needs. In this case the orientation focuses on the respective educational system.

When categorized based on the expected social and class performance. In this case, the definition is oriented to the political economy Finally, the World Health Organization (WHO, 2011) in the “International Classification of Impairment, Disability and

Handicap” provides the following definitions:

Impairment is any loss or disorder of psychological, physiological or anatomical structure or function.

Disability is any limitation or lack (resulting from a failure) of ability to perform an activity in the manner or within the range of activities considered normal for a human being.

Handicap is a disadvantage for a given person resulting from a damage or disability that restricts or prevents a person from performing a normal role (depending on age, gender and social and cultural factors).

For many years, special education in Greece was identified with the treatment and was formerly defined as the “science that cares for the education, teaching and care of all children whose physical and mental development is constantly impeded by personal and social factors such as (Aggelopoulou -Sakantami, 2004):

Weaknesses in the senses (blind or vision impaired children, deaf or hearing impaired children and deaf-mute children)

Stopping central nervous system development (highly, moderately, slightly mentally retarded children).

Neuropathic and psychopathic composition, physical illnesses, disability, deficiencies due to the environment (difficult, undisciplined children).

Approximately 35 years later, the term treatment was no longer used because there was confusion between it and medicine. At the same time, Kalantzis (1972, op cit. Dellasoudas, 2005) defined the special education as a new scientific discipline which, “through specific means and methods of teaching and education, attempts to complete, to mature or to harmonize, within the limits of the form and the degree of the evolutionary capabilities, the retarded or disturbed personality of impaired children, and equip them with knowledge and skills to become capable, depending on their strength, and to join the community and feel happy”.

In the next decade, the field of special education had the need for reclassification because new diagnostic and treatment possibilities were discovered. The most important new element was the new perspective that was developed towards children with problems and the shift towards their personality. This perspective no longer considered children with problems as “sick”, but as normal people like everyone else the problems of whom are not separate but integrated with their personality. The result of this new approach and perspective was the transformation of special education into an evolutionary aid, which could provide children with problems the necessary resources to proceed in their life (Angelopoulou-Sakantami, 2004).

Apart from the pedagogical dimensions, special education has social dimensions also. It does not cease to be a measure of the institutionalized state that works in addition to the functioning of the family, the purpose of which is to educate children with disabilities in order to integrate socially (Aggelopoulou- Sakantami, 2004).

Addiction to the Internet

The compulsive use of the Internet is also referred to as Internet addiction or Internet dependence or problematic use of the Internet or pathological use of the Internet (Yellowlees & Shayna, 2007). Various studies have been carried out over the last decade to address this phenomenon. Young (1996) was the first researcher to empirically investigate the excessive use of the Internet and described it on the basis of the DSM-IV criteria used in gambling addiction. According to Young (1996), the problematic use of the Internet, as he named it, is a term describing more than one problem related to the use of the Internet. More specifically, it includes the following categories (Young, 1999):

The addiction to websites that contain sexual content. People of this category excessively visit this kind of websites for virtual sex purposes.

The addiction to relationships through the Internet. These relationships are fictitious.

The addiction to passions. Gambling can be defined as a passion where the users play online gambling games and may also include the excessive and continuous purchases made through the Internet.

The addiction to information. In this case, the user searches continuously for information in databases or through simple surfing.

Computer-related addiction such as playing online games.

Gender and computers

The relationship that develops between a user and a computer has the ultimate goal of performing and achieving a particular task. Like all relationships, this is also governed by some specific features. In recent years, the human trait that has attracted the interest of both scholars and computer scientists is the gender of the person using the computer. This research does not focus generally on the computer use, a field where differences are also present, but on the computer use as a professional tool. In the field of information technology and the development of professional skills related thereto, there is a big difference in the percentage of men and women, since two thirds of the jobs in the workplace are occupied by men (Siomos et al., 2008).

Modern generations have grown up in an environment that familiarizes them with computer science very quickly. In particular, boys from a very young age are familiar with games that require computer use. In addition, there is an established social perception, which also exists in educational systems, that the use of new technologies is linked to the development of the so-called “male sciences” such as mathematics etc. (Cuban, 2001).

This perception, along with the fact that through the media and advertising there is an image showing that the use of the computer is preferred by men, has gradually led to the formulation of a new concept, according to which women do not prefer computers to the point men do and that there is a technological gap between the two sexes (Oxanapalesh & Koopman, 2004).

New technologies and children with special needs

The stunning development of technology has also created significant opportunities in the field of education for people with disabilities. More specifically, new technologies can now help people with disabilities in three ways (Papadima-Sofokleous, 2004):

They can be used as mechanisms to enable people with disabilities to communicate, to approach and intervene, both in their natural and social environment. Of course, the new technologies at this level may also work vice versa.

Beyond the communication capabilities, the new technological environment can also provide educational capabilities.

As a field that can educate and train people with disabilities in order to be professionally rehabilitated.

The main features of the new technologies are (Protopappa, 1988): The two-way, interactive and personalized relationship with their user

- The high driving value

- The use of graphics, animations and images in general

- The user-controlled utility-learning

- The ability to create and intervene through simulations not only in modeled situations but in whole microcosms.

Based on the above characteristics, it is very easy to see the possibilities that disabled people have through the use of new technologies in order to better cope with their personal situations and through the provision of alternatives to situations they could not manage before (Tsitsika and Freskou, 2008).

Hope M., an English researcher and coordinator in the United Kingdom in the use of computers in Special Education, reports on the possibilities offered by new technologies: Children without the ability to read, write and perform numerical tasks have been disappointed and finally resigned from their effort to overcome this weakness in the class, but when they were given the guidance and the ability to do the same effort with the help of a microcomputer

they eventually succeeded. Often, complex programs relatively difficult for the average adult can be successfully managed by a child who has been described as having learning difficulties (Pappa, 1989).

Internet addiction of children with special needs

Some features of the Internet technology have allowed the creation of a unique Internet culture. This Internet culture has its own language, values, and standards. If one understands this culture, then he or she can understand more easily why the Internet invades people's everyday lives and how it affects them. A basic attraction of the Internet is the ability of the person to remain anonymous (Bargh & McKenna, 2002). With this anonymity, as opposed to the face-to-face communication, the demographics of the user should be announced in order to become known. An Internet user may take different faces when online. The user can create different profiles with personal information (Beard, 2005). The above is very attractive to people with disabilities, as they impersonate someone else though with devastating consequences on their psyche.

Young (1996) found that some disabled children choose identities of an ideal self, representing the exact opposite of what they are in their real life, identities where unsatisfied needs are met or identities that represent a feeling or trait that can be suppressed. Disabled children often feel safe to assume more emotional risks, to flirt, to give positive and negative feedback to one another and to express their opinions online, something they cannot do in the real world. Children with disabilities in this way have the illusion that they create friendships with disastrous consequences in their emotional world.

According to Young (1998), the Internet environment is best suited for virtual experiences. A person can use applications like Multi-User Dungeons and Dragons (MUDDS) or visit online sites and engage in sexual fantasies. A person can also create a community substitute by switching to a chatroom and pretend to interact with others or objects built in the Internet environment. The above is very common in children with special needs using the Internet.

Young (1998) reports that once these unconscious feelings and experiences come to the surface of the conscious part of the mind, it is difficult for some disabled children to repress them again. Children with disabilities can start to want these unique aspects of the Internet more and more. As a result they may start to distort reality and not be able to distinguish the imaginary from their true personality.

One of the Internet's dangers to the personality of the disabled child is the Internet addiction. Internet addiction can be defined as "the Internet use to build a sense of satisfaction, accompanied by an increase in the time spent consuming to draw this feeling" (Athanasaina, 2008). This is accompanied by additional symptoms mainly related to the lack of engagement in other activities.

The Internet addiction of the child with special needs is presented with increased frequency, with a serious impact on the child's personal and social life. In terms of personality, the most vulnerable children, according to Harvard Medical School's computer dependency service, are those who are not popular or are shy with peers and those that are often attracted by creating new identities in online communications (Bargh & McKenna, 2002). In particular, boys with special needs are the users of online games that create new identities and collaborate with other players (Oxanapalesh & Koopman, 2004). Although playing these games with thousands of other users may seem to constitute a social activity, however, for introverted children, the excessive play can isolate them in the long run (Mouttapa et al., 2005).

In conclusion, it can be said that the use of the Internet facilitates the life of modern people. However, 11.67-19.8% of children with disabilities have developed Internet addiction, which reduces psychological well-being, interaction with peers and their family, and academic performance. Emotionally disabled children with low self-esteem are at higher risk for Internet addiction (Beart et al., 2005).

The negative impact of the Internet on children with special needs or special learning difficulties

The Internet has highlighted the vulnerabilities in children and adolescents with special needs, or special learning difficulties, which may be exposed to the risk of online abuse. However, few studies have researched the potential risks for children with learning difficulties using social media. Baumeister et al. (2008), report that bullying and victimization appear to be the most widespread risks for people with learning disabilities. Through the social media, children with special needs or special learning difficulties can display a different identity from what they actually are. Thus, through the anonymity offered by the Internet to people with special learning needs, they can conceal their disability, while perpetuating discrimination in society and strengthening the perception of their personal tragedy, inefficiency and stigma. At the same time, online bullying and sexual exploitation are some of the dangers of Internet users.

Specifically, a new form of “school bullying” that appeared through the evolution of new technologies is Fotobullying and Cyber bullying. This term has been given to define intimidation and harassment through the PC. The increase of this form of bullying occurs through electronic devices and media such as mobile phones, blogs, and websites (Jones et al., 2012). This form implies the repeated victimization, which is done through the electronic text. It also refers to threats, sexual harassment, derogatory characterizations, or disclosure of personal data on the Internet (Willard, 2006).

With regard to cyber bullying, children with physical, developmental, intellectual, mental and sensory disabilities are more likely to be bullied than their normal peers. Many factors, i.e. physical sensitivity, incomplete social skills or non-tolerant environments, can increase the risk levels. Research also suggests that some children with disabilities may bully others (Beran & Li, 2007).

A basic disadvantage of the Internet is the security risk, as children with disabilities may provide personal information without knowing who is talking to them (Yellowlees & Shayna, 2007).

Another major disadvantage of the Internet is the monitoring of inappropriate content, since the disabled child may be exposed to pornography, advertising material that is not suitable for it, violence, hostility, etc. Many times children with disabilities have been victims of fraud because they cannot perceive fraud as easily as adults do. Electronic crime is also included in the same category of risk, as these children may be involved in unlawful actions unwittingly (Beard, 2005).

Another disadvantage of the Internet is the identity theft, since if disabled children provide their personal data then malicious people can appropriate them and commit illegal activities in their name (Komis, 1999). Another important disadvantage of the Internet is the addiction of children with special needs on the Internet as they spend many hours on their computer, resulting in psychological and socialization problems (Rees & Noyes, 2007; Yellowlees & Shayna, 2007; Siomos et al., 2008). When children with disabilities are involved in one or more of the above activities, they are most likely to experience certain specific symptoms such as long engagement with the Internet. However, this is not necessarily negative

because the child may have detected something that is excited about it, but that does not mean, of course, that this does not pose any risks. Another symptom is when the child minimizes the screen window whenever someone, i.e. the parent approaches the computer because he or she does not want them to see what they were watching and in most of the time this means that the children might have been watching something that they shouldn't. Also, many times, when the child is involved in such illegal activities over the Internet, he or she starts using other kinds of technology such as scanning and storing files. This may be simple entertainment, but it can also be dangerous (Lee & Chae, 2007).

It is also worth mentioning the disadvantages of the engagement of a child with disabilities in an online computer game. Research on electronic games has until recently been concerned with interpersonal imaginary violence and the actors of this form of violence (Goodale, 2005). Real violence is the subject of recent investigations. Its effects appear to be more intense than the imaginary, which is more stimulating, and are considered to be particularly important for children because there are no clear boundaries between reality and fantasy (Wei, 2007).

Several researchers have pointed out that playing online games exacerbates the attention deficit disorder. Chan and Rabinowitz (2006) found a significant correlation between playing online video games for more than one hour a day and intense symptoms of attention deficit. In terms of cognitive development, it has been shown that the Internet use delays the language development and reading skills. During the first five years of the child's life, where the neurological bases of learning and emotion regulation are set, the use of the Internet is detrimental (Mathiak & Weber, 2006). The Internet can also not meet the need for a child with learning difficulties for reward and praise. Regarding the social development, children with special needs or special learning difficulties when dealing with the Internet are even more problematic in their interpersonal relationships and especially in live communication. It is a fact that the verbal messages received by students are monotonous and therefore do not have the human immediacy of traditional teaching, and also the more general characteristics of human relationships in their normal dimension. This is an artificial speech from which dialogue and spontaneity are eliminated, elements that a child with learning difficulties needs. In this way, problems of co-ordination are created for students in special education and the ability to develop social traits is diminished (Salimkhan et al., 2010).

Also, new technologies create feelings of isolation, dependence and inactivity on the part of students, which lead to a lack of fostering emotions, elements that a child needs and seeks, especially a child with learning difficulties. The new media shape new communicative customs and create social adaptation issues (Matsuba, 2006).

Addressing the phenomenon

The parents play an important role in preventing Internet addiction or even coping with it (if it occurs). With regard to prevention, parents who have built up a quality relationship with their children, who spend enough time with their children and carry out activities together, and parents who use the Internet with their children are more likely to raise children who will not become addicted to the Internet. The above children do not feel that they have to fill an emotional gap (the root cause of Internet addiction), while the relationship and communication with their family is excellent. In particular, the necessary limits have been set for the use of the Internet. The existence of limits, already from childhood, is a very essential step for the smooth development of children. The Internet should not be treated as a "devil's tool", but as an indispensable tool, when it is used properly and moderately (Lee & Chae, 2007).

With regard to addressing the Internet addiction on the part of parents, the primary and most important step is to identify the phenomenon. Basic symptoms may raise suspicion to the parents that their children have become addicted to the Internet. Specifically, if parents notice that their child's school performance has dropped significantly due to the excessive engagement with the Internet then they will have to react. Also, if parents notice strange behaviors of their child, such as isolation, lack of socialization, decreased desire to go out with peers or lack of phone calls from the child's friends, they will have to react (Tsitsika and Freskou, 2008).

Therefore, in order to prevent and deal with the Internet addiction, the parents should first of all set limits, from the very early age of children, which must be strictly observed within the family. Parents, however, must be particularly careful when setting the limits so that they are neither excessive nor too strict and oppress children, because then this will have the exact opposite effects. Children have to accept and respect the limits, which will indirectly guide them. Also, as the child grows up, it's good for parents to talk to the child and change the limits, considering the child's point of view. Only when decisions are taken jointly the limits set will be respected. In this case, parents should discuss with their child the weekly hours that the child is allowed to use the Internet and the days can be decided by the child itself (Tapscott, 1998).

Parents should also spend a lot of time on their children by doing together activities and specifically online activities. Parents can be informed by their children about online games and devote time to play online with their child. In this way they will be able to make comments on the game with arguments that the child could take into account.

Also, the computer at home must be in a shared space such as the hall or the living room or the dining room and not a bedroom. Thus, when using the computer, the child will not be forced to isolate, while parents can control the content of the websites the child visits. This encourages the use of the Internet in a family environment, which helps to supervise the websites that children visit (Tsitsika and Freskou, 2008).

There are special filters in the market that detect harmful websites and do not let the user visit them. It is good for parents to have purchased similar filters for their own computer. Parents should talk with their children about the phenomena of Internet addiction, as well as about bullying, sexual and other online risks. Parents should have such conversations with their children and advise them in order to avoid the dangers inherent in the Internet.

The computer must never be used as a means of punishment or reward by parents. It should be treated as a useful tool, the proper use of which brings several advantages, but its misuse, however, several drawbacks. Finally, if parents notice that their child is behaving differently, strange than it is used to, and the school performance has dropped a lot due to the long-term Internet use should contact a specialist for help and consultation (Lee & Chae, 2007).

Conclusions

The incorporation of digital technologies in education domain is very productive and successful, facilitates and improves the educational procedures via Mobiles [48-57], various ICTs applications [58-90], AI & STEM [91-102], and games [103-108]. Additionally the combination of ICTs with theories and models of metacognition, mindfulness, meditation and emotional intelligence cultivation [109-132] as well as with environmental factors and nutrition [44-47], accelerates and improves more over the educational practices and results.

Moreover concluding this paper, it can be established that the Internet is a useful tool both for the education and the entertainment of children with disabilities, but at the same time, if not used moderately it can become a disastrous tool for the mental world of these children. In particular, the misuse of the Internet has a negative effect on the development of the personality

of the disabled child, since its misuse decreases the self-esteem and self-confidence of children with disabilities. On the other hand, the misuse of the Internet can harm the personality of children with special needs through their Internet addiction. Excessive use of the Internet ultimately leads children to addiction.

Unfortunately today, disabled children are wasting their time unnecessarily, surfing on the Internet, chatting in chat rooms and playing interactive games (role playing games) at the expense of their physical and mental health. Regarding the impact of the pathological use of the Internet on children with special needs, it is concluded that the child completely loses control, cannot restrict the Internet time at all and neglects all personal obligations to save time to use the Internet. The child tends to lie about how much time uses the Internet as well as about the online activities with which it engages.

The Internet addiction has a negative impact on the life of the children with special needs and their relationships with others because of the time they spend on the Internet and because of the activities they are engaged in. The children's behavior becomes inappropriate due to the anonymity that the Internet provides which makes them able to participate in activities and demonstrate behaviors that are dangerous or socially unacceptable. The children also tend to set the wrong priorities. The computer becomes the most important thing in their life and they do not care if they neglect their loved ones. They feel confused emotions since on the one hand they get excited when they use the computer while on the other they feel guilty for the time they spend or the way they behave online. Other times, the children feel desperate when they cannot connect to the Internet for some reason. They become obsessed and always think about the computer especially when they cannot use it. At every stage of their life when they feel depressingly they use the Internet since they consider it as the only means of escape. They also spend a lot of money in software, equipment and activities connected to the Internet.

All of the above refer to the psychological effects caused by the Internet addiction. In terms of physical effects, the children tend to neglect their meals or eat unhealthy foods, become obese (eating disorders), lose their sleep since many times they stay connected to the Internet for nights and days or the quality of their sleep becomes poor (sleeping disorders). The interactive online games and role-playing games have been often accused of developing epilepsy and photosensitivity. Other physical symptoms include back pain, headaches and migraines, and the neglect of personal hygiene. If parents or teachers experience any of the above symptoms in adolescents, they should take suitable measures and contact the appropriate bodies.

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