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The significance of parents' role in children's internet use habits
Tėvų vaidmens reikšmė vaikų naudojimosi internetu įpročiams

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SUMMARY

The significance of parents' role in children's internet use habits, Julija Jaselskytė, Vilnius, 2023, p. 46.

The data used for this study was conducted by Vilnius University researchers for a project “School-aged Children’s Internet Use in Relation to Socioemotional Development and Parenting Practices in Latvia, Lithuania and Taiwan: A Longitudinal Study”. Participants were school-aged children (ages 8 – 10) together with their parents, in total there were 206 parent-child dyads ($N = 412$). With the internet being a big part of children’s lives and the rapid growth in technology, media, and internet use, parents might play a major role in the way children will use digital technology and how they will behave online, whether they will be more likely to develop compulsive internet use or not. This particular research explored the relationships between parenting practices and children’s time spent online, activities on the internet and compulsive internet use. Parents were grouped into five different parenting clusters based on their parenting practices, children were put into four clusters based on their behavior online. The purpose of the analysis was to determine the significance of parents' role in children's internet use habits, mainly, which parenting style would correlate with children's online behavior. Significant correlations were found between parenting practices and children’s online activities, internet time, and compulsive internet use. Also, children with parents who adapted a more accepting and warm parenting style had lower scores on the compulsive internet use scale as opposed to parents with colder and more demanding parenting styles, whose children scored higher on the compulsive internet use scale. Lastly, no significant relationships were found between parents’ and children’s clusters.

Key words: Compulsive internet use, Problematic internet use, Parenting practices, Parenting style, Behavioral addictions.

SANTRAUKA

Tėvų vaidmens reikšmė vaikų naudojimosi internetu įpročiams, Julija Jaselskytė, Vilnius, 2023, p. 46.

Šio tyrimo duomenys buvo gauti iš Vilniaus universiteto mokslininkų kurie juos rinko projektui “Jaunesnio mokyklinio amžiaus vaikų interneto naudojimo sąsajos su jų socialine emocine raida bei santykiais su tėvais Latvijoje, Lietuvoje ir Taivane: Tęstinis tyrimas”. Dalyviai buvo (8 – 10 metų) mokyklinio amžiaus vaikai kartu su tėvais, iš viso buvo 206 tėvų ir vaikų diadų (N = 412). Kadangi internetas yra didelė vaikų gyvenimo dalis ir sparčiai auga technologijos ir naudojimas internetu, tėvai galimai daro įtaką vaikų naudojimuisi skaitmeninėmis technologijomis ir elgesiui internete, bei kompulsyviam interneto naudojimui. Šiame konkrečiame tyrime buvo tiriamas ryšys tarp tėvystės praktikos ir vaikų internete praleisto laiko, veiklų internete ir kompulsyvaus interneto naudojimo. Tėvai buvo suskirstyti į penkias skirtingas auklėjimo klasterius pagal jų auklėjimo stilių, vaikai buvo suskirstyti į keturias grupes pagal jų elgesį internete. Tyrimo tikslas – nustatyti tėvų vaidmens reikšmę vaikų interneto naudojimo įpročiams, daugiausia tai, koks auklėjimo stilius būtų reikšmingai susijęs su vaikų elgesiu internete. Buvo rasta reikšmingų sąsajų tarp auklėjimo praktikos ir vaikų internetinių veiklų, internete praleisto laiko, ir kompulsyvaus interneto naudojimo. Be to, vaikai, kurių tėvai labiau praktikavo priimančią ir šiltą auklėjimo stilių, turėjo žemesnius kompulsyvaus interneto naudojimo skalės balus, palyginti su šaltesnio ir reiklesnio auklėjimo stiliaus tėvais, kurių vaikų kompulsyvus interneto naudojimas buvo labiau išreikštas. Galiausiai, reikšmingų ryšių tarp tėvų ir vaikų klasterių nebuvo rasta.

Raktiniai žodžiai: Kompulsyvus interneto naudojimas, Probleminis interneto naudojimas, Auklėjimo praktika, Auklėjimo stilius, Elgesio priklausomybės.

PREFACE

With the rise of the internet and technology in recent years, plenty of research has been done to explore the effects of it on humans. While there are a lot of positive sides to it, for example, it definitely has helped speed up many processes in our daily lives, as well as provided entertainment and an outlet for self-expression for many; it also has a lot of negative sides to it. Even though it often might seem like dangers on the internet include things such as possible leaks of personal information, virus threats, security breaches, and hacking of private passwords or photos, there are other threats that are not as tangible. When using the internet, everyone can find an activity that would be appealing to them specifically. One might experience a lot of positive emotions; it could even be a short escape from one's reality (Griffiths, 2017). Nevertheless, this escape from one's problems, emotions, or reality might become a habit. In other countries, such as China or South Korea, prevalence of gaming disorders or internet addiction is recognized as a severe health threat; however, in Lithuania, this topic, even though researched, is still not widely accepted as serious enough to be considered a disorder.

Internet addiction is different from other substance addiction disorders because it is a behavioral addiction. These types of addictions are more difficult to diagnose, or control. For example, alcohol or drug use is regulated by laws, whereas computers, the internet and media are widely accessible for all, even children. Children have not yet fully developed and are not entirely responsible for themselves, therefore, they cannot monitor their own computer use to their best interest (Zhu, Wang, Tong & Zhu, 2019). Their parents should be the ones providing them guidance, monitoring them and ensuring a safe online environment for them.

Parents play an important role in children's computer use habits; also, parental warmth or a certain parenting style could influence children's problematic internet use. It has been researched that a colder parenting style, just as neglectful parenting, in other words, not enough emotional warmth and support, might lead to more problematic internet use (Tur-Porcar, 2017). However, it is not yet clear which parenting style influences which type of specific behavior of a child online. The purpose of this study was to see which parenting styles are the most commonly used in this population sample and also which type of behavior online they bring about.

1. LITERATURE REVIEW

1.1. Theoretical background

While the internet itself is neutral and can be used in lots of different ways, there is good and bad that come with it. Computers are becoming an important part of children's everyday lives. There are many different activities children engage in online. They vary from socializing with friends through chatting applications, watching videos, playing online video games and listening to music, all which can help children in exploring and constructing their online identity by sharing their true feelings and opinions, since the internet has a lot of anonymity (Subrahmanyam & Šmahel 2011), which can be viewed as a positive. However, it is not necessarily all entertainment, children can also do schoolwork and look for information on the internet. Internet and online applications serve in other beneficial ways as well (Papadakis, Alexandraki & Zaranis, 2022), their research suggests that interactive touchscreen devices can help preschool children learn math skills, improve literacy as well as help them with shape recognition, sounds and learning numbers.

1.2. Problematic internet use

While the above-mentioned activities might seem harmless, the potential misuse of the internet can be unhealthy. “Internet addiction or problematic internet use (PIU) have both been defined as an excessive and/or inappropriate use of the internet which can lead to psychological, social, academic, and/or professional difficulties among a small minority of users and which shows high comorbidity with other mental disorders“ (Laconi et al., 2019). Some aspects of technology have even been linked to adverse effects on children’s cognitive development, such as audio-visual media use. It might also negatively affect their academic achievements (Papadakis, Alexandraki & Zaranis, 2022).

In 1996 K. Young explored the emerging new clinical disorder. He compared problematic internet use to drug use, alcohol use, and gambling. He writes that problematic internet use was also linked to impulse-control issues. The need for internet use can be increasing over time to bring the same feeling of satisfaction, which might result in overuse and dependency; trying to quit using it might negatively affect one’s mood and can result in irritability, restlessness, or depressed mood. Problematic internet use might also negatively affect personal relationships between people because the person using it problematically may lie about it to his close ones (Young, 1996). Children might also spend less time with their family and friends to spend more time online (Young, 1999). Some might even try to cover it by saying they need to use a computer for school work or that “everyone is using it” and their behavior “is not a big deal” (Young, 1996). Lastly, addictive internet use might also include using the internet to escape one’s problems or relieve feelings of anxiety, helplessness, depression, or guilt. These symptoms alone do not mean that the person has an addiction and cannot be used as a diagnostic criterion. However, they are serious enough to raise awareness of the issue.

This theoretical problematic internet use model, explains the process of how people develop and maintain addictive use of certain technology or internet sites. Firstly, it sees internet addiction as a problem of controlling one's habits. Secondly, it talks about how some might use the internet to deal with their negative emotions, such as anxiety, helplessness, or feeling depressed. Additionally, it affects multiple aspects of a person's life. According to K. Young, internet addiction can be divided into several emotional, psychological, and behavioral categories. He divided it into 5 sections: "cyber sexual addiction, addiction to Internet social interactions, obsessive Internet use, computer addiction, and information overload, i.e. compulsion to receive input information" (Pawlowska et al., 2015). Based on these sections, children's problematic internet use and behavior online can be categorized properly.

At least moderate internet usage is common between people of all ages. The Internet and social media are a great way to stay connected to the world. Even during the most isolating of times, it can be a good source of support. On the other hand, people are more prone to use the internet during extreme stress. During covid in 2019 researchers report that Problematic Internet Use and Internet addiction has increased, due to lockdown restrictions, loneliness and depression (Kovačić, Petrović, Peraica, Kozarić-Kovačić & Palavra, 2022). Children have become one of the main demographics of internet users due to many activities associated with their daily lives, which include online school and connectivity in social media.

Furthermore, researchers describe excessive use of the internet as a negative activity for the minors' growth and overall health (Smahel et al., 2020). According to Chen and Gau (2016), teens that spent most of their time on the internet complained about sleep disturbances like early and middle insomnia, sleep terrors, nightmares or sleep walking. Sleep disturbances are believed to be caused by the irregular circadian rhythm due to computer screens exhibiting blue LED light that confuses the Pineal gland (Chen & Gau, 2016; Tosini, Gianluca, Ferguson & Tsubota, 2016). Children and teenagers are of the age where their cognitive abilities have not yet fully developed, so they are exposed to more risks of the virtual world (Rani & Shreshtha, 2021).

Not only does excessive internet use have negative effects for the minor's physical health, but also their mental health. Since everything on the internet is very open and lacks regulation, children have reported inappropriate and unwanted experiences during their time online, like sexual or aggressive content, suspicious contacts or security and privacy issues (Smahel et al., 2020). Exposing a young child to such aspects might lead to normalizing such behaviors, where they will not see it as something wrong and might be more willing to participate in them (Pawlowska et al., 2015).

1.3. Behavioral addictions

DSM-5 has certain criteria for diagnosing substance addictions. For example, alcohol consumption negatively impacts personal relationships with family members, friends, coworkers, or other people (Hasin et al., 2013). One might also neglect their major roles – job, family, responsibilities (Hasin et al., 2013). Or if a person is having legal problems with substance abuse – maybe they have been arrested or fined, also, if their use of the substance becomes dangerous for others (Hasin et al., 2013). Gaining tolerance to the substance to the point where one needs more and more of the substance to get the same effects; one experiencing withdrawals is a “red flag” that they might be becoming addicted (Hasin et al., 2013). In addition, if one has failed to quit using the substance or spent a lot of time using it, experienced physiological problems because of the substance or gave up activities that they previously would have enjoyed, in order to focus on using the substance (Hasin et al., 2013). All of the above are symptoms of having an addiction to a substance. Even if a person has two of the previously listed issues, that counts as a diagnosable condition together with craving (Hasin et al., 2013). This type of addiction is usually easier to measure and diagnose because we can clearly measure an amount of substance consumed, and we can see an impact of the substance on a person’s life and its influence on their health.

Behavioral addictions, sometimes also called impulse control disorders, closely resemble substance addictions, including development mechanisms and experience of the addiction, tolerance, neurobiological mechanisms, genetic influence, and their relation to other disorders (Grant, Potenza, Weinstein & Gorelick, 2010), and children are at risk of developing them. Before-mentioned problematic internet use falls under this behavioral addiction category as well. Even though addiction can sometimes be misunderstood as using or being dependent on certain substances, it is important to note that nowadays addiction can also be behavioral. In the DSM-5 addiction is now described as a psychological dependence more so than physiological (Bećirović & Pajević, 2020). While substance abuse can somewhat be controlled by certain laws and age restrictions, computers, online games and social media are widely accessible for children and teenagers, despite the age restrictions. Unless parents implement parental control on children’s activities online and monitor their computer use, this population group could be at risk of misusing technology and experiencing negative consequences. Behavioral and substance addictions mostly develop in early adulthood and are more prominent in that age group (Bećirović & Pajević, 2020).

Being dependent on the internet might be dangerous for various reasons, especially because the activities online are often not controlled and children are exposed to all kinds of dangerous content as well as risks. Research done in neighboring country Poland, with 1860 adolescent participants (13-19 years old) concluded that while online, “55.61% of students play violent games, about 40% of adolescents admit using web pornography sites, conducting sexual conversations

online, watching pornographic films and pictures, about 20% of respondents provided personal details to unknown interlocutors and about 20% of respondents met face-to-face with an unknown individual encountered online” (Pawlowska et al., 2015). There is no way of knowing who is behind the screen on the other end of the conversation and what their intentions might be. Children in this research also reported receiving pictures from someone unknown. All this behavior, including sending pictures of oneself to strangers online or agreeing to meet those people, especially after they reported encountering aggression from unknown individuals online, could be a risk for a child.

In continuation with these mentioned behaviors, teenagers also reported spending around seven hours per day using screen media, that is, excluding all the schoolwork and classes (Rideout, 2016). In addition, technology is perceived as useful, easily accessible, fun and acceptable by society (Turel, Serenko, & Giles, 2011). The problem is that it can be highly addictive (Turel, Serenko, & Giles, 2011). The definition of technology use includes unacceptable psychological reliance on technology (Turel, Serenko, & Giles, 2011). It would be considered unacceptable if one would start showing symptoms of the following behaviors: 1. *salience* of a device in one’s mind a lot; 2. the device would *impair* one’s social life and would cause conflicts; 3. a user would start experiencing *withdrawals* (negative emotions) when not using the phone; 4. *Tolerance* – a user would need more and more time and intensity using technology to experience the same satisfaction; 5. one would be *unable to lessen* their technology use, or would experience relapse even if they tried; 6. technology *alters* one’s mood when they experience pleasure and relief while using it – mood modification (Turel, Serenko, & Giles, 2011). Note, that these symptoms closely resemble the ones of substance addiction.

It can be argued that these actions have a lot in common with typical substance addictions. Activities such as spending most of one’s time on a particular gadget or website instead of attending reality, ignoring everyday events in order to spend time in a virtual world and most extremely – dismissing personal duties because of the appeal to be present in a different reality, are all indications that there might be an underlying addiction. Griffiths (2017) argues that behavioral addictions should be considered as serious as substance addictions because of the similarities both share, using gambling as a leading example, stating that:

“Once one behaviour that does not involve the ingestion of a psychoactive substance is classed formally as an addiction, there is no a prior reason why any other behaviour cannot be classed as such.” (p.1)

Among the mentioned activities which could be classified as addictions, the study also mentioned usage of the internet, video games and socializing-which is now an integral part of one’s online presence. Therefore, it is noticed that more and more of the activities individuals choose to engage with in their leisure time, can easily develop into an addictive behavior if one is not mindful

(Griffiths, 2017). This often happens due to the release of the “positive” hormones when doing the activity, luring in the individual with the promise of a good time and positive feelings.

In this case, one could pose the question of how to differentiate between coping behaviors and addictive ones? Kradefelt-Winther et al. in 2017 suggested that the components of “functional impairment” and “distress” must be present in order for a behavior to be considered more than an excessive hobby, i.e. a behavioral addiction. The authors suggest that the same methods cannot be applied to addictive behaviors as to substance addictions, when defining the compulsions, and appeal future research to focus on qualitative approach combined with individual reporting of one’s state and experience. If substance addiction is harmful to the body and can be clearly noticed through various testings, so should be the case for behaviors that can easily turn into addictions which can cause harm to mainly the brain, which is why appropriate testings need to be developed to detect these changes and their influence.

An in depth analysis of different behaviors which had the potential to turn into addiction, was done by Albrecht, Kirschner & Grüsser (2007) in which they examined gambling, compulsive buying, compulsive exercise, workaholism, computer addiction, internet addiction, sexual addiction, and others. While a good amount of research on the topic could not pinpoint exactly how tolerance and withdrawal could be identified in these behaviors, researchers explained that tolerance could in fact be noticed by the intensified repetition of the behavior and withdrawal was spotted both psychologically and physically among the addicted individuals. It is through research like this one, where it can be seen that even though a behavior could start off as a leisure activity, or a stress reliever, it never loses its ability to turn into an addiction which one would have to be hyper aware of and/or avoid in the future. A confirmation that addictive behaviors have existed since long ago, is Griffiths’ (1996) and Marlatt, Baer, Donovan & Kivlahan, (1988) research, who even before the emergence of technology and the internet, mention the addictive nature they possess. Both findings compare addictive behaviors to repetitive habits, acknowledging once again that behavioral addictions are a real possibility and should be treated as such. Marlatt et al. (1988) compared these addictions to habits that have turned against the person carrying them out, because they bring a higher likelihood of negative consequences and other problems. Griffiths’ (1996) on the other hand, explains that one of the criteria for classifying these behaviors as addictions is in fact the tendency to use them as coping strategies, which in other literature has been used as a differentiating point of addiction.

While behavioral addictions might seem like they are all-actions, there are underlying neurobiological and psychological processes driving them. The Interaction of Person-Affect-Cognition-Execution (I-PACE) model developed by (Brand, Young, Laier, Wölfling & Potenza, 2016) has been widely used to gain insight into all kinds of disorders, like gaming, gambling,

pornography-viewing and shopping. This model looks into different personality traits and how they might correlate with certain addictions. For example, individuals who would have higher levels of narcissism or aggressiveness might be more likely to be addicted to gaming, just as those who value materialistic things might be more likely to develop a shopping addiction (Brand et al., 2019). This model looks at three levels of behavior development. First one is how accessible the addictive behavior is to the person; in this case, for example, children nowadays have easy access to the internet and online games. Second level is how reactive a person will be to that behavior, what feelings it might cause, maybe it reduces negative emotions, elicits feelings of satisfaction? Third one shows the consequences of such behavior, how one might have developed a habit of engaging in it and even though they might experience all the negative side effects discussed previously, one might not be able to stop. The problem is that engaging in a behavior on all three levels for a longer period of time could potentially alter one's brain where these addictive behaviors become coping strategies for dealing with life stressors and negative emotions (Brand et al., 2019). And the more one engages in these patterns, the stronger the urges become. At this point, inhibitory control decreases and individuals become guided by their impulses and reactions to triggers, thus, continuing engaging in the behavior (Brand et al., 2019).

1.4. Parental involvement in children's internet use

Since the internet is widely accessible, and content in it varies from useful to harmful, and after establishing negative effects of the internet, it is quite clear that children should be monitored and educated on how to use the internet safely. In families where media use is monitored children tend to watch less tv and use less media. Although not only child monitoring, but parents being consistent with rules, being informed on the effects that media has, using electronic devices more carefully and participating in alternative activities with children all contribute to children using less media on their own (Gentile & Walsh, 2002).

The way parents interact with their children makes a difference in the way children approach the online world. Based on the research done in 2010 with 533 parents of fifth and sixth graders, measuring parenting styles, parental control and parental warmth, it was found that a huge role of children's internet usage depends on parents' internet behavior, internet parenting style, and parent's educational background (Lou, Shih, Liu, Guo & Tseng, 2010). More research on parental warmth states that the more support children get from their parents, the safer they use the internet. Also, talking about the internet openly and educating children about it, results in children grasping the complexity of the internet better, using the internet more so for educational purposes and expressing positive online behavior (Valcke, Bonte, De Wever & Rots, 2010).

Children do not realize the dangers of the internet, in other words, they lack "e-maturity". Since they mostly use internet at home, parents should be the ones to monitor them (Valcke, Bonte,

De Wever & Rots, 2010). Depending on the parenting style used at home, it will not only influence children's development, but also their computer use habits will differ significantly (Özgür, 2016). It is a great responsibility on the parents to prevent children from encountering the risks of the internet. A parenting style is a set of actions taken by parents and applied control levels during a child's internet use. There are different approaches that parents choose in raising their children: free (neglectful), authoritarian, authoritative and permissive parenting styles (Özgür, 2016). These styles should also be crossed with control and warmth approaches.

In a controlling approach, parents basically monitor their children on their internet activities by regulating technology use, or the content they engage with to make sure it is appropriate for their child's age. It could include setting boundaries, certain rules or simply guiding the child by informing them on the risks of the internet (Özgür, 2016). An example of this could be setting up apps to monitor their online activity, monitoring the content they engage with and the time spent online. Researchers suggest that children *should* be monitored online, unfortunately, a very small number of parents do this. Interesting aspect of controlling parents described by Lukavská, Vacek & Gabhelík in 2020, is that control could be expressed in two ways. Controlling behavior includes taking interest in children's pastime, keeping track of their online activities, showing a positive example and helping with their self-regulation. Another aspect includes being psychologically controlling – this is viewed negatively, as it includes guilt-tripping children into obeying their parents and withholding love if they do not do so. The latter one positively correlates with problematic internet use. In addition, negative early childhood experiences are correlated with gaming disorders later in life (Brand et al., 2019)

Parental warmth, or rather lack of parental warmth, as mentioned before, also plays a major role in children's likelihood of becoming addicted to the internet. Warm parenting could be described as a good relationship between parents and children, a safe bond where they communicate, cooperate, connect and collaborate, while loving unconditionally. Lacking these traits in parent-children relationships could impel children towards problematic internet use (Dogan, Bozgeyikli, & Bozdas 2015). Children or adolescents whose parents are seen as supportive and nurturing exhibit less behaviors that are considered problematic, including problematic internet usage and addiction (Dogan, Bozgeyikli, & Bozdas 2015). In the warm approach parents are present and involved in their children's online lives. It includes open communication and monitoring the kids by sometimes even using the internet together and showing their care and support for their children, that way, even if children are introduced to the negative aspects of the internet, they are taught how to deal with them.

In a longitudinal study of 139 adolescents conducted in the 1970s, by observing parents-children interactions at home and evaluating their personalities and behavior, researchers were

measuring and observing how different parenting styles affect children's physical and social development (Baumrind, 1991). They also assessed possible problematic behaviors adolescents might engage in, such as substance abuse. Children were tested at the ages of 4, 10 and 15 years old. Researchers were focusing on the four parenting styles: authoritative, authoritarian, permissive and neglectful (Baumrind, 1991). Since we are focusing on parenting, it is important to dive deeper into the difference between these parenting styles.

Authoritative parents have a clear set of rules for their children. They are strict, but not intrusive into their children's lives. Parents discipline their children in a supportive manner rather than a punishing one. This helps raise children who are responsible, independent, cooperative, assertive and well self-regulated. These parents' goal is for their child to understand their own behavior and its consequences. Usually these types of parents are authority figures in their children's lives because they are very consistent in the rules they set and will not change their opinion. If something is prohibited, it stays that way under different kinds of circumstances and the reasoning is explained to the child. According to a study conducted on a sample of children, children with authoritative parents engaged in the most positive interactions online (Stattin & Kerr, 2000).

Authoritarian parenting, on the other hand, is more demanding. They want compliance and obedience, sometimes without a clear explanation why. The environment created for the children is usually regulated and orderly with close supervision for what their children are doing. They expect children to take on their parents' opinion, values, and accept the goals they set for their children unconditionally. If a child misbehaves these parents are likely to set a punishment without any explanation or advice on how to act in similar situations next time.

The third style is *Permissive* parenting. These parents are more easy-going, and reactive to their children and less demanding. They will most likely avoid conflict and confrontation, and will be more lenient towards their children. Permissive parents do not expect their children to act like adults; rather they are open to discuss all problems openly. The study found that children with authoritarian parents tended to have less online activity and interaction with peers, while children with permissive parents engaged in more online activity and may be at higher risk of exposure to online risks (Stattin & Kerr, 2000).

Lastly there are disengaged, *neglectful* parents. Children growing up with such parenting style usually have no structure or clear set of rules. Neglectful parents would hardly care if their child committed a punishable offense, and it is likely they would not try to get to the bottom of the reasons for such behavior. Also, usually there is no support, attentiveness or responsiveness from parents choosing this parenting style, and responsiveness from parents could be a factor of psychological resilience of substance use in teenage years (Lukavská, Vacek & Gabhelík, 2020). In

this research the results showed that authoritative parenting manifested low substance abuse and other problem behavior whereas neglectful families manifested the most problem behavior later in children's lives (Baumrind, 1991). Parenting styles should be taken into account when examining children's online behavior and parenting interventions may be helpful in mitigating online risks for children (Stattin & Kerr, 2000). All in all, parents, as primary caregivers impact a child's life online (Rani & Shreshtha, 2021).

Family dynamics play a major role in adolescent's problematic internet use. Even though there is not one ideal parenting style that would fit all, research shows that children with neglectful parents faced the most difficulties because they lacked empathy themselves. Children need family's protection and empathy, and if they cannot get that from their parents, they are more likely to compensate for it by finding friends online to communicate with (Dogan, Bozgeyikli, & Bozdas 2015; Lukavská, Vacek & Gabhelík, 2020). In fact, adolescents who are addicted to the internet report lower levels of family harmony, satisfaction, they also tend to communicate less with caregivers. Although this lack of empathy might cause some behavioral problems, children from neglectful families do not face problems with self-esteem. However, there is evidence suggesting that authoritarian parenting style with strict rules enforced on children was more likely leading them to internet addiction. Having this stressful environment, they went to the internet to relieve some tension, and as that becomes a habit, it could easily become an addiction (Dogan, Bozgeyikli, & Bozdas 2015). Also, children from authoritarian families are more likely to have lower self-esteem, worse social skills and higher levels of depression. In addition, research conducted in the Czech Republic with children ages 11-13, reported that children from families with authoritarian mothers combined with a neglectful style of parenting showed a greater risk of engaging in problematic use of the internet (Lukavská, Vacek & Gabhelík, 2020). The best adjusted children seemed to be the ones who grew up with an authoritative parenting style. Not only were these children likely to view themselves positively, the same was reported by others in their lives. They were the best adjusted and it was easier for them to find a balance between the demands and norms of the world, and their own individual needs being met. In addition, children who had a good relationship with their parents were less likely to spend time using electronic screens (Çaylan, Yalçın, Nergiz, Yıldız, Oflu, Tezol & Foto-Özdemir, 2021). Whatever the parenting style might be, it is quite clear it plays a major role and influences children's lives.

It can be quite confusing, talking about parenting styles and also parenting approaches, so to sum up, authoritative parenting style is one where parents create a positive relationship while also enforcing rules. Authoritarian parents focus on punishment and obedience over discipline. Permissive style parents accept that "kids will be kids", and do not enforce rules on them. Lastly, uninvolved parents provide little guidance, attention or nurturing. Seeing this resume it is quite clear

that authoritative and authoritarian parenting is more demanding, and is the opposite of permissive and neglectful parenting. In the same way, similarities between authoritative and permissive parenting can be drawn in a sense that they are both warm and accepting, while authoritarian and neglectful parents are quite the opposite – cold and unaccepting.

1.5. Children’s activities online and internet risks

Since the previously talked about problematic behavior is not caused by the internet itself, but rather by the activities online that children engage in, it is important to explore what those activities might encompass. It is also important to note that there are activities that bring benefits and others might lead to risks (Wu, Sebre, Jusienė, Pakalniškienė, Miltuze & Li, 2021). The literature review “Children's online activities, risks and safety” by Livingstone, Davidson, Bryce, Batool, Haughton & Nandi (2017) explores the various activities children engage in online and the associated risks they encounter. The study reported that children’s internet use has increased exponentially in recent years, and the average number of hours spent online varies between age groups, but has been growing rapidly. Internet use among teenagers has almost doubled in the past ten years (Rani & Shreshtha, 2021). Approximate weekly internet consumption between children ages 8 – 11 has grown from 7 hours 48 minutes per week in 2007 to 12 hours 54 minutes per week in 2017 (Livingstone et al., 2017). Children ages 12 – 15 spent 13 hours 42 minutes in 2007 and their time spent online increased to 20 hours 6 minutes in 2017 (Livingstone et al., 2017). With so much time looking at the screens, there has to be something keeping children engaged for hours. According to Livingstone et al., (2017), younger children are more likely to use the internet for entertainment, while older children are more likely to use it for communication and socialization. Kids ages 5 – 7 usually do not have social media accounts, they prefer watching tutorials online, playing games, and listening to songs (Milovidov, 2020). Older children, ages 9 – 12 use devices for schoolwork and assignments, but also at age 13 start joining social media apps. Teenagers, in addition to previously mentioned activities, usually develop a network they interact with online (Milovidov, 2020). A research done in Lithuania with 304 preschool students found that boys scored higher on the compulsive internet use scale, reported by themselves and their parents, and when it comes to internet use time, boys seemed to use it for longer than girls. Looking at both parents’ and children’s reports, time spent online was estimated to be an important predictor in compulsive internet use (Jusienė, Laurinaitytė, Pakalniškienė, 2020).

The device older children favored was a smartphone over a tablet, especially after starting primary school. This is also concerning considering the easy accessibility of the phone, since most children get their own device when starting school. However, children reported accessing the internet mostly while they were at home (Livingstone et al., 2017). Per Research Center did a survey with American teenagers in 2018, and found that 95% of teens reported having access to a

smartphone or owning one, and 45% of teens reported almost constantly being online (Anderson & Jiang, 2018).

Seeing how much time children spend online and the importance of it, let's delve more into detail as to what their activities online might encompass. From the research with 840 children (ages 8 – 10) from Latvia ($n = 269$), Lithuania ($n = 267$), and Taiwan ($n = 304$) they explored children's activities online and found three main themes in terms of what kids do on the internet. Firstly, they engage in information search, secondly, they use it for social interactions and lastly, they use it for entertainment (Wu, Sebre, Jusienė, Pakalniškienė, Miltuze & Li, 2021). Older children tend to engage in more social networking, like messaging and also tend to look for information more than the younger ones (Milovidov, 2020; Wu, Sebre, Jusienė, Pakalniškienė, Miltuze & Li, 2021). Children reported their most used website as Youtube, Netflix was second on video streaming platforms list, and Snapchat was second most used app listed (Childwise, 2017). 90% of both girls and boys reported playing video games, whether it was on their computer, smartphone, or a game console, and although boys were more likely to use video games and online forums while they were online, girls were more likely to use Instagram (Anderson & Jiang, 2018). Also, in order to connect with their peers children tend to use social media apps more than messaging platforms (Childwise, 2017). In the previously mentioned survey by Per Research Center, teenagers reported using Youtube, Instagram, Snapchat, Facebook, Twitter, Tumblr ranked from most used to least used, in that order. However, of those who used multiple apps, Snapchat ranked number one on the most used apps list, followed by Youtube and Instagram (Anderson & Jiang, 2018).

Social media, by definition, is a variety of websites, such as Facebook, Instagram, Snapchat, Youtube, Pinterest etc, where users participate online and can rapidly share content around the world (Mayfield, 2011). Although social media is connecting people, and is entertaining, it is not always as beneficial, it still carries risks discussed previously. Since the content online can be shared in seconds, and in apps such as Snapchat (that was reported as one of the most popular among the youth), the shared content can also disappear after seconds, thus, it can be difficult to monitor what exactly children see online and what risks they may encounter. A good thing is that teens already realize that Social media can have positive *and* negative effects (Anderson & Jiang, 2018), as positive effects, they mentioned connecting with family members and friends far away, entertainment, feeling less lonely, making new friends, getting support, expressing one's emotions and opinions. Negative effects listed included bullying, lack of face-to-face contact with people, unrealistic views of others' lives and appearances, caused addictions and distractions from schoolwork, peer pressure, and caused mental health issues (Anderson & Jiang, 2018). Also, some children use the internet when they are stressed or are feeling down, usually to entertain themselves,

and that can be a risk for developing problematic internet use (Wu, Sebre, Jusienė, Pakalniškienė, Miltuze & Li, 2021). And even though parents might limit the internet use, or set up specific controls on certain websites, children ages 9 – 16 reported knowing how to get around parental safety controls set up on the internet (Childwise, 2017) thus, exposing themselves to those risks.

While the content online can certainly be fun or educational, it can just as well be harmful and dangerous to young minds. Video games that children play online are usually arousing and engaging. Some video games are believed to produce learning and promote brain plasticity, they also improve cognitive functions, especially “brain games” that can be very educational, or “action video games”, that require quick decision making, focus, attention, task switching (Green & Seitz, 2015). Even so, these games are also designed in a way where they get more difficult over time, keeping the player continuously challenged and engaged, thus, spending more time playing (Green & Seitz, 2015). This information ties back to the previously mentioned symptoms of wanting to use the internet more and more overtime.

It is important to note that there are also violent video games, such as Call of Duty, Bulletstorm, Grand Theft Auto, Killzone, that are liked among children (Livingstone et al., 2017). The games listed are of a violent nature with extreme realistic graphic details of blood and wounds that have improved tremendously in the past years, also some of them include bloody gunfights and brutal torture. Research done on violent video games found that video games could potentially cause desensitization to violence and lead to increased aggression, meaning that at least those who were not highly exposed to video games previously, after playing, had lower responses to recognize violence in real-life, thus, increasing their aggressiveness (Engelhardt, Bartholow, Kerr & Bushman, 2011). Other researchers found differences in temporal cortical thickness between smokers (biological addiction) and a group with Internet addiction (behavioral addiction), a group with internet addiction had changes in the brain specific only to this group, in their research they also tested impulsivity and indicated that lack of self-control and impulsivity, just like with other behavioral addictions, could lead to internet addiction (Zsidó et al., 2019). As mentioned before, even though boys were more likely to play video games (Tur-Porcar, 2017), girls using social media are also exposed to risks. Since the images online are shared rapidly and usually curated, a young person might start comparing oneself to others, and that becomes a big problem especially for young minds, since it can increase concerns about their own looks, and anxiety about maintaining one’s appearance, shape, and weight (Mabe, Forney, Keel & 2014). Thus, social media increases one’s concerns about their appearance and might lead to people wanting to change it in order to fit in. In addition, a research done with preschoolers found correlations between children’s compulsive internet use and their emotional well-being, behavioral problems and relationship with their parents (Jusienė, Laurinaitytė, Pakalniškienė, 2020). Lastly, everyone on the internet has easy access to

platforms such as Chatroulette, Omegle, Ask.fm where strangers connect with each other without any monitoring, and children might be exposed to online predators or sexual content, or they might get bullied there. Sometimes the same predators can be using the same applications and social media as children – Snapchat, Facebook, Instagram, etc., so children are vulnerable to these risks despite parents trying to set up protective control applications to limit certain (dangerous) website usage.

It is clear that the internet is entertaining and everyone can find an activity online that is most suitable for them, an outlet to express themselves, however, this activity that is pleasant for one might not only be harmful or dangerous, but also cause one to develop dependency on using the internet. Social media can give constant reinforcement and validation to its user, if it is not used in moderation, one can become dependent on it and that might lead to problematic internet use (Brino, Derouin, & Silva, 2022). Whether it is a video game, an online video, or just simple notifications from applications, the brain releases dopamine, and adolescents, due to their sensitivity to dopamine, are more vulnerable to develop an addiction, and smartphones are much more attractive to them (Zhu, Wang, Tong & Zhu, 2019). While adults can better monitor themselves, children, who are naturally more impulsive and reactive, are more at risk of developing an addiction (Zhu, Wang, Tong & Zhu, 2019). Therefore, when the brain immediately releases dopamine when using a smartphone, children are not as likely to pause and think about the consequences of using it, especially when they can quickly get a pleasant reward at the tip of their fingers.

It all also comes down to perceived control; those who know they are addicted or are becoming addicted to their smartphones and cannot change it, feel helpless and are more likely to use smartphones in a compulsive way (Brino, Derouin & Silva, 2022). Although when schools implemented control of the devices students showed regaining of their locus of control, after a class instead of reaching for a smartphone, when they were not allowed to use one, they engaged in communicating with each other or playing sports (Zhu, Wang, Tong & Zhu, 2019). It was shown that students reported higher perceived control scores and higher life satisfaction after these implemented controls, therefore, parents could also limit children's internet use at home (Zhu, Wang, Tong & Zhu, 2019). At the same time, parents play an important role in children using smartphones and the internet in general, not only by limiting their screen time.

Despite the fact that activities on the internet can be highly addictive, having a strong support system around oneself can help reduce the symptoms of internet addiction and thus, the consequences of it (Brino, Derouin & Silva, 2022). Not only by implementing certain controls and time limits, communicating about internet safety, but also by a certain parenting style, parents influence their children's internet use and possible development of addiction (Tur-Porcar, 2017). When children do not receive enough control and support from their parents, or when the parenting

style is mixed and unclear, and lacks discipline, children search for warmth, stability and support on the internet (Tur-Porcar, 2017). The Internet makes them feel accepted and understood. Parents, who do not meet the emotional needs of their children, might make them feel rejected and thus push them towards the internet to satisfy those needs elsewhere.

All in all, youth on the internet engage in a lot of activities, mostly they watch video clips, listen to music, do their homework and look for information online, interact with peers and family members, playing online video games usually decreases with age (Livingstone et al., 2017). Nonetheless, the internet is used widely and is accessible to most, therefore, this increased internet usage also exposes children to numerous risks such as cyberbullying, sexual exploitation, exposure to harmful content, and possible dependency on internet use. In addition, it can be highly addictive and a certain parenting style could either push children towards using the internet irresponsibly, or protect them from the dangers of it. Therefore, parents must monitor and educate children on internet safety measures to minimize the risks associated with internet use.

1.6. The purpose of this research and research questions

Upon seeing the close relationship between children's computer use habits and parental involvement, the dangers that the internet might present, and the addictive nature of it, it would be interesting to explore the online behavior children engage in, in relation to the parenting styles they are exposed to. Specifically, how different parenting styles correlate with specific internet use styles, time spent online, types of activities children engage in and possible emotional or behavioral difficulties they might face.

Research questions

1. Are different types of parenting practices correlating with children's activities online, time spent online, and Compulsive Internet Use reported by children?
2. Are different types of parenting practices correlating with children's activities online, time spent online, and Compulsive Internet Use reported by parents?
3. Is parents' Internet Monitoring correlating with children's activities online, time spent online, and Compulsive Internet Use?
4. What were the differences between children's online activities, time spent online, and Compulsive Internet Use based on different parenting styles they were exposed to?
5. Which parenting style brings out what type of internet behavior?

2. METHODS

This research was conducted by researchers from Lithuania (Jusienė, R., Laurinaitytė, I., Pakalniškienė, V., Babkovskienė, E., Vitkė, L.), Latvia (Sebre, S., Miltuze, A., Martinsone, B., Elsiņa, I., Vedenejeva, V.) and Taiwan (Chun-Li Wu, J., Chiang, T., Wang, M., Li, Y., Chen, R., Kuo, W.) for a project “School-aged Children’s Internet Use in Relation to Socioemotional Development and Parenting Practices in Latvia, Lithuania and Taiwan: A Longitudinal Study” that was financed by a LMTLT tripartite agreement No. S-LLT-18-3. The data used in this paper was provided by Vilnius University and it was from the first stage of the research that was done in fall of 2018 in Lithuania.

2.1. Participants

The participants of this study were 206 Lithuanian school-aged children (ages 8 – 10 years old) together with one of their parents (ages 27-52 years old), so the total number of participants was $N=412$. The participants were gathered in four different local primary schools by a convenience sample of second and third graders by getting permission from local schools’ administration and children’s parents/caregivers, and by presenting a questionnaire to students. Parents/caregivers had to sign written consent forms to participate in the study. Participants were informed that all data reported would be confidential, they were able to withdraw from the study at any time they wanted, and that all data presented would be aggregated. Data was gathered by presenting a questionnaire to children and their parents. Children responded how much time they spent online, what activities they engaged in, and their internet use characteristics. Besides a sociodemographic questionnaire, their parents were questioned on their parenting style and their child’s internet use habits.

2.2. Instruments

The first questionnaire used in this study was demographics and general information questionnaire about one’s internet use. Parents had to answer questions about their children’s age and gender, level of their education and whether or not the child had their own personal smartphone, TV, PC, tablet or none of the above.

The second questionnaire was measuring children’s Compulsive Internet Use. The 14 items were used from the Compulsive Internet Use scale developed by Meerkerk, Van Den Eijnden, Vermulst & Garretsen, 2009. It was translated from English to Lithuanian by Jusienė, Laurinaitytė and Pakalniškienė (2020), and another person with a degree in Lithuanian Philology who was fluent in English. The questionnaire had good validity and reliability. This questionnaire has items about one’s mood when not using the internet, also about one’s (in)ability to stop using the internet when necessary, and whether internet use interferes with any schoolwork or household chores. The questionnaire uses Likert scale rating from 1 (never) to 5 (very often). The scores added from all three subscales ranged from 14 to 70, a mean score of the group was computed. The higher the

score of a subject, the more they engaged in compulsive internet use. Since this research included duos of parents and their children, the questionnaire about children's compulsive internet use was also given to parents to fill out. Having results from two different sources presents a more accurate representation of results and is a more objective way of measuring a child's internet use. Cronbach's Alpha for the parents questionnaire was $\alpha = 0,92$, $N = 206$, which showed good reliability of the scale. Cronbach's Alpha for the children's self-report questionnaire was $\alpha = 0,874$, $N = 206$, which also showed good reliability of the scale.

The third questionnaire measured Parenting Practices. The questionnaire had 29 questions in total. The first 16 items were developed by Block, Block & Morrison (1981), other items were added and also the questionnaire was translated to Lithuanian language (Sebre, Pakalniškienė, Jusienė, Wu, Miltuze, Martinsone, & Lazdiņa, 2023). The instrument includes 10 items measuring parental warmth, 5 items measuring punishment/harshness, 8 items on psychological control, and 5 more items regarding inconsistencies in parenting style were measured by an instrument developed by Shelton, Frick & Wootton in 1996. This questionnaire had four subscales: Emotional Warmth/Warm Parenting, which had 10 items, like *"I often tell my child that I appreciate what he/she tries out or achieves"*, *"I respect my child's opinions"*, or *"My child and I have a good relationship"*, Cronbach's Alpha was $\alpha = .853$. Second subscale measured Psychological Control with 8 items, such as *"I control my child by warning him/her about the bad things that can happen to him/her"*, *"My child should be aware of how much I sacrifice for him/her"*, or *"I expect my child to be grateful and appreciate all the advantages he/she has"*, Cronbach's Alpha was $\alpha = .787$. Third subscale was Inconsistent Parenting, it had 5 items, for example: *"I threaten to punish my child, but then do not actually punish him/her"*, *"My child talks me out of being punished after he/she has done something wrong"*, or *"The punishment I give my child depends upon my mood"*, and the reliability was $\alpha = .625$. The last construct on the scale was Punishment Orientation/Harsh Parenting, *"If my child misbehaves I usually punish him/her"*, *"I teach my child that in one way or another, punishment will find him/her when he/she is bad"*, *"I yell or scream at my child when he/she has done something wrong"*, Chronbach's alpha was $\alpha = .669$.

The fourth questionnaire used was Children's internet use monitoring by their parents (Livingstone, Haddon, Görzig & Ólafsson, 2011), it was adapted and translated into Lithuanian (Sebre, Pakalniškienė, Jusienė, Wu, Miltuze, Martinsone, & Lazdiņa, 2023). Parents were asked to rate their involvement in a child's online activities on a Likert scale (from 1 – *Never* to 5 – *Very often*) A higher score would indicate a higher level of parental monitoring. Questions asked how often they were involved and talked to their children about their activities online, and how often they gave advice to their children about safe internet use. Cronbach's Alpha for the questionnaire was $\alpha = 0,757$, $N = 206$.

Parents and children were also asked about children's time spent online. Questions were asking about time spent on the internet during week days and then separately – during the weekends. Both children and parents evaluated the time by choosing one of the answer options: *1 – Little or no time; 2 – About half an hour; 3 – About 1 hour; 4 – About 2 hours; and so on, until option 9 – About 7 hours or more* (Pakalniškienė, Jusienė, Sebre, Chun-Li Wu & Laurinaitytė, 2020).

Lastly, both children and parents were asked 12 questions about children's Activities Online (Pakalniškienė et al., 2020). Children were asked how often they engaged in a presented activity and they had to choose an answer from a likert scale where answers ranged from *1– never or hardly never to 5 – several times each day*. Activities that were presented included watching video clips, talking to people, obtaining information online, sending and receiving messages, etc. Cronbach's Alpha for the questionnaire that was filled out by children was $\alpha = 0,76$, $N = 206$, and for the questionnaire filled out by parents it was $\alpha = 0,754$, $N = 206$.

2.3. Procedure

Before starting the data collection in fall of 2018, the researchers' teams in all three countries had to get approval from their ethics committees. Data was collected by the researchers with the help of their research assistants. Research teams contacted several schools from their region and after getting the permission from the administration, invited parent-children dyads to participate in this study. (Pakalniškienė, Jusienė, Sebre, Chun-Li Wu, & Laurinaitytė, 2020). After the invitation to participate, parents were given consent forms for themselves and for their children. Both parents and children were informed about the purpose of the study, confidentiality, about their right to withdraw from the study at any time or refuse to participate altogether. The children filled out the pencil-and-paper questionnaires during school hours in their regular classrooms (Pakalniškienė, Jusienė, Sebre, Chun-Li Wu, & Laurinaitytė, 2020) with the assistance of a research assistant.

2.4. Data analysis

Data was statistically analyzed with IBM SPSS 25.0. Pearson correlations were used to find significant relationships between groups and variables. Cluster analysis was used to group participants with similar traits into clusters. Kruskal-Wallis test was used to see whether there were significant differences between groups. Mann-Whitney U test was used to further distinguish which groups in particular would statistically significantly differ from each other. Chi-square test was used to see potential significant relationships between clusters.

To test the normality of data a test of normality was conducted (*see* Appendix A). The data for Compulsive Internet Use reported by parents, Internet monitoring by parents, Children's activities online reported by parents, Parental Practices and all of the subscales (Warm parenting,

Psychological parenting, Inconsistent parenting and Harsh parenting) were all normally distributed. Even though the scales Compulsive Internet Use reported by children and Children's Activities Online reported by children were not normally distributed, the sample size was $N = 206$, and according to Field (2013), when the sample size is large, it is advised to assume that normality of the data is met, therefore, parametric statistics were used to further analyze the data. When it came to cluster analysis, some clusters had a small number of participants ($n < 30$), so non-parametric statistical analysis was applied

The instruments used to answer the research questions were the Compulsive Internet Use Scale (Meerkerk, Van Den Eijnden, Vermulst & Garretsen, 2009; adapted to Lithuanian population by Jusienė, Laurinaitytė & Pakalniškienė, 2020) filled out by parents and children. Parents also answered a 29-item questionnaire about Parenting Practices (Shelton, Frick & Wootton, 1996; Block, Block & Morrison, 1981; Sebre, Pakalniškienė, Jusienė, Wu, Miltuze, Martinsone, & Lazdiņa, 2023). Both children and parents were asked about children's activities online. In addition, parents were asked about Monitoring their children's internet activities. Lastly, children and parents both were also asked about the time spent online, they reported how many hours were spent on the internet on the weekdays and on the weekends

3. RESULTS

3.1. Correlations between parenting practices and children's activities online, time spent online and compulsive internet use, reported by children.

To answer the question “Are different types of parenting practices correlating with children’s activities online, time spent online, and Compulsive Internet Use reported by children?” a Pearson’s correlation analysis was used between Parenting practices, such as Parental warmth, Psychological control, Inconsistent parenting, Harsh parenting, and between three variables listed in the research question: children’s activities online, the time they spent online and Compulsive Internet Use reported by children (*Table 1*). Psychological Control significantly positively correlated with Children’s Compulsive Internet Use Scale scores (CIUS), $r = 0,151$, $p = 0,03$. Meaning, that there was a relationship between parents’ psychological control as a parenting practice, and children’s compulsivity to use the internet.

Table 1. *Parenting practices correlations with children’s internet use behavior*

Variables	Correlation coefficients (r)					
	CAO	CIT	CCIOUS	PCAO	PCIT	PCIUS
PW	0,100	-0.008	-0,020	0,129	0,173*	-0,177*
PsC	0,084	0,019	0,151*	0,103	0,184**	0,072
IncP	0,002	-0,006	0,049	0,019	0,066	0,244**
HrP	0,016	0,106	0,128	0,041	-0,037	0,296**

Note. PW – Parental Warmth; PsC – Psychological Control; IncP – Inconsistent Parenting; HrP – Harsh Parenting; CAO – Children’s Activities Online; CIT – Children’s Internet Time; CCIOUS – Children’s Compulsive Internet Use; PCAO – Parents’ reported Children’s Activities Online; PCIT – Parents’ reported Children’s Internet Time; PCIUS – Parents’ reported Children’s Compulsive Internet Use. * $p < 0,05$; ** $p < 0,01$.

3.2. Correlations between parenting practices and children's activities online, time spent online and compulsive internet use, reported by parents.

For the research question “Are different types of parenting practices correlating with children’s activities online, time spent online, and Compulsive Internet Use reported by parents?”, another Pearson analysis was conducted. Different parenting practices were correlated with children’s online activities, time and CIUS (*Figure 1*). Parental warmth positively correlated with

children’s time spent online, as reported by parents, $r = 0,173, p = 0,013$. Parental warmth negatively correlated with CIUS reported by parents, $r = -0,177, p = 0,011$. Psychological control also positively correlated with children’s time spent online reported by parents, $r = 0,184, p = 0,008$. Inconsistent parenting positively correlated with CIUS reported by parents, $r = 0,244, p < 0,001$. Lastly, Harsh parenting practice significantly correlated with CIUS reported by parents $r = 0,296, p < 0,001$. All in all, each parental practice correlated with some of parents’ reported scores about their children’s online behaviors.

3.3. Parent’s internet monitoring and children’s activities online, time spent online and compulsive internet use.

After running a Pearson analysis to answer the question “Is parents’ Internet Monitoring correlating with children’s activities online, time spent online, and Compulsive Internet Use?” no significant correlations were found between children’s reported online behaviors and parental monitoring (*Table 2*). Pearson correlation analysis found a significant positive relationship between Parental Monitoring and Children’s activities online reported by parents, $r = 0,212, p = 0,002$. Meaning, that the more children engage in internet activities, the more likely parents are to implement parental controls.

Table 2. Parental internet monitoring correlations with children’s internet use behavior

Variable	Correlation coefficients (r)					
	CAO	CIT	CCIOUS	PCAO	PCIT	PCIOUS
PM	0,061	0,048	-0.019	0,212**	0,069	-0.037

Note. PM – Parental Monitoring; CAO – Children’s activities online; CIT – Children’s internet time; CCIOUS – Children’s compulsive internet use; PCAO – Parents’ reported children’s activities online; PCIT – Parents’ reported children’s internet time; PCIOUS – Parents’ reported children’s compulsive internet use. ** $p < 0,01$.

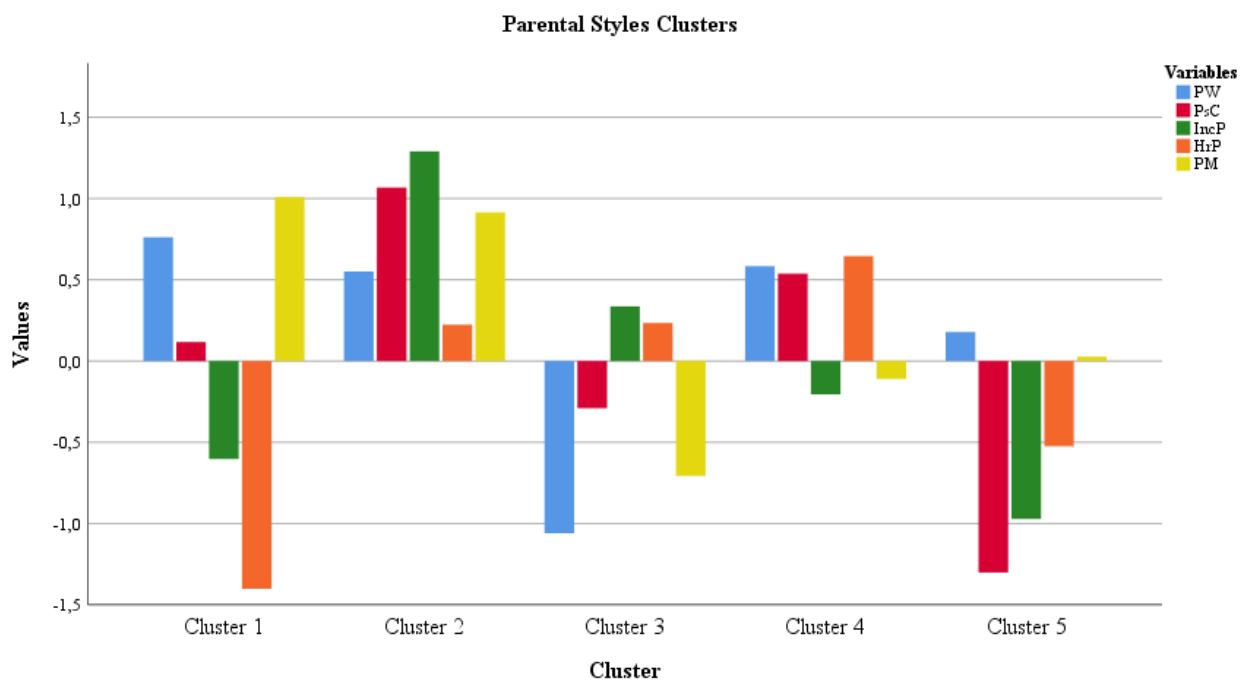
3.4. Differences in children’s online activities, time spent online and compulsive internet use based on the parenting style they were exposed to.

What were the differences between children’s online activities, time spent online, and Compulsive Internet Use based on different parenting styles they were exposed to?

To answer this question, firstly it was important to group parents into different groups based on their Parenting Practices to see what Parenting styles they would fall into. A cluster analysis was conducted to group parents based on their similar parenting characteristics. Five clusters were chosen because the differences between the groups were still significant. Parental warmth $F =$

70,26, $df = 201$, $p < 0.001$. Psychological control $F = 52,17$, $df = 201$, $p < 0.001$. Inconsistent parenting $F = 42,73$, $df = 201$, $p < 0.001$. Harsh parenting $F = 39,46$, $df = 201$, $p < 0.001$. Internet Use Monitoring $F = 36,13$, $df = 201$, $p < 0.001$. This means that no two clusters are the same, and this analysis needs diversity that was not as well represented when there were only four clusters of parenting styles (Figure 3). Also, after dividing people into groups, each group still had enough people, Cluster 1 ($n = 28$), Cluster 2 ($n = 27$), Cluster 3 ($n = 68$), Cluster 4 ($n = 52$), and Cluster 5 ($n = 31$), with the minimum of $n=27$ and the maximum being $n=68$.

Figure 3. Parental styles clusters



Note. PW – Parental Warmth (blue); PsC – Psychological Control (red); IncP – Inconsistent Parenting (green); HrP – Harsh Parenting (orange); PM – Parental Monitoring (yellow).

Cluster 1 “Supportive”. These parents are showing the most Emotional Warmth to their children, they are showing them how to use the internet safely and talk openly about it, and they are consistent with their positive parenting practices. This cluster of parenting style resembles *Authoritative* parenting.

Cluster 2 “All over the place”. These parents are the ones with an extremely inconsistent mixture of parenting practices. Sometimes they are Warm, but also Harsh towards their children, and use the most psychological control. These parents also reported highly Monitoring their Children’s internet use.

Cluster 3 “Uninvolved”. This cluster shows low Emotional Warmth from parents, low Internet Use monitoring, moderate levels of psychological control, these parents can be quite inconsistent. This cluster mostly resembles *Neglectful* parenting style.

Cluster 4 “Hot and Cold”. This cluster shows parents’ Warmth but also them being just as Harsh to their children, and barely engaging in any Internet Use Monitoring, but using high levels of psychological control. This cluster resembles *Authoritarian* parenting style

Cluster 5 “Neutral”. These parents were least likely to use psychological control, still showed parental warmth, and were very consistent in their parenting style, although they engaged in almost no Internet Use monitoring. This cluster resembles *Permissive* parenting

After clustering parenting styles, the differences between groups were tested. Even though before parametric statistical analyses were used, since some of the clusters had less than 30 participants in them, a non-parametric Kruskal-Wallis statistical analysis was used.

The scales for between-groups analysis were about children’s behavior online: Children’s activities online $M = 2,33$, $SD = 0,62$, Children’s time spent online $M = 2,67$, $SD = 1,75$, Children’s Compulsive Internet Use scale $M = 2,25$, $SD = 0,77$, Children’s activities online reported by parents $M = 2,1$, $SD = 0,54$, Children’s time spent online reported by parents $M = 3,03$, $SD = 1,29$, and Childrens Compulsive Internet Use reported by parents $M = 2,40$, $SD = 0,72$. All these groups were compared between different parent clusters. Significant differences were found between different parenting styles and CIUS reported by children, $H = 10,69$ $df = 4$, $p = 0.03$. Also, significant differences were found between different parenting styles and CIUS reported by parents, $H = 18,04$ $df = 4$, $p = 0.001$. To figure out which clusters in particular had significant differences, Mann-Whitney U test was used.

The first significant difference was between parenting styles Cluster 1 and Cluster 2, when looking at children’s compulsive internet use, Cluster 1 (Mean rank = 22,43), Cluster 2 (Mean rank = 33,78), $U = 222$, $Z = -2632$, $p = 0,009$. So Children’s reported compulsive internet use was more evident with parents from Cluster 2, whose parenting style was messy and inconsistent, as opposed to Cluster 1 parents who are warmer and more supportive. The other two clusters with significant differences were Cluster 1 (Mean rank = 31,70), and Cluster 4 (Mean rank = 45,24), $U = 481,5$, $Z = -2,489$, $p = 0,013$. Compulsive internet use reported by children was significantly more evident with parents from Cluster 4, who can be inconsistent with their parenting, are harsher and engage in less computer monitoring, than parents in Cluster 1. Furthermore, Cluster 2 (Mean rank = 34,93) and Cluster 5 (Mean rank = 24,77) differed significantly, $U = 272$, $Z = -2,287$, $p = 0,022$. These clusters were really different in terms of psychological control and parental monitoring, which was highly used in Cluster 2 but rarely used in Cluster 5, and children reported higher levels of CIUS with parents from Cluster 2.

When looking at parent’s reported CIUS scores, Cluster 1 (Mean rank = 22,2) and Cluster 2 (Mean rank = 34,02) differed significantly, $U = 215,5$, $Z = -2,739$, $p = 0,006$. These results are consistent with the ones reported by children, where CIUS was also higher with parents in Cluster 2

with a lot of psychological control and inconsistent parenting, than in Cluster 1 where parents expressed warmth and support. There were also significant differences between Cluster 1 (Mean rank = 34,96) and Cluster 3 (Mean rank = 54,07), $U = 573$, $Z = -3,057$, $p = 0,002$. Parenting style in Cluster 3 with low parental warmth, low parental monitoring, resembling *neglectful* parenting style, seemingly had more expressed compulsive internet use in children, than a parenting style in Cluster 1 that was quite contrasting.

In addition, just like with children's previously reported scores, there were significant differences between Cluster 1 (Mean rank = 32,34) and Cluster 4 (Mean rank = 44,89), $U = 499,6$, $Z = -2,307$, $p = 0,021$. So parents also reported their children's CIUS more expressed with Cluster 4 parenting style-quite inconsistent, sometimes warm but also harsh and controlling, as opposed to Cluster 1 which, as mentioned previously, used warmth, guidance and resembles *authoritative* parenting style. Moreover, significant differences were shown between Cluster 2 (Mean rank = 36,19) and Cluster 5 (Mean rank = 23,68), $U = 238$, $Z = -2,186$, $p = 0,005$. Even in the graph (*Figure 3*) they look quite opposite, and from gathered data, CIUS was reportedly more eminent with parenting Cluster 2, where psychological control was the highest, parents were controlling but also inconsistent, as contrasted with Cluster 5, where parents were the least likely to use psychological control and still showed parental warmth and a little bit of monitoring.

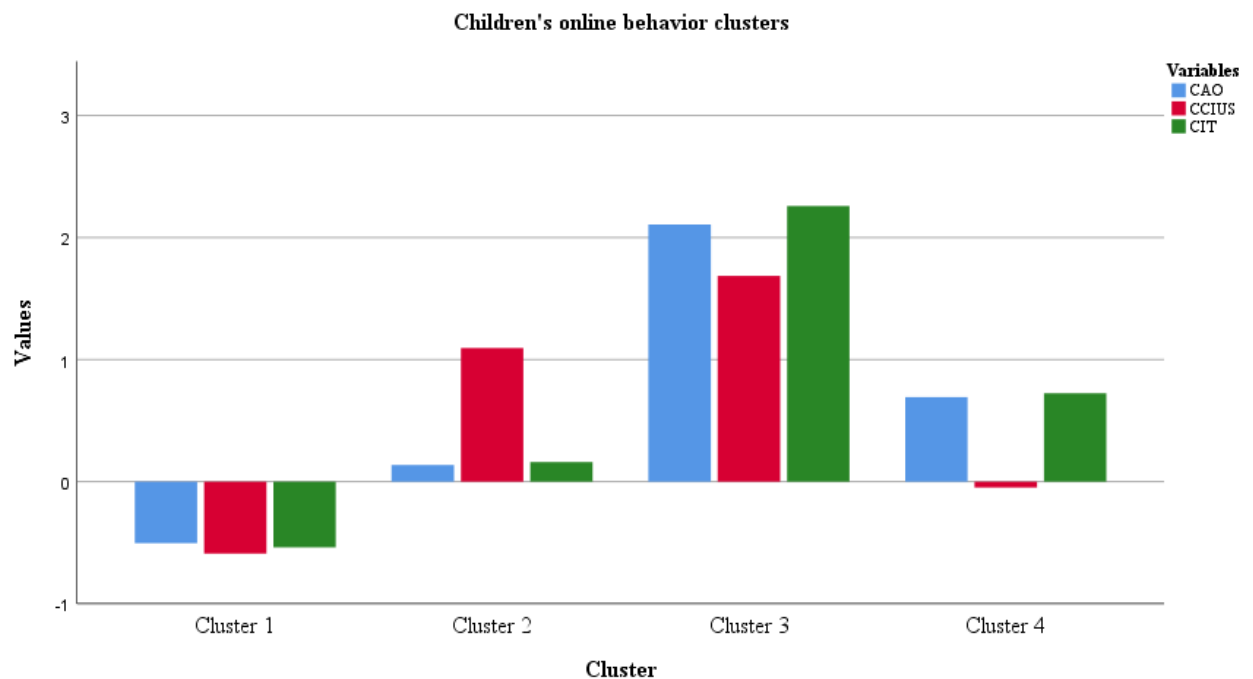
Cluster 3 (Mean rank 56,17) and Cluster 5 (Mean rank = 36, 47) also statistically differed, $U = 634,5$, $Z = -3,168$, $p = 0,002$. These clusters also differ visually on the graph, and according to parents, children who were exposed to less warmth and parental monitoring, and more harshness and psychological control, were more likely to have higher scores on CIUS. Lastly, Cluster 4 (Mean rank = 46,31) and Cluster 5 (Mean rank = 34,77) statistically significantly differed, $U = 582$, $Z = -2,110$, $p = 0,035$. Cluster 4 parents, even though they expressed parental warmth, were more likely to use psychological control and harshness than Cluster 5 parents who were more *permissive* and not controlling. From parent's reported scores, children's CIUS was more prominent with Cluster 4 parenting.

3.5. Relations between parenting styles and children's online behaviors

To test "Which parenting style brings out what type of internet behavior?", we had to separate children into clusters as well (*Figure 4*). Children's online behavior consisted of their time spent online, their online activities, and their CIUS scores. Cluster analysis was stopped at four clusters because of insufficient participant numbers in groups with higher cluster count. Participants numbers distributed amongst four clusters were sufficient, Cluster 1 ($n = 113$), Cluster 2 ($n = 44$), Cluster 3 ($n = 12$), Cluster 4 ($n = 37$). Using four clusters, the difference between groups was still significant; Kids' activities online $F = 64,78$, $df = 202$, $p < 0,001$; Children's reported Compulsive

Internet Use $F = 107,64$, $df = 202$, $p < 0,001$; Children's time spent online $F = 85,29$, $df = 202$, $p < 0,001$.

Figure 4. Children's online behavior clusters



Note. CAO – Children's activities online (blue); CCIUS – Children's compulsive internet use (red); CIT – Children's internet time (green).

These clusters separated children into different groups based on their reported Compulsive Internet Use scores and their Internet activities.

Cluster 1 shows children who reported low scores on CIUS scale and did not spend that much time online.

Cluster 2 shows children who do not use the internet that often, but reportedly have higher CIUS.

Cluster 3 shows children who reportedly spent the most time online, engaged in the most online activities, and scored the highest on the Compulsive Internet Use behavior scale.

Cluster 4 shows children who spend a little time online but have almost no compulsions when it comes to internet use.

So to answer the research question “Which parenting type brings out what type of internet behavior”, Chi-square test was used. Comparing Parenting style clusters and Children's online activities clusters, no statistically significant relationship was found between variables with this particular sample of participants, $\chi^2(12, N = 206) = 11,09$, $p = 0,521$.

To make sure the result findings were consistent, a Kruskal-Wallis analysis was used to try and find differences between children's online activities clusters and whether there would be

significant differences between Parenting Practices and Parents' Monitoring. The scales for between-groups analysis were about Parenting Practices and Parental Monitoring: Parental warmth $M = 4,36$, $SD = 0,45$, Psychological control $M = 3,63$, $SD = 0,60$, Inconsistent parenting $M = 2,71$, $SD = 0,61$, Harsh parenting $M = 3,22$, $SD = 0,64$, Parental monitoring $M = 3,20$, $SD = 0,66$. All these groups were compared between different Children's online behavior clusters. No significant differences were found between different parenting practices, parental monitoring, and Children's online behavior clusters (Table 5).

Table 5. *Kruskal-Wallis analysis between Children's internet activities clusters and Parenting practices including Parental Monitoring.*

	Parenting Practices				
	PW	PsC	IncP	HrP	PM
Kruskal-Wallis H	4,686	0,581	3,567	1,380	7,003
df	3	3	3	3	3
p	0,196	0,901	0,312	0,710	0,072

Note. PW – Parental Warmth; PsC – Psychological Control; IncP – Inconsistent Parenting; HrP – Harsh Parenting; PM – Parental Monitoring.

4. DISCUSSION

The main findings of this research showed that there are significant relationships between parenting practices and children's behavior online. Parental warmth was correlated with how much time children spend on the internet and also how compulsive their internet use can be, reported by their parents. Children's compulsive internet use was also correlated with Inconsistent parenting and Harsh parenting, as reported by the parents. Psychological control correlated with children's time spent online. And as children reported their own compulsive internet use, it correlated with parent's psychological control. While Parental Monitoring did not correlate with children's online behavior reported by children, it did correlate with children's online activities reported by their parents.

Cluster analysis separated parents into five clusters based on their parenting styles. Children were grouped into four clusters in terms of their online behavior and compulsivity when using the internet. While there were statistically significant differences between certain types of parenting styles and children's compulsive internet use reported both by parents and by children, there were no statistically significant relationships when comparing parenting styles clusters with children's internet behavior clusters.

4.1. Different types of parenting styles' relations to children's activities online, time spent online, and Compulsive Internet Use reported by children

Psychological control was positively correlated with Compulsive Internet Use reported by children. Meaning, that the more psychological control was implemented by parents, the more compulsivity was expressed by children using the internet. While control and guidance from parents can help children use the internet safely, the psychological control tested in this research held a negative connotation, where children were not given as much autonomy and were expected to follow parent's rules and obey them without contradiction. This finding is consistent with previous research by van Den Eijnden, Spijkerman, Vermulst, van Rooij & Engels (2010) about parent-child relationships, where they stated that if the rules are too strict, they might promote Children's Compulsive internet use. These researchers also provided an alternative explanation, that perhaps the more children engaged in compulsive internet behavior, the more psychological control parents were likely to express. Another research found that children with problematic use of the internet reported higher scores on their perceived maternal strictness as opposed to those who reported lower scores of problematic internet use and higher scores of parental responsiveness (Lukavská, Vacek & Gabhelík, 2020). Therefore, using high levels of psychological control in order to decrease time online or compulsive use of the internet might not be as effective as choosing a warm and supportive parenting style.

Children's time spent online did not significantly correlate with parenting styles, reported by children. While other researchers state the opposite, finding correlating relationships and stating that

good parent-child relationships play an important role in decreasing children's technology use and time spent using the screens, and that problematic family relationships could lead to more of it, in their research parents were the ones who were reporting on children's online presence (Çaylan, Yalçın, Nergiz, Yıldız, Oflu, Tezol & Foto-Özdemir, 2021). In this particular correlation the answers were from a children's perspective and the time they reported spending online or the activities they reported engaging in might not have been an accurate representation of reality. Especially when looking at their parent's responses, where both parental warmth and psychological control significantly correlated with children's time on the internet. In fact, in another research it was found that parent's responses were more likely to have higher CIUS scores and higher scores for time spent online for their children than children's scores about themselves (Jusienė, Laurinaitytė & Pakalniškienė, 2020).

Children's activities online reported by children themselves did not significantly correlate with parenting styles. Interestingly, there is evidence that parenting styles might not be as effective at decreasing children's internet use or compulsivity to use it, and rather a clear quality communication about the internet would be more effective (van Den Eijnden, Spijkerman, Vermulst, van Rooij & Engels, 2010). So maybe parenting practices did not play a major role for children in this particular correlation.

4.2. Different types of parenting styles in relation to children's activities online, time spent online, and Compulsive Internet Use reported by parents

Parental warmth positively correlated with children's time spent online. Meaning, that parents practicing a warm and encouraging parenting approach reported their children spending more time on the internet. This finding objected to previous research where children who had good relationships with their parents spent less time online (Çaylan, Yalçın, Nergiz, Yıldız, Oflu, Tezol & Foto-Özdemir, 2021). Warm parenting encourages children to be independent, respects their opinions and choices (Dogan, Bozgeyikli, & Bozdas 2015), therefore, could result in a less controlling approach when it comes to screen time as well. Also, more time spent using the internet is not necessarily a bad thing, children could use it for homework, research, or entertainment and parents choosing a warm parenting style might not restrict such activities. Supportive parenting can include parents managing online content their children engage in and also helping children find a healthy balance between online world and real-life (Milovidov, 2020). In addition, this type of parenting style could also be encouraging children's time management skills, self-control and autonomy in a supportive way, letting their children spend more time online (Chen, Lee, Dong, Gamble & Feng, 2020). Lastly, since this type of parenting generally does not support punishment and is contrasting to harsh parenting, children may be choosing to spend more time online if there are no negative consequences to it.

Warm parenting negatively correlated with children's compulsive internet use. The more parental warmth children experienced, the less likely they were to engage in compulsive internet use. This finding supports previous research where children who did not experience a safe bond with their parents, and did not have a good relationship with them, were more likely to develop problematic internet use (Dogan, Bozgeyikli, & Bozdas 2015, Tur-Porcar, 2017). So parents who are supportive and warm, could be monitoring kid's internet use, showing a safe way to use it, therefore, acting as a resilience barrier against children developing compulsive internet use behaviors. Also, parents who spend quality time with their children, participate in alternative activities, use electronic devices carefully, tend to encourage their children to use less media (Gentile & Walsh, 2002), therefore, they might be protecting them from developing compulsivity towards internet use.

Inconsistent parenting and harsh parenting both positively correlated with children's compulsive internet use. This result shows that parents not being clear and consistent with their rules, and restrictions and also using punishment, scolding their children, threatening them or raising their voice at them could potentially create an environment where children did not experience empathy and harmony, and would be more likely to engage in compulsive internet use. This result was consistent with the previous findings where children who did not experience a safe emotional environment at home were more likely to engage in problematic internet use (Dogan, Bozgeyikli, & Bozdas 2015; Lukavská, Vacek & Gabhelík, 2020). Also, this type of parenting might not involve teaching children about safe internet use and without proper guidance, children could be at risk for developing CIUS.

Psychological control positively correlated with time spent online. This finding shows that parents who impose strict rules and expect obedience from their children without them being ill-tempered actually drive them to spend more time on the internet. This finding was consistent with other research that stated that being too strict with children might result in them using the internet more (van Den Eijnden, Spijkerman, Vermulst, van Rooij & Engels, 2010; Lukavská, Vacek & Gabhelík, 2020), parenting that is too strict might cause children negative emotions and they might seek comfort online; children trying to resist the control from their parents and be independent, therefore, they might not follow all the rules blindly.

4.3. Parents' Internet Monitoring in relation to children's activities online, time spent online, and Compulsive Internet Use

A significant positive correlation was found between Parental Monitoring and Children's activities online reported by their parents, meaning that the more parents engage in Parental Monitoring, the more activities children engage in online. Parental Monitoring involves parents encouraging their children to use the internet in a safe way, explore and learn things online,

teaching the child about safe internet use, or doing activities online together. Naturally it makes sense that children would spend more time online, if they felt safe and supported while doing so. In research about parents' influence on children's computer use, Parental Monitoring was related with lower time spent online and lower computer use, although interestingly enough there was a distinguished difference – parents who were concerned about their children's safety online used monitoring in a way to protect them, whereas when children were using the internet for homework parents were supportive of those activities (Vaala & Bleakley, 2015). So this could also be interpreted as Parents engaging in more Parental Monitoring when children spend more time online, as a way to make sure children are being safe and supported in their activities. For example, in 2019 research findings, girls who were victimized online reported higher levels of Parental control, as parents might be concerned and would want to protect their daughters from the risks online (Baldry, Sorrentino & Farrington, 2019). Lastly, children could also resent Parental monitoring, and the more they were being controlled, the more they would want to escape the negative emotions of not having independence. This escape from reality for some children could be found using their mobile phones – accessing the internet (Fu, Liu, Liu, Ding, Wang, Zhen & Jin, 2020). Thus, the increase in parental monitoring could be related to more time spent online.

4.4. Parenting styles in relation to children's online activities, time spent online, and Compulsive Internet Use

Statistical cluster analysis of parenting styles separated parent's parenting practices and internet monitoring into five clusters, which differed quite a lot in between. The clusters resembled parenting styles mentioned in the literature, and were arranged as follows:

The first cluster – “Supportive” – grouped parents who were supportive and warm towards their children, they tended to show affection, comfort and concern about their children, they would tell their children they appreciate them, encourage them, praise them, joke with them, express love, all in all they had a good relationship with their kids. Also, they were talking about internet safety with their kids, and showed them how to use the internet in a safe way. These parents also abstained from using harsh parenting, such as yelling, threatening or scolding. While these parents were strict, they were not intrusive in their children's lives. This cluster resembled *Authoritative* parenting style.

The second cluster – “All over the place” – grouped parents who were using all sorts of parenting practices, it was a mixture of being supportive and warm sometimes, and other times being harsh and using psychological control. Their inconsistent parenting would present itself as not following through with their restrictions or bending rules, they would threaten kids but would not actually punish them, or the punishments for their children would depend on the parent's mood. Their children could talk them out of punishment or restrictions.

The third cluster “Uninvolved” – classified parents who would not have a clear set of rules for their children. These parents ranked the lowest on the warm parenting scale. They were not being responsive or affectionate. Also, they would likely not care if their children misbehaved. These parents ranked the lowest on children’s internet monitoring scale, meaning they did not explain to their children much about good or bad content on the internet, or did not teach them to explore the internet in a safe way. Parent’s behavior resembled a *Neglectful* parenting style.

The fourth cluster – “Hot&Cold” – categorized parents who used parental warmth, showed affection, but also were harsh, might have used punishments and applied high levels of psychological control to their kids. Their internet monitoring scored lower, rather expecting their children to behave properly by using psychological control with them. Using psychological control could be expecting one’s child to not keep any secrets, behave properly towards their parents, and reminding children how much parents sacrificed for them. Children of these parents are expected to appreciate all things parents do and not seem irritable around them. This description closely resembles *Authoritarian* parenting style, where parents want compliance and obedience, sometimes without clearly explaining why.

The fifth cluster – “Neutral” – grouped parents who were the least likely to use psychological control towards their children, they also did not engage in punishing their children, but rather used warmth and also tried to teach children safe internet use. Since the psychological control scores were the lowest, these parents seemed more easy-going and less demanding. This cluster resembled *Permissive* parenting style.

Significant differences were found between different parenting styles and CIUS reported by children, and also between different parenting styles and CIUS reported by parents. To make it easier to understand, we are going to discuss these clusters in groups, discussing the parenting styles at the same time.

Children who grew up with “Supportive” parents showed significantly lower CIUS scores than children who grew up with parenting style “All over the place” and “Hot&Cold” parents. So looking at these parenting style differences, it is quite clear that children benefited from a warm and supporting parenting style, and that being more harsh or psychologically controlling had a correlation with higher compulsive internet use scores. This finding is consistent with previous research where family warmth, empathy and a good relationships with one’s parents might decrease problematic internet use (Dogan, Bozgeyikli, & Bozdas 2015, Çaylan, Yalçın, Nergiz, Yıldız, Oflu, Tezol & Foto-Özdemir, 2021) whereas having authoritarian parent figure (like “Hot&Cold” Cluster 4 resembles), might lead to a greater risk of engaging in problematic internet use or even internet addiction (Dogan, Bozgeyikli, & Bozdas 2015; Lukavská, Vacek & Gabhelík, 2020).

Another significant difference in CIUS scores was found between “All over the place” and “Neutral” parenting styles, where children experiencing “All over the place” parenting expressed higher levels of CIUS. This parenting style, as described previously, was inconsistent, a mixture of parenting styles. “Neutral” parents were least likely to use psychological control towards their children, they also did not engage in punishing their children. Since psychological control scores were the lowest, these parents seemed more easy-going and less demanding. Children reported lower CIUS scores with these “Neutral” parents, and that could be due to the fact that they experienced warmth and not stress or inconsistencies, and had quite a safe environment around them as opposed to “All over the place” parenting style where psychological control and harshness was used. This safe environment might be the reason why children expressed less CIUS (Dogan, Bozgeyikli, & Bozdas 2015).

Speaking about parents’ reported CIUS scores about their children, some interesting tendencies showed up. “Supportive” parents’ children scored significantly lower scores on CIUS scale than children with “All over the place”, “Uninvolved”, and “Hot and cold” parents. And the same resemblance can be seen in other results where children with “Neutral” parents scored significantly lower on CIUS scores than children with “All over the place”, “Uninvolved”, and “Hot and cold” parents. Looking at these results some similarities arise. “Supportive” and “Neutral” parenting styles lead to children having significantly lower CIUS scores than “All over the place”, “Uninvolved”, and “Hot&Cold” parenting styles. These findings are consistent with the ones published by Tur-Porcar (2017) where she discussed how children who do not get emotional warmth from their parents, feel neglected and rejected, and also the ones with inconsistent parenting style and lack of discipline, tend to use the internet whenever they are free, which leads to internet consumption for most of their time. Also, just setting up rules without a clear explanation “why” and controlling child’s behavior can actually lead them to a more compulsive internet use (Tur-Porcar, 2017). A lot of that behavior has to do with how the child is feeling and how they are reacting to their parents. If the parents are being too strict, this could lead to more fights between them and their children, and then children might want to escape the negative emotions and escape their reality, which could lead to more technology use in general (Fu, Liu, Liu, Ding, Wang, Zhen & Jin, 2020).

4.5. Parenting styles and children’s internet behavior

Children’s online behavior consisted of their time spent online, their online activities, and their CIUS scores. Their behavior was divided into four clusters. Comparing Parenting style clusters and Children’s online activities clusters, no statistically significant relationship was found between variables with this particular sample of participants. Separate parenting practices and parental

monitoring were also compared with children's online behavior clusters and yet no significant relationships were found between groups.

It is quite strange that these results contradict previous research findings where parental practices, parenting styles, internet monitoring all had a significant relationship with children's internet activities, time spent online or compulsive internet use (Stattin & Kerr, 2000; Dogan, Bozgeyikli, & Bozdas, 2015; Jusienė, Laurinaitytė, Pakalniškienė, 2020; Çaylan, Yalçın, Nergiz, Yıldız, Oflu, Tezol & Foto-Özdemir, 2021). Stricter and colder parenting styles were linked to more problematic internet use, and supportiveness and responsiveness tended to decrease problematic internet use (Lukavská, Vacek & Gabhelík, 2020).

There might have been some reasons that could have caused such results. For example, children could have been influenced by their peers or school environment in their online behavior more than their parents. Also, this research might not have gathered accurate data on children's time online or internet activities. Perhaps, some activities children engage in, were not included in the questionnaires. Also, children could have individual differences, for example, their personalities, and those differences could be affecting their internet use habits regardless of what parenting style their parents might adapt. All things considered, even when comparing these constructs in this research separately, looking at stricter and warmer parenting practices individually, they correlated with children's online activities, time spent on the internet or CIUS. After separating parenting styles into parenting practices and parental monitoring, one of the statistical test's significance was getting closer towards the significant results line ($p = 0,072$), so perhaps it could have been significant if the sample size was bigger. Also, for further research, clusters with different variables could be tested to see if the correlations between children's online behavior and parenting styles would be significant.

5.5. Limitations, implications, further studies

The main limitation of the study could have been a smaller sample size; perhaps a bigger sample size could have allowed to find significant correlations between Parenting Style clusters and Children's Online Behavior clusters, especially when group size in some of the Children's online behavior clusters was especially small. Another limitation could have been that children might not have fully understood self – reported questionnaires. At the same time, they could have given subjective answers, especially when answering about their time spent online, which could have been difficult for them to answer accurately. Lastly, parents could have also reported results that might not have been completely accurate, which is always a possibility in an anonymous survey; this could happen due to people wanting to appear better, or give socially desirable answers. Recommendations for further research would be to try and test how different parenting styles might

affect certain children's behaviors online, or whether some factors of parenting styles might predict children's behavior online.

For further research a broader population sample from various cities could also be tested to have a better representation of the population. Since children from the capital city participated in this research, it would be interesting to expand it to smaller cities and towns. Capital cities typically tend to have more extracurricular activities for children. So a child who has activities after school might have less time to spend on the internet, but might also have a bigger circle of friends to hang out with. And while those friendships could consist of face-to-face interactions, nowadays a lot of children like to connect online and play video games together or talk in chat rooms. It would be interesting to test how these children's activities online might differ from someone who either has more time after school for leisure activities, or has a smaller friend group.

This study was important because it showed how significant parental practices can be in terms of children's activities on the internet. The results of this study showed how important warm, understanding parenting is and how a controlling approach to parenting or being harsh with one's kids could lead them to engage in more compulsive internet use, which, as seen from the literature, could lead to an internet addiction. The findings also demonstrated the importance of consistency in parenting and how trying to psychologically control children might not bring the expected outcome. These cold, unsupportive parenting styles showed their children reporting the highest compulsive internet use scores.

And while time spent online was not necessarily a bad thing, the activities children engage in, and the reason for them doing so, is crucial. Not only might the internet be a dangerous place for a child without any supervision, but also, as literature stated, children who were going online to look for emotional support were at risk of developing compulsive internet use. And as seen from the results in the study, children who lacked parent's support and empathy, tended to engage in more CIUS. Recommendations for parents would be to practice a more understanding and warm parenting approach and also engage in Parental monitoring when it comes to children's internet use. Showing a child how to safely use the internet and discuss it openly with them could help them be better prepared for what might occur online. Moreover, limiting one's internet time might not immediately decrease compulsivity of internet use, if the reason for using the internet in the first place was to escape emotions or reality. A warm approach, open conversation, understanding and good modeling behavior could be more useful.

5. CONCLUSION

Higher psychological control scores were correlated with higher compulsive internet use scores reported by children.

Parental warmth and psychological control scores positively correlated with children's internet time reported by parents. Also, higher parental warmth scores negatively correlated with compulsive internet use scores in children. Higher inconsistent parenting and harsh parenting scores positively correlated with higher compulsive internet use scores in children. Tendencies of warm parenting versus harsher parenting appeared in relationship to CIUS.

Parental monitoring had no significant relationships with children's self-reported internet behavior scores. Higher parental monitoring correlated with more of children's activities online, reported by parents.

Compulsive internet use, reported by children and by parents, significantly differed between parenting styles. Warmer and more supportive parenting styles tended to have significantly lower CIUS scores than harsh, inconsistent or psychologically controlling parenting styles.

No significant relationship was found between Parenting Styles clusters and Children's Online Behavior clusters.

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APPENDICES

Appendix A. Testing normality of variables

Figure 6. *Testing normality of variables*

Variable	Skewness	Histogram	Kolmogorov-Smirnov significance p	Normal QQ plot acceptable?	Is the Detrended normal QQ plot acceptable?	Is the scale normally distributed?
CIUS parents	-0,046	Resembles a bell shape	0,004	Yes	Yes	Yes
CIUS children's	0,812	Slightly right-skewed	<0,001	Yes	Yes	No
Internet Monitoring by parents	0,027	Bell-shaped	0,037	Yes	Yes	Yes
Children's activities online by parents	0,569	Resembles a bell shape	<0,001	Yes	Yes	Yes
Children's activities online by children	0,873	Slightly right-skewed	<0,001	Almost	No	No
Parenting practice	0,404	Bell-shaped	0,023	Yes	Yes	Yes
Warm Parenting	-0,381	Slightly left-skewed	<0,001	Yes	Yes	Yes
Psychological control	-0,065	Bell-shaped	0,011	Yes	Yes	Yes
Inconsistent parenting	-0,115	Bell-shaped	<0,001	Almost	No	Yes
Harsh	-0,631	Bell-shaped	<0,001	Yes	Yes	Yes

parenting
