DOI 10.51558/2490-3647.2024.9.2.353

UDK 316.624-057.874
316-774

Primljeno: 04. 05. 2024.

Pregledni rad
Review paper

Lidija Eret

CHILDHOOD AND MEDIA: OCCURRING OF THE PEER VIOLENCE

Due to the increasing digitalisation, we also observe increased peer aggression among children and young people, and this paper points to the links between these two phenomena of the modern age. The specific subject of interest is the results of contemporary studies in the field of neuroscience that indicate the negative influence of digital media on cognitive function development and other sciences that indicate the link between exposure to digital media and mental and physical disorders. As modern neuroscience and educational sciences evince that the cause of the deterioration of neuronal cells is the loss of self-control and the appearance of stress, it is certainly noticeable that the aggressiveness of young generations arises precisely because of the lack of action mechanisms within the everyday environment. Digital media are participants in this phenomenon because they cause addictions that lead to a lack of self-control or because they distort through social media the image of real life and social relationships. Whether it is the aggressiveness to which boys or the self-destructiveness to which girls are more prone, digital media is proving to be the cause of other physical and psychological ailments among children and young people. The conclusion of this paper is also derived from the contemporary studies findings that draw attention to a critical and purposeful approach to digital media and that an active life in the sense of daily and consistent physical activity and contact participation in the personal social environments of children and young people is one of the quality solutions to this problem.

Keywords: aggression control mechanisms; child and young people aggression; digital dementia; digital media and aggression; physical activity and aggressiveness; self-control and stress

1. INTRODUCTION

Nowadays, the phenomenon of peer aggression among children and young people is evident (Ellenbogen et al. 2014; Sukhodolsky et al. 2016); we have to ask ourselves how it is related to the daily use of digital media, especially in terms of socialisation and communication. The perspective does not seem promising at all, given that modern neuroscience and neuroscientists warn of the emergence of digital dementia as a threat to the death of neuronal cells, under the influence of (excessive) use of digital media, especially in early childhood (Kays et al. 2012; Ružić-Baf et al. 2017). Research results indicate that brain cells die due to exposure to stress, and it has been shown that the loss of self-control causes stress, that is, control over one's own life (Oaten and Cheng 2005; Rachlin 1974). Loss of self-control leads young people to negative psychological and

physical conditions, as well as aggression and autoaggression (see, for example, Altun and Atasoy 2018; Ekinci et al. 2017; Spitzer 2018). One of the frequent negative effects of digital media on boys is addiction to digital games, which consequently leads to aggressiveness (which will be discussed in the following text), while aggressiveness as an emotion manifests itself differently with girls. The negative impact of digital media on girls is caused by aggression resulting from the loss of self-control in communication via social media (Social Media Self-Control Failure, SMSCF) of those with whom they communicate, where the same aggression is transmitted to other participants in digital communication and socialisation (Hameed and Irfan 2021). Girls, unlike boys, often reflect aggression not on others but on themselves. Autoaggression is thus manifested by isolation from contacts with a social group, a bad self-image, a lack of self-esteem and self-confidence, which can result in other psychological and physical ailments (Scully et al. 2023). Given that it is impossible to single out children and young people today from diverse living environments in which, to a greater or lesser extent, digital media are the backbone of everyday 'tools', the key question of a solution to this (growing) problem arises.

2. BRAIN NEUROPLASTICITY: HOW THE MEDIA (DOESN'T) CONTRIBUTE TO DIGITAL DEMENTIA

Brain neuroplasticity is explained by the construct of brain matter in response to changed circumstances or influences. Thus, the brain is constantly changing in two ways, making new connections between synapses, that is, between brain cells, and

thus increasing (Kays et al. 2012; Spitzer 2018). Namely, as certain brain 'pathways' are repeatedly used, it is logical that the myelin sheath on the nerve fibres that transmit the electrical impulse will also thicken. This makes nerve fibres more 'coated' and thicker, and the impulses are more visible when observing brain activity (for example, by magnetic resonance imaging). Also, brain cells can multiply, so Spitzer (2018) cites research that shows that the multiplication of hippocampus cells increases brain volume. Research has shown (Spitzer 2011, 2011a; Woollett et al. 2009, according to Spitzer 2018: 29-37) an increase in grey matter in the hippocampus when improving skills such as memorising a large amount of information (medical students), remembering and mapping geographic location (drivers), coordination between hands (musicians) or motor skills and visual stimuli (jugglers). But what is frightening is the increasingly common occurrence of brain cell death under the influence of stress (see Figure 1).

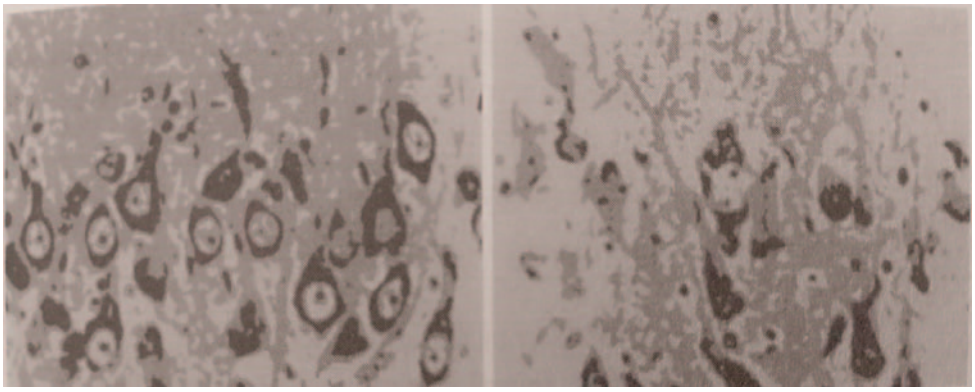

Figure 1. Presentation of the healthy brain cells and cellular waste due to the deterioration of the same cells under the influence of stress (Spitzer 2018: 35)

The picture shows the difference between normal cells and those that have died due to exposure to stress, with only cellular debris visible behind them. Spitzer (2018) states that it has been proven that Alzheimer's disease starts from the hippocampus and spreads to other brain areas. Therefore, we arrive at the concept that Spitzer (2018) describes as the concept of digital dementia: a disease of the new (digital) age to which young generations are susceptible, and two causes are assumed; on the one hand, it is failure to reach the optimal possibilities of brain functions due to non-use, and on the other hand, exposure to stress that destroys existing brain cells.

Medical doctor Ranko Rajović has warned about this problem for years in his various studies, professional and popular lectures, posts on social networks, and other publications. He states that it is evident that due to excessive exposure to digital media (especially in early childhood and formative years) and a passive (physically inactive) lifestyle, brain cells do notdevelop or they decay. The emergence of stress as a way of responding to the environment certainly contributes to this, and Rajović also brings the information that today's generations of children have significantly reduced brain abilities compared to generations, for example, their parents or older generations (Rajović 2023). Why is that so? Rajović and colleagues present research in which they link the use of digital media (television, personal computers, video games and smartphones), spending time in contact games with peers and the occurrence of common disorders today (dyslexia, dysgraphia, dyslalia and dyscalculia). The results of that research are devastating and refer to a population of 1,286 schoolchildren in Croatia, Italy and Serbia (Ružić-Baf et al. 2017). The authors also warn of the negative manifestation of excessive use of digital media on physical diseases: slower development, obesity, disorders sleep disorders, mental illnesses, aggression, digital dementia, addictions and radiation.

3. NEGATIVE INFLUENCE OF DIGITAL MEDIA: BOYS ARE AGGRESSIVE, GIRLS ARE SELF-DESTRUCTIVE

Self-control can be defined by its three combined aspects. The first is setting a long-term goal. After that, self-control manifests itself in giving up some (momentary) pleasure, aiming to (as quickly as possible) achieve the set goal and accomplish tasks and activities that will bring us closer to that goal. Thirdly, it is important to realise that on the way to success, it is important to be adaptable because the way we predict the arrival of the goal can change, so one must be ready for certain adjustments (Rachlin 1974). Today's research shows that the loss of self-control is crucially related to stress. Namely, stress could be described as an unpleasant experience that one considers or feelsto have no control over it (Oaten and Cheng 2005). The rethinking of this work connects precisely the excessive use of digital media among young generations with the loss of self-control and thus with the appearance of stress, and consequently with the appearance of (auto)aggression (Altun and Atasoy 2018; Ekinci et al. 2017; Spitzer 2018).

Digital games are an example to show in a plastic way how digital media influence the appearance of stress by losing self-control and, thus, the appearance of aggression.

Studies show that addiction to digital games is more often associated with boys than girls (Altun and Atasoy 2018; Ekinci et al. 2017). Playing digital (video) games gives boys a sense of control in a virtual environment. The theme of these games is personal interest, therefore the condition of motivation is already met. By winning or progressing in games, boys get a sense of control over their environment, which increases satisfaction and the secretion of happiness hormones (dopamine, serotonin and endorphins). However, it is possible that the game will turn into an addiction, since the virtual environment is more interesting, dynamic and exciting than the one in the contact world and everyday life, while successes are easier to achieve and more likely. Real life becomes boring and tiring, because problems and social conflicts inevitably need to be resolved. Therefore, withdrawal into the 'happy' virtual world of the game is becoming more and more common.

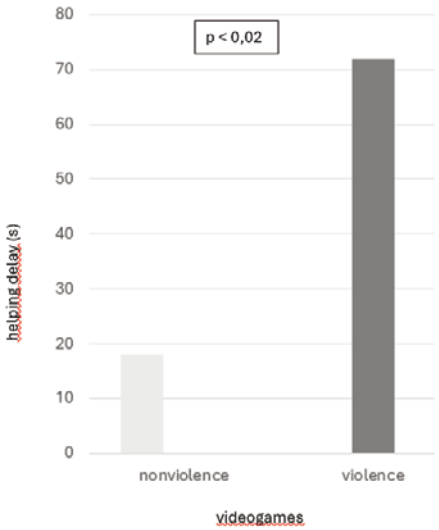

Figure 2. Students who played a violent computer game take 4.5 times longer to engage in a (staged) conflict to defend the victim than students who played a non-violent game (Bushman and Anderson 2009: 275, according to Spitzer 2018: 189)

The percentage of time devoted to digital games versus one in the real world is increasing, and consequently, the widening gap between the two (Spitzer 2018). Children (more often male) become aggressive, not finding solutions for everyday tasks and withdrawing more and more into the game world. At first glance, it may seem that aggressiveness is a copy of modelling with 'warrior' digital games. In fact, in the real world, it is a consequence of losing control over one's personal life and, as a

result, the appearance of stress, which was discussed in the previous chapter. So, the aggressiveness that boys manifest (more than girls) under the influence of digital media and towards their peers or other environments is, on the one hand, a reflection of the model offered to them in the (aggressive) virtual world. On the other hand the feeling that reality is beyond their control, and the virtual world of digital games (which is more beautiful, better and more interesting) is one that we cannot copy into reality (Altun and Atasoy 2018; Ekinci et al. 2017; Spitzer 2018).

The loss of self-control in communication via social media is now a separate term of study in scientific circles (Social Media Self-Control Failure, SMSCF). Hameed and Irfan (2021) show that a person who shows a loss of self-control on social networks (media) expresses aggression through his contact but causes the same in other participants of communication; therefore, they also become aggressive. Furthermore, this research shows how this type of socialisation leads to frustrations (Hameed and Irfan 2021). Girls under the negative influence of social media (social networks) show passive aggressiveness and autoaggressiveness, withdrawing into themselves and avoiding social contact. Furthermore, under such influence, they also create a bad image of themselves, which is most often manifested by a drop in self-confidence and a negative attitude towards their appearance, so the desire to achieve the socially dictated ideal of thinness leads to psychological (e.g. depression, lack of self-confidence and self-esteem) and physical (e.g. anorexia and bulimia) illnesses (Scully et al. 2023). Stress and loss of self-control in this case, compared to the studies including the young male population, actually come from the same source, but aggressiveness manifests itself in a different form.

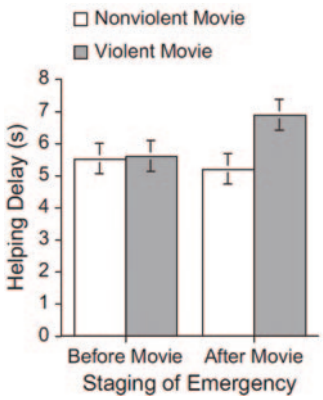

Figure 3. People who watched a violent movie took significantly longer than people who watched a non-violent movie to help a sick person in need (Bushman and Anderson 2009: 277)

Manfred Spitzer (2018) puts digitally conditioned aggression under quotation marks of the same term, desensitisation. Spitzer (2018) states that for decades, we have been unwittingly adopting the blunting of human empathy by accepting models of aggressive behaviour encouraged in public media, from television and radio to various types of today's digital versions. The same is supported by a study (Figure 2) in which 320 students (an equal number of men and women) played violent and non-violent computer games (Bushman and Anderson 2009). Those who played violent games took 4.5 times longer to show empathy and come to the aid of a person in a staged conflict. The same paper (Bushman and Anderson 2009) shows another study conducted in which people (162 adult subjects) who watched a violent film took significantly longer to come to the aid of a person using crutches than it did for people who watched a non-violent film (Figure 3).

4. MOVING AWAY FROM (NEGATIVE) DIGITAL TECHNOLOGIES TOWARDS CONTACT REALITY: MOTION AND SOCIALISATION

Many studies today show a strong correlation between physical activity and reducing the negative impact of digital media. Starting in the first chapter, the danger of digital dementia and the deterioration of brain cells (Spitzer 2018), this paper points to the threat that digital media bring in other aspects, not only cognitive but also affective and physical. Thus, for decades, scientists have cited the study results in which physical activity alleviates the symptoms of psychological disorders, for example, depression and anxiety (Calfas and Taylor 1994; Larun et al. 2006; North et al. 1994), that is, it affects the improvement of self-esteem (Calfas and Taylor 1994; Ekeland et al. 2004). Ružić-Baf et al. (2017) suggest reducing the time spent with digital multimedia, with more time devoted to physical activity and improving brain functions by learning through discovery and critical reasoning on problem examples and tasks. Physical activity also helps deal with aggressiveness as an emotion by channelling it towards controlling one's aggressiveness and aggressive behaviour (Malhotra 2019; Pels and Kleinert 2016). In any case, what today's experts suggest is distancing from digital media towards contact, not virtual socialisation and movement as such and in all forms. The virtual world and virtual communication and socialisation often show an unrealistic picture of interpersonal relationships and other relations in various aspects of everyday life, which leads, especially children and young people, to alienation from their peers and family environment, poor self-image, confusion in

everyday life and, consequently, aggression and autoaggressions. To suppress the harmful effects of digital media use on personal emotions, communication and socialisation, and thus on peer aggressiveness, the time spent with digital media should be replaced by peer and family gatherings, movement as a daily and intensive activity, or forms of socialisation that will connect mentioned activities (Ružić-Baf et al. 2017; Spitzer 2018; Rajović et al. 2017).

5. CONCLUSION

Today's scientists would call the appearance of harmful forms of child and young people's behaviour excessively exposed to the influence of digital media, manifested either by aggressiveness or insufficient compassion desensitisation (Spitzer 2018). The term denotes a lack, a 'dulling' of human empathy due to the acceptance of aggressive behaviour that we have all been perceiving for decades through public media. Public media had different broadcasters in the past, but today, they mostly come from digital channels. Many studies show that the aggressiveness advertised through public media subconsciously becomes increasingly acceptable and, as a result, part of the personal relationship to one's environment (Bushman and Anderson 2009). Neuroscience and neuroscientists warn that the exposure of children and young people to digital media threatens the death of brain cells because the brain does not perform its functions in the way it should, which actually leads children who are in their formative years to a state of so-called digital dementia (Kays et al. 2012; Rajović, 2023; Ružić-Baf et al. 2017; Spitzer 2018). Studies show that, under the negative influence of digital media, boys are more aggressive than girls, while girls are self-destructive (Altun and Atasoy 2018; Ekinci et al. 2017; Hameed and Irfan 2021; Spitzer 2018). Science shows that aggressiveness as well as self-destructiveness (which comes in the form of isolation from the social environment, poor self-image and lack of self-esteem and self-confidence) result from a lack of self-control and thus from the appearance of stress, which indicates that digital environments (especially those of socialisation and of a communicative nature) present a distorted picture of reality in which, as a result, children and young people do not find their way (Oaten and Cheng 2005; Rachlin 1974). The only solution that has proven positive in a series of modern studies is finding alternatives to the digital environment in the everyday lives of children and young people. That is, digital media must be used purposefully, that is when the solution to a need and problem has no other (analogue or digital) counterpart. Scientists show that one of the key aims is to increase physical activity and contact

socialising within personal social environments, which reduces the likelihood of negative consequences on psychological and physical health (Calfas and Taylor 1994; Ekeland et al. 2004; Larun et al. 2006; North et al. 2017; Ružić-Baf et al. 2017), and it helps to control aggressiveness as a feeling and behaviour (Malhotra 2019; Pels and Kleinert 2016).

REFERENCES:

1. Altun, Meryem, Murat Atasoy (2018), ″Investigation of digital game addiction of children between 9-11 age groups: Kirşehir Sample″, *International Journal of Eurasia Social Sciences*, 9(33), 1740-1757.
2. Bushman, Brad J., Craig A. Anderson (2009), ″Comfortably numb: Desensitizing effects of violent media on helping others″, *Psychological science* 20(3), 273-277.
3. Calfas, Karen J., Wendell C. Taylor (1994), ″Effects of physical activity on psychological variables in adolescents″, *Pediatric exercise science* 6(4), 406-423.
4. Ekeland, Eilin Frode Heian, Kåre Birger Hagen, Jo M Abbott, Lena Nordheim (2004), ″Exercise to improve self-esteem in children and young people″, *Cochrane Database of Systematic Reviews*, 1, Art. No.: CD003683.
5. Ekinci, Nurullah Emir, İlimdarYalçın, Fikret Soyer (2017), ″Digital game addiction level of high school students in Turkey″, *Acta Kinesiologica*, 11(2), 98-103.
6. Ellenbogen, Stephen, Robert Calame, Kim Parker, Johannes Finne, Nico Trocmé (2014), ″Treating youth agression and related problems in a social services agency″, In: Myra Taylor, Julie Ann Pooley, Joav Merrick (Eds.), *Adolescence: Places and Spaces*, Nova Science Publishers Inc., NY, 161-173.
7. Hameed, Irfan, Bibi Zainab Irfan (2021), ″Social media self-control failure leading to antisocial aggressive behavior″, *Human behavior and emerging technologies*, 3(2), 296-303.
8. Kays, Jill L., Robin A. Hurley, Katherine H. Taber (2012), ″The dynamic brain: Neuroplasticity and mental health″, *The Journal of neuropsychiatry and clinical neurosciences*, 24(4), 118-124.
9. Larun, Lillebeth, Lena V. Nordheim, Eilin Ekeland, Kåre Birger Hagen, Frode Heian (2006), ″Exercise in prevention and treatment of anxiety and depression

among children and young people″, *Cochrane Database of Systematic Reviews*, 3, Art. No.: CD004691.
10. Malhotra, Priyanka (2019), ″Exercise and its impact on anger management″, *Acta Scientific Medical Sciences*, 3(4), 132-137.
11. North, T. Christian, Penny McCullagh, Zung Vu Tran (1990), ″Effect of exercise on depression″, *Exercise and sport sciences reviews*, 18(1), 379-416.
12. Oaten, Megan, Ken Cheng (2005), ″Academic examination stress impairs self–control″, *Journal of social and clinical psychology*, 24(2), 254-279.
13. Pels, Fabian, Jens Kleinert (2016), ″Does exercise reduce aggressive feelings? An experiment examining the influence of movement type and social task conditions on testiness and anger reduction″, *Perceptual and motor skills*, 122(3), 971-987.
14. Rachlin, Howard (1974), ″Self-control″, *Behaviorism,* 2(1), 94-107.
15. Rajović, Ranko (2023), ″Prof. dr Ranko Rajović: Razvoj i vaspitanje dece, uticaj telefona, Neuronauka, Agelast 182″; Preuzeto sa: https://www.youtube.com/watch?v=GAm2Cgvvios (2. lipnja 2023.) pristupljeno: 06. ožujka 2024.
16. Rajović, Ranko, Dragana Bertić, Milovan Bratić, Miroslava Živković, Nenad Stojiljković (2017), ″Effects of an "NTC" exercise program on the development of motor skills in preschool children″, *Facta Universitatis, Series: Physical Education and Sport*, 14(3), 315-329.
17. Ružić-Baf, Maja, Ranko Rajović, Andrea Debeljuh (2017), ″ICT, Digital Rest (or Tiredness?) Spending Free Time in Front of a Screen″, *TEM Journal*, 6(4), 883-887.
18. Scully, Malcom, Lorraine Swords, Elisabeth Nixon (2023), ″Social comparisons on social media: online appearance-related activity and body dissatisfaction in adolescent girls″, *Irish Journal of Psychological Medicine*, 40(1), 31-42.
19. Spitzer, Manfred (2018) *Digitalna demencija: kako mi i naša djeca silazimo s uma*, Ljevak, Zagreb.
20. Sukhodolsky, Denis G., Stephanie D. Smith, Spencer A. McCauley, Karim Ibrahim, Justyna B. Piasecka (2016), ″Behavioral interventions for anger, irritability, and aggression in children and adolescents″, *Journal of child and adolescent psychopharmacology*, 26(1), 58-64.

MEDIJI U ODRASTANJU: ZAŠTO DOLAZI DO POJAVE VRŠNJAČKOG NASILJA

Sažetak:

Obzirom u današnjem vremenu sve veće digitalizacije uočavamo i povećane pojave vršnjačke agresije kod djece i mladih, radom se ukazuje na poveznice između ovih dviju pojava suvremenog doba. Specifičnost navedenog predmeta interesa jesu pokazatelji suvremenih istraživanja s područja neuroznanosti koji ukazuju na negativan utjecaj digitalnih medija na razvoj kognitivnih funkcija, ali i drugih znanosti koja ukazuju na poveznice izloženosti digitalnim medijima s psihičkim i tjelesnim oboljenjima. Kako suvremena neuroznanost i odgojne znanosti uzrok propadanja neuronskih stanica dokazuju gubitkom samokontrole i pojavom stresa, svakako je za uočiti kako agresivnost mladih generacija proizlazi upravo zbog manjka mehanizama djelovanja unutar svakodnevne okoline. Digitalni mediji učesnici su ove pojave obzirom uzrokuju ovisnosti koje dovode do manjka samokontrole, ili pak jer preko društvenih medija iskrivljuju sliku realnog života i socijalnih relacija. Bilo da je riječ o agresivnosti kojoj su skloniji dječaci ili autodestruktivnosti kojoj su sklonije djevojčice, digitalni mediji pokazuju se uzrokom i drugih tjelesnih i psihičkih tegoba kod djece i mladih. Zaključci ovog rada proizlaze također iz nalaza suvremenih istraživanja koja dokazuju kako je digitalnim medijima potrebno pristupati kritički i upotrebljavati ih svrsishodno, a da je aktivan život u smislu svakodnevne i dosljedne fizičke aktivnosti te kontaktna participacija u osobnim socijalnim okruženjima djece i mladih jedno od kvalitetnih rješenja ovoga problema.

Ključne riječi: agresivnost djece i mladih; digitalna demencija; digitalni mediji i agresivnost; mehanizmi kontrole agresije; tjelesna aktivnost i agresivnost; samokontrola i stres

Author's address
Adresa autorice

Lidija Eret
University of Zagreb
Faculty of Political Science
lidija.eret@fpzg.hr