

The Relationship between the Frequency of Use of the Media, the Role of Peers and Adolescent Aggression in elementary school

Ana Paljušaj

Elementary school Podmurvice, Rijeka

Abstract

The main purpose of this study is to examine the effect of exposure to media violence on adolescent aggression and the mediating role of peers in the above-mentioned relationship. This research was conducted among 318 students of Rijeka's elementary schools with an average age of 12.67 years, out of which 166 were female adolescents and 145 were male adolescents. Participants were first asked to answer questions related to demographic data. Subsequently they were asked to fill in questionnaires regarding aggressive behaviour, the frequency of use of the media, the role of peers and, finally, their preference of media content. The results show that the frequency of use of the media is a significant positive predictor of physical aggression among adolescents and that the susceptibility to peer pressure has a mediating role in the relationship between media and physical aggression. Results are discussed in the context of previous research findings and theories related to testing media and aggression.

Keywords: adolescents; physical aggression; media; role of peers; school

Introduction

Apart from their family, adolescents tend to include the school they are attending and learning new behaviours in as part of their most natural environment. Their school environment is a place where they engage with peers, but it is also the first place where certain behavioural disorders can be spotted (Maglica & Jarković, 2014). In the past few decades media has been an important part of school, teaching and learning (Beetham & Sharpe, 2007; Tamim et al., 2011). For that reason, the influence of media in the overall upbringing and education of young children is being researched (Klimsa &

Issing, 2009; Tamim et al., 2011; Selwyn, 2011). In the educational dimension, media plays an especially important role in social, working and learning aspects of school as well as in the informal lives of young people and adolescents (Selwyn, 2011). The media has without a doubt become an integral part of everyday life and are beginning to have a more powerful impact on developing unacceptable forms of behaviour, as a result of increasing exposure to violent media content (Anderson et al., 2017; Bushman et al., 2015; Krahé et al., 2011; Ohannessian, 2009; Prot et al., 2014; Valkenburg et al., 2016). Media refers to all technical means used to collect information in print, audio and visual form (Wirtz, 2011).

The effect of media and media content on shaping opinions, attitudes and lifestyle is particularly emphasized in children and adolescents. Adolescence is a period in which a person is still intensively developing their identity and questioning their attitudes and beliefs, not yet being fully formed. It is a period in which it is crucial to take into account the preferences for media content and its consumption (Novak, 2017.)

Amidst many different behavioural disorders in the school environment, it is also possible to recognize aggressive behaviour which disrupts the desired school and classroom environment. Pupils who behave aggressively often have limited social skills and have a harder time to develop good relationships with their peers (Bouillet & Bijedić, 2007). Although media creates positive social and educational opportunities for adolescents, new technology also brings a certain amount of risk. Children and young people are becoming more competent and frequent users of new technology, a growth which is likely to contribute to the constant increase of aggression in schools.

Although the topic of media and its effect on children and young people has been researched for decades now, the experts are still debating whether the media has an effect on development and if so, is it short-term or long-term. Much of the research shows that more frequent use of media has both short-term as well as long-term effects on behaviour (Bilić et al., 2012; Brusić et al., 2015). Short-term effects of media exposure are mainly fostered by physiological processes, excitement and immediate imitation of specific behaviours (Bushman & Huesmann, 2006), while long-term effects have a more permanent effect on cognition and behaviour (Prot et al., 2014). Bushman et al. (2015) argue that children who are more exposed to violence through media are later more hostile towards others. Longer exposure to media can result in the accumulation of newly formed ideas, beliefs and attitudes that in turn modify the individual's behaviour depending on the context (Livazović, 2011).

The media are an integral part of young people's lives through which they gather information about the world; they educate them, broaden their horizons, entertain and therein have a great impact on their behaviour and attitude. They become the main educators (Jurčić, 2017). The attraction of young people to media can best be attested by data collected on their possession and usage of media. In the United States of America television is owned by 99 % (Condry, 2017), more than 90 % play video- and computer games (Gentile, 2009; Rideout et al., 2010), laptops and tablets are

owned by 93 % (Madden et al., 2013), mobile phones by 88 % (Lenhart, 2015), and Internet by 85 % of adolescents (Cole et al., 2013). Usually, adolescents use multiple different media at the same time and spend approximately 7,5 hours a day in front of various screens; more time than they spend in school or with their parents (Rideout et al., 2010). Adolescents prefer the Internet (75,1 %) because they find it extremely fun (Roca, 2014). More recently, social networks are especially popular. Facebook is a social network that is most commonly used and a media on which adolescents spend approximately one hour per day and access it ten times in a day (Wiley, 2015). Additionally, adolescents spend two hours a day playing video- or computer games (56 %), and on the weekends even more (Houghton et al., 2015).

The data collected in Croatia are similar to those in the USA. Television is owned by 100 % of adolescents (Matijević, 2012), 74,4 % uses the Internet (Abdelaziz et al., 2015), 85,6 % owns a computer/laptop (Matić, 2016), 98,9 % mobile/smart phone (Novak, 2017), and video- or computer games are played by 5 % of adolescents (Nikodem et al., 2014). A similar trend can be seen in other European countries such as Italy, Poland, Hungary, Belgium, Greece, Russia, Cyprus, Bosnia and Herzegovina, Serbia, Finland, and others (Borca et al., 2015; Cole et al., 2013).

Research mentions two large groups of theories that explain the media effects on behaviour – *the direct effects theory* and *the limited effects theory* (Ilišin, 2003; Neuman & Guggenheim, 2011; Novak, 2017; Valkenburg & Peter, 2013; Valkenburg, Peter & Walther, 2016). Within *the direct effects theory* two major factors of communication process were researched: media content and the behaviour of the recipient. The research was based on the assumption that media and its content have a direct effect on the behaviour of the recipient (Lull, 2000). Amongst the direct effects theories are the *hypodermic needle theory* (Lasswell, 1935), *agenda setting theory* (McCombs & Shaw, 1993), and the *media system dependency theory* (Ball-Rokeach & DeFleur, 1976). This paradigm received many objections, and based on them *the limited effects theories* emerged.

The particularity of the limited effects theories is that they view the recipients as passive observers, meaning that the effect of media is facilitated by different social relationships that have an effect on controlling, filtering, and interpreting media experiences. This means that the media, regardless of the effects they have on the recipients, are mediated and limited by other factors such as parents, friends, and school (McQuail, 1997). Valkenburg and Peter (2013) also argue that the effect of media on cognition, emotion, attitudes, beliefs, and behaviour is facilitated by personality traits and socially-contextual variables.

Authors differentiate in the way they categorize the limited effects theories. For the purpose of this article, the Valkenburg and Peter (2013) categorization will be used, in which the authors include the *Social Cognitive Theory* (Bandura, 2009), the *Elaboration Likelihood Model* (Petty & Cacioppo, 1986), the *Selective Exposure Theory* (Klapper, 1960), the *Uses and Gratifications Theory* (Rubin, 2009), the *Reinforcing Spiral Model* (Slater, 2007), the *general Aggression Model* (Anderson & Bushman, 2002),

the *Differential Susceptibility to Media Effects Model* (Valkenburg & Peter, 2013), and the *Communication Mediation Model* (McLeod et al., 2009). Bryant et al. (2012), and Neuman and Guggenheim (2011) additionally cite the more known theories such as the *Excitation-Transfer Theory* (Zillmann, 1983), the *Catharsis Theory* (Feshbach & Singer, 1971), the *Habituation Theory* (Groves & Thompson, 1970), the *Cultivation Theory* (Gerbner, 1973), the *Priming Theory* (Jo & Berkowitz, 1994), and the *Script Theory* (Huesmann, 1998).

Apart from the positive effects of modern technology, the media can also have a negative impact when used irresponsibly. This is the reason why many scholars explore the polarity of good and evil in modern media (Mandarić, 2012). Based on all mentioned above, we can see that the frequency of the use of the media is a complex phenomenon which has both positive and negative consequences with effect on behaviour, aggression being the primary one. Within the school environment, aggressive behaviour causes a negative atmosphere in the classroom among other difficulties. It all indicates how crucial it is for pupils to learn to identify that behaviour among peers and to develop the skills needed in order to handle these problems appropriately.

The relationship between the frequency of use of the media and aggression

Although there are many differences in the definition of aggression, experts agree that aggression is a behaviour that harms or hurts another person (Jevtić & Vasić, 2015). If we consider aggressive behaviour amongst peers, then aggressive behaviour can be differentiated as: a) *direct or open* that can be divided into physical (hitting, destruction of things) or verbal (shouting, name-calling, threats, etc.), or b) *indirect or hidden* aggressive behaviour that is described as deliberate harmful or hurtful behaviour in which the aggressor is unknown, avoiding the possibility of revenge and social condemnation (Gentile, 2009). Given that physical violence is common in adolescence, this research will focus on adolescent aggression.

The hypothesis that media has an effect on aggressive behaviour was extensively studied in both experimental and longitudinal correlative research that deal with the short-term effects of media violence, as well as how the media effects aggression in an individual (Krahé et al., 2011). There is disagreement among experts about the existence of any reasonable evidence of media exposure being a risk factor for aggression and the extent of the presupposed influence. Based on meta-analysis, some researchers conclude that media exposure does not increase aggressive behaviour (Ferguson & Kilburn, 2010), while others claim that the media are responsible for contributing to aggressive behaviour and this is confirmed by the results of numerous researches (Gentile & Bushman, 2012; Glascock, 2014; Kastenmüller & Fischer, 2014; Livazović, 2011; Markauskaite, 2010; Prot et al. 2014). Given these inconsistent results, it is important to further investigate the relationship between the frequency of use of the media and aggressive behaviour, as well as some other variables that mediate in such relationships as peer relationships.

The relationship of the role of peers and aggression in adolescents

In addition to family in which systems of values and behavioural norms are adopted, adolescence entails creating new relationships and different patterns of behaviour, with peer relationships coming to the fore. The role of peers may have positive and negative effects on the development of adolescents, but the choices made by adolescents depend heavily on their peers' actions and the pressure to "blend" with the individuals surrounding them (Oberle et al., 2011). Relationships with peers help self-expression, identity creation, and self-control. From this we can conclude that peers are extremely important in creating different behaviours, both positive and negative, wherein peers can facilitate different antisocial behaviours such as aggression. Lösel et al. (2007) indicate that the tendency for verbal, physical aggression and violent criminal offenses is more frequent in those adolescents who experienced aggression in their peer group. They also note that adolescents who are more aggressive lean towards violent content more. A peer group is a good benchmark for measuring social adaptability, with peer assessments related to popularity and liking as the best predictors of antisocial outcomes and aggression (Monahan et al., 2012).

Age and gender differences in the frequency of use of the media, the preference of media content, peer relationships, and aggression

The frequency of use of the media and the preferences of media content

Regarding gender differences in the frequency of use of the media, Šegregur et al. (2014) find that young men are more likely to use a computer, while young girls tend to use mobile phones more (Lenhart, 2015). Adolescents generally use Facebook the most in relation to the other content available to them, more often used by young men than young girls (Livingstone et al., 2014). Young men are more likely to use the Internet (Cole et al., 2013) and video games (Lenhart, 2015), while young girls often prefer television programs that deal with friendships and other relationships (Lemish, 2007).

Ilišin (2003) finds that girls read more and listen to the radio, while boys watch television and use computers. With regard to the frequency of watching television programs, adolescents mostly watch movies and television series (76.8 %), watch quizzes and prize games (54.6 %), and sports programs (43.3 %). Educational programs (7.5 %), cultural-artistic shows (2.7 %) and informative-political shows (3.7 %) are not a common choice. It is obvious that in the everyday life of adolescents the media generally serves as fun and less for education. Livazović (2011) also notes that there are significant differences in attitudes towards media content, with violence regularly attracting 31.5 % of adolescents, horror films as much as 47 %, while 20 % of the respondents look at educational content, and only 11 % the cultural program. The author also notes that young people are most attracted to entertainment shows (83 %), music (54 %) and sports (48 %). Adolescent girls often watch fun content about fashion because in it they associate themselves with desirable forms of behaviour.

As far as age differences in media usage is concerned, some research (Kolucki & Lemish, 2013) shows that as children become older they use different types of media and prefer different media content more and more. Thus, the time that adolescents spend on the internet increases with the number of years (Livingstone et al., 2011). In addition, older adolescents have more access to laptops (Lenhart, 2015); have a cell phone/smartphone (Mascheroni & Ólafsson, 2014); and prefer sports, comedy, science-fiction and romantic movies (Livingstone & Bovill, 1999).

Peer relationships

The meaning of socialization factors changes in function of age, and in adolescence peers serve an increasingly important role. When interacting with peers, adolescents gain new experiences and build social relationships (i.e. friendships, their peer group status, first romantic relationships). Through these interactions, adolescents meet different needs (belonging, closeness and intimacy) so young men and women want to establish good relationships with their peers and be accepted in their peer groups. However, the results of some research show that young men are more vulnerable to peer pressure than girls, no matter the risk behaviour (Forko & Lotar, 2012). One of the possible explanations for the obtained results is that pressure among young men is more pronounced and that their peers are more inclined to some behaviour, and refusing to conform to group requirements can be very risky for their status. Another explanation may be that girls in this chronological period are somewhat emotionally and socially more mature than boys and are less susceptible to peer influence.

Moreover, as adolescents get older, parental influence lessens, while peer influence remains especially present in the period of older adolescence (Pećnik & Tokić, 2011).

Aggressive behaviour

The aim of this work was direct physical aggression as a form of aggression in adolescence. Research shows that young male adolescents are more aggressive than adolescent girls and older adolescents. To put it more precisely, girls use indirect aggression while boys use direct physical aggression. Gender differences in using direct verbal aggression were not found (Ricijaš et al., 2010).

Methodology

Research aim

Given the inconsistent results on the frequency of use of the media and physical aggression, and the insufficient simultaneous examination of the relationship between the frequency of use of the media, the role of peers and aggressive behaviour in children and adolescents, the aim of this study is to examine the correlation between the frequency of use of the media and physical aggression of adolescents and the mediating role of peer pressure in this relationship.

Based on the aforementioned research findings related to direct effects theories, more frequent use of media is expected to be associated with physical aggression. According to the theory of indirect effects, the influence of media on cognition, emotions, attitudes, beliefs and behaviours, as well as aggressive behaviour, is mediated by various social relationships (relationship with parents, peers, teachers, etc.) (Valkenburg & Peter, 2013). In this paper we have focused on peers who have a great influence during adolescence, as it is expected that the role of peers will play a mediating role in the relationship between the frequency of use of the media and aggressive behaviour. This paper focuses on the important role of the school in promoting a desirable school environment that does not tolerate any form of aggression.

In addition, gender and age differences in the frequency of use of the media and the preference of media content, peer relationships, and physical aggression will also be examined. Younger adolescents and male respondents are expected to be physically more aggressive and vulnerable to peer pressure. Based on the aforementioned research results, gender differences are not expected in the frequency of use of the media, but are expected in the preference of media content. As far as age differences are concerned, it is expected that older adolescents use media more often, as well as seek out more diverse media content.

Participants

The participants of this study comprised of 318 primary school pupils from Rijeka from the 5th to the 8th grade, of which 166 were adolescent girls and 145 were adolescent boys (7 pupils did not put their gender). Average age was 12,67 years ($SD=1,22$, age range 10-15 years). The participants mostly live with both parents (67,9 %) or with their mothers (15,5 %), have one (54,7 %) or no siblings (24,7 %). When it comes to the parents' education, the majority of parents have a university degree (fathers 38,6 %, mothers 38,3 %), high-school degrees (fathers 31,4 %, mothers 29,7 %). The average pupil achievement at the end of last school year was 4,37 ($SD=0,73$).

Instruments

Sociodemographic characteristics of adolescents included the following variables: age, gender, grade, the school they were attending, average achievements at the end of last school year, with whom they live, and parents' education.

Aggressiveness was tested by the *Agility Scale*, by Livazović (2011). The questionnaire consists of 5 statements, and respondents gave their answers on a Likert type scale of 5 degrees, with numbers meaning the following: 1 - *never*, 2 - *rarely*, 3 - *sometimes*, 4 - *often*, 5 - *always*. The higher the score on this scale the more frequent is physical aggressive behaviour. An example of a claim is *If I have to, I do not mind hitting someone with a fist*. The overall score of the participant is obtained by summing the estimates on the statements made in this questionnaire. In this study, the questionnaire has a satisfactory coefficient of internal consistency of Cronbach alpha ($\alpha=.72$). Descriptive indicators for this, as well as for all subsequent variables, will be shown in the Results section.

The scale of the frequency of use of the media has been translated and adapted for the purpose of this research. The original scale, written by Ohannessian (2009), consists of 6 statements. Response format ranges in 6 degrees, the numbers mean the following: 1 - never, 2 - less than 1 h, 3 - about 1 h, 4 - about 2 h, 5 - about 3 h, 6 - 4 or more h. The higher the score on this scale the more frequent is the use of media (television, cell phone/smartphone, Internet and game consoles). The overall result is a sum of estimates on all the particles. An example of a statement is *Watching Television or Communicating via Email*. Reliability of internal consistency (Cronbach alpha) for this questionnaire is ,67. The statement *I play video games/computer games (PlayStation/Nintendo, Game Boy)* has been excluded from further analysis because it has reduced the reliability of the scale so that the final scale consists of 5 statements.

The peer relationships were examined by a scale of 5 statements by Livazović (2011). The response format is a 5-degree scale (1 - never, 2 - rarely, 3 - sometimes, 4 - frequently, 5 - always). A higher score on this scale indicates a better relationship with peers, but also a higher acceptance by peers. In order to check the factor structure of the questionnaire, a factor analysis was performed on this sample of participants indicating the existence of two factors. The first factor relates to relationship with peers (e.g., agreeing with friends and a friend's attitude towards the participant), while the other factor relates to peer pressure (*I will behave risky if my peers ask me to*). Correlation between the two statements made by the first factor is ,66. As the correlation is moderate and as only two questions are concerned, the statements that examine the factor of relationships with peers are excluded from further analysis. In addition, the results of other surveys point to the importance of peer pressure in the context of aggressive behaviour, so only this scale is included in further analysis. Responses to three statements that measure peer pressure are summed up in one overall result, with a higher score indicating a higher susceptibility to peer pressure. The reliability of the Cronbach alpha obtained in this study is ,71.

Scale of content preferences (Livazović, 2011) examined the preference of media contents of children and adolescents on a scale of 5 degrees (1 - never, 2 - rarely, 3 - sometimes, 4 - frequently, 5 - always). On a 13-part scale the respondents evaluated their own preference for media content such as *sports programs, cultural content, violent and action content*.

Procedure

Prior to the examination, the parents of the pupils gave their consent to their child's participation in the research. The class teacher handed the questionnaires out and explained the purpose of the examination. The questionnaire took approximately fifteen minutes to answer. Participation in the research was anonymous and voluntary. In the questionnaire, pupils first answered questions related to demographic data, followed by physical aggression, the frequency of use of the media, peer relationships, and eventually the preference of media content.

Results

Descriptive data

The basic descriptive characteristics of research instruments are shown in Table 1.

Table 1
Descriptive statistical data of variables used

Scale	N	M	SD	Range	Alpha
Physical aggression	312	8,38	3,54	5-22	.72
The frequency of the use of the media	299	14,10	4,40	7-30	.67
Peer pressure susceptibility	309	5,00	2,45	3-15	.71

As Table 1 shows, *Peer pressure susceptibility* and *Physical aggression* scales have satisfactory reliability coefficients, while *The frequency of the use of the media* scale has a slightly lower, but satisfactory reliability coefficient (Nunnally, 1978).

The relationship between the frequency of the use of the media, peer pressure susceptibility and physical aggression

In order to examine the relationship between the frequency of use of the media, the susceptibility to peer pressure and physical aggression, the Pearson correlation coefficients are calculated. The results obtained are shown in Table 2.

Table 2
The relationship between the frequency of the use of the media, peer pressure susceptibility and physical aggression

	The frequency of the use of the media	Peer pressure susceptibility	Physical aggression
The frequency of the use of the media	–	0.14*	0.24**
Peer pressure susceptibility		–	0.15**

* $p < .05$, ** $p < .01$

Table 2 shows that all three variables are mutually statistically significantly correlated, although correlation coefficients are low. Based on the results we can conclude that adolescents who use the media more often are more vulnerable to peer pressure and are physically more aggressive. It is also evident that adolescents who are more vulnerable to peer pressure are also physically more aggressive.

The aim of this research was to investigate the mediating role of peer pressure in relation to the frequency of use of the media and physical aggression. For this purpose, one of the most commonly used methods for examining the mediation relationships developed by Baron and Kenny (1986) was applied, so three regression analyses were conducted. The results obtained are shown in Table 3.

Table 3

The role of mediation in peer pressure susceptibility in relation to the frequency of use of the media and physical aggression

(X) THE FREQUENCY OF USE OF THE MEDIA → (Y) PEER PRESSURE SUSCEPTIBILITY → (Z) PHYSICAL AGGRESSION						
Predictor/criteria	R	R ²	F	df	Beta	
1. regression analysis The frequency of use of the media → Peer pressure susceptibility (X → Y)	0.14	0.02	5.69*	1.293	0.14*	
2. regression analysis The frequency of use of the media → Physical aggression (X → Z)	0.24	0.06	17.78**	1.294	0.24**	
3. regression analysis The frequency of use of the media → Physical aggression (X → Z) Peer pressure susceptibility → Physical aggression (X → Y)	0.29	0.08	13.07**	2.289	0.22** 0.16**	

* $p < .05$, ** $p < .01$

From the above table it is apparent that the frequency of use of the media is a significant predictor of the susceptibility to peer pressure ($\beta=0.14, p < .05$). Likewise, the frequency of use of the media is a significant predictor of physical aggression ($\beta=0.24, p < .01$). The third analysis found that the frequency of use of the media and peer pressure susceptibility were significant predictors of physical aggression. When comparing the frequency of use of the media to physical aggression from the third equation (when controlling the mediating role of peers, $\beta=0.22, p < .01$) with the effect of media use on physical aggression in the second equation (when the mediating role of the peers is not controlled, $\beta=0.24, p < .01$), we see that the frequency of use of the media is still a significant predictor of physical aggression, although the β coefficient is somewhat lower. However, an additional *post hoc analysis* - the Sobel test (Holmbeck, 2002) shows that peer relationships have a mediating role in the relationship between the frequency of use of the media and physical aggression ($z=3.75; p < .01$). Considering that in the last step of the verification, after the mediator's control, the independent variable remains significant, we can conclude that in this case it is a partial mediation in which the mediator (the role of the peers) explains only a part of the relationship between the independent and dependent variables, i.e. between the frequency of use of the media and physical aggression.

Media content

In order to determine which content is most commonly used and most rarely used by adolescents in the media, arithmetic means and standard deviations of all contents in the questionnaire were verified. It was established that pupils most often watch entertainment shows and humour ($M= 4.15, SD= 1.04$) and sports programs ($M= 3.17, SD= 1.44$), with the least watched being pornographic content ($M= 1.74, SD= 1.33$) and advertisements ($M= 1.39, SD= 0.80$).

Gender differences in variables

In order to examine gender differences in physical aggression, the frequency of use of the media, the peer pressure susceptibility and the preference of media content, a series of *t*-tests for independent samples were conducted. Due to the large number of variables included in the analysis, Bonferonni correction was made. The results obtained are shown in Table 4.

Table 4
Gender differences in variables

Variables	<i>M</i> and <i>SD</i> by gender		<i>t</i>	<i>Df</i>
Physical aggression	Adolescent boys	<i>M</i> =9.59; <i>SD</i> =3.85	5.79***	304
	Adolescent girls	<i>M</i> =7.34; <i>SD</i> =2.94		
The frequency of use of the media	Adolescent boys	<i>M</i> =13.89; <i>SD</i> =5.01	0.80	291
	Adolescent girls	<i>M</i> =14.30; <i>SD</i> =3.91		
Peer pressure susceptibility	Adolescent boys	<i>M</i> =5.73; <i>SD</i> =2.63	4.92***	301
	Adolescent girls	<i>M</i> =4.39; <i>SD</i> =2.12		
News and informative shows	Adolescent boys	<i>M</i> =2.35; <i>SD</i> =1.12	1.74	304
	Adolescent girls	<i>M</i> =2.13; <i>SD</i> =1.05		
Fashion content	Adolescent boys	<i>M</i> =1.67; <i>SD</i> =1.12	12.85***	305
	Adolescent girls	<i>M</i> =3.48; <i>SD</i> =1.32		
Violence and action	Adolescent boys	<i>M</i> =3.49; <i>SD</i> =1.26	8.91***	303
	Adolescent girls	<i>M</i> =2.22; <i>SD</i> =1.22		
Pornographic content	Adolescent boys	<i>M</i> =2.49; <i>SD</i> =1.58	10.66***	303
	Adolescent girls	<i>M</i> =1.10; <i>SD</i> =0.50		
Educational content	Adolescent boys	<i>M</i> =2.39; <i>SD</i> =1.21	1.27	302
	Adolescent girls	<i>M</i> =2.56; <i>SD</i> =1.11		
Entertainment and humour	Adolescent boys	<i>M</i> =4.07; <i>SD</i> =1.07	1.46	304
	Adolescent girls	<i>M</i> =4.24; <i>SD</i> =1.01		
Sports program	Adolescent boys	<i>M</i> =3.67; <i>SD</i> =1.41	5.75***	301
	Adolescent girls	<i>M</i> =2.77; <i>SD</i> =1.31		
Cultural content	Adolescent boys	<i>M</i> =1.98; <i>SD</i> =1.06	1.61	301
	Adolescent girls	<i>M</i> =2.18; <i>SD</i> =1.12		
Music programs and content	Adolescent boys	<i>M</i> =2.52; <i>SD</i> =1.34	4.91***	302
	Adolescent girls	<i>M</i> =3.29; <i>SD</i> =1.37		
Advertisements	Adolescent boys	<i>M</i> =1.38; <i>SD</i> =0.79	0.07	299
	Adolescent girls	<i>M</i> =1.39; <i>SD</i> =0.80		
Reality and game shows	Adolescent boys	<i>M</i> =2.46; <i>SD</i> =1.39	4.32***	301
	Adolescent girls	<i>M</i> =3.15; <i>SD</i> =1.40		
Horror movies	Adolescent boys	<i>M</i> =3.36; <i>SD</i> =1.47	2.16	303
	Adolescent girls	<i>M</i> =2.98; <i>SD</i> =1.60		
Documentary science-popular programs	Adolescent boys	<i>M</i> =3.06; <i>SD</i> =1.31	1.91	302
	Adolescent girls	<i>M</i> =2.77; <i>SD</i> =1.28		

****p*<.001, *p* corrected by Bonferonni

From the obtained results, it can be seen that adolescent boys are physically more aggressive and more vulnerable to peer pressure than adolescent girls. While adolescent boys often prefer content such as violence, pornography and sports, adolescent girls prefer fashion, music and watching reality shows and quizzes.

Age differences in variables

Table 5
Age differences in variables

Variable 5.		Grade			F	Df	
		6.	7.	8.			
Physical aggression	<i>M</i>	7.01	8.53	9.00	8.99	5.30***	3. 308
	<i>SD</i>	2.44	3.71	4.14			
The frequency of use of the media	<i>M</i>	11.75	14.22	14.57	15.83	11.95***	3. 295
	<i>SD</i>	2.81	4.16	4.85			
Peer pressure susceptibility	<i>M</i>	5.41	4.72	4.84	5.12	1.29	3. 305
	<i>SD</i>	2.86	2.12	2.48			
News and informative content	<i>M</i>	2.27	2.19	2.26	2.18	0.14	3. 308
	<i>SD</i>	1.16	1.00	1.13			
Fashion content	<i>M</i>	2.55	2.50	2.94	2.51	1.42	3. 309
	<i>SD</i>	1.59	1.49	1.55			
Violence and action content	<i>M</i>	2.53	2.78	2.88	3.07	1.97	3. 308
	<i>SD</i>	1.46	1.37	1.32			
Pornographic content	<i>M</i>	1.12	1.61	1.90	2.39	13.18***	3. 307
	<i>SD</i>	0.50	1.21	1.42			
Educational content	<i>M</i>	2.77	2.28	2.65	2.26	4.12***	3.306
	<i>SD</i>	1.33	0.99	1.15			
Entertainment and humour	<i>M</i>	4.22	4.14	4.35	3.92	2.18	3. 308
	<i>SD</i>	0.96	1.06	0.95			
Sports program	<i>M</i>	3.13	3.08	3.15	3.34	0.50	3. 305
	<i>SD</i>	1.54	1.37	1.48			
Cultural content	<i>M</i>	2.25	1.95	2.13	1.97	1.35	3. 306
	<i>SD</i>	1.09	1.06	1.20			
Music shows and content	<i>M</i>	2.82	2.63	3.19	3.12	2.91	3. 307
	<i>SD</i>	1.40	1.29	1.50			
Advertisements	<i>M</i>	1.51	1.19	1.54	1.39	3.39	3. 304
	<i>SD</i>	0.83	0.47	1.02			
Reality and game shows	<i>M</i>	3.08	2.71	2.90	2.64	1.46	3. 306
	<i>SD</i>	1.37	1.41	1.51			
Horror movies	<i>M</i>	2.78	3.16	3.13	3.59	3.41	3. 308
	<i>SD</i>	1.70	1.51	1.55			
Documentary science-popular program	<i>M</i>	3.23	2.89	2.71	2.78	2.32	3. 307
	<i>SD</i>	1.32	1.43	1.24			

*** $p < .001$; p corrected by Bonferonni

In addition to gender, age differences in physical aggression, frequency of use of the media, peer pressure susceptibility, and preference for media content were also examined. Table 5 shows the results of one-way analysis of variance related to age differences in all these variables. Due to the large number of variables involved in the research, Bonferonni correction was made.

The results of one-way analysis variance show that there is a statistically significant difference between the four groups of participants in physical aggression, the frequency of use of the media and the preference of pornographic and educational content.

In order to determine exactly between which groups of participants there are significant differences, *post-hoc* tests (Scheffe test) have been carried out. As far as aggressiveness is concerned, the results show that there is a statistically significant difference between 5th and 6th, 5th and 7th, and 5th and 8th grade, where grade 5 students are the least physically aggressive. The difference between 5th and 6th, 5th and 7th, and 5th and 8th grade in the frequency of use of the media was obtained. The 5th grade pupils used media least frequently. In the preference for pornographic content, there is a statistically significant difference between 5th and 7th, 5th and 8th, and 6th and 8th grade, where older pupils are more likely to watch pornographic content. Educational content is more favoured by 5th grade pupils than 6th and 8th grade pupils.

Discussion

The main aim of this study was to investigate the effect of the use of the media on physical aggression of adolescents and the mediating role of peers in the said relationship. In addition, the aim of this research was to determine the preferences of media content on the examined sample of adolescents, as well as the gender and age differences in the frequency of use of the media, peer pressure susceptibility, aggression, and the preferences of media content.

The obtained results show that the frequency of use of the media, peer pressure susceptibility, and physical aggression are mutually statistically significantly correlated, but that these connections are low. The results of regression analyses show that the frequency of use of the media is a significant positive predictor of physical aggression, which means that exposure to different types of media results in aggressive behaviour more frequently. The obtained result is consistent with the findings cited in the literature (e.g. Gentile & Bushman, 2012; Glascock, 2014; Kastenmüller & Fischer, 2014; Livazović, 2011; Markauskaite, 2010; Prot et al., 2014). It is equally well-established that susceptibility to peer pressure is a significant positive predictor of physical aggression, meaning that adolescents who are more susceptible to peer pressure are more aggressive. This result is important in the context of peer relationships, i.e. the desire for belonging and acceptance in the peer group may be related to certain negative or risky behaviours. Furthermore, the partial mediation effect of the role of peers in the relation between media and aggression was confirmed. Therefore, future research should take into account that the role of peers is important in testing the relationship between media

and physical aggression in the adolescent period, indicating the complexity of the subject being studied.

The results also showed that the participants of this research prefer entertainment shows, humour and sports programs, with pornographic content and commercials being least preferred. A closer examination of gender differences shows that adolescent girls often prefer fashion and music content and watch reality shows and quizzes, unlike adolescent boys who most often watch violent, pornographic and sports content. Findings obtained are in line with those quoted in foreign and domestic literature (e.g. Ilišin, 2003; Livazović, 2011; Šegregur et al., 2014).

As far as age differences are concerned, the results of this research show that the preference for pornographic content increases with age, and younger adolescents are more inclined to educational content. One of the possible explanations of the obtained results may be parental control that is stricter and easier in younger adolescents than in older adolescents. It is possible for parents to choose and dose content for younger adolescents. In addition, contemporary technology is likely to be more available to older adolescents who, in large numbers, have smartphones, Internet, and tablets, and thus different media content is more accessible to them. In view of the above, it is not surprising that the results show older teenagers are more likely to use the tested media.

If we look at other gender and age differences in the frequency of use of the media, aggression and susceptibility to peer pressure, we will see that adolescent boys are more aggressive and susceptible to peer pressure, and that physical aggression and the frequency of use of the media increases with age. The findings on aggression are not surprising since the results of various other researches show similar results, i.e. that adolescent boys are physically more aggressive than adolescent girls (e.g. Ricijaš et al., 2010). When researching gender differences in aggression, one should certainly take into account the types of aggressive behaviour since female respondents achieve higher results in verbal aggression, whereas men have higher results when it comes to physical aggression.

In their research, Forko and Lotar (2012) found gender differences in the susceptibility to peer pressure, with greater susceptibility in the adolescent age group. This finding is in line with results obtained in this research. The period of adolescence is a period when young people distance themselves from their families and relate more to peer groups who shape them and they want to be accepted by them. Evidently, this need for acceptance in the period of early adolescence is more pronounced among young boys.

Contrary to some findings cited in the literature (e.g. Krahé et al., 2011), the results of this research show that physical aggression is increasing with age. These findings are somewhat surprising since it is known that physical aggression is more frequent in the younger years, and verbal in the elder (Milašin et al., 2009). Future research would certainly need to take into account age variables, but also different types of aggression at the same time. When age differences and aggression were examined in this study, gender effects were not analysed at the same time so that aggression in

boys could be equated with aggressiveness in girls. Another possible explanation is that adolescent participants in this research were in the transitional period from pre-puberty to puberty when aggression is one of the modes of emotional control since real emotional control has not yet been fully developed. Aggressive behaviour is a way of facing stress or gaining popularity among peers (Vasta et al., 2005).

Finally, we can look at some of the advantages and disadvantages of this research. The advantage is simultaneously examining the role of media, peers, and physical aggression, and the mediating role of peers in relation to media and aggression on a sample of potentially vulnerable adolescent groups in the context of the examined variables. The aforementioned has rarely been or has not been investigated so far, and is in favour of theories of direct and indirect effects. Some scales have been translated and adapted to the Croatian language for the purpose of this research, enabling them to further improvement and use in some future research.

One disadvantage of this research is, of course, the sample suitability since the research was conducted in only three primary schools in Rijeka. The question is also how many adolescents gave socially desirable answers to certain scales (e.g. *How much they prefer the pornographic content and how aggressive they are*). Another disadvantage is related to the lower reliability of the *Frequency of use of the media* and the *Peer Relationships* scales, so some other measure of peer relationships might give a better insight into the mediating role of peers in relation to media and aggression and point to more reliable results. As far as the frequency of use of the media is concerned, it would be good to examine how often children and adolescents use different ICT technologies (e.g. computers, smartphones, tablets) and for which activity (e.g. social networking, school-related information search, downloading games from the Internet), which was not tested in this research.

This paper has theoretical and practical implications. In scientific terms, it supports theories, both direct and indirect, and the results of other research that point to the relationship between media and aggression in adolescents and to the importance of peers in aggressive behaviour. In practical terms, the obtained results could be used to educate adolescents, parents and teachers about the effects of using the media on aggression, and in an attempt to reduce the use of media by means of other activities (e.g. sports activities, visual arts, music, etc.) in order to reduce physical aggression.

In today's schools, there are still teachers who have grown up without digital media, as well as those who have grown up with contemporary digital media. To teach net-generation students in the new multimedia environment, it is important for all teachers to be trained and motivated to use new media (Matijević et al., 2017). The media will certainly be better applied when schools are equipped, since some are more similar to those in the 19th than in the 21st century, and when teachers have the competences to use new media. To achieve these goals, high-level ICT skills, including media and digital literacy, need to be developed (Novkovic Cvetkovic et al., 2018).

Although the majority of unacceptable forms of behaviour occurs outside the school, the perception that these external events have a negative impact on the functioning

of students in school and school environment is more accepted (David-Ferdon & Hertz, 2007). Given that young people spend most of their time in school, and schools are where most social relationships are formed, it is to be assumed that the attackers are probably their peers. The roles educational workers have at different levels of the education system in trying to deal with aggression are really important. Worthen (2007) clearly states that schools play an important role in promoting a school environment that does not tolerate any form of aggression, and in the implementation of effective programs. The school environment is an excellent place to implement preventive programs as children spend most of their time there and it is where they develop as individuals. Adolescents should realize that the role of peers is important for them. However, they should also be taught to be assertive and less susceptible to the peer group's pressure, which could also reduce aggression during that period of their life. Given that research implies that aggressive behaviour at school anticipates increased risks in later life, it is a clear moral responsibility of the school staff to act in order to reduce such behaviour in schools, as the moral obligation of scientists in their efforts is to provide as much information as possible.

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Ana Paljušaj

Elementary school Podmurvice, Rijeka
Ivana Ćikovića Belog 8 b, 51000 Rijeka, Croatia
uciteljicaana@gmail.com

Odnos između učestalosti korištenja medija, uloge vršnjaka i agresije kod adolescenata u osnovnoj školi

Sažetak

Glavni je cilj ovoga istraživanja ispitati povezanost učestalosti korištenja medija i agresivnoga ponašanja adolescenata te posredujuću ulogu utjecaja vršnjaka u navedenom odnosu. Istraživanje je provedeno na 318 učenika riječkih osnovnih škola prosječne dobi 12,67 godina, pri čemu je bilo 166 adolescentica i 145 adolescenata. Nakon odgovaranja na pitanja vezanih uz demografske podatke, sudionici su ispunjavali upitnik o agresivnom ponašanju, upitnik o učestalosti korištenja medija, odnosa s vršnjacima te na kraju preferencije medijskih sadržaja. Dobiveni rezultati pokazuju da je učestalost korištenja medija značajan pozitivan prediktor fizičke agresije kod adolescenata te da podložnost pritisku vršnjaka ima posredujuću ulogu u odnosu između medija i fizičke agresije. Rezultati su komentirani u kontekstu nalaza prethodnih istraživanja i teorija vezanih za ispitivanje medija i agresije.

Ključne riječi: adolescenti; fizička agresija; mediji; odnos s vršnjacima; škola

Uvod

Osim obitelji, adolescenti u svoje najprirodnije okruženje ubrajaju školu u kojoj razvijaju i uče nova ponašanja. Školsko je okruženje mjesto u kojem dolaze u odnose s vršnjacima, ali i prvo mjesto na kojima se određene poteškoće u ponašanju mogu uočiti (Maglica i Jerković, 2014). U posljednjih nekoliko desetljeća (digitalni) mediji zauzimaju bitno mjesto u školi, nastavi, učenju i poučavanju (Beetham i Sharpe, 2007; Tamim i sur., 2011). U tom pogledu pokušava se istražiti kakav je učinak medija u cjelokupnom odgoju i obrazovanju djece i mladih (Klimsa i Issing, 2009; Tamim i sur., 2011; Selwyn, 2011). Naročito u odgojnoj dimenziji mediji imaju značajnu ulogu, kako u druženju, radu i učenju u školi, tako i u informalnom životu djece i mladih (Selwyn, 2011). Mediji su, bez zadržke, postali sastavni dio života svakog pojedinca i imaju sve snažniji učinak na neprihvatljive oblike ponašanja jer su sve češće izloženi nasilnim medijskim sadržajima (Anderson, Steen i Stavropoulos, 2017; Bushman, Gollwitzer i Cruz, 2015; Krahé i sur., 2011; Ohannessian, 2009; Prot i sur., 2014; Valkenburg, Peter i Walther., 2016). Pod medijima se misli na sva tehnička sredstva koja služe za prikupljanje informacija u tiskanom, auditivnom i vizualnom obliku (Wirtz, 2011).

Učinak medija i medijskih sadržaja na oblikovanje mišljenja, stavova i načina života posebno se ističe kod djece i adolescenata. Budući da je adolescencija period razvoja individue u kojem osoba nije sasvim formirana, intenzivno razvija identitet i preispituje stavove i uvjerenja, u tom je periodu života nužno voditi računa o sklonosti medijskim sadržajima i njihovom konzumiranju (Novak, 2017).

U školskom je okruženju, pored raznih poremećaja u ponašanju, moguće prepoznati i agresivno ponašanje koje narušava poželjno školsko i razredno ozračje. Učenici koji se tako ponašaju vrlo često imaju limitirane socijalne vještine i vrlo teško ostvaruju dobre odnose s vršnjacima (Bouillet i Bijedić, 2007). Iako mediji stvaraju ogromne pozitivne socijalne i obrazovne mogućnosti za adolescente, nova tehnologija također dolazi s određenim stupnjem rizika. Djeca i mladi postaju sve kompetentniji i češći korisnici nove tehnologije. Taj će rast vjerojatno pridonijeti stalnom povećanju agresivnosti kao problema u školama.

Iako je tema medija i njihova učinka na djecu i mlade istraživana desetljećima, stručnjaci i dalje vode diskusije o tome imaju li medijski sadržaji značajan učinak na razvoj te jesu li učinci kratkoročni ili dugoročni. Rezultati brojnih istraživanja pokazuju da učestalija izloženost medijskim sadržajima ima kratkoročne, ali i dugoročne učinke na ponašanje (npr. Bilić, Buljan Flander i Hrpka, 2012; Brusić i sur., 2015). Kratkoročni učinci izloženosti medijima uglavnom su potaknuti postupcima fizioloških procesa, uzbuđenja i neposrednih imitacija specifičnih ponašanja (Bushman i Huesmann, 2006), dok dugoročni učinci imaju trajnije učinke na spoznaje i ponašanja (Prot i sur., 2014). Bushman, Gollwitzer i Cruz (2015) tvrde da su djeca koja su učestalije izložena medijskom nasilju, kasnije neprijateljski raspoložena prema drugima. Dugotrajnija izloženost medijima može rezultirati akumulacijom novostvorenih predodžbi, vjerovanja i stavova koje modificiraju ponašanje pojedinca, ovisno o kontekstu (Livazović, 2011).

Mediji su sastavni dio života mladih putem kojih dobivaju informacije o svijetu, oni ih educiraju, šire im vidike, zabavljaju ih i imaju veliku moć utjecaja na formiranje njihovih stavova i ponašanja. Postali su glavni odgojitelji (Jurčić, 2017). Koliko su djeci i adolescentima mediji privlačni, najbolje svjedoče podatci o njihovom posjedovanju i vremenu korištenja. U SAD-u televizore posjeduje njih 99 % (Condry, 2017), više od 90 % igra video i računalne igrice (Gentile, 2009; Rideout, Foehr i Roberts, 2010), prijenosna računala i uređaje posjeduje 93 % (Madden i sur., 2013), mobitele 88 % (Lenhart, 2015) i internet 85 % adolescenata (Cole i sur., 2013). U pravilu koriste više vrsta medija istodobno te u prosjeku provode oko 7,5 sati dnevno ispred raznih ekrana, što je više nego što provedu u školi ili s roditeljima (Rideout, Foehr i Roberts, 2010). Adolescenti preferiraju internet (75,1 %) jer smatraju da je jako zabavan (Roca, 2014). U najnovije vrijeme osobito popularna odredišta su društvene mreže. Facebook je društvena mreža koja se najčešće koristi te na njoj adolescenti prosječno provedu sat vremena i spajaju se desetak puta dnevno na istu (Wiley, 2015). U igranju elektroničkih igara provedu 2 sata dnevno (56 %), a vikendom i duže (Houghton i sur., 2015).

Podatci za Republiku Hrvatsku slični su kao i oni za SAD. Televiziju posjeduje 100 % adolescenata (Matijević, 2012), 74,4 % koristi internet (Abdelaziz, Saeed i Benleulmi,

2015), 85,6 % posjeduje računalo/ prijenosno računalo (Matić, 2016), 98,9 % mobitel/ pametni telefon (Novak, 2017), a video i računalne igrice igra 50 % adolescenata (Nikodem i sur., 2014). Sličan trend javlja se i u ostalim europskim zemljama poput Italije, Poljske, Mađarske, Belgije, Grčke, Rusije, Cipra, Bosne i Hercegovine, Srbije, Finske i druge (npr. Borca i sur., 2015; Cole i sur., 2013).

U literaturi se spominju dvije velike skupine teorija koje objašnjavaju utjecaj medija na ponašanje. To su *teorije izravnih učinaka* i *teorije neizravnih učinaka* (Ilišin, 2003; Neuman i Guggenheim, 2011; Novak, 2017; Valkenburg i Peter, 2013; Valkenburg, Peter i Walther, 2016).

Unutar teorija *izravnih učinaka* istraživana su dva osnovna činitelja u procesu komunikacije: medijski sadržaj i ponašanje primatelja. Smatralo se da određeni tipovi sadržaja uzrokuju i predviđaju društvene odgovore, što znači da se pretpostavljalo da mediji i njihovi sadržaji imaju izravan učinak na ponašanje primatelja (Lull, 2000). U teorije izravnih učinaka spadaju *teorija magičnog metka* (Lasswell, 1935), *teorija postavljanja dnevnog reda* (McCombs i Shaw, 1993) i *teorija ovisnosti o medijima* (Ball-Rokeach i DeFleur, 1976). Ta je paradigma doživjela niz kritika na temelju kojih su formulirane utjecajne teorije *neizravnih učinaka*.

Posebnost *teorija neizravnih učinaka* je u tome što se publiku doživljava kao pasivne promatrače, odnosno učinak medija je posredovan različitim socijalnim odnosima koji imaju učinak na kontrolu, filtriranje i interpretiranje medijskih iskustava. To znači da su mediji, bez obzira na to koje učinke imaju na primatelje, posredovani i limitirani drugim čimbenicima, kao što su roditelji, prijatelji i škola (McQuail, 1997). Valkenburg i Peter (2013) također navode da je učinak medija na kognicije, emocije, stavove, vjerovanja i ponašanja posredovan osobinama ličnosti i socijalno-kontekstualnim varijablama.

Različiti autori svrstavaju različite teorije u skupinu teorija koje imaju neizravne učinke na ponašanje. U ovom radu koristit ćemo podjelu Valkenburga i Petera (2013) u koju autori svrstavaju: *socijalno-kognitivnu teoriju učenja* (Bandura, 2009), *model vjerojatnosti elaboracije* (Petty i Cacioppo, 1986), *teoriju selektivne izloženosti* (Klapper, 1960), *teoriju koristi i zadovoljstva* (Rubin, 2009), *model pojačavanja spirala* (Slater, 2007), *opći model agresivnosti* (Anderson i Bushman, 2002), *model različite podložnosti utjecaju medija* (Valkenburg i Peter, 2013) i *model komunikacijske medijacije* (McLeod i sur., 2009). Bryant, Thompson i Finklea (2012) te Neuman i Guggenheim (2011) osim spomenutih teorija neizravnih učinaka navode i neizostavne teorije, a to su: *teorija o prijenosu stanja uzbuđenosti* (Zillmann, 1983), *teorija o katarzi* (Feshbach i Singer, 1971), *teorija o navikavanju* (Groves i Thompson, 1970), *kultivacijska teorija* (Gerbner, 1973), *priming teorija* (Jo i Berkowitz, 1994) i *skript teorija* (Huesmann, 1998).

Osim pozitivnih učinaka suvremene tehnologije, mediji mogu imati i negativan utjecaj kada se njima neodgovorno koristi pa se upravo zbog toga mnogi stručnjaci bave polaritetom dobra i zla u suvremenim medijima (Mandarić, 2012). S obzirom na navedeno, možemo uočiti da je učestalost korištenja medija jedan kompleksan fenomen koji ima kratkoročne i dugoročne posljedice, a ima učinke na brojna ponašanja,

posebice na agresiju. U okviru škole agresivno ponašanje uzrokuje negativnu atmosferu u razredu kao i mnoge druge teškoće. Sve to ukazuje koliko je krucijalno da učenici mogu identificirati takvo ponašanje među vršnjacima i razvijati vještine suočavanja s istim na pravilan način.

Odnos učestalosti korištenja medija i agresije

Postoje mnoga neslaganja u definiranju pojma agresije, no autori se slažu kako je agresivnost ponašanje kojim se nanosi šteta ili bol drugoj osobi (Jevtić i Vasić, 2015). Ako razmotrimo agresivno ponašanje u vršnjačkim grupama, tada agresivni postupci prema vršnjacima mogu biti: a) *direktni* ili *otvoreni* i dijele se na fizičke (udaranje, uništavanje stvari) ili verbalne (vikanje, nazivanje pogrdnim imenima, prijetnje i slično) i b) *indirektni* ili *prikriveni* agresivni postupci su oni kojima je cilj namjerno nanošenje štete ili boli drugima, a da pritom agresor ne bude primijećen, čime se izbjegava moguća osveta i socijalna osuda (Gentile, 2009). Budući da je fizičko nasilje učestalo u adolescentskoj dobi, fokus ovoga rada bit će upravo navedena vrsta agresije.

Hipoteza da mediji imaju učinak na agresivno ponašanje dugo je proučavana u eksperimentalnim i longitudinalnim korelacijskim istraživanjima koja su se bavila kratkoročnim učincima koje medijsko nasilje stimulira, kao i time kako mediji uopće djeluju na agresivnost pojedinaca (Krahé i sur., 2011). Postoje neslaganja među znanstvenicima oko toga u kojoj mjeri i postoje li uopće opravdani dokazi da je izloženost medijima jedan od rizičnih čimbenika agresije. Istraživači na temelju metaanaliza zaključuju da izloženost medijima ne povećava agresivno ponašanje (npr. Ferguson i Kilburn, 2010), dok drugi pak tvrde kako su mediji zaslužni za doprinos agresivnom ponašanju i to potvrđuju rezultatima brojnih istraživanja (Gentile i Bushman, 2012; Glascock, 2014; Kastenmüller i Fischer, 2014; Livazović, 2011; Markauskaite, 2010; Prot i sur., 2014). S obzirom na navedene nekonzistentne rezultate, važno je dodatno ispitati odnos između učestalosti korištenja medija i agresivnoga ponašanja, ali i nekih drugih varijabli koje posreduju u tom odnosu poput odnosa s vršnjacima.

Odnos uloge vršnjaka i agresije kod adolescenata

Osim obitelji u kojoj se usvajaju sustavi vrijednosti i norme ponašanja, ulaskom u adolescentsku dob dolazi do stvaranja nekih novih odnosa i drugačijih obrazaca ponašanja, pri čemu u prvi plan dolaze odnosi s vršnjacima. Uloga vršnjaka može imati pozitivne i negativne učinke na razvoj adolescenata, no izbori koje adolescenti čine jako ovise o radnjama koje vrše njihovi vršnjaci i o pritisku da se osjećaju „uklopljeni” s pojedincima koji ih okružuju (Oberle, Schonert-Reichl i Zumbo, 2011). Odnosi s vršnjacima pomažu u samorazumijevanju, stvaranju identiteta i samokontroli. Iz navedenoga možemo zaključiti da su vršnjaci izuzetno važni u kreiranju različitih vrsta ponašanja, kako pozitivnih, tako i negativnih, pri čemu vršnjaci mogu facilitirati različita antisocijalna ponašanja pa tako i agresiju. Lösel, Bliesener i Bender (2007) ukazuju da je sklonost verbalnoj, fizičkoj agresiji i nasilnim kaznenim djelima učestalija kod onih

adolescenata koji su agresiju doživjeli u vršnjačkim grupama. Također napominju kako prednost nasilnim sadržajima daju oni adolescenti koji su agresivniji. Vršnjačka grupa je dobra referentna točka za mjerenje socijalne prilagodbe adolescenata, pri čemu su procjene vršnjaka vezane za popularnost i sviđanje najbolji prediktori antisocijalnih ishoda pa i agresije (Monahan i sur., 2012).

Spolne i dobne razlike u učestalosti korištenja medija, preferenciji medijskih sadržaja, odnosu s vršnjacima i agresiji

Učestalost korištenja medija i preferencije sadržaja

Vežano za spolne razlike u učestalosti korištenja medija, Šegregur, Kuhar i Paradžik, (2014) nalaze da mladići češće koriste računalo, a djevojke mobilne telefone (Lenhart, 2015). Adolescenti općenito *Facebook* koriste daleko najviše u odnosu na ostale sadržaje koji im se nude, pri čemu ga mladići češće koriste od djevojaka (Livingstone i sur., 2014). Mladići su češće na internetu (Cole i sur., 2013) i videoigricama (Lenhart, 2015), dok djevojke češće preferiraju televizijske programe koji se bave prijateljstvima i drugim ljudskim odnosima (Lemish, 2007).

Ilišin (2003) nalazi da djevojčice više čitaju tisak i slušaju radio, dok dječaci više gledaju televiziju i koriste se računalom. S obzirom na učestalost gledanja programa na televiziji, adolescenti najučestalije gledaju igrane filmove i serije (76,8 %), gledaju kvizove i nagradne igre (54,6 %) te sportski program (43,3 %), dok najrjeđe gledaju obrazovni program (7,5 %), kulturno-umjetničke emisije (2,7 %) te informativno-političke emisije (3,7 %). Razvidno je da u adolescentskoj svakodnevici mediji uglavnom imaju zabavnu funkciju, a manje obrazovnu. I Livazović (2011) u svojem istraživanju također napominje kako postoje značajne razlike s obzirom na sklonosti prema medijskim sadržajima pri čemu nasilje redovito privlači 31,5 % adolescenata, horor filmovi čak 47 %, dok 20 % ispitanika gleda obrazovne sadržaje, a kulturni program samo 11 %. Autor također napominje da mlade najviše privlače zabavne emisije (83 %), glazba (54 %) i sport (48 %). Adolescentice češće gledaju zabavne sadržaje o modi jer u njima povezuju sebe s poželjnim oblicima ponašanja.

Što se dobnih razlika u učestalosti korištenja medija tiče, nalazi nekih istraživanja (npr. Kolucki i Lemish, 2013) pokazuju da što su djeca starija, učestalije koriste različite vrste medija i preferiraju različitiije medijske sadržaje. Tako se vrijeme koje adolescenti provode na internetu povećava s brojem godina (Livingstone i sur., 2011). Osim toga, stariji adolescenti češće imaju pristup prijenosnom računalu (Lenhart, 2015), posjeduju mobitel/ pametni telefon (Mascheroni i Ólafsson, 2014) i u većoj mjeri preferiraju sportske sadržaje, komedije, znanstveno-fantastične i romantične filmove (Livingstone i Bovill, 1999).

Odnos s vršnjacima

Poznato je da se značenje socijalizacijskih činitelja mijenja u funkciji dobi, pri čemu u adolescenciji sve važniju ulogu imaju vršnjaci. U interakciji s vršnjacima adolescenti stječu nova iskustva i izgrađuju socijalne odnose (npr. prijateljstva, svoj

status u vršnjačkoj grupi, prve romantične odnose). Kroz ove interakcije adolescenti zadovoljavaju različite potrebe (za pripadanjem, bliskošću i intimnošću), stoga i mladići i djevojke žele uspostaviti dobre odnose s vršnjacima i biti prihvaćeni u svojim vršnjačkim grupama. Međutim, rezultati nekih istraživanja pokazuju kako su mladići podložniji vršnjačkom pritisku za razliku od djevojaka bez obzira o kojem je rizičnom ponašanju riječ (Forko i Lotar, 2012). Jedno od mogućih objašnjenja dobivenih rezultata jest da je pritisak među mladićima izraženiji te da oni svoje vršnjake više nagovaraju na neko ponašanje, a odbijanje konformiranju zahtjevima grupe može biti vrlo rizično za njihov status u grupi. Drugo objašnjenje može biti da su djevojke u ovom kronološkom periodu nešto emocionalno i socijalno zrelije od mladića pa su i manje podložne utjecajima vršnjaka.

Osim toga, treba imati na umu da kako adolescenti postaju stariji, utjecaj roditelja se sve više gubi, dok utjecaj prijatelja ostaje što je posebno naglašeno za period kasne adolescencije (npr. Pećnik i Tokić, 2011).

Agresivno ponašanje

U ovom smo se radu usmjerili na fizičku agresiju kao vrlo prisutan oblik agresije u razdoblju adolescencije. Rezultati istraživanja pokazuju da su mlađi adolescenti muškoga spola agresivniji od adolescentica i starijih adolescenata. Preciznije rečeno, djevojčice značajno više koriste indirektnu agresivnost, za razliku od dječaka koji značajno više koriste izravnu fizičku agresivnost. Spolne razlike u korištenju izravne verbalne agresivnosti nisu pronađene (npr. Ricijaš, Krajcjer i Bouillet, 2010).

Metodologija

Cilj istraživanja

S obzirom na nekonzistentne rezultate vezane uz odnos učestalosti korištenja medija i fizičke agresije te na nedostatnu istraženost istovremenoga ispitivanja odnosa između učestalosti korištenja medija, uloge vršnjaka i agresivnoga ponašanja kod djece i adolescenata, cilj je ovoga istraživanja ispitati povezanost između učestalosti korištenja medija i fizičke agresivnosti adolescenata te posredujuću ulogu podložnosti pritisku vršnjaka u navedenom odnosu.

Na temelju prethodno navedenih rezultata istraživanja vezanih za teorije izravnih učinaka, očekuje se da će učestalije korištenje medija biti povezano s fizičkom agresijom. Prema teoriji neizravnih učinaka, učinak medija na kognicije, emocije, stavove, vjerovanja i ponašanja, pa tako i agresivno ponašanje, posredovan je različitim socijalnim odnosima (odnos s roditeljima, vršnjacima, učiteljima itd.) (Valkenburg i Peter, 2013). U ovom smo se radu usmjerili na vršnjake koji imaju veliki utjecaj u razdoblju adolescencije pa se očekuje da će uloga vršnjaka imati posredujuću ulogu u odnosu između učestalosti korištenja medija i agresivnoga ponašanja. Ovaj je rad usmjeren i na važnu ulogu škole u promicanju poželjnoga školskog okruženja koje ne tolerira nikakav oblik agresije.

Osim toga, bit će ispitane spolne i dobne razlike u učestalosti korištenja medija i preferenciji medijskih sadržaja, odnosu s vršnjacima i fizičkoj agresiji. Očekuje se da će mlađi adolescenti i ispitanici muškoga spola biti fizički agresivniji i podložniji pritisku vršnjaka. Na temelju ranije spomenutih rezultata istraživanja, ne očekuju se spolne razlike u učestalosti korištenja medija, ali se očekuju u preferenciji medijskih sadržaja. Što se dobnih razlika tiče, očekuje se da će stariji adolescenti učestalije koristiti medije kao i raznolikije vrste medijskih sadržaja.

Uzorak ispitanika

U istraživanju je sudjelovalo 318 učenika riječkih osnovnih škola od 5. do 8. razreda, pri čemu je bilo 166 adolescentica i 145 adolescenata, sedmero učenika nije navelo spol. Prosječna dob iznosila je 12,67 godina ($SD = 1,22$, raspon dobi od 10 do 15 godina). Učenici u najvećoj mjeri žive s oba roditelja (67,9 %) ili samo s majkom (15,5 %) te imaju jednog brata/sestru (54,7 %) ili nemaju braće/sestara (24,7 %). Što se tiče obrazovanja roditelja, očevi i majke u najvećem postotku imaju završenu visoku školu (otac 38,6 % i majka 38,3 %), zatim slijedi završena srednja škola (otac 31,4 % i majka 29,7 %). Prosječan uspjeh učenika na kraju prošle školske godine je 4,37 ($SD = 0,73$).

Instrumenti

Sociodemografska obilježja adolescenata obuhvatila su sljedeće varijable: dob, spol, razred, školu koju adolescenti pohađaju, prosječan uspjeh na kraju prošle školske godine, s kim žive te obrazovanje roditelja.

Agresivnost je ispitana *Skalom o agresivnosti*, čiji je autor Livazović (2011). Upitnik se sastoji od 5 tvrdnji, a ispitanici su davali svoje odgovore na skali Likertova tipa od 5 stupnjeva, pri čemu brojevi znače sljedeće: 1 – *nikad*, 2 – *rijetko*, 3 – *ponekad*, 4 – *često*, 5 – *uvijek*. Viši rezultat na ovoj skali ukazuje na učestalije fizičko agresivno ponašanje. Primjer tvrdnje je *Ako moram, ne smeta mi nekoga udariti šakom*. Ukupan rezultat sudionika dobiva se zbrajanjem procjena na tvrdnjama koje čine ovaj upitnik. U ovom istraživanju upitnik ima zadovoljavajući koeficijent unutarnje konzistencije Cronbach alfa ($\alpha = ,72$). Deskriptivni pokazatelji za ovu, ali i za sve iduće varijable, bit će prikazani u poglavlju Rezultati.

Skala učestalosti korištenja medija prevedena je i adaptirana za potrebe ovoga istraživanja. Originalna skala, čija je autorica Ohannessian (2009), sastoji se od 6 tvrdnji. Format odgovora kreće se u rasponu od 6 stupnjeva, pri čemu brojevi znače sljedeće: 1 – *nikada*, 2 – *manje od 1 h*, 3 – *oko 1 h*, 4 – *oko 2 h*, 5 – *oko 3 h*, 6 – *4 ili više h*. Viši rezultat na ovoj skali ukazuje na učestalije korištenje medija (televizije, mobitela/pametnog telefona, interneta i igraćih konzola). Ukupan rezultat čini zbroj procjena na svim česticama. Primjer tvrdnje je *Gledam televiziju ili Komuniciram putem e-pošte*. Pouzdanost unutarnje konzistencije (Cronbachova alfa) za ovaj upitnik iznosi ,67. Tvrdnja *Igram video/ računalne igrice (PlayStation/Nintendo, Game Boy)* isključena je iz daljnjih analiza jer je smanjivala pouzdanost skale tako da se konačna skala sastoji od 5 tvrdnji.

Odnos s vršnjacima ispitan je skalom od 5 tvrdnji čiji je autor Livazović (2011). Format odgovora je skala od 5 stupnjeva (1 – *nikad*, 2 – *rijetko*, 3 – *ponekad*, 4 – često, 5 – *uvijek*). Viši rezultat na ovoj skali ukazuje na bolji odnos s vršnjacima, ali i veću prihvaćenost od strane vršnjaka. Kako bi se provjerila faktorska struktura upitnika, provedena je faktorska analiza na ovom uzorku sudionika koja ukazuje na postojanje dva faktora. Prvi faktor se odnosi na *Odnos s vršnjacima* (npr. slaganje s prijateljima i odnos prijatelja prema sudioniku), dok se drugi faktor odnosi na *Podložnost pritisku vršnjaka* (Ponašat ću se rizično ako to moje društvo traži od mene). Korelacija između dviju tvrdnji koje čine prvi faktor iznosi ,66. Kako je navedena korelacija umjerena i kako se radi o svega dva pitanja, tvrdnje koje ispituju faktor odnosa s vršnjacima isključene su iz daljnjih analiza. Osim toga, rezultati drugih istraživanja ukazuju na važnost podložnosti pritisku vršnjaka u kontekstu agresivnoga ponašanja, stoga je samo ova ljestvica uključena u daljnje analize. Odgovori na tri tvrdnje koje mjere podložnost pritisku vršnjaka zbrojene su u jedan ukupan rezultat pri čemu viši rezultat ukazuje na veću podložnost pritisku vršnjaka. Koeficijent pouzdanosti Cronbachova alfa dobiven u ovom istraživanju iznosi ,71.

Skalom sadržajnih sklonosti (Livazović, 2011) ispitana je preferencija medijskih sadržaja djece i adolescenata na skali od 5 stupnjeva (1 – *nikad*, 2 – *rijetko*, 3 – *ponekad*, 4 – često, 5 – *uvijek*). Ispitanici su na skali od 13 čestica procjenjivali vlastitu preferenciju medijskih sadržaja poput *sportskog programa, kulturnih sadržaja, nasilnih i akcijskih sadržaja*.

Postupak

Prije samog ispitivanja, roditelji učenika dali su svojim potpisom suglasnost da njihovo dijete može sudjelovati u istraživanju. Razrednici su na satu razrednoga odjela podijelili upitnike i objasnili svrhu ispitivanja. Vrijeme popunjavanja upitnika trajalo je petnaestak minuta. Sudjelovanje u istraživanju bilo je anonimno i dobrovoljno. Učenici su u upitniku najprije popunjavali pitanja vezana uz demografske podatke, zatim uz fizičku agresiju, učestalost korištenja medija, odnos s vršnjacima te na kraju preferenciju medijskih sadržaja.

Rezultati

Deskriptivni podatci

Prikaz osnovnih deskriptivnih karakteristika korištenih mjernih instrumenata može se vidjeti u tablici 1.

Tablica 1

Iz tablice 1 može se uočiti kako ljestvice *Podložnost pritisku vršnjaka* i *Fizička agresija* imaju zadovoljavajuće koeficijente pouzdanosti, dok ljestvica *Učestalosti korištenja medija* ima nešto niži, ali zadovoljavajući koeficijent pouzdanosti (Nunnally, 1978).

Odnos između učestalosti korištenja medija, podložnosti pritisku vršnjaka i fizičke agresije

Kako bi se ispitao odnos između učestalosti korištenja medija, podložnosti pritisku vršnjaka i fizičke agresije izračunati su Pearsonovi koeficijenti korelacije. Dobiveni rezultati prikazani su u tablici 2.

Tablica 2

Iz tablice 2 vidljivo je da su sve tri varijable međusobno statistički značajno pozitivno povezane, iako su koeficijenti korelacija niski. Na temelju rezultata možemo zaključiti da su adolescenti koji učestalije koriste medije podložniji pritisku vršnjaka te su fizički agresivniji. Također je vidljivo da su adolescenti koji su podložniji pritisku vršnjaka i fizički agresivniji.

Cilj ovoga rada bio je ispitati posredujuću ulogu podložnosti pritisku vršnjaka u odnosu između učestalosti korištenja medija i fizičke agresije i to jednom od najčešće korištenih metoda za ispitivanje medijacijskih odnosa koju su razvili Baron i Kenny (1986), stoga su provedene tri regresijske analize. Dobiveni rezultati prikazani su u tablici 3.

Tablica 3

Iz navedene je tablice vidljivo da je učestalost korištenja medija značajan prediktor podložnosti pritisku vršnjaka ($\beta = 0,14, p < ,05$). Isto tako učestalost korištenja medija je značajan prediktor fizičke agresije ($\beta = 0,24, p < ,01$). U trećoj analizi utvrđeno je da su učestalost korištenja medija i podložnost pritisku vršnjaka značajni prediktori fizičke agresije. Kada uspoređujemo učestalost korištenja medija na fizičku agresiju iz treće jednadžbe, (kada kontroliramo posredujuću ulogu vršnjaka, $\beta = 0,22, p < ,01$) s učinkom učestalosti korištenja medija na fizičku agresiju u drugoj jednadžbi (kada posredujuća uloga vršnjaka nije kontrolirana; $\beta = 0,24, p < ,01$), vidimo da je učestalost korištenja medija i dalje značajan prediktor fizičke agresije, iako je visina β koeficijenta nešto niža. Međutim, dodatna *post hoc analiza* – Sobel test (Holmbeck, 2002) pokazuje kako odnos s vršnjacima ima medijacijsku ulogu u odnosu između učestalosti korištenja medija i fizičke agresije ($z = 3,75; p < ,01$). S obzirom na to da je u posljednjem koraku provjere, nakon kontrole medijatora, nezavisna varijabla ostala i dalje značajna, možemo zaključiti da se u ovom slučaju radi o djelomičnoj medijaciji u kojoj medijator (uloga vršnjaka) objašnjava samo dio odnosa između nezavisne i zavisne varijable, odnosno između učestalosti korištenja medija i fizičke agresije.

Medijski sadržaji

Kako bi se utvrdilo koje sadržaje najčešće i najrjeđe koriste adolescenti u medijima, provjerene su aritmetičke sredine i standardne devijacije svih sadržaja u upitniku. Utvrđeno je da učenici najčešće gledaju zabavne i humoristične emisije ($M = 4,15, SD = 1,04$) i sportske programe ($M = 3,17, SD = 1,44$), najrjeđe pornografske sadržaje ($M = 1,74, SD = 1,33$) te reklame i oglase ($M = 1,39, SD = 0,80$).

Spolne razlike u ispitivanim varijablama

Kako bi se ispitale spolne razlike u fizičkoj agresiji, učestalosti korištenja medija, podložnosti pritisku vršnjaka i preferenciji medijskih sadržaja, proveden je niz *t*-testova za nezavisne uzorke. Zbog velikog broja varijabli uključenih u analizu, načinjena je Bonferonni korekcija. Dobiveni rezultati prikazani su u tablici 4.

Tablica 4

Iz dobivenih rezultata može se uočiti da su adolescenti fizički agresivniji i podložniji pritisku vršnjaka za razliku od adolescentica. Dok adolescenti češće preferiraju sadržaje kao što su nasilje, pornografija i sport, adolescentice više preferiraju modu, glazbu i gledanje *reality* zabavnih programa i kvizova.

Dobne razlike u ispitivanim varijablama

Osim spolnih, ispitane su i dobne razlike u fizičkoj agresiji, učestalosti korištenja medija, podložnosti pritisku vršnjaka te preferenciji medijskih sadržaja. U tablici 5 prikazani su rezultati jednosmjernih analiza varijanci vezanih uz dobne razlike u svim navedenim varijablama. Zbog velikoga broja varijabli uključenih u istraživanje, načinjena je Bonferonni korekcija.

Tablica 5

Rezultati jednosmjernih analiza varijanci pokazuju da postoji statistički značajna razlika između četiri skupine sudionika u fizičkoj agresiji, učestalosti korištenja medija te preferenciji pornografskih i obrazovnih sadržaja.

Kako bi se točno ustvrdilo između kojih grupa sudionika postoje značajne razlike, provedeni su *posthoc* testovi (Scheffeov test). Što se agresivnosti tiče, dobiveni rezultati pokazuju da postoji statistički značajna razlika između 5. i 6., 5. i 7. te 5. i 8. razreda pri čemu su učenici 5. razreda najmanje fizički agresivni. Dobivena je razlika između 5. i 6., 5. i 7. te 5. i 8. razreda u učestalosti korištenja medija. Pritom učenici 5. razreda najrjeđe koriste ispitane medije. U preferenciji pornografskih sadržaja postoji statistički značajna razlika između 5. i 7., 5. i 8. te 6. i 8. razreda pri čemu stariji učenici učestalije gledaju pornografske sadržaje. Obrazovne sadržaje u većoj mjeri preferiraju učenici 5. razreda u odnosu na učenike 6. razreda i 8. razreda.

Rasprava

Glavni cilj ovoga istraživanja bio je ispitati učinak učestalosti korištenja medija na fizičku agresiju adolescenata te posredujuću ulogu vršnjaka u navedenom odnosu. Osim toga, cilj ovoga istraživanja bio je utvrditi preferencije medijskih sadržaja na ispitanom uzorku adolescenata, kao i spolne i dobne razlike u učestalosti korištenja medija, podložnosti pritisku vršnjaka, agresiji i preferencijama medijskih sadržaja.

Iz dobivenih rezultata možemo vidjeti da su učestalost korištenja medija, podložnost pritisku vršnjaka i fizička agresija međusobno statistički značajno pozitivno povezani,

ali da su te povezanosti niske. Rezultati regresijskih analiza pokazuju da je učestalost korištenja medija značajan pozitivni prediktor fizičke agresije, što znači da je učestalija izloženost različitim vrstama medija povezana s agresivnijim ponašanjem. Dobiveni rezultat u skladu je s nalazima koji se navode u literaturi (npr. Gentile i Bushman, 2012; Glascock, 2014; Kastenmüller i Fischer, 2014; Livazović, 2011; Markauskaite, 2010; Prot i sur., 2014). Isto je tako dobiveno da je podložnost pritisku vršnjaka značajan pozitivan prediktor fizičke agresije, što znači, da su adolescenti koji su podložniji pritisku vršnjaka i agresivniji. Dobiveni nalaz važan je u kontekstu vršnjačkih odnosa, odnosno želja za pripadnošću i prihvaćanjem u grupi vršnjaka može biti povezana s nekim negativnim ili rizičnim ponašanjima. Nadalje, potvrđen je djelomični medijacijski učinak uloge vršnjaka u odnosu između medija i agresije. Dakle, buduća bi istraživanja trebala imati u vidu da je uloga vršnjaka važna u ispitivanju medija i fizičke agresije u razdoblju adolescencije što ukazuje na kompleksnost ispitivane tematike.

Rezultati su također pokazali da sudionici ovoga istraživanja najviše preferiraju zabavne emisije i humor te sportske programe, a najrjeđe koriste pornografske sadržaje te reklame i oglase. Ako se detaljnije pogledaju spolne razlike, adolescentice češće preferiraju modne i glazbene sadržaje te gledanje *reality* zabavnih programa i kvizova, za razliku od adolescenata koji najčešće gledaju nasilne, pornografske i sportske sadržaje. Dobiveni nalazi u skladu su s onima koji se navode u stranoj i domaćoj literaturi (npr. Ilišin, 2003; Livazović, 2011; Šegregur i sur., 2014).

Što se dobnih razlika tiče, rezultati ovoga istraživanja pokazuju da se preferencija pornografskih sadržaja povećava s dobi, dok mlađi adolescenti učestalije gledaju obrazovne sadržaje. Jedno od mogućih objašnjenja dobivenih rezultata može biti roditeljska kontrola koja je veća i lakša kod mlađih, nego kod starijih adolescenata. Moguće je da roditelji biraju i doziraju sadržaje mlađim adolescentima. Osim toga, suvremena tehnologija vjerojatno je dostupnija starijim adolescentima koji u velikom broju posjeduju pametne telefone, internet, tablete i slično, a samim time i različiti medijски sadržaji su im dostupniji. S obzirom na navedeno ne iznenađuje dobiveni rezultat koji pokazuje da stariji adolescenti učestalije koriste ispitane medije.

Ako pogledamo ostale spolne i dobne razlike u učestalosti korištenja medija općenito, agresiji i podložnosti pritisku vršnjaka, vidjet ćemo da su adolescenti agresivniji i podložniji pritisku vršnjaka od adolescentica te da se fizička agresija, kao i učestalost korištenja medija povećava s dobi. Dobiveni nalazi vezano za agresiju ne iznenađuju budući da i rezultati različitih drugih istraživanja ukazuju na slične rezultate prema kojima su adolescenti fizički agresivniji od adolescentica (npr. Ricijaš i sur., 2010). U istraživanjima spolnih razlika u agresiji, svakako treba voditi računa o vrstama agresivnoga ponašanja budući da za neke vrste agresivnoga ponašanja, poput verbalne agresije, ženski ispitanici postižu više rezultate, a za fizičku muški.

Forko i Lotar (2012) u svojem istraživanju nalaze spolne razlike u podložnosti pritisku vršnjaka, u smjeru veće podložnosti kod adolescenata. Taj je nalaz u skladu s onim koji se dobiva i u ovom istraživanju. Razdoblje adolescencije je period kada se mladi ljudi distanciraju od svojih obitelji i više se priklanjaju vršnjačkim grupama

koje ih oblikuju i žele da ih prihvaćaju. Očito je da je u periodu rane adolescencije ta potreba za prihvaćanjem izraženija kod mladića.

Suprotno nekim nalazima koji se navode u literaturi (npr. Krahe i sur., 2011), rezultati ovoga istraživanja pokazuju da se fizička agresija povećava s dobi. Ovi nalazi pomalo iznenađuju budući da je poznato da je fizička agresija učestalija u mlađoj dobi, a verbalna u starijoj (Milašin, Vranić i Buljubašić Kuzmanović, 2009). Buduća bi istraživanja svakako trebala uzeti u obzir varijablu dobi, ali i različite vrste agresije istovremeno. Kada su ispitivane dobne razlike u agresiji u ovom istraživanju, istovremeno nisu analizirani i učinci spola, tako da je moguće da se agresivnost kod dječaka izjednačila s agresivnošću kod djevojčica. Kao još jedno moguće objašnjenje jest da su adolescenti obuhvaćeni ovim istraživanjem u prijelaznom razdoblju iz predpuberteta u pubertet kada je agresija jedan od načina kontroliranja emocija budući da emocionalna kontrola još nije razvijena, agresivno ponašanje predstavlja način suočavanja sa stresom, stjecanja popularnosti među vršnjacima i slično (Vasta, Haith i Miller, 2005).

Na kraju možemo se osvrnuti na neke prednosti i nedostatke ovoga istraživanja. Prednost je istovremeno ispitivanje uloge medija, vršnjaka i fizičke agresije te posredujuće uloge vršnjaka u odnosu između medija i agresije na uzorku adolescenata koji su potencijalno ranjiva skupina u kontekstu ispitivanih varijabli. Navedeno se do sada rijetko ili uopće nije ispitivalo, a ide u prilog teorijama izravnih i neizravnih učinaka. Neke su skale prevedene i adaptirane na hrvatski jezik za potrebe ovoga istraživanja, što omogućuje njihovo daljnje poboljšanje i korištenje u nekim budućim istraživanjima.

Nedostatak ovoga istraživanja svakako je prigodan uzorak sudionika budući da je istraživanje provedeno u tri riječke osnovne škole. Pitanje je koliko su adolescenti na određene skale davali socijalno poželjne odgovore (npr. koliko preferiraju pornografske sadržaje i u kojim mjeri su agresivni). Drugi nedostatak vezan je uz niže pouzdanosti skala *Učestalosti korištenja medija* i *Odnosa s vršnjacima* pa je moguće da bi neka druga mjera odnosa s vršnjacima dala bolji uvid u posredujuću ulogu vršnjaka u odnosu između medija i agresije te ukazivala na pouzdanije rezultate. Što se skale *Učestalosti korištenja medija* tiče bilo bi dobro ispitati koliko učestalo djeca i adolescenti koriste različitu IKT tehnologiju (npr. računala, pametni telefoni, tableti) i zbog kojih aktivnosti (npr. druženje na društvenim mrežama, traženje informacija vezanih za školu, preuzimanje videoigrica s interneta), što u ovom istraživanju nije provjereno.

Ovaj rad ima teorijske i praktične implikacije. U znanstvenom smislu podržava teorije, kako izravnih, tako i neizravnih učinaka, rezultate drugih istraživanja koja ukazuju na vezu između medija i agresije kod adolescenata te na važnost vršnjaka u agresivnom ponašanju. U praktičnom smislu dobiveni rezultati mogli bi se koristiti za educiranje adolescenata, roditelja i učitelja o učincima korištenja medija na agresiju te pokušati smanjiti korištenje medija drugim aktivnostima (npr. sportske aktivnosti, likovne, glazbene i sl.) kako bi se time smanjila i fizička agresija.

U današnjim školama još uvijek postoje zaposlenici, odnosno učiteljice i učitelji koji su odrasli u okruženju bez digitalnih medija, kao i oni koji su odrasli uz suvremene

digitalne medije. Za poučavanje učenika net-generacije u novom multimedijском okruženju važno je da svi nastavnici budu osposobljeni i motivirani za upotrebu novih medija (Matijević, Topolovčan i Rajić, 2017). Mediji će se svakako bolje primjenjivati kada škole budu opremljene s obzirom da su neke sličnije onima iz 19. , nego iz 21. stoljeća te kada učitelji budu posjedovali kompetencije za korištenje novih medija. Za postizanje takvih ciljeva potrebno je razvijati IKT vještine na visokoj razini, uključujući medijsku i digitalnu pismenost (Novković Cvetković, Stošić i Belousova, 2018).

Premda se većina neprihvatljivih oblika ponašanja događa izvan škole, raste shvaćanje da ti vanjski događaji negativno utječu na funkcioniranje učenika u školi i školskom okruženju (David-Ferdon i Hertz, 2007). Budući da mladi većinu vremena provode u školi, a škole su ondje gdje je većina društvenih veza formirana, može se pretpostaviti da su napadači vjerojatno njihovi vršnjaci. Uloge s kojima se obrazovni djelatnici suočavaju na različitim razinama obrazovnoga sustava u pokušaju rješavanja agresije uistinu su bitne. Worthen (2007) jasno ističe da škole imaju važnu ulogu u promicanju školskoga okruženja koje ne tolerira nikakav oblik agresije i provedbu učinkovitih programa. Školsko okruženje izvrsno je mjesto za provođenje preventivnih programa budući da djeca u školi provode većinu svoga vremena te da iskustvo utječe na razvoj pojedinaca. Adolescente bi trebalo osvijestiti da je uloga vršnjaka važna u njihovom periodu života. Međutim, treba ih učiti da budu asertivni i manje podložni pritisku vršnjačke grupe, čime bi se i agresivnost u tom razdoblju moguće smanjila. S obzirom da istraživanja impliciraju kako agresivno ponašanje u školi predviđa povećane rizike u kasnijem životu, jasna je moralna odgovornost djelatnika škole da djeluju kako bi smanjili takva ponašanja u školama kao i moralna obveza znanstvenika u nastojanju da daju što više saznanja.