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## **MEDIA EXPOSURE AND SECONDARY SCHOOL DELINQUENCY**

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### **Abstract**

The link between youth delinquency and increasing exposure of youth to the media in contemporary world is not sufficiently researched. The present paper presents the results regarding secondary school students aged 15 – 19 years from Slovenia regarding media exposure, internet privacy concerns, school achievement and will to live in relation to youth delinquency. We hypothesised that students with a lower last year final achievement and lower current grades are more delinquent than students achieving higher grades and that heavy media users are more delinquent than less exposed students. To test the hypotheses, groups were created and independent sample Student T-tests was used. The present paper demonstrates the correlation between higher delinquency rates and lower school success and between higher delinquency rates and higher media exposure.

**Key words:** Adolescents, Secondary School, Media, Delinquency, Deviance, Family.

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## **Introduction**

When growing up, young people resist the established norms. This is to some extent normal, as long as the rejection of socially accepted norms within the framework does not reach a criminal act. Modern technologies make it possible to monitor these deviations with surveillance cameras. However, they allow young people to share them with others and behave based on them. With the article we want to draw the attention to this phenomenon. Media exposure and Secondary School Delinquency is a timely discussion on a trending issue.

## **Delinquency**

The adolescents are susceptible to engagement in delinquent behaviour, as they negotiate the often uncertain transition from childhood to adulthood in an increasingly complex and confusing world, Adolescent delinquency and crime rates are on the rise across the globe including Slovenia and the issue is going to become even more critical in the future: "For many young people today, traditional patterns guiding the relationships and transitions between family, school and work are being challenged. Social relations that ensure a smooth process of socialization are collapsing; lifestyle trajectories are becoming more varied and less predictable. The restructuring of the labour market, the extension of the maturity gap and, arguably, the more limited opportunities to become an independent adult are all changes influencing relationships with family and friends, educational opportunities and choices, labour market participation, leisure activities and lifestyles /.../ Youth nowadays, regardless of gender, social origin or country of residence, are subject to individual risks but are also being presented with new individual opportunities - some beneficial and some potentially harmful. Quite often, advantage is being taken of illegal opportunities as young people commit various offences, become addicted to drugs, and use violence against their peers. /.../ Young people who are at risk of becoming delinquent often live in difficult circumstances" (Salagaev, 2003, pp. 189–190). Additionally, such value shifts can have long-term consequences in the terms of changes in the political culture (Kleindienst, & Tomšič, 2017; Kleindienst, & Tomšič 2018).

Criminologist's definition of juvenile delinquency encompasses all public wrongs committed by young people against the law, while sociologists define the term more broadly as covering different violations of not just the law, but social norms and values as well. Behaviour and conduct that society might consider delinquent or anti-social is often a part of growing up and usually disappears with the transition to adulthood, however under certain disadvantageous circumstances it can lead to crime.

Delinquent or criminal adolescents most often associate with groups or subcultures, which can reinforce delinquent behaviour (Salagaev, 2003). The membership and conduct of these groups are dependent upon socioeconomic and socio cultural conditions in the wider community and society that these groups are part of: "The intensity and severity of juvenile offences are generally determined by the social, economic and cultural conditions prevailing in a country" (Salagaev, 2003).

### **Media**

Media is most often not the source of delinquent behaviour in adolescents, however, it plays an important mediation role in encouraging potential risk behaviour that can lead to juvenile delinquency and crime. There is no doubt that the media, particularly contemporary screen media, such as television, personal desktop, tablet computers, and smart phones, influence the perceptions and behaviour of children and adolescents to a large degree with their exceptionally powerful role models, interactive storytelling and immersion capacity, blurring the line between reality and fiction, material and digital world. Today, the media ".../ play a central role in the lives of today's children and adolescents. Their homes, indeed their bedrooms, are saturated with media. Many young people carry miniature, portable media with them wherever they go. They comprise the primary audience for popular music; they form important niche audiences for TV, movies, video games, and print media; they typically are among the early adopters of personal computers and are a primary target of much of the content on the World Wide Web." (Roberts, Foehr, & Rideout, 2005, p. 1).

Media influences the perception of violence and encourages youth violence in several ways with various short- and long-term consequences. Firstly, violent content may excite the viewers to commit violent acts, an effect which can last from a few hours to a few days. Secondly, media portray exaggerated and excessive violent relationships within families and between peers, which the viewers can learn and take for granted. Lastly, the portrayal of violence in the media is often unrealistic or surrealistic, encouraging the perception of violence as inconsequential. Over time these influences cause a shift in the system of values leading, under certain circumstances, to antisocial and delinquent behaviour or even criminal conduct (Salagaev, 2003).

Most theoretical and empirical research on the issue of media violence influence on juvenile delinquency seems to have been most concerning to the relatively conservative public in the United States of America rather than in Europe so most research is historically based there. Socioeconomic and socio cultural issues have been relatively

downplayed in the American unequal and individualistic society effectively ignoring the mediation of family's economic class and race in the relationships between media exposure and delinquency among adolescents.

In our research youth delinquency is evidenced by the following variables related to risk behaviour: smoking, drinking, substance (ab)use, weapon carrying, cheating on tests, petty theft, beating, bullying, cyber bullying, conflict with parents, gambling, experiencing stress, school absenteeism and vandalism. In this paper we particularly demonstrate the correlation between delinquency and school success and between delinquency and media exposure.

### **Media Exposure and Adolescent Delinquency Historical Overview**

The link between media and delinquency is not a novel contemporary phenomenon as it can be traced back to at least the beginning of written history (Ferguson, 2013), however it is within contemporary society of the so called 'information' age, in which an individual absorbs more information a day than our ancestors could in a lifetime, that the entanglement of media and delinquency reached a critical and worrying point. Already at the beginning of the 20th century the public attention became fixated on questions of supposed negative effects of media exposure on young people due to the rising interest and awareness of adolescence as a distinct period of childhood coupled with the appearance of mass media especially in the form of movies, but also radio (Wartella & Robb, 2008).

Adults, especially parents were afraid of the unfamiliar and novel medium, which was wonderful and shocking at the same time, while anecdotal evidence appeared to show cases of delinquency among boys and sexual immorality among girls. In the earlier decades of the 20th century, debates about the role of movies in the USA were split between proponents of educational potential of movies, despite the fact that few educational films were made at that time, and proponents of censorship, especially with the establishment of the National Board of Censorship of Motion Pictures. "Public controversies about the morality and educational potential of films led to increased interest in how movies were impacting youthful audiences." (Wartella & Robb, 2008). Earliest serious influential studies appeared in the 1930s with a focus on sexual and violent content on young people (Blumer & Hauser, 1933). According to these studies, "... the movies did indeed 'implant' their ideas about social behaviour in young people's minds and were powerful in influencing youth's behaviour." (Wartella & Robb, 2008).

The ownership of television sets became prevalent in the West during the middle of the 20th century with the potential of visual media reaching a wide range of audiences including adolescents. About a decade later a precipitous rise in crime rates, especially in the USA gave rise increased public concern: “/.../ the apparent correlation (which has not been actually demonstrated statistically) between the increased use of television in the 1950s and increased crime in the 1960s became fodder for the debates on the impact of violent media.” (Ferguson, 2013, p. 24). This, however, was a period of general social upheaval, which better explains the rise of violence rather than the media exposure, especially since in Europe the appearance of television was not correlated with any rise of crime rates (Ferguson, 2013). Due to concerns of the general public and the need to understand the effect of new media on children, most mass media research in the past 60 to 70 years has been focused precisely on media violence research, specifically on questions whether inappropriate violent content on TV, and more recently on other screen media that children are exposed to, makes the children more hostile and aggressive and increases their chances of becoming violent adults. A substantial body of research documented the effects of television violence and video game violence on young viewers (Wartella & Robb, 2008). Various theories have sought to explain short- and long-term effects of exposure on viewers’ attitudes and behaviours (Valkenburg & Taylor Piotrowski, 2017; Villani, 2001; Wartella & Robb, 2008).

Historically the most influential were studies in the framework of the social learning theory, a theory of learning and social behaviour which proposes that new behaviours can be acquired by observing and imitating others (Bandura, 1977, 1994). According to the theory, children and adolescents learn or acquire behaviour and world views by imitating role models, which include those seen on TV, especially if the models are appealing or similar to children or adolescents. The theory was supported by empirical research on the negative influence of television on violence in children and adolescents (e.g. Bandura, Ross, & Ross, 1961).

Public concerns with the influence of media on adolescent delinquency resurged in the last quarter of the 20th century with the prevalence of video games, particularly in the 1980s and 1990s. As in the case of television, public concerns lead to the establishment of the Entertainment Software Rating Board in the USA and similar media censorship institutions in Europe. It is however interesting that as the sale of video games increased, the rate of violence actually decreased by the turn of the millennium (Ferguson, 2013).

Following this empirical research and major reviews of the literature (Villani, 2001) supporting the conclusion that media violence contributes to aggressive behaviour and attitudes, several influential institutions have exposed the issue to the public. At the turn of the millennium, the American Academy of Paediatrics has, for example, declared television violence to be a public health hazard while in the early 1990s the American Psychological Association has implicated media violence as a cause of aggressive behaviour: "There is absolutely no doubt that those who are heavy viewers of this violence demonstrate increased acceptance of aggressive attitudes and increased aggressive behaviour". (Ferguson, 2013). These recommendations based on meta-analytical research are not without faults as we will show in the following chapter (Ferguson, 2013).

### **Theoretical Issues**

In a review of mass communication studies particularly theoretical and empirical research into the relationship between media and the family A. Alexander (2008) contextualizes the previously mentioned social learning theory within the contemporary social cognitive theory, which, aside from the already mentioned role-model imitation, also points to the fact that the media can influence children's or adolescents' relationship with the family members as well as the apprehension of family roles and family relationships. The author reviews other theories related to the research into media and violence such as cultivation theory (Gerbner, Gross, Morgan, & Signorielli, 1994), which studies long-term effects of individual's exposure to consistent media messages, which over time leads to the overlapping of individual's world views with those presented in the media. The theory suggests that individuals who are exposed to violence as portrayed in the media may begin to believe that crimes are more common and ever increasing than in reality. It has been shown, however that the real world effect of this hypothesis is minimal (Ferguson, 2013).

However, adolescents are not isolated individuals; they are entangled in relationships with other children and adults within families, peer groups and society as a whole. The human person is a relational being, he cannot survive without relationships, and (early) relationships impact his later life (Stepišnik Perdih, in press). While both aforementioned theories focus on the effects of media on individuals, the theory of family systems (Baran & Davis, 2006) highlights the family as the basic unit of observation and research. The family is here understood as a system of interconnected parts so that changes in one part of the system can lead to changes in other parts. This approach allows the understanding of complex interactions between family members and the family process as

a whole while also providing a more nuanced view of both negative and positive effects of media. Family members' interactions form behavioural patterns, including those related to media use, which become habitual in their everyday lives. Related is another theoretical approach reviewed by A. Alexander (2008), namely the sociocultural approach (Craig, 1999; Paus-Hasebrink, Bauwens, Dürager, & Ponte, 2013), which draws attention to the broader cultural patterns of family habits and practices in relation to media use. This approach contextualizes mass media within a symbolical process in which societal reality (re)produces, maintains, rectifies and changes. Indeed, both theoretical (Alexander, 2008; Valkenburg & Taylor Piotrowski, 2017) and empirical research points to the fact that family and its socioeconomic and sociocultural context in particular is the most important mediating system of adolescent media use (Roberts et al., 2005; Scherr, Mares, Bartsch, & Gotz, 2018). A holistic approach to mass media research, particularly the research of the influence of media exposure on youth delinquency thus needs to take into account the socioeconomic and cultural contexts of adolescents' family lives.

Any research of media influence on children and adolescents is challenged by the fact that it is difficult to establish clear cause-and-effect relationships or rather to prove undeniably that media exposure directly influences behaviour. Most studies of the supposed impact of media on youth are correlational studies. These simply assume that if media violence stimulates aggression, then adolescents exposed to high levels of media violence will be more violent. Within these studies media exposure and violent behaviour are assessed separately, after which a correlation is usually established. "Correlational studies can establish a relationship between media violence and aggressive behaviour, but they cannot demonstrate that media violence causes aggressive behaviour. After all, they cannot solve the "chicken-or-egg" dilemma: it is impossible to determine which came first – media violence or aggressive behaviour." (Valkenburg & Taylor Piotrowski, 2017) Correlation does not necessarily mean causation and this is not consistently clear in the published research. When greater and longer exposure to violent content in media coincides with higher crime or delinquency rate among adolescents, the media is not the only and indeed not the most important factor or mediator, or rather, one cannot solely blame the media without considering other factors. As argued in the previous paragraph, it is the family and its socioeconomic and sociocultural position within the broader society that needs to be considered. The influence of media on adolescents as family members is to a large extent dependent upon cultural, social and economic dispositions of individuals, families and communities. In other words, family media environment, media

availability and use are affected by parents' ethnicity, education, income, etc. as well as adolescents' sex and age (Ferguson, 2013; Roberts et al., 2005).

Indeed the history of research on correlations between media and violence are replete with bad research design and premature conclusions (Ferguson, 2013). When trying to draw real-world conclusions from the existing research on media and delinquency meta-analytical reviews are usually undertaken, which have several drawbacks. Publication bias means that journals prefer to publish articles, which demonstrate statistically significant results, or even results, which appear sensational, which through accumulation of knowledge over time leads to a false picture of a phenomenon in reality. Another concern is the so called 'junk in junk out' phenomenon which points to the fact that meta-analyses are not always able to assess the quality of included studies or the fact that combining studies of mixed quality convey the faults into the meta-analysis itself (Ferguson, 2013). In the following we review some empirical studies that show correlation between media exposure and risk behaviour or delinquency. The fact is that published evidence for the case of media exposure influence on adolescents' delinquency is far from consistent and until today the controversies remain unsolved: "At the beginning of the new millennium considerable controversy remains over the proliferation of violence on television, movies, music, and new media such as video games and the Internet. It is unlikely that the controversies over media violent impact are to be resolved in the near future, or that consensus will be reached regarding the importance of media violence as a causal contributor to societal violence." (Ferguson, 2013)

### **Previous Research**

In a literature review J. Freedman (2002) notes that at the time there were approximately 200 empirical studies of media violence effects and points out that of the studies available that conduct empirical research regarding a link (correlational or causal) between media violence and actual violent behaviour, more than half of them failed to unequivocally support this link. In the previous two decades research on this increasingly topical and controversial issue has further multiplied and, given the 'publish or perish' conditions and mindset in Academia, there is little doubt that the quality of research has improved or rather that we are closer to better understanding of the mechanisms by which media exposure influences adolescents' delinquency.

In the following, we review some of the studies documenting the correlation between media and adolescent delinquency, risk behaviour

and violence since the turn of the millennium. The research of Bushman and Anderson (2001) supports the link between violent media and violence in the real world. According to the research a typical American watches approximately 8000 hours of violent content on television. Furthermore, by the time an average American child graduates from primary school, they will have seen more than 8000 murders and more than 100.000 various cases of violence from rape to assault. Anderson et al. (2003) establish that media does have an influence especially on minor forms of violence, while not ruling out the possibility that media also has an effect on more severe cases of violence.

On a sample of 820 teenagers Boxer et al. (2009) determined, that the preference for violent content in media during childhood is a good indicator of later delinquency behaviour and general aggressiveness in teenagers. Cashmore (2014) presents a model according to which the media can increase the general levels of fear in audience and thus affect the behaviour and perception. When exposed to potentially violent situations, they may avoid rather than confront them openly. Media induced fear may result in people staying at home more often in unrealistic fear of violence to avoid confrontation. Long-term effects of younger adolescents' exposure to violence in the media were studied recently by Moessle et al. (2014). The authors point out that relationship between media use and aggressive behaviour is very complex with empathy playing an important role as a mediator between violent content in the media and aggressive behaviour in real life, especially in men.

Huesmann and Taylor (2006) point out that the correlation between media violence and real violence is strong but dependent upon the type of media and the way violent content is presented. According to them, violent content on television may influence higher suicide rate and aggressive behaviour among adolescents. Television violence in general and movies in particular contribute to both the long- and the short-term increase in adolescents' aggression and violence. Slotsve et al. (2008) analysed student opinion and determined that there is a correlation between media and real life violence in students' lives. According to the students themselves, violent content watched on television in childhood retrospectively did influence risk behaviour.

On the basis of two studies, one carried out in laboratory environment and the other in real life situations, Anderson and Dill (2000) determine that exposure to violent content in video games does influence aggressive behaviour in the short-term, under laboratory conditions, and delinquent behaviour in the long-term. In a similar study, Huesmann and Taylor (2006) also provided evidence for the short-term influence on

increase in aggression and violence, in the long-term however, the influence could not have been determined. Gentile et al. (2012) studied pathological and risky video game use, both in terms of quantity and quality of video game content, among children and adolescents of ages 8 to 18. According to the authors it is possible to predict pathological video game use on the basis of lower school success, even when sex, age, and quantity of video game use are accounted for. Pathological video game use is measurable and is not simply related to the quantity of play. According to the author, about 10% of adolescents actually have problems in everyday life due to playing video games, 8.5% of gamers exhibit at least 6 of 11 symptoms of delinquency such as family conflicts, antisocial behaviour and vandalism. Risky gamers also differ from ordinary gamers in that they play about two times as much violent games. On a sample of 1254 primary school children Ferguson et al. (2014) were not able to determine whether violent video games influence delinquent behaviour, however, they were able to identify the link between delinquent behaviour and personality traits and stress level of adolescents. Links between media exposure and Attention Deficit Hyperactivity Disorder (ADHD) were studied by Gentile et al. (2012) on a sample of more than 3000 adolescents in Singapore. Authors determined that violent video game content does have an effect on attention spans and impulsiveness in adolescents, consequently leading to more game play in a reinforcing cycle.

### **Ethical challenges of researchers in studies**

In studies, researchers have a great responsibility and play many different roles. It is argued that this research, which deals with sensitive topics in depth, can pose emotional and other risks to both participants and researchers. Clear protocols for dealing with distress should be in place so that both parties involved in research can use them if necessary. It is not usually easy to predict what topics are likely to lead to distress, and researchers should therefore receive sufficient training in predicting traumatic situations (Sanjari, Bahramnezhad, Fomani, Shoghi, & Cheraghi, 2014).

## **Method**

### **Sample and Procedure**

Data for the our analysis was kindly provided by the Infrastructure program of the Faculty of Media - Collecting Managing and Archiving Data on Media Literacy. Data collection process was supported by Slovenian Research Agency (Mediji in srednješolci, Rek, Milanovski Brumat, 2016).<sup>5</sup>

Based on the provided data we set up the following hypotheses for our analyses:

- H1 a, b: Students with a) lower previous year final achievement and b) lower current grades are more delinquent than students achieving grades 4 – very good and 5 – excellent.
- H2 a, b, c, d: Heavy a) media, b) screen, c) passive TV, d) social media users are more delinquent than less exposed students.

The data was analysed using SPSS PASW Statistics 18 software. To test the hypotheses, groups were created and independent sample Student T-tests was used.

### **Data Analysis**

Data for independent variables was coded into 2 groups (marks 4 – very good and above and 3 – good and lower) for the questions of current grades and last year's academic success. Media exposure was measured as a summary of estimated daily exposure separated above stated media for (total media exposure, screen exposure). Students were then divided into three groups at estimated 33 percentile (small, medium and large) for total media exposure, screen exposure, exposure to passive television and the usage of social networks. All dependent variables were measured as the number of occurrences in a month/year. Numbers of students, averages for each group, std. error mean and statistical significance can be seen in Table 1.

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<sup>5</sup> The final sample consisted of 818 surveys of secondary school students aged 15 – 19 years from 37 secondary schools. After weighting boys represented 48.95% of the sample. Regarding the year of study sample consisted of 30% of first year students, 23% of secondary year students, 27% of third year students and 20% final year secondary School students. 52% of respondents lived in the city and 48 in rural areas in Slovenia.

A questionnaire was developed based on a national research questionnaire Youth 2013 (Flere et al, 2013), on State and Local Youth Risk Behaviour Survey questionnaire (2015) and on Media Literacy Research in Slovenia 2014 questionnaire (Rek, Kovačič, Milanovski, 2014). Final questionnaire consisted of 77 variables.

## **Results**

### **Hypothesis testing**

To test the hypothesis, the independent t-test was used for testing the differences between the means of two independent groups. It was assumed the sampling distribution of differences between means is normally distributed in the population. For all of the following t-tests the assumption of homogeneity of variance has been violated, and the Equal variances not assumed t-test statistic was used for evaluating the null hypothesis of equality of means. The results can be seen in Table 1. When testing H1 we focused on the extent that grades are correlated to delinquent behaviour measured on 18 variables. As seen in table 1, as assumed, all indicators point out that lower grades are connected to a substantial increase in the frequency of delinquent behaviour. The only variable not showing statistically significant differences is the feeling of stress. On the other hand, students with marks good and below are several times more likely commit deviant behaviours (e.g. on "Destroyed or caused damage on other people's property" students with low previous year grades have more than 7 times higher frequency in comparison to students with higher marks). Similarly current marks seem to be connected to a more frequent deviant behaviour.

Thus we can conclude that students with a) lower last year final achievement and b) lower current grades are more delinquent than students achieving grades 4 – very good and 5 – excellent).

Testing H2 we also discovered an incredible difference in the frequency of deviant behaviour between students that are heavy and small media users. When comparing the groups we have a minimum of 498% increase and a maximum of 2 666% increase in favour of heavy users (all but one indicator are also statistically significant). Similarly students belonging to a group that uses screens more often are more likely to be involved in deviant behaviour.

We also tested that students heavily exposed to passive television (being in the same room where TV is turned on) could be more frequently identified in committing deviant behaviours. Despite the fact that 11 out of 18 tested variables could not be proven statistically significant all indicators point to a substantial increase when students are heavy users of passive television watching.

Table 1. Statistical analysis of the differences between small and large media / screen / passive TV / social media users.

	User exposure to media (small, medium, large)					User exposure to screens (small, medium, large)				
		N	Mean	Std. Error Mean	Sig. (2-tailed)		N	Mean	Std. Error Mean	Sig. (2-tailed)
How many days in the past month did you smoke cigarettes, cigars etc?	Small	259	2,00	,412	,000	Small	316	2,06	,381	,000
	Large	253	4,88	,637	144%	Large	251	5,57	,689	171%
How how many days in the past month did you consume at least one alchoolic beverage?	Small	259	1,98	,225	,001	Small	316	2,44	,249	,179
	Large	253	3,31	,349	67%	Large	250	2,98	,329	22%
How how many days in the past month did you consume illegal drugs marihuana ecstasy, pills, cocaine?	Small	259	,57	,176	,020	Small	316	,74	,212	,008
	Large	251	1,54	,383	172%	Large	249	1,94	,428	162%
How how many days in the past month did you cary any weapons (knife, stick, gun)?	Small	259	,79	,247	,001	Small	316	,62	,195	,002
	Large	253	2,75	,506	247%	Large	250	1,95	,424	215%
How how many days in the past month did you bring any weapons to school (knife, stick, gun)?	Small	259	,52	,171	,017	Small	316	,48	,159	,034
	Large	253	1,51	,380	192%	Large	250	1,26	,357	160%
How many times in the past year did you cheat on exams in school?	Small	260	15,73	3,569	,069	Small	316	9,86	2,131	,000
	Large	253	26,74	4,910	70%	Large	250	30,61	5,156	211%
How many times in the past year did you steal anything?	Small	259	,34	,084	,007	Small	315	,86	,437	,013
	Large	252	9,51	3,407	2666 %	Large	253	7,57	2,970	781%
How many times in the past year were you involved in a fight?	Small	260	,63	,169	,015	Small	315	,69	,163	,008
	Large	253	7,79	2,958	1141 %	Large	253	7,68	2,934	1012 %
How many times in	Small	259	2,52	1,313	,016	Small	314	2,03	1,001	,011

the past year were you bullied?	Large	250	10,70	3,168	325%	Large	248	9,26	2,928	357%
How many times in the past year did you bully others?	Small	256	2,58	1,682	,023	Small	309	2,24	1,394	,019
	Large	252	11,46	3,543	343%	Large	252	10,20	3,315	355%
How many times in the past year did you have conflicts with your parents?	Small	259	33,30	4,571	,026	Small	315	31,70	3,855	,002
	Large	253	50,11	6,010	50%	Large	253	53,40	6,212	68%
How many times in the past year were you bullied online or via electronic messages?	Small	259	,91	,284	,006	Small	315	2,47	1,367	,214
	Large	253	9,11	3,011	906%	Large	253	5,77	2,420	133%
How many times in the past year did you gamble?	Small	261	7,58	1,793	,043	Small	318	6,13	1,380	,001
	Large	254	17,19	4,441	127%	Large	255	19,90	4,501	225%
How many times in the past year did you feel stressed?	Small	256	89,36	6,671	,000	Small	315	94,36	6,243	,026
	Large	253	130,72	8,367	46%	Large	254	116,72	8,072	24%
How many times in the past year did you feel so sad or depressed that you refrained from some daily activities for two weeks or more?	Small	260	20,62	3,406	,000	Small	318	19,56	3,035	,001
	Large	254	45,54	5,758	121%	Large	255	37,83	5,072	93%
How many times in the past year did you skip school?	Small	260	7,02	1,944	,024	Small	318	8,63	2,435	,123
	Large	253	17,00	3,989	142%	Large	254	14,99	3,461	74%
How many times in the past year did you intentionally damage or destroy school property?	Small	259	,68	,245	,012	Small	317	,64	,247	,001
	Large	249	9,14	3,420	1241%	Large	253	13,11	3,987	1942%
How many times in the past year did you intentionally damage or destroy foreign property?	Small	261	,74	,294	,023	Small	318	,79	,268	,003
	Large	254	7,83	3,131	960%	Large	255	9,79	3,404	1132%

	User exposure to media (small, medium, large)	User exposure to screens (small, medium, large)
Minimal increase/decrease	46%	22%
Maximal increase in pct	2666%	1942%
Average increase in pct	498%	396%

	User exposure to passive television (small, medium, large)					User exposure to social media (small, medium, large)				
		N	Mean	Std. Error Mean	Sig. (2-tailed)		N	Mean	Std. Error Mean	Sig. (2-tailed)
How many days in the past month did you smoke cigarettes, cigars etc?	Small	242	3,07	,531	,209	Small	265	2,93	,498	,022
	Large	248	4,07	,593	33%	Large	285	4,75	,604	62%
How how many days in the past month did you consume at least one alcocholic beverage?	Small	242	2,31	,239	,069	Small	265	2,11	,253	,002
	Large	247	3,11	,363	34%	Large	285	3,46	,340	64%
How how many days in the past month did you consume illegal drugs marihuana ecstasy, pills, cocaine?	Small	241	1,14	,318	,453	Small	265	,93	,268	,101
	Large	247	1,51	,382	33%	Large	283	1,70	,376	83%
How how many days in the past month did you cary any weapons (knife, stick, gun)?	Small	241	,90	,273	,024	Small	265	1,33	,348	,443
	Large	249	2,08	,439	131%	Large	285	1,72	,365	29%
How how many days in the past month did you bring any weapons to school (knife, stick, gun)?	Small	241	,36	,152	,150	Small	265	,71	,245	,221
	Large	249	,84	,294	133%	Large	285	1,21	,321	70%
How many times in the past year did you cheat on exams in school?	Small	242	22,61	4,708	,536	Small	266	11,19	2,902	,000
	Large	250	26,79	4,838	19%	Large	286	36,73	5,457	228%
How many times in the past year did you steal anything?	Small	242	2,76	1,782	,296	Small	266	2,86	1,685	,116
	Large	251	6,20	2,731	125%	Large	287	8,39	2,998	193%
How many times in the past year were you involved in a fight?	Small	241	1,25	,764	,055	Small	266	2,58	1,615	,170
	Large	251	6,82	2,738	445%	Large	287	6,89	2,617	167%
How many times in the past year were you bullied?	Small	238	6,34	2,420	,962	Small	264	1,35	,549	,003
	Large	250	6,51	2,394	3%	Large	283	10,25	2,873	657%

How many times in the past year did you bully others?	Small	238	2,89	1,516	,145	Small	261	6,59	2,822	,402
	Large	249	7,71	2,891	167%	Large	283	10,08	3,043	53%
How many times in the past year did you have conflicts with your parents?	Small	240	37,65	5,313	,587	Small	266	26,56	4,029	,000
	Large	251	41,72	5,282	11%	Large	287	56,92	5,848	114%
How many times in the past year were you bullied online or via electronic messages?	Small	242	1,04	,340	,050	Small	265	2,74	1,635	,150
	Large	250	5,57	2,240	438%	Large	287	7,24	2,592	164%
How many times in the past year did you gamble?	Small	243	7,14	2,311	,013	Small	266	7,53	2,172	,002
	Large	251	19,22	4,210	169%	Large	290	23,30	4,398	210%
How many times in the past year did you feel stressed?	Small	240	105,18	7,661	,261	Small	264	80,39	6,209	,000
	Large	250	117,72	8,063	12%	Large	289	115,39	7,398	44%
How many times in the past year did you feel so sad or depressed that you refrained from some daily activities for two weeks or more?	Small	243	25,76	4,291	,339	Small	266	14,21	2,477	,000
	Large	250	32,02	4,916	24%	Large	289	44,54	5,360	213%
How many times in the past year did you skip school?	Small	243	5,76	1,277	,036	Small	264	6,99	2,313	,032
	Large	250	13,65	3,479	137%	Large	288	16,10	3,455	130%
How many times in the past year did you intentionally damage or destroy school property?	Small	241	,42	,222	,012	Small	264	2,37	1,628	,019
	Large	247	9,18	3,441	2091%	Large	286	11,73	3,529	395%
How many times in the past year did you intentionally damage or destroy foreign property?	Small	243	,37	,184	,013	Small	266	2,43	1,620	,078
	Large	251	8,97	3,384	2323%	Large	290	8,60	2,997	254%

	User exposure to passive television (small, medium, large)	User exposure to social media (small, medium, large)
Minimal increase/decrease	3%	29%
Maximal increase in pct	2323%	657%
Average increase in pct	351%	174%

Data source: Infrastructure program of the Faculty of Media (Rek Mateja, Milanovski Brumat Kristina, 2016)

Finally we can observe that there is a prevailing significant difference of the quantity of deviant behaviour also between heavy and small social network users. More time spent on social network seems to increase the likelihood of deviant behaviour substantially between 29 and 657%.

Thus we can confirm that heavy a) media, b) screen, c) passive TV, d) social media users are more delinquent than less exposed students.

## **Discussion**

In the present article we have introduced delinquency and media exposure of secondary school students and provided a historical overview of the supposed links or rather correlations between the two. Furthermore we discussed theoretical issues challenging comparable quantifying correlational studies. As previously noted, any research of media influence on children and adolescents is challenged by the fact that it is difficult to establish clear cause-and-effect relationships or rather to prove undeniably that media exposure directly influences behaviour. Correlation does not necessarily mean causation and this is not consistently clear in the published research. When greater and longer exposure to violent content in media coincides with higher crime or delinquency rate among adolescents, the media is not the only and indeed not the most important factor or mediator, rather one cannot solely blame media without considering other factors.

Our overview of previous studies does indeed show a correlation between exposure to media and secondary school delinquency, though it is still hard to provide clear cases in which the correlations might actually be explained as causation, namely that exposure to specific media contents for specific amounts of time on average does indeed influence higher delinquency rates among secondary school students.

To research the links between exposure to media and delinquent behaviour among Slovene secondary school children, we designed a quantitative study, which is based on the opinions of secondary school students. Based on our data we presented the results of our research in terms of average exposure times. We analysed the correlation between exposure to media and delinquency by forming and testing, using SPSS PASW Statistics 18 software, two hypotheses and their sub-hypotheses. The first hypothesis supposes that students with lower last year final achievement and/or lower current grades are more delinquent than students achieving good and excellent grades. The second hypothesis supposes that heavy users of media overall and/or users with high reported screen time and/or users with high reported passive TV watching and/or heavy users of social media are more delinquent than less exposed students in all these classes, respectively. According to our statistical analyses, as presented in the previous chapter, both hypotheses and their sub-hypotheses can be confirmed, only for passive TV watching the minority of tested variables are in any way significant. We have thus, similarly to the studies from abroad, confirmed the

positive correlation between exposure to the media and secondary school delinquency, at least for the analysed variables.

Among the tested variables showing correlation between different kinds of exposure to media and different forms of delinquent behaviour (Fig. 1) we point out one specific and striking correlation with several-fold increase of delinquent behaviour in favour of heavy media users, when compared to the average increase. We are talking about the correlation between public vandalism outside of school or at school (Fig. 1: last two variables on the X-axis) and both screen-time and passive TV watching (Fig. 1: second and third variable on the Y-axis). Both the screen-time and the passive TV watching variable show most influence or rather correlation with delinquent behaviour among all other variables, particularly for the already noted vandalism behaviour or the destruction of public or foreign property at school or outside of school. According to the anecdotal evidence we suppose that passive TV watching in particular is found in less involved families in which parents more often neglect the children. Therefore we believe that families in which the television is turned on most of the time and thusly defines the family environment are in many cases also families in which children are left to their own devices and where there is limited intimate communication between family members. Our presented assumption should however be tested in the future with a re-shaping of the quantitative research into a more qualitative research, which through direct and intimate relationships with the research subjects may provide evidence for the mechanism of mediation in the correlations between exposure to media and youth delinquency. Only when such mediating mechanisms are presented may correlation also be considered as causation.

## **Conclusions**

We argue that it is the mediating mechanisms of the family environment and its socioeconomic and sociocultural position within the broader society that needs to be considered. The influence of media on adolescents as family members is to a large extent dependent upon cultural, social and economic dispositions of individuals, families and communities. In other words, family media environment, media availability and use are affected by parents' ethnicity, education, income, etc. as well as adolescents' sex and age.

These findings are relevant to several interested parties. (1) To parents so they can give greater attention to monitoring the media exposure of their children. A particular emphasis must be focused on what kind of content is being monitored and what kind of content they share through social media. (2) To the leadership of secondary schools and teachers

so they can draw up awareness-raising programs for young people about the dangers of the media. (3) To social workers so they can engage more fully with young people who have begun to cross the line. (4) To the police, as they can monitor the most delinquent individuals by timely monitoring the social media.

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