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## **RELATION BETWEEN THE FACTORS OF FAMILY RESILIENCE AND PLAYING VIDEO GAMES WITH VIOLENT CONTENTS**

*Abstract:* Regarding the fact that the research has indicated that the correlation of playing violent video games and violent behaviour could be explained by introducing a “third variable”, the aim of this paper was to determine if there were differences in the factors of students' family resilience when they played video games with violent or non-violent contents. For the purposes of this paper, we used the Family Resilience Assessment Questionnaire (Ferić, Maurović and Žižak, 2016), which was developed according to the Family Resilience Assessment Scale (FRAS) (Sixbey, 2005), and which was standardized for use in research in the Republic of Croatia. The questionnaire consisted of 45 items that measured the family resilience factors. Results have shown that when students play video games with non-violent contents, the family resilience factors are linked to the sense of community and trust between members, and their cohesion with family and friends is stronger. A scientific contribution of this paper is the achievement of specific results linked to the family resilience and playing video games with (non)violent contents. The significance of these results also lies in the fact that they give guidelines for the recognition of problems and interventions on various levels.

*Key words:* family, resilience, students, video games, violence.

### **INTRODUCTION**

Playing video games with violent contents is often linked to certain inappropriate types of behaviour among the young, like, for instance, violence and aggression. At the same time, there is an unsolved dilemma if playing violent games and watching violence in general supports such young watchers'

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behaviour, or already existing aggressive traits of young persons who watch such contents become manifested through their higher tendency to watch violence (Anderson & Bushman, 2002). Is there a mutual direct correlation between the “dyad“ of playing violent video games and violence? (Anderson and Bushman, 2001; Ferguson, 2010)

When we talk about the correlation existence between playing video games with violent contents and young people's violent behaviour, certain authors (Montag et al., 2012; Willoughby et al., 2012; Szycik et al., 2016; Kimmig et al., 2018) look at the problem in a somewhat wider sense, being focused on the long-term effects of using video games with violent contents, which consequently result in a lack of empathy, and the other way round. Namely, Funk et al. (2004) and Fraser et al. (2012) think that the importance of such studies comes out of the fact that playing violent games can be linked to a low level of empathy, which can benefit violent attitudes and insensitivity to violence. On the other hand, empathy is greatly influenced by the family, which encourages or does not encourage a child's empathy (Greenspan, 2007). The aforementioned can also have an influence on the ability to learn social and communicational skills. Gender and motivation should be also considered (Ružić-Baf, Radetić-Paić & Debeljuh, 2014).

## THEORETICAL BACKGROUND

Some authors have taken a further step, like Pinker (2002), who thinks that the correlation between video games and violence can be explained by the introduction of the so called “third variable”, like the family environment or the innate aggressiveness, as well as factors of family resilience or non-resilience (Radetić-Paić, 2019). Researches introducing the “third variable” are usually

rare, and thus Ferguson et al. (2008), in their two-year study, have tried to find out if playing video games with violent contents causes players' violent reactions afterward, or it is better to explain the correlation between video games and aggression as a side effect of the “third variable”. The authors point out family violence as a possible “third variable”.

The same research results (Ferguson et al, 2008) show that aggressiveness as a characteristic of a young person, violence in his/her family, and the male sex, are predictors of perpetrating criminal offences with elements of violence. However, the exposure to playing video games with violent contents itself is not a predictor of violent behaviour.

Based on previous researches (Willoughby et al., 2012; Gabbiadini et al., 2014, Kimmig et al., 2018), it can be said that the long-term effects of using video games with violent contents result in the lack of empathy, as well as the other way around, that playing violent games may be linked with a low level of empathy. Empathy is herein presented as an example of a sort of “inter-variable”, since a lot of studies are focused on the effect of violent games on a single trait or behaviour, like empathy, morality, and aggression. On the other hand, empathy is greatly influenced by the family, which encourages or does not encourage a child's empathy (Greenspan, 2007). Finally, wider research has pointed to the importance of including “third variables” in the explanation of correlation between violence and playing violent video games, emerging as their side effect. In this context, the family is most usually mentioned.

### *Family resilience*

Numerous research studies have been dealing with the family resilience. It is usually defined as a dynamic process in which good outcomes are realised

despite being exposed to risks (Luthar et al., 2000; Luthar & Cicchetti, 2000), or as a path followed by the family during their adaptation and advancement in facing stress, both in the present time and in the course of the time. On the other hand, there is a negative opinion about the influence of games with violent contents in the sense that they enhance young people's aggressive behaviour, making the level of tension, violent behaviour, and thinking and negative emotions stronger (Anderson and Bushman, 2001). Even other numerous studies support the claim that violent video games affect adolescents' attitudes and behaviours negatively (Fraser et al., 2012; DeLisi et al., 2013; Gabbiadini et al., 2014; Siyez & Baran, 2017).

Studying resilience in the context of playing video games with violent contents in her research, Radetić-Paić (2019) has generally concluded that showing one's emotions, responsibility, and keeping promises inside a family are linked to playing non-violent video games. She has found that the significant items "In our family we show each other how we feel", "We feel good when we spend time at home", "We share responsibilities in the family" and "When members of our family say they will do something, they keep their word" anticipate that video games without violent contents will be played. When it comes to the absence of violence linked to playing video games with violent contents, these items represent significant factors of the family resilience.

#### PURPOSE OF THE STUDY

Consequently, the aim of the research is to determine if there are differences in students' family resilience factors with regard to their playing video games with violent or non-violent contents. The following hypothesis has

been tested: there are differences among students in the family resilience factors with regard to their playing video games with violent or non-violent contents.

The hypothesis is based on knowledge from previous research, along with assumptions that there is a correlation between the family resilience factors and playing video games with violent and non-violent contents. Among other things, motivation for this research is to identify specific resilience factors which can influence the choice and effects of playing violent video games on behaviour, since the results of previously conducted research challenges the ingrained opinion about the direct correlation of playing video games with violent contents and young people's violent behaviour (Anderson & Bushman 2001; Griffiths, 2002; Ferguson, 2009; Fernández-López et al., 2013).

It is important to note that most video games involve a certain level of violent content, where often violence is the path for achieving the goal, and as such, violent behaviour is rewarded. If a student plays video games in which the character has to behave violently in order to progress to the goal, then he/she is more likely to be less sensitive to violence in real life, but also more likely to justify or commit violent behaviours. As possible "third variables", the variables linked to the family resilience have been considered. Reasons for further research can be found in statistical indicators which support the seriousness of the problem, when it comes to students, future teachers, and preschool teachers. Data collected from a similar sample of examinees of the same faculty (Ružić-Baf et al., 2013) show that students critically assess certain parents' and preschool/school teachers' educational competences in the view of the need for better education in the area of

applying ICT, and the negative effects of the computer use by children, especially use of computer games.

### *Sample*

The convenient sample of participants was formed by the first-year students of the Faculty of Educational Sciences, Juraj Dobrila University of Pula, Croatia, namely 132 students who played video games. These were students with different levels of family resilience factors, from a complete absence of certain family resilience factors, including experiencing violent behaviour, to extremely significant factors of resilience, which diminished risks for inappropriate behaviours, and violent and aggressive behaviours, as well. A total of 98.5% of female and only 1.5% of male students took part in the research. The largest number of examinees, or 58.5% of them, was aged 19. If summed up, most students, about 85% of them, were aged from 18 to 20. Regarding playing video games with violent or non-violent contents, the examinees were divided in two groups. More students played video games with non-violent contents (61.5%).

### *Instrument*

The Questionnaire for evaluation of the family resilience was used for the needs of this paper. It was the instrument Family Resilience Assessment Scale (FRAS) (Sixbey, 2005), based on the Walsh's model (Walsh, 1998; Walsh, 2002). The psychometric properties of this measure were evaluated in different cultures: Malta (Dimech, 2014), Turkey (Kaya and Arici, 2012) Romania (Bostan, 2014), Italy (Rocchi et al., 2017). It was taken over and standardized for the Republic of Croatia (Ferić et al., 2016). In Croatia, in the version used in this research (Ferić et al., 2016), the confirmatory factor

analysis showed that the shortened version of the FRAS instrument containing 45 items extracted six factors. This factor solution was similar to the original instrument to a great extent (Sixbey, 2005), but also to other inspections of the factor structure in various countries (Bostan, 2014; Dimenich, 2014; Kaya and Arici, 2012; Rocchi et al., 2017). The reliability of the four Croatian factors was satisfactory ( $\alpha$ = from .65 to .92), while two factors showed a lower reliability (Giving meaning to adversities,  $\alpha$ =.58, Neighbours' support  $\alpha$ =.60). Descriptive factors indicated an asymmetry in the results distribution on all factors, or high values of results, which could indicate a poor sensitivity of the instrument. The data were obtained within a national project in the Republic of Croatia named *Research on Family Resilience*, which was carried out by the Faculty of Education and Rehabilitation Sciences, University of Zagreb, which analysed data obtained by the Faculty of Educational Sciences, Juraj Dobrila University of Pula, Croatia.

In order to get data on how many students of educational sciences in Pula played video games with violent and non-violent content, we added another item to the questionnaire: Playing video games with violent content (yes or no). The result we got was equally worrying; 38.5% of students played video games with violent content. Along with working out on the basic statistical parameters, the discriminant analysis and the variance of univariate analysis, which were a part of the SPSS Statistics 24.0 Standard Campus Edition (SPSS ID: 729357 20.05.2016.) were used in the data analysis. Regarding the four factors of family resilience, 45 items were considered for the needs of this research ( $\alpha$ = from .65 to .92). It was possible to give answers following the five-degree Likert type scale: 1=I completely

disagree, 2=I mostly disagree, 3=I neither agree nor disagree, 4=I mostly agree, and 5=I completely agree.

The research was carried out at the beginning of 2017 by using the method of polling among the first year students of the Faculty of Educational Sciences, Juraj Dobrila University of Pula. Before filling in the questionnaire, the author gave students instructions on how it was to be filled in. They were guaranteed anonymity and explained that the collected data would be used only for scientific purposes. The participation in the questionnaire was voluntary, and students were explained that they could give it up at any moment of its completion.

## RESULTS

Table 1 gives the basic statistical parameters of the significant observed items. Mean values of family resilience factors were highest for the following items: In hardship, members of our family support each other  $M=4.076$ ,  $SD=1.008$  (item 36), and: We feel good when we spend time at home  $M=4.038$ ,  $SD=.992$  (item 31). Item 32: In our family we believe that we have the strength to cope with difficulties, was never answered with 1=I completely disagree, which was a positive indicator of the family resilience for the observed sample of examinees ( $M=3.985$ ,  $SD=.847$ ).

High arithmetic means were also found for the following items: Our relatives and friends are ready to help in need  $M=3.932$ ,  $SD=.990$ , (item 10); In our family we are honest to each other  $M=3.894$ ,  $SD=.967$  (item 23), Members of our family feel very close to each other  $M=3.894$ ,  $SD=1.043$  (item 34); When problems occur, our family finds new ways how to solve them  $M=3.886$ ,  $SD=.905$  (item 33); Our family can adapt to changes when it



is necessary M=3.871, SD=.785 (item 39); We know we are important to family and friends M=3.864, SD=1.158 (item 12); In our family we see problems as part of life M= 3.864, SD=.854 (item 27); We are able to reach common understanding even when we go through hard moment M= 3.833, SD=1.050 (item 2), and: We reach important family decisions together M=3.811, SD=1.042 (item 1).

Table 1. *Basic statistical values of the observed items and standardized canonical discriminant coefficient of the function (C) and the structure of matrix (S)*

ITEMS	Min.	Max.	Mean	SD	C	S
1. We reach important family decisions together.	1	5	3.811	1.042	-.005	.120
2. We are able to reach common understanding even when we go through hard moment.	1	5	3.833	1.050	-.127	.024
10. Our relatives and friends are ready to help in need.	1	5	3.932	.990	.172	.130
12. We know we are important to family and friends.	1	5	3.864	1.158	.281	.045
15. We think it is better not to get too much involved with relatives and friends	1	5	2.091	.928	-.414	-.237*
21. In case of troubles, we know that we can get help from our relatives or friends.	1	5	3.447	1.333	.376	.246*
23. In our family we are honest to each other.	1	5	3.894	.967	.373	.081
26. When members of our family say they will do something, they keep their word.	1	5	3.477	.903	.483	.238*
27. In our family we see problems as part of life.	1	5	3.864	.854	.003	-.019
31. We feel good when we	1	5	4.038	.992	-.022	.016

spend time at home.						
32. In our family we believe that we have the strength to cope with difficulties.	2	5	3.985	.847	-.763	-.117
33. When problems occur, our family finds new ways how to solve them.	1	5	3.886	.905	.550	.023
34. Members of our family feel very close to each other.	1	5	3.894	1.043	-.228	-.007
36. In hardship, members of our family support each other.	1	5	4.076	1.008	-.071	-.053
39. Our family can adapt to changes when it is necessary.	1	5	3.871	.785	-.123	.009

Differences in family resilience factors considering students playing video games with violent or on-violent contents were tested based on the discriminant analysis in order to gain an insight into the latent dimensions of these differences. The former testing of the data distribution by the Kolmogorov-Smirnov test indicated a normal distribution of data,  $\text{Max } D (.009) < \text{K-S test } (.14)$ ,  $p < .01$ . The discriminant analysis was done on a set of items describing factors of the family resilience. Since the discriminant analysis was conducted on only two groups of examinees divided according to the video games content (violent or non-violent), one discriminant function was obtained for the need of testing the set hypothesis, which ,derived from Table 2, was statistically significant at the level  $p = .05$ , and which discriminated the observed groups of examinees. The canonical correlation derived from the same table showed relatively good discriminant power of this function in the practical sense.

Table 2. *The characteristic square root and Wilks' Lambda*

Discriminant function	% of the variance	Cumulative variance in %	Canonical correlation	Wilks' lambda $\Lambda$	$\chi^2$	df	p
1	100	100	.677	.542	65.791	45	.023

If the structure of the observed discriminant function (Table 1) and the position of centroids in the observed groups (Table 3) were considered, it could derive that students playing video games with violent or non-violent content differed in a way that students who played non-violent video games knew that in case of troubles they could get help from relatives or friends (item 21), and when members of their family said they would do something, they kept their word (item 26). On the other hand, students who played video games with violent contents thought that it was better not to get too much involved with relatives and friends (item 15).

Table 3. *Functions at group centroids*

Group centroids	Function
Playing video games with violent contents	-1.149
Playing video games with non-violent contents	.723

For an insight into possible differences between the groups on the manifest items, Table 4 provides data on arithmetic means, standard deviations of groups, F-test, and significance (p). Manifest items: We think it is better not to get too much involved with relatives and friends (item 15), In our family there is a pleasant atmosphere (item 19), In case of troubles, we know that we can get help from our relatives or friends (item 21), When members of our family say they will do something, they keep their word (item 26), When our family finds itself in a problem, we know what caused it

(item 28), and: The rules and roles in our family are clearly set (item 43), are statistically significant.

Table 4. *Differences between groups on the manifest items*

ITEMS	Mean		SD		F	p
	violent contents	non-violent contents	violent contents	non-violent contents		
15. We think it is better not to get too much involved with relatives and friends.	1.843	2.247	.809	.969	6.153	.014*
19. In our family there is a pleasant atmosphere.	3.176	3.753	1.506	1.328	5.316	.023*
21. In case of troubles, we know that we can get help from our relatives or friends.	3.078	3.679	1.454	1.202	6.630	.011*
26. When members of our family say they will do something, they keep their word.	3.235	3.630	.9505	.843	6.198	.014*
28. When our family finds itself in a problem, we know what caused it.	3.274	3.605	.874	.701	5.731	.018*
43. The rules and roles in our family are clearly set.	2.98	3.383	1.029	1.189	3.96	.049*

\* $p < .05$

## DISCUSSION

Numerous research studies have been dealing with the family resilience. The development, preservation, and improvement of resilience capacities is particularly valuable for every family. Therefore, variables related to the family resilience as a dynamic process by which positive outcomes of an individual are achieved regardless of whether they are exposed to different risks are included as possible “third variables” (Luthar et al., 2000; Luthar & Cicchetti, 2000; Walsh, 1998,2002, 2006). In general, the obtained results lead to the conclusion that students’ family resilience factors are linked to the sense of community and trust among members, as well as to a stronger cohesion with family and friends, when it comes to playing video games with non-violent content. Namely, examinees know that they have their narrower and broader family support, and that they will not be let down. Thus, they estimate that they can get help from family or friends in case of trouble, and when family members say they will do something, they keep their word. For a family to be able to successfully cope with a stressful situation, it is important that it sets in motion and (re)organises its resources, and brings in significant changes to its functioning. In stressful situations, a resilient family will be ready for adaptations in the way they carry out their duties in certain roles, but also for focusing on community to enhance cohesion, thus maintaining contacts with their surrounding – neighbours, wider family, and friends, so as to get support from them (McCubbin et al., 1998; Berc, 2012). Moreover, when it comes to keeping promises, research indicates that showing emotions, responsibility and keeping promises inside a family is an important predictor when it comes to playing video games with non-violent contents (Radetić-Paić, 2019).

## CONCLUSIONS

Research has pointed to the importance of including the “third variables” in the explanation of correlation between violence and playing violent video games, emerging as their side effect. In this context, the family is mentioned. Since literature dealing with this problem area is relatively scarce, a scientific contribution of this paper is the achievement of specific results linked to the family resilience and playing video games with (non)violent contents. The value of these results also lies in the fact that they give guidelines for the recognition of problems, and interventions on various levels. Although a special attention has to be paid to reaching conclusions and looking for a direct correlation among violence, video games with violent contents, and family resilience factors, it can be deduced that this occurrence has many causes, which means that a larger number of variables can be used in the interpretation. The limitations of this research stem from several facts. The representativeness of the sample itself is up for discussion, i.e., the respondents are students of the University which number certainly does not represent a generalization of results for the entire population of students of educational sciences. In future research, the instrument used in the research should be focused on parents and their views on family resilience factors as well, in order to obtain more relevant data by comparing the results of students and parents. These limitations could have led to a certain bias in drawing conclusions for certain groups of respondents. This research, as well as the obtained data, can serve as a good assessment of the measured data, a guideline for further research, and the role of playing video games with (non) violent contents.

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