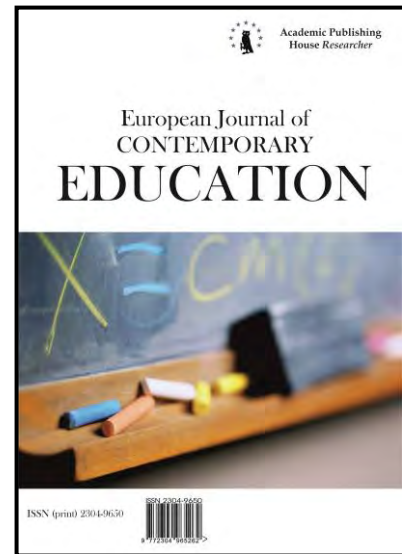




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Examining the Relations among Extraversion, Neuroticism, and School Bullying among Lithuanian Adolescents

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Abstract

School bullying still remains an important concern. While there is growing knowledge about the nature, extent and effects of school bullying, we still lacking research on personality traits and involvement in bullying. This article seeks to examine the relations between personality traits (extraversion and neuroticism) and being involved in school bullying (as bully, victim, or bully-victim) among Lithuanian adolescents. We expected that higher scores on extraversion will be more positively related with adolescent bullying, as neuroticism will be more positively related with **victimization. Additionally, we expected that both personality traits would predict adolescents' involvement in bullying (being bullies and victims).** A sample of 766 adolescents (418 girls and 348 boys; ages between 13- and 15 years old) completed measures of extraversion and neuroticism, as well as measures of bullying in school. Results indicated that bullying in school remains a serious **issue as more than half of adolescents' experience** victimization and almost half of them were bullies themselves. Using logistic regression analyses, it was found that higher extraversion was positive predictor of being bullies, but not related with victimization. Higher neuroticism was positive predictor of victimization. The results reveal that both higher extraversion and neuroticism are positive predictors of being bully and victim. Taking together, the results added to scientific evidence that both personality traits could be predictors of adolescents' **involvement in school bullying.**

Keywords: school, extraversion, neuroticism, bullying, victimization, school violence, adolescent.

1. Introduction

A lot of attention has been paid to the psychosocial health of a person. A person with a good psychosocial health is capable of coping with life's difficulties and accepts oneself with both one's advantages and disadvantages, has good social skills, is interested in other people and has a good

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relationship with them as well as has the desire to achieve the best results in their activities (Martikainen et al., 2002; Segrin, Taylor, 2007; van Harmelen et al., 2017).

However, the problem of psychosocial health becomes very relevant when a person is exposed to an atmosphere of danger, stress that results from emotional and/or physical violence (Craig, Harel, 2004). Violence (including bullying) is deeply damaging to the psychosocial health of not only victims but also those who observe it. Research shows that the positions of a victim, or an abuser, or an observer are positively associated with a child's post-traumatic anxiety disorder, depression, rage, social isolation, and become a significant predictor of subsequent aggression (McDougall, Vaillancourt, 2015; Swearer, Hymel, 2015; Ttofi et al., 2012).

The problem of bullying in schools is observed in different countries of the world. This is confirmed by research in the USA (Lovegrove et al., 2012), Canada (Marini et al., 2006), Japan (Hilton et al., 2010), Spain (Cerezo, 2009), Sweden (Modin et al., 2015), Greece (Bibou-Nakou et al., 2014), Romania (Beldean-Galea et al., 2010) Germany (Scheithauer et al., 2006) and others. **According to the Health Behaviour in School-Aged Children Study (Inchley et al., 2016)**, among the 40 European countries, Lithuania is the leader in schoolchildren's bullying, with results showing that 45-70 % of children of all ages are bullied.

When examining the psychology of aggressive behavior, it is important to note that individual personality traits play an important role in a child's adaptation to school, influence one's communication with peers, adults, and are associated with other psychological problems (Gendron et al., 2011; Hemphill et al., 2014; Sanson et al., 2004; Wang et al., 2009). For instance, most reserved, neurotic adolescents have been found to experience social anxiety and communication problems with peers, they also appear to have low social skills, low self-esteem and self-confidence, and, thus, often become subject to bullying and isolation (Houbre et al., 2006; Sanson et al., 2004).

A link was found between the child's personality traits and social functionality: their own perceptions of health, motivation, skills and communication quality – the children with considerable extraversion and self-regulation (control of attention, behavior, and emotions) may be characterized by increased resistance to psychological and social difficulties, positive emotionality, high academic achievement, high peer appreciation, and prosocial behavior (Sanson et al., 2004; Sanson et al., 2009; Sterry et al., 2010). Low levels of neuroticism and loneliness are associated with higher levels of a personality's stability and existential fullness (Hutchinson et al., 2010).

Previous research has been limited to studies on the relationship between bullying and various social factors (Hemphill et al., 2014; Marini et al., 2006), personality traits (Bjornebekk, 2007; Gendron et al., 2011; Simon et al., 2017), mental well-being (Mark et al., 2019) and health (Klomek et al., 2007; Modin et al., 2015). Moreover, results from studies focused on relation between such personality traits (i.e., extraversion and neuroticism) and bullying added insight on better understanding on personality factors and antisocial behavior, but at the same time some contradicting issues still remain. Specifically, some studies have found a positive weak relationship between extraversion and traditional bullying, but did not find significant relation between neuroticism and bullying (van Geel et al., 2017). Other research aimed to examine moderating roles of extraversion and neuroticism in victims of bullying (Calvete et al., 2016). Study results indicated a weak association between bullying victimization and social anxiety symptoms for adolescents with higher extraversion, but no interaction between neuroticism and bullying victimization was established. Contrary to aforementioned studies, De Angelis et al. (2016) study with adolescents found a direct effect of neuroticism and extraversion on bullying. Therefore, relation between neuroticism and bullying remains unclear, but effect of extraversion is also not so obvious. As meta-analytic review conducted by Mitsopoulou and Giovazolias (2015) revealed a positive relation between extraversion and bullying, but effect size was small. Given the available research, the link between bullying and personality traits should be further examined. Further studies are as important as previous ones focused on bullying (bullies) or victims, but there is a scarcity of research focused on bullies, victims and also involved in bullying (i.e., those, who are bullies and victims). Finally, culture factors are also important while analysing bullying behaviour (Volk et al., 2018). In this case, such studies with Lithuanian adolescents are particularly important as evidence revealed schoolchildren's bullying remaining a serious issue.

The current study aims to examine the relationship between personality traits and bullying in school among Lithuanian adolescents. We focused on extraversion and neuroticism. Regarding bullying, we focused on relationship between extraversion and neuroticism on adolescent

experiences being bullies, victims, and also being bullies and victims. We expected that higher scores on extraversion will be more positively related with adolescent bullying, as neuroticism will be more positively related with victimization. Finally, we hypothesized, that adolescent involvement in bullying (i.e., being bullied and bullying others) will be predicted by extraversion and neuroticism.

2. Materials and methods

2.1. Participants and Procedures

Secondary schools from different regions of Lithuania were invited to participate in the study about personality traits and bullying. Of 15 schools approached, 11 schools agreed to give permission to conduct survey. The sample consisted of 766 adolescents (418 girls and 348 boys) ranging in age from 13 to 15 years ($M = 13.95$, $SD = 0.81$). Prior data collection, written permission from parents was obtained. Only those students, whose parents gave permission were invited to study. At the beginning of the lessons students were informed about the aim of the study and that participation is voluntary and anonymous. The questionnaires were administered during the lessons under the supervision of one of the researchers. Students were debriefed after completion of the study and informed about possibilities to contact researchers for further questions related with the study. This study was approved by the University social research ethic committee.

2.2. Measures

Participants were asked to give information on demographics (gender, age), followed by questionnaires pertaining to bullying and personality traits (extraversion and neuroticism).

Bullying

Questionnaire developed by Jankauskiene et al. (2008) was used in this study. Questionnaire contains six questions related with victimization (e.g., “How many times within the last two months were you hurt physically, pushed, or touched by other students in order to humiliate you?”, “How many times within the last two months have lies about you been told in order to make others not associate with you?”), and six questions related with bullying (e.g., “How many times within the last two months have you called others names in order to humiliate them?”). In both cases, a five points scale (never, once per month, once per week, several times per week) was used. The reliability of this questionnaire have been reported to be good ($\alpha = .80$) (Jankauskiene et al., 2008). All participants were divided into groups of victims, bullies, and bully-victims. Students were categorized as victims if they admitted that they were bullies less than once per week or several times per week on one item or one time per month in four items. The opposite classification was used for categorization of bullies (for more details see Jankauskiene et al., 2008). The third group included those students who were classified both as bullies and victims. Therefore, three bullying binary variables were created: being a victim (0 = No, 1 = Yes), being a bully (0 = No, 1 = Yes), and being a bully and a victim (0 = No, 1 = Yes).

Extraversion and Neuroticism

Eysenck Personality Questionnaire (EPQ) developed by Eysenck and Eysenck (1975) was applied in this study. Specifically, two EPQ subscales, namely Neuroticism and Extraversion, were used. The Neuroticism (with 23 items) and Extraversion (with 21 items) subscales are scored either 1 or 0 assigned to either “yes” or “no” to a given question, were chosen. Extraversion measures the extent of an individual social interaction with other people. Neuroticism measures the extent of an individual’s emotional instability and an imbalance in neuropsychic processes. Both subscales have demonstrated adequate reliability ($\alpha = .80$ for Neuroticism, and $\alpha = .70$ for Extraversion) in previous studies (Baniene, Sinkariova, 2015).

2.3. Statistical Analyses

Data were analysed using the IBM SPSS Statistics version 23. Descriptive statistics (means and percentages) were performed. Chi-square test and One-Way ANOVA was used to compare differences of bullying and personal traits (neuroticism and extraversion) by gender and age. A logistic regression analysis was applied to estimate the effect of extraversion and neuroticism on bullying. More specifically, three separate logistic regression analysis were conducted separately for bullies, victim and bullies/victim. In each analysis first predictor variables of gender and age was included, next extraversion, and finally neuroticism. Extraversion and introversion were used as continuous variables. The odds ratios are presented with confidence intervals (CI) of 95 %. OR was considered as statistically significant if 1 did not fall in the CI.

3. Results

Overall, 48.0 % (n = 368) of adolescents were classified as bullies, 60.6 % (n = 464) as victims, and 37.9 % (n = 290) as bully-victims. Table 1 summarizes the prevalence of bullying behaviour by gender and age groups. When comparing distribution by gender among bullies, victims, and also bullies-victims, no statistically significant differences were found. Comparison by age groups showed that being a victim decrease by age ($\chi^2 = 7.67$, $p < 0.05$). Students of 13-year-old tended to become victims more often than older adolescents. However, statistically significant age differences among bullies and bully-victims were not established.

Table 1. Distribution of bullying by gender and age

Study variables		Bullies % (n)	χ^2	Victims % (n)	χ^2	Bully-victims % (n)	χ^2
Gender	Boys	50.0 (174)	0.98	62.6 (218)	1.14	40.2 (140)	1.52
	Girls	46.4 (194)		58.9 (246)		35.9 (150)	
Age	13-year-olds	48.5 (130)	0.89	67.2 (180)	7.67*	38.1 (102)	0.21
	14-year-olds	45.9 (122)		57.9 (154)		36.8 (98)	
	15-year-olds	50.0 (116)		56.0 (130)		38.8 (90)	

Note. * $p < .05$

It was found that the mean value for extraversion was 14.36 ($SD = 3.46$) and for neuroticism 11.57 ($SD = 4.65$). Comparing by gender it was found that value of extraversion was significantly higher among girls comparing to boys, $F(1,764) = 14.02$, $p < 0.001$, partial $\eta^2 = .02$ (Table 2). Moreover, value of neuroticism was also higher among girls than boys, $F(1,764) = 34.32$, $p < 0.001$, partial $\eta^2 = .04$. Comparing extraversion and neuroticism by age statistically significant differences were not found.

Table 2. Distribution of extraversion and neuroticism by gender and age

Study variables		Extraversion <i>M</i> (<i>SD</i>)	<i>F</i>	Neuroticism <i>M</i> (<i>SD</i>)	<i>F</i>
Gender	Boys	13.85 (3.41)	14.02***	10.52 (4.34)	34.32***
	Girls	14.75 (3.45)		12.46 (4.73)	
Age	13-year-olds	14.24 (3.88)	0.67	11.08 (4.79)	2.32
	14-year-olds	14.29 (3.25)		11.83 (4.65)	
	15-year-olds	14.58 (3.19)		11.85 (4.47)	

Note. *** $p < .001$. *M* = mean; *SD* = standard deviation.

Next we analysed effect of extraversion and neuroticism on bullying behaviour (separately for being bullies, victims, and bully-victims) (Table 3). In each analysis variables of gender and age were included. It was found that higher extraversion was positive predictor of being bullies. Also gender, specifically boys were more tended to be bullying others. This model was statistically significant ($\chi^2 = 16.25$, $p < 0.05$) and as a whole explained between 16.7 % (Cox and Snell R squared) and 19.8 % (Nagelkerke R squared) of the variance in being bullies and correctly classified 58 % of cases.

With victim as dependent variables, we found that neuroticism was significant predictor of being bullied (Table 3). Extraversion was not significantly related with victimization. Those with higher neuroticism were more likely became a victim of bullying. Being a boy and also younger of age associated with higher prevalence of being victimization. This model was statistically significant ($\chi^2 = 21.56$, $p < 0.01$) and as a whole explained between 15.7 % (Cox and Snell R squared) and 22.1 % (Nagelkerke R squared) of the variance in being bullied and correctly classified 60 % of cases.

Finally, it was found that both personality traits were significantly associated with being bully-victims (Table 3). This suggests that both higher extraversion and neuroticism are positive predictors of involvement in bullying, together with gender as boy more often likely to be bully-victims. This model was statistically significant ($\chi^2 = 15.91$, $p < 0.01$) and as a whole explained between 13.2 % (Cox and Snell R squared) and 19.8 % (Nagelkerke R squared) of the variance in being bullied and correctly classified 62 % of cases.

Table 3. Prediction of involvement in bullying by social-demographics and extraversion and neuroticism

Study variables	Bullies	Victims	Bully-victims
	OR [CI 95 %]	OR [CI 95 %]	OR [CI 95 %]
Gender ^a	1.47 [1.08; 2.01]*	1.37 [1.01; 1.86]*	1.51 [1.11; 2.07]**
Age	0.99 [0.83; 1.20]	0.76 [0.63; 0.91]***	0.98 [0.82; 1.18]
Extraversion	1.19 [1.13; 1.24]***	0.98 [0.94; 1.02]	1.09 [1.05; 1.14]***
Neuroticism	1.04 [1.01; 1.07]*	1.09 [1.06; 1.13]***	1.07 [1.04; 1.11]***

Note: OR, odds ratio; CI, confidence interval. * $p < .05$, ** $p < .01$, *** $p < .001$.

^a 0 – girl

4. Discussion

The survey found that half of the adolescents bully other schoolchildren and approximately 61 % of them claimed that they were bullied at school themselves. More than a third of adolescent bully others and at the same time have been bullied by their peers. These high rates of bullying among adolescents have been confirmed by numerous studies around the world, and three groups can be distinguished: those who bully others (bullies, abusers), those who are bullied (victims) and those who are both aggressors and victims (Craig, Harel, 2004; Farmer et al., 2010; Gendron et al., 2011; Hamarus, Kaikkonen, 2008; Modin et al., 2015; Mark et al., 2019).

Gender comparisons did not show statistical differences in our study, which is in contrast to studies showing that boys initiate bullying more frequently than girls do and that this is most often the case with physical bullying (Foster et al., 2019). Boys are determined to use violence in order to resolve conflict or to demonstrate the superiority of their physical strength in maintaining social status (Espelage, Swearer, 2003). De Bruyn et al. (2010) found correlations between social anxiety, peer perception, and increased victimization of bullying since the 5-6th years of age. These processes intensify in early adolescence, followed by a downward trend, which also emerged in our study.

The results showed significant links among extraversion expression scores by gender – higher scores found in adolescent girls than in boys. In addition, girls have a higher neuroticism score compared to boys. These data confirm the results of research showing that girls are more open and active than their male counterparts, they like school more, they achieve higher academic achievement, but at the same time they are under more pressure at school and in a family – teachers, peers, and parents (Låftman, Modin, 2011; Mpofu et al., 2010). For example, girls, unlike boys, often remain in an aggressive relationship with an aggressor or continue to be bullied to avoid the risk of social isolation (Simmons, 2010), which can increase neuroticism.

Gender, extraversion, and neuroticism have been found to be predictors of bullying initiation – the gender aspect, in this case, male gender – double the likelihood of bullying from others. We also determined that increases in extraversion and neuroticism enhance the likelihood of bullying initiation. This fact suggests that extraversion contributes to the initiation of bullying

among adolescents, as extroverts exhibit increased activity and this often leads them to behave recklessly, ignoring the potential for serious consequences or the threat of punishment (Bjornebekk, 2007). Connolly and O'More (2003) also found that aggressors exhibited higher levels of psychoticism, extraversion, and neuroticism than those who did not participate in bullying and, on the other hand, being victimized was positively related to emotionality and negatively to extraversion (Pronk et al., 2021).

The analysis showed that the gender dimension, namely being a boy, doubles the likelihood of being bullied. This does not support the results of other studies where gender differences in victimization have not been identified (Aricak, 2009; Faris, Felmlee, 2011). Our findings that increased neuroticism increases the likelihood of bullying are supported by other studies (Dracic, 2009; Sanson et al., 2004), which indicate that in stressful situations, emotional instability of the child can lead to uncontrolled expression of behavior, meaning that in bullying situations, **uncontrolled emotions or reactions are factors that increase the risk of victimization.** Cook et al.'s findings (2010) confirm the tendencies that have emerged over the last 20 years that there is a significant relationship between personality traits and bullying victimization.

Gender (boys), extraversion, and neuroticism were found to predict the likelihood of bullying (initiation and victimization). At the beginning of the study we expected a positive relation between **extraversion and adolescents' bullying. Accordingly, several studies showed that children with weaker psychosomatic health become aggressors or victims (or both)** (Dracic, 2009; Hamarus, Kaikkonen, 2008; Modin et al., 2015). Studies analyzing the negative effects of bullying on mental health and personality behavior found that bullied children often suffer from depression and suicidal thinking (Klomek et al., 2007; Klomek et al., 2011). On the other hand, bullying alone increases the anxiety and aggressiveness of children. Thus, bullied victims themselves "turn into" aggressors. As we expected, the current study revealed, that victimization is positively related with higher scores on neuroticism. Additionally, findings extend previous studies on personality traits and bullying behavior by shedding light on how important are both extraversion and neuroticism **in predicting adolescents' involvement** in bullying.

The current study is not without limitation. The primary limitation of the current study is that only self-report questionnaires were included to measure the variables of interest. Also cross-sectional nature of the study does not allow for definitive conclusions about causality. Future studies should also include other data collection techniques, i.e., qualitative interviews for better **understanding of students' involvement in bullying behaviour. Finally, the regression effects of extraversion and neuroticism were small, and thus some caution should be placed on related conclusions.** Nonetheless, the current study adds to a growing body of literature that demonstrates that personality traits are predictors of antisocial behaviour. By continuing studies, it would be important to focus on how personality traits are related not only with traditional bullying, but cyberbullying. As recent studies found that such personality trait as sadism was related to cyberbullying (van Geel et al., 2017). As culture can be an important factor analyzing relations between personality traits and bullying behavior (Volk et al., 2018), cross-cultural studies remain to be important as well.

5. Conclusion

We examined the relationship between extraversion and neuroticism, and bullying in school among Lithuanian adolescents. We found that extraversion was more than neuroticism related with bullying, as neuroticism emerged as significant predictor of victimization. Our results also add that both personality traits significantly predict being involved in bullying. This study also showed, **that bullying in school still remains a serious issue as more than half of adolescents' experience victimization and almost half of them were bullies themselves.**

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