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Experiences of Peer Victimization Associated with Stress and Anxiety among Adolescents in North Macedonia

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ABSTRACT

The negative effects of peer victimization are well documented in the research literature showing that bullying victimization is linked to many negative health outcomes, such as: stress, depression, anxiety, and even attempted suicide or committed suicide. The aim of the current study is to investigate the association between peer victimization and mental health (anxiety, stress and depression) in students, based on the ecological framework of understanding violence. The data were collected from a purposive sample that includes 1089 students (57.5per cent female and 42.5per cent male) between the ages of 11 and 18, enrolled in primary and secondary schools in North Macedonia in 2022. All respondents confirmed their and their parent's informed consent to participate. Paper and pen based interviewed questionnaires were used for gathering data from the respondents. The majority of the items were the subscales from the Depression, Anxiety and Stress Questionnaire, Peer Violence Victimization Scale and relevant socio-demographic questions. The study's findings revealed the statistically significant positive correlation between the experiences of peer victimization and both stress and anxiety among students in primary and secondary school settings in North Macedonia. The results show that the regression model statistically significantly predicts 21per cent of the variance of the variable stress ($F=63.008$, $p<.01$). Verbal violence, social manipulation and damage to property are statistically positive predictors of stress. The model predicted 16per cent of the variance for the outcome variable of anxiety. The regression model statistically significantly predicts the outcome variable of stress ($F=47.432$, $p<.01$). The results reveal that verbal violence, social manipulation and damage to property are statistically positive predictors of anxiety in adolescents. Understanding that experience of peer victimization is a significant risk factor for adolescent's mental health would be an important step in advancing the way we put forward intervention and support programs for adolescent well-being.

KEYWORDS: *stress, anxiety, peer victimization, adolescents*

INTRODUCTION

Being accepted by peers is central to mental health and safety among adolescents whereas being the subject of peer bullying or victimization can be perceived as causing significant interpersonal stress, resulting in difficult adaptation both at the time and in the long-term. Researchers interested in the health and wellbeing of adolescents have paid sustained attention to the role of peers and the quality of adolescents' peer relationships (Larson and Richards, 1991). Peer groups provide contexts where more intimate friendships and the first romantic experiences are established (Blakemore and Mills, 2014), and a period for dealing with social interactions with peers that had a major impact on emotional, social, academic, and behavioral development (Brown and Larson, 2009; Steinberg and Monahan, 2007). Problems in peer relationships are often linked to peer and cyber-bullying victimization compromising the mental health and well-being of adolescents. Peer victimization including cyber-bullying is a serious concern globally that is increasing and has a detrimental and negative impact on an adolescent's mental health and well-being (Spears et al., 2009). Most researchers cite the definition of bullying originally presented by Olweus (Olweus, 1993; Smith and Sharp, 2002). Bullying has been defined as: "unwanted, intentional, aggressive behavior that involves a real or perceived power imbalance that is often repeated over time" (Olweus and Limber 2010, pg125). This most commonly used definition of bullying points out three components: 1) aggressive behaviors that are 2) repeated and 3) involve a power imbalance favoring the perpetrator. According to this definition, an individual is a victim of bullying when he or she is exposed repeatedly over time to negative actions by one or more individuals and is unable to defend themselves, excluding cases where two children of similar physical and psychological strength are fighting (Olweus, 1993).

Apart from a variation in definitions, bullying behaviours are still very common. Probably the most important data about bullying prevalence globally comes from two cross-international longitudinal surveys. The first one, *Health Behaviour in School-aged Children* (HBSC) from 49 countries across Europe, including North Macedonia. The HBSC gathers data on health and well-being, social environments and the health behaviours of 11 to 15-year-old students every four years. The second one is the *Global school-based student health survey* (GSHS) with surveys conducted in 96 countries worldwide with the main objective of providing reliable data on health behaviours and protective factors among 13-17 years old students.

According to the latest data available on bullying prevalence globally, nearly one in three students (32per cent) has been bullied in the past month. Across GSHS countries, the prevalence of bullying ranged from 8per cent to 80per cent, while across HBSC countries the prevalence ranges from 9per cent to 60per cent. Physical and sexual bullying are the two most frequent types of bullying in GSHS regions, while psychological bullying is the most frequent type of bullying in HBSC regions (UNESCO, 2019; Chester et al., 2015;). There is a change in the context of bullying which reflects cultural shifts to more virtual social settings in the child population (Waasdorp et al., 2017). Overall, in seven European countries the proportion of children aged 9-16 years using the Internet who reported having experience of cyberbullying increased from 7per cent in 2010 to 12per cent in 2014 (Mascheroni and Cuman, 2014).

Understanding factors that predict bullying behavior in school demands a close examination of the complex ecological model of understanding human behavior primarily proposed by Bronfenbrenner (1993) and later adopted by other authors (Butchart et al., 2006). Victimization has been consistently linked to internalizing symptoms, such as

stress and anxiety (Hawker and Boulton, 2000). Victimized children in elementary school have reported greater feelings of loneliness, stress (Dill et al., 2004) and greater anxiety (Averdijk et al., 2011). Adolescents experiencing constant victimization also reported greater anxiety and withdrawal (Bond et al., 2001).

Studies consistently report that mental health problems, such as depression, and anxiety are common symptoms experienced by both male and female victims of peer victimization (Espelage and al., 2001; Espelage and Swearer, 2003). Stress is another common outcome of victimization in school, and one of the most frequent types of stress experienced by victimized children and adolescents is traumatic stress (Crosby et al. 2010). Children who suffer from stress are likely to display higher levels of distress and lower levels of self-restraint, which subsequently increases risk behaviors in these age group (Clark et al., 1997; Deykin and Buka, 1997). Victims of bullies are at increased risk for a number of mental health difficulties, including anxiety and depression (McDougall and Vaillancourt, 2015).

In fact, efforts to eliminate or reduce bullying have been ongoing for decades. Despite such efforts, there are mixed results and conflicting opinions on whether or not levels of bullying have changed over the years. In a review of studies that took place in 27 countries in intervals between 1990 and 2009, Rigby and Smith (2011) reported that the general level of bullying among youth has decreased in some but not all countries. Traditional victimization has three main features: (a) aggressive acts by a perpetrator(s) toward a victim with intent to harm, (b) these acts are repeated over time, and (c) there is a power imbalance between perpetrators and victims, with victims often being unable to easily defend themselves from perpetrators (Olweus, 1993).

The aim of the study is to understand and explore the problem of peer victimization and examine the link between peer victimization and student's mental health (anxiety and stress). Additionally, the study aims at recognizing which types of bullying best predict lesser mental health outcomes in adolescents.

It is hypothesized that there is a positive correlation between the anxiety and stress levels with peer victimizations. The second hypothesis presumes that physical, verbal, social manipulation, damage to property are significant predictors of stress and anxiety in the study sample. It is also hypothesized that being female is a predictor for both stress and anxiety due to peer victimization.

MATERIALS AND METHOD

Study design and procedure

The current study is a cross-sectional study done on a sample of primary and secondary school students in North Macedonia. The parents' and students' consent were obtain prior to conducting the research. Only students that have provided both their own and their parents' consent were included in the study. Paper-and-pencil self-report instruments was used to assess proposed constructs (variables).

Measures

Demographic information. The demographic variables include the school name, grade level, age (in years), gender, ethnic background, and urban/rural settings.

Victimization. The frequency with which students were victimized by peers was assessed using a four-item self-report measure (Benbenishty et al., 2003), identifying four different forms of victimization (physical, verbal, social manipulation, damage to property) and asked to indicate how often they have been victimized by each form over the current school year (e.g., How often have you been physically bullied...when someone: hit, kicked, punched, pushed you; physically hurt you; damaged or stole your property). Responses were made on a 5-point, Likert scale (1= never; 2= once or a few times; 3= every month; 4= every week; 5= several times a week). A lower score on the scale represents a lower level of peer victimization, whereas a higher score indicates a higher rates of peer victimization (Benbenishty et al., 2003).

Depression Anxiety Stress Scales (DASS). The DASS is a 42 item or 21 item (short version) self-report inventory that yields 3 factors: Depression; Anxiety; and Stress (Lovibond & Lovibond, 1995). Reliability of the three scales is considered adequate and test-retest reliability is likewise considered adequate with .71 for depression, .79 for anxiety and .81 for stress (Brown et al., 1997). DASS is measured on a range from “0” (Did not apply to me at all) to “3” (Applied to me very much, or most of the time). For this research, the short version (21-item) of the instrument was used, obtaining results on two scales (Anxiety and Stress Scales). A lower score on the scale represents a lower level of anxiety and lower level of stress respectively, whereas a higher score indicates a higher anxiety and stress level.

Participants

Participants in the study were students aged 11 to 18 years old, currently enrolled in primary, and secondary schools in Skopje, Kocani, Stip, Vinica and Bitola. Students that have dropped out from school were not eligible to take part in the study. A convenient sample of a total of 1089 of primary, and secondary schools students (57.5 females and 42.5 males) were enrolled in the current study. All scales showed very good reliability expressed in Cronbach Alpha values, varying from $\alpha=.83$ for Peer victimization scale to $\alpha=.84$ for the Stress and Anxiety scales. ($\alpha=.84$).

Results

To investigate the association between the variables of the study a Pearson correlation analysis was completed. Additionally, two regression models were tested and developed. The correlation analysis as presented in Table 1., shows statistically significant positive correlation between mental health variables (stress and anxiety) and experience of all types of peer victimization. There is positive statistically significant correlation between stress and the following types of violence: peer victimization in total ($r=.43$, $p<.01$), social manipulation ($r=.41$, $p<.01$), verbal violence ($r=.36$, $p<.01$), damage to property ($r=.27$, $p<.01$) and physical violence ($r=.15$, $p<.01$). As present in Table 1, we follow positive statistically significant correlation between anxiety and: peer victimization total ($r=.37$, $p<.01$), social manipulation ($r=.37$, $p<.01$), verbal violence ($r=.30$, $p<.01$), damage to property ($r=.24$, $p<.01$) and physical violence ($r=.15$, $p<.01$).

Table 1. Pearson correlations between variables

	Peer victimization total	Physical violence	Verbal violence	Social manipulation	Damage to property	Stress	Anxiety
Peer victimization total	1	.61**	.85**	.81**	.67**	.43**	.37**
Physical violence	.61**	1	.43**	.24**	.35**	.15**	.15**
Verbal violence	.85**	.43**	1	.56**	.41**	.36**	.30**
Social manipulation	.81**	.26**	.56**	1	.40**	.41**	.37**
Damage to property	.67**	.35**	.41**	.40**	1	.27**	.24**
Stress	.43**	.15**	.36**	.41**	.27**	1	.76**
Anxiety	.37**	.15**	.30**	.37**	.27**	.76**	1

1**p<0.01; *p<0.05; N=1089

The first regression model was tested for the variable stress. The predictor variables entered in the model were: physical violence; verbal violence, social manipulation and damage to property. The results show that the regression model statistically significantly predicts 21per cent ($R^2=.21$) of the variance of the variable stress ($F=63.008$, $p<.01$). As shown in Table 2., Verbal violence is statistically significant positive predictor of stress ($\beta=.173$, $p<.01$). Additionally, both Social manipulation ($\beta=-.294$, $p<.01$) and Damage to property ($\beta=-.097$, $p<.01$) are statistically positive predictors of stress.

Table 2. Regression model for Stress

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.600	.201		17,906	.000
Physical violence	-.150	.123	-.040	-1.215	.225
Verbal violence	.344	.074	.173	4.625	.000
Social manipulation	.597	.072	.294	8.279	.000
Damage to property	.304	.104	.097	2.921	.004

**p<0.01; *p<0.05; N=1089

The second regression model was performed for the outcome variable Anxiety. The predictor variables for the second model were the following: physical violence; verbal violence, social manipulation and damage to property. The model predicted 16per cent ($R^2=.16$) of the variance for the outcome variable anxiety. The regression model statistically significantly predicts the outcome variable stress ($F=47.432$, $p<.01$). The results presented in Table 3 show that verbal violence is statistically significant positive predictor of anxiety ($\beta=.108$, $p<.01$). Additionally, both social manipulation ($\beta=-.289$, $p<.01$) and damage to property ($\beta=-.090$, $p<.01$) are statistically positive predictors of anxiety in adolescents.

Table 3. Regression model for Anxiety

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.758	.197		14.031	.000
Physical violence	-.090	.115	-.026	-.784	.433
Verbal violence	.206	.073	.108	2.835	.005
Social manipulation	.566	.071	.289	8.001	.000
Damage to property	.275	.102	.090	2.701	.007

**p<0.01; *p<0.05; N=1089

DISCUSSION

The findings in our cross-sectional study reveal a link between stress and the experience of peer victimization, as well as an association between stress and all types of peer victimization such as: social manipulation, verbal violence, damage to property and physical violence that is in line with other study findings (Dahlen et al., 2013; Storch, and Esposito, 2003). The results of the actual study show the association between anxiety and experience of peer victimization, as well as association between anxiety and following types of peer victimization such as: social manipulation, verbal violence, damage to property and physical violence, results that have been confirmed in other studies as well (Dahlen et al., 2013; Juvonen and Gross, 2008).

The second part included regression analysis that was applied to explore which types of victimization best predict the outcome of variable stress. The results show that significant predictors for increased stress in students are the following types of peer victimization: exposure to verbal violence, experience of social manipulation as a covert type of peer violence and experience of damage to property. Students that were exposed to verbal violence, social manipulation and damage to property are more likely to have higher levels of stress. Our study findings have been confirmed as well by other authors (Storch and Esposito, 2003; Dahlen et al., 2013; Takizawa et al., 2014).

The second regression model performed for the outcome of variable anxiety was an investigation into which variables from the following: physical violence; verbal violence, social manipulation and damage to property are best in predicting anxiety in students. The results presented show that exposure to verbal violence, social manipulation and damage to property are predictors of anxiety in adolescents in line with other study findings (Juvonen and Gross, 2008; Hébert et al., 2017).

Presented findings show an urgent need for developing and implementing evidence-based prevention programmes in schools. Schools are an important place where children can learn prosocial behaviour, develop life skills, emotional regulation and non-violent behaviour skills. This is another important pillar in the system for reducing violence. Schools could contribute to the prevention of youth violence within the school and community, helping children to build positive relationships between peers, the prevention of sexual violence, and early childhood marriages (UNICEF, 2018). Establishing a safe school environment is only possible through the implementation

of coordinated support, the treatment and care of children who are victims of violence through multi-sectorial collaboration and the functioning of each individual part of the protection system in the context of the social, health, education, police and justice sectors.

The school environment encompasses both the physical environment, including safety and security, and the psychological environment, including the school climate, classroom management and discipline, and the relationship between teachers and students and among students (Gage, Larson and Prykanowski, 2014; UNESCO, 2019). Helping teachers to understand the importance of a safe classroom is essential. Positive relationships among students and teachers, and negative attitudes toward inappropriate behaviour (in other words, bullying), are two key elements of a positive school climate. Measures and activities in schools should be anticipated to include the assessment, reporting and support of suspected cases of peer violence and other forms of school violence. Additionally, capacity building of the professionals working in the educational sector in the early detection, recognition and report of violence will enable adequate protection to school children.

CONCLUSION

The study revealed a link between the experience of peer victimization, including all types of peer victimization (social manipulation, verbal violence, damage to property and physical violence) with both stress and anxiety. Peer victimization (including types of peer victimization) increase the likelihood of students with higher symptoms of stress and anxiety. Making a real impact on prevention and the safety and well-being for students is possible by developing safe school environments and school safety. Moreover, the role and commitment of all stakeholders needs to be recognized and secured in working towards improving prevention and protection against school bullying. Some national efforts have been made to tackle the problem of prevention and protection of children from violence in general in the last decade in North Macedonia, although merited attention to the prevention of school violence is still lacking due to budget allocations. While there is clearly a policy for the prevention and protection of children against violence it seems that the educational sector needs to shift towards a more standardized approach and framework working in schools to ensure that new interventions and programs are developed and implemented.

"There is no possibility that we can change anything" – says one 16 year old high school student. We have to change this phenomenon of an increasing sense hopelessness in our students by offering a society that will tackle social norms and will not tolerate violence. We need to work on the improvement of the devastated moral system of values, socio - political and economic factors and poverty. A society that will enable the well-being of its children will therefore ensure a positive and successful nation and culture. By investing in children, we are actually creating a solid foundation for a healthy and productive life in a society in which children develop, grow and reach their full potential and contribute to the well-being of the entire society.

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