The European Proceedings of
Social & Behavioural Sciences
EpSBS

Future Academy

ISSN: 2357-1330

http://dx.doi.org/10.15405/epsbs.2017.12.46

ICPE 2017
International Conference on Psychology and Education

MENTAL HEALTH OF TEENAGERS PARTICIPATING AT SCHOOL BULLYING

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Abstract

This study is focused on mental health of teenagers participating in bullying. The main goal is to estimate if certain mental health problem can be predictors of victimization, bullying and witnessing in bullying situation. The sample includes 414 students of 7-9 grades of secondary schools (age 12-15). Victims, bullies and witnesses are revealed with Olweus Bully/Victim Questionnaire. Mental health was measured with Strengths and Difficulties Questionnaire, developed by R. Goodman. The study found that 33,8% of teenagers to be victims, 17,1% - bullies, and 27,5% - witnesses. There were significantly more boys among bullies than girls. Emotional, behavioral, peer-related and hyperactivity problems and prosocial behavior constitute predictors of victimization. We can suggest that emotional, behavioral, peer-related and hyperactivity problems have additive effect on victim mental health status, which makes victims behave in such manner that they become easy targets for bullies. In its turn, bullying incident deepens suffering of victims and produces new mental health problems or enforces existing ones. Hyperactivity and gender were significant predictors for bullying. Prosocial behavior is a predictor of witnessing bullying, and probably, this indicated the conformal position of witnesses. Future research are suggested to add environmental, relational or demographic factors to improve the models.

Keywords: Mental health, bullying, victimization.

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eISSN: 2357-1330

1. Introduction

Recent studies showed that up to 30% of students are involved in bullying in secondary schools. The comparative study of 11-15 year old children from 27 countries (Molcho, et al., 2009) revealed that in 2005-2006 5-30% of boys and 2-20% of girls were considered bullies. According to the same study, 5-28% of boys and 3-27% were victims of bullying. In Russia 29% of high school students were subjected to bullying at least 2 times per month and 30% were bullies several times.

Bullying influences on mental health of all participants. In age of 20, bullies are more likely to participate at crimes than witnesses and victims (Sourander, 2009). They are also more likely to consume alcohol or drugs in high school (Kim, et al., 2011). However, it was found that they rarely suffer from depression, panic disorders, anxiety or antisocial personal disorders (Copeland, 2013). Victims of bullying are subjected to depression, anxiety, self-harm or suicide since early age (Lereya, et al., 2015). By scale of disorders, they can be compared to victims of domestic violence and child abuse. Witnesses can suffer from bullying as well. At least part of them were forced to watch unable to interfere when others were bullied which caused them to feel self-impotence (Tattum & Lane, 1994).

At the same time, certain mental health problems are associated with risk of victimization. Submissive victims are anxious and sensitive, this behavior is demonstrated starting from preschool (Olweus, 1993). Being humiliated and teased by their peers, they tend to become withdrawn and isolated, causing more anxiety and distress. Recent meta-analytic study found a bi-directional relationship between peer victimization and internalizing problems (Reijntjes, et al., 2010), such as loneliness and depression. Aggressive or provocative victims usually have problems with emotional regulation, resulting in specific explosive emotional response probably rewarding to bullies (Junoven & Graham, 2014). Most of the studies, however, are correlational by nature, and do not go further to suggest how mental health problems factor the bullying behaviors.

The purpose of current study is to estimate the extent to which mental health problems can predict victimization, bullying and witnessing behavior in situation of bullying in secondary school.

2. Methods

Data collection took place in secondary schools of Nizhny Novgorod (Russia). Nizhny Novgorod is an administrative center of the Volga Federal District with population of 1 270 000 people. Most of the children in the city have access to education, including kindergartens, primary schools and secondary/high schools. All adolescents are educated at schools.

The sample numbers 414 children of 7 to 9 grades of secondary schools (age 12-15), 222 boys and 192 girls. Students completed a self-report questionnaire, answer sheets were then coded by data collectors and send for processing. Ethics approval for the research was received from the Ethical committee of Saint Petersburg State University, and additionally from school administration and teachers. Parental consent was obtained prior to the administration of the questionnaire. Current study will cover the following sections of the questionnaire:

- Olweus Bully-Victim Questionnaire (OBVQ) (Olweus, 1996). This questionnaire consists of 41 questions, designed to measure frequency of bullying and bullying victimization behavior.

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It includes both direct questions, for example 'How often have you been bullied at school in the past couple of months?', and more behavior-centered questions, such as 'I was hit, kicked, pushed, or shoved around', that describe individual forms of bullying. We considered victims those who faced a particular form of bullying more often than once per week or suffered from several forms of bullying at least once or twice in the past couple of months. Bullies were revealed with the same approach, i.e. those who bullied others more often than once per week or used several forms of bullying at least once or twice in the past couple of months. Excluding bullies and victims, the witnesses were those who provided any relevant answer to 'How do you usually react if you see or understand that a student your age is being bullied by other students?'. As a result, we have three dichotomous variables for each person, referring being victim, bully or witness in the bullying situation. It must be underlined that a respondent can be a victim and a bully at the same time, which will correspond to bully-victim role in other studies. However, being categorized as a witness excludes being bully or victim, so one cannot be, for example, both bully and witness by the design of the current study.

- Strengths and Difficulties Questionnaire (SDQ) one-sided version for children (Goodman, 1997). The questionnaire includes 25 questions about child's mental health status, which constitute 4 subscales for emotional, behavior, peer-related and hyperactivity/inattention problems and 1 strength subscale for prosocial behavior. The score for each scale varies from 0 to 10, and the greater number corresponds with severity of problem/strength for a respondent. The questionnaire also provides total difficulties (sum of all difficulties) scale to estimate general mental health status of the respondent, but we will not use it in our study to avoid multicollinearity.

Data analysis was performed with IBM SPSS Statistics 22. The first stage of the analysis was aimed at normality of distribution of SDQ variables by means of Kolmogorov-Smirnov test (Lilliefors test). The second stage is dedicated to descriptive statistics and differences between groups of three key dependent variables (measured with Mann-Whitney U-test). The third stage included regression analysis. As key variables are dichotomous, binary regression model was used with standart inclusion of gender and SDQ scales.

3. Findings

3.1. Distribution of independent variables

All SDQ scales were found to be non-normally distributed, so we were forced to use non-parametric tests for comparison of the groups. The results of KS test are summarized in Table 01.

Table 01. KS test for SDQ scales

SDQ scales	Emotional	Behavior	Hyperactivity	Peers	Prosocial
Statistics	,180	,192	,148	,173	,158
Asymp. Sig. (2-tailed)	<0,001	<0,001	<0,001	<0,001	<0,001

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3.2. Scale of bullying, victimization and witnessing bullying

33,8% of teenagers were found to be victims, 17,1% - bullies, and 27,5% - witnesses. There are significantly more bullies among boys than among girls (χ^2=19,59, p<,001). Also, boys are more often victims than girls, but this different was found not statistically significant (χ^2=3,46, p<,079). Witnesses are equally present for boys and girls (χ^2=3,46, p<,719). For more detailed result see Table 02.

Table 02. Gender differences in victimization, bullying and witnessing

Gender		Victim		Bully		Witness	
		No	Yes	No	Yes	No	Yes
Female	N	136	56	176	16	137	55
	%	70,8%	29,2%	91,7%	8,3%	71,4%	28,6%
Male	N	138	84	167	55	163	59
	%	62,2%	37,8%	75,2%	24,8%	73,4%	26,6%
Total	N	274	140	343	71	300	114
	%	66,2%	33,8%	82,9%	17,1%	72,5%	27,5%

The higher percentage of bullies among boys is generally repeated in other studies (Olweus, 1993). It was found, however, that boys seem to be more physically aggressive than girls (Junoven & Graham, 2014). It can't be stated though that boys do not use relational aggression, rather the direct and indirect forms are connected for both genders (Card, et al., 2008).

3.3. Mental health problems of bullies, victims and witnesses

Victims of bullying showed more emotional, behavioral, hyperactivity and peer problems than other children (Table 03). They also were found to have a better prosocial results than other children. It may reflect that although the victims are troubled, they try to fit in the society which reject them. Having marginal status in a group 'peculiar' children are often chosen as subjects for peer aggression (Junoven & Graham, 2014), and trying to fit in may be a coping strategy. Another study revealed having at least one friend positively effects the mental health of victims (Skrzypiec, et al., 2012).

Table 03. Differences between victims and non-victims on mental health

SDQ scales	Not a victim			Victim		
	Mean	St. dev.	Median	Mean	St. dev.	Median
Emotional***	2,40	1,795	2,00	3,38	2,361	3,00
Behavior***	2,43	1,268	2,00	3,06	1,687	3,00
Hyperactivity*	2,88	1,980	3,00	3,23	1,719	3,00
Peers***	2,27	1,397	2,00	3,28	1,783	3,00
Prosocial**	4,87	3,328	5,00	5,95	3,009	7,00

Number of stars corresponds to p-levels of differences found with Mann-Whitney test. * - p<,05 , ** - p<,01 , *** - p<,005

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Bullies differ from other children in behavior and, particularly, in hyperactivity (Table 04). The behavioral problems may be explained with having in mind that at least some forms of bullying are physical. On the other hand, hyperactivity itself can cause behavioral problems for kids. Recent study of 10-year old showed that having ADHD are more likely to bully in older grades (Holmberg & Hjern, 2008).

Table 04. Differences between bullies and non-bullies on mental health

SDQ scales	Not a bully			Bully		
	Mean	St. dev.	Median	Mean	St. dev.	Median
Emotional	2,74	2,029	2,00	2,69	2,188	3,00
Behavior*	2,56	1,421	2,00	3,04	1,544	3,00
Hyperactivity**	2,85	1,840	3,00	3,72	2,037	4,00
Peers	2,56	1,554	2,00	2,86	1,838	3,00
Prosocial	5,28	3,320	6,00	5,03	2,971	6,00

Number of stars corresponds to p-levels of differences found with Mann-Whitney test. * - p<,05 , ** - p<,01 , *** - p<,005

Witnesses have less problems with peers and more likely to demonstrate prosocial behavior than other children (Table 05). This may indicate that they out themselves in the conformal position of bystander, free from isolation by collective typical for victims and behavioral/hyperactivity problems typical for bullies.

Table 05. Differences between witnesses and non-witnesses on mental health

SDQ scales	Not a witness			Witness		
	Mean	St. dev.	Median	Mean	St. dev.	Median
Emotional	2,78	2,120	3,00	2,61	1,875	2,00
Behavior	2,71	1,471	3,00	2,45	1,390	2,00
Hyperactivity	3,00	1,964	3,00	2,99	1,732	3,00
Peers*	2,72	1,646	3,00	2,33	1,473	2,00
Prosocial*	5,01	3,243	6,00	5,82	3,246	7,00

Number of stars corresponds to p-levels of differences found with Mann-Whitney test. * - p<,05 , ** - p<,01 , *** - p<,001

3.4. Mental health problems as predictors of bullying, victimization and witnessing

All three key variables (being a victim, being a bully and being a witness) were used as dependent variables in binary regression model. As we found significant differences in gender, this variable was also added to the analysis along with SDQ scales. Enter (standard inclusion) method for independent variables was chosen to avoid random variation introduced by stepwise methods (Studenmund & Cassidy, 1987). Previous to the analysis, correlations of independent variable were considered in order to exclude multicollinearity. Absolute values of all statistically significant correlations lay in range of ,091-,319, ensuring that independent variables are only weekly correlated to each other. The results of regression

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analysis are summarized at Table 06. Models goodness of fit was tested by Hosmer-Lemeshow's test and had significance levels at 0,176 for victimization, 0,335 for bullying and 0,424 for witnesses.

Table 06. Predicting risk of victimization, bullying and witnessing with mental health

Model and independent variables		B	S.E.	Exp(B)=OR	R^2
Victimization					0,193
	Gender(f)*	-,522	,236	,593	
	Emotional problems*	,123	,062	1,130	
	Behavior problems*	,228	,085	1,257	
	Hyperactivity*	-,154	,071	,858	
	Peer problems ***	,321	,081	1,379	
	Prosocial**	,123	,039	1,131	
	Intercept***	-2,473	,353	,084	
Bullying					0,154
	Gender(f)***	-1,287	,319	,276	
	Emotional problems	-,063	,081	,939	
	Behavior problems	,125	,096	1,134	
	Hyperactivity***	,302	,087	1,352	
	Peer problems	,010	,093	1,010	
	Prosocial	-,089	,052	,915	
	Intercept***	-2,488	,392	,083	
Witnessing					0,043
	Gender(f)	,009	,230	1,009	
	Emotional problems	-,011	,063	,989	
	Behavior problems	-,100	,087	,905	
	Hyperactivity	-,005	,069	,995	
	Peer problems	-,142	,082	,868	
	Prosocial*	,088	,038	1,092	
	Intercept*	-,788	,333	,455	

Number of stars corresponds to p-levels * - p<,05 , ** - p<,01 , *** - p<,001

For victimization, it is important to note that predictors not only include SDQ scales but also gender, which may reflect differences found in previous analysis. All problems, revealed by SDQ scales were found to be predictors of victimization. For bullies, only hyperactivity was a significant predictor along with gender. For witnesses only prosocial behavior was a predictor.

4. Conclusion

Mental health problems and strengths, measured with SDQ, constitute predictors of victimization. We can suggest that emotional, behavioral, peer-related and hyperactivity problems have additive effect on victim mental health status, which makes victims behave in such manner that they become easy targets

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for bullies. In its turn, bullying incident deepens suffering of victims and produces new mental health problems or enforces existing ones. The only problem for mental health of the bullies, which was revealed to be a predictor, is hyperactivity. Hyperactivity may be considered in the light of comorbidity with aggressive behavior of children, but usually is associated with impulse control and, therefore, explosive, unplanned aggression (Saylor & Amann, 2016). In this case, it is more suited for bully-victim profile than to 'pure' bullies. Our research revealed that prosocial behavior is a predictor of witnessing bullying, and probably, this indicated the conformal position of witnesses.

We must notice that all three regression models don't have large R^2, as they are by design not include relational, environmental, and demographical factors. Adding these factors to the model either as variables or as mediators may significantly improve the model. Another direction for future research is longitude studies, which guarantee causal effect of found predictors on bullying, victimization and witnessing.

Acknowledgements

Current study is a part of larger study "Research of environmental and personal determinants of teenage bullying", financially supported by Russian Foundation for Humanities (project № 150610575).

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http://dx.doi.org/10.15405/epsbs.2017.12.46
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