CYBERBULLYING PERPETRATION IN ADOLESCENCE IN TERMS OF EXPOSURE TO CYBERBULLYING LEVELS

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Abstract

The aim of this study is to examine whether cyberbullying perpetration among adolescents is differed by different levels of cyberbullying exposure. The survey includes two different forms of Cyberbullying Scale. The first form is used to determine cyberbullying exposure and the second form measures cyberbullying perpetration of participants. In order to predict cyberbullying perpetration, inter-quartile ranges of cyberbullying exposure are created. To determine the cyberbullying exposure levels, quartile are used instead of arithmetical averages and standardized equation. Calculated exposure scores are divided into 3 quartile, 1 to 9 being cut points. In this case, participants score 1 point or below fall under the first quartile which indicates adolescents who are not exposed to cyberbullying. The second quartile consists of participants who are exposed to medium level of cyberbullying score between 1 and 9. The third quartile includes 9 point and above who are exposed to high level of cyberbullying. The study was conducted with 311 adolescent participants between the ages of 13 to 19. In order to predict cyberbullying perpetration, Multiple Linear Regression Analyzes were applied. As dependent variables, participants' self-esteem, pathological narcissism and empathetic anger scores are included in the anaylsis as well. As a result, adolescents' cyberbullying perpetration scores differed by non-exposure, medium and high cyberbullying exposure levels. The findings were consistent with the results of other studies in the literature of cyberbullying.

Keywords: Cyberbullying exposure, cyberbullying perpetration, adolescence.

1. Introduction

In today's modern world, the use of smart devices such as smart phones, tablets and computers has been increased. In the meantime, bullying has also evolved around these devices and it became "cyber". The definition of cyberbullying is intentionally causing harm to others repeatedly in cyberspace. These behaviors can include provocation through aggressive and vulgar messages, threatening, harassing, slandering, pretending to be someone else, revealing personal information, and excluding people online (Bridge and Duman, 2019).

The Internet provides anonymity which makes it easier for cyberbullies to hide by using pseudonyms and secret Internet addresses.The number of children and adolescents using smart devices is increasing every year. While bullying can occur in various settings and among different age groups, cyberbullying has emerged over the past two decades showing itself as difficulties in establishing and maintaining interpersonal relationships among children and adolescents (Cook, Williams, Guerra, Kim and Sadek, 2010).

The targets of bullying are usually assumed to be "lonely and weird" introverts by their peers. As they become excluded from their peers, victims suffer from feelings of hopelessness and helplessness to stop the bully. Victims of cyberbullying are at a higher risk of depression, anxiety, addiction, anger problems, and suicide compared to victims of traditional bullying. They also suffer from low self-esteem, sleep disturbances, and academic failures (Tokunaga, 2010). Because narcissistic personality traits are often characterized by an unrealistically high self-esteem, they can contribute to cyberbullying behaviors as a means of bolstering the self-esteem of the perpetrator (Goodboy and Martin, 2015). Moreover, people's likelihood of engaging in bullying behavior may vary based on their level of empathetic anger which refers to their tolerance for unfairness (Lomas, Stough, Hansen and Downey, 2012).

Cyberbullying literature shows that, having these types of psycho-social problems in regard to cyberbullying can manifest itself mostly in adolescence and early adulthood. To seek revenge, gain acceptance from a peer group, or regain a sense of power can cause victims of cyberbullying to become cyberbullies themselves. Thus, in this study we analyzed the possibility of high school students to become cyberbullies according to their previous cyberbullying victimization. Participants were divided into three groups as those who were not exposed to cyberbullying, those who were moderately exposed, and those who were severely exposed.

2. Method

2.1. Participants and materials

Participants were chosen from high school student who were adolescents between 9th to 12th grades. Purposive sampling and snowball sampling were used in order to select participants.

2.1.1. Procedure. To collect data, a survey was prepared, which consisted of a Personal Information Form, a Cyberbullying Scale, and a Cyberbullying Scale (Adolescent Form). All participants took part in the study online during the COVID-19 pandemic on a voluntary basis. On average, it took 15-20 minutes for participants to complete the survey.

Participants' demographic information was obtained through a "Personal Information Form", which includes personal questions about their age, gender, and grade, as well as questions related to their parents/caregivers, such as their marital status, educational background, and occupation.

The level of cyberbullying exposure and perpetration was determined by using different scales. The cyberbullying exposure levels was measured using the Cyberbullying Scale developed by Stewart, Drescher, Maack, Ebesutani, and Young (2014). On the other hand, the second Cyberbullying Scale (Adolescent Form) developed by Arıcak, Kınay, and Tanrıkulu (2012) was used to measure the participants' cyberbullying perpetration level. In addition, the study incorporated the Rosenberg Self-Esteem Scale (Rosenberg, 1965), Pathological Narcissism Inventory (Pincus et.al, 2009), and Empathic Anger Scale (Vitaglione and Barnett, 2003) as independent variables to measure various psychological constructs related to cyberbullying.

2.2. Data analysis

In analyzing the distributions of total scores and sub-dimension scores, excluding scores for exposure to cyberbullying, critical values such as values between ±2 obtained by dividing skewness and kurtosis values by standard errors, proximity of mean, trimmed mean, and median values to each other, and the ratio of inter-quartile ranges to standard deviations around 1.3, and variation coefficients below 30% have been taken into account. Based on examining all of these values, the distributions of all scores are assumed to follow a normal distribution using the aforementioned critical values as a basis.

As the distribution of scores for exposure to cyberbullying was obtained as an extremely left-skewed series, quartile (dividers) were used instead of mean and standard deviation to determine the levels of exposure. With the help of the first, second, and third quartile calculated for exposure scores, 1 and 9 were determined as the cut-off points. Accordingly, participants with scores below 1 were evaluated as non-exposed, those with scores between 1-9 were evaluated as moderately exposed, and those with scores above 9 were evaluated as highly exposed.

3. Results

In this section, analysis results are given. In accordance with the purpose of the study, firstly the levels were determined and then multiple lineer regression models were estimated according to the levels. Stepwise technique used in model estimation and regression assumptions (normality and multicollinearity) were tested.

Table 1. Descriptive Statistics of the Cyberbullying Scale (Exposure) Total Score.

Scores	Min	Max	$\overline{\mathbf{X}}$	SD	Median	Quartiles		
						Q1	Q2	Q3
Cyberbullying Scale (Exposure) Total Score	0	40	6.495	6.584	4.000	1.00	4.00	10.00

The Cyberbullying Scale which is used to measure exposure to cyberbullying has an average total score of 6.495 and a standard deviation of 6.584. The lowest exposure score is 0 and the highest exposure score is 40. Since the standard deviation of the Cyberbullying Scale total score is greater than the mean (skewed to the left), the median and quartile values were also obtained for exposure scores. The fact that the median is lower than the mean indicates a left-skewed distribution. Since the aim of the study is to determine the factors that affect exposure to cyberbullying at different levels of exposure, exposure levels were determined according to the 1st, 2nd, and 3rd quartile values of the exposure distribution.

Table 2. Number and Percentage Distribution of Participants According to Their Levels of Exposure to Cyberbullying.

Variable	Levels	n	%
Exposure scores	The Lowest	58	18.6
	Medium	170	54.7
	The Upper	83	26.7

When the participants' levels of exposure to cyberbullying were examined, it was observed that 58 (18.6%) of them did not experience cyberbullying, 170 (54.7%) had moderate levels of exposure, and 83 (26.7%) had severe levels of exposure.

Table 3. Comparison of the Total Score of the Cyberbullying Scale in terms of Exposure to Cyberbullying Levels through One-Way Analysis of Variance (ANOVA).

Levels of Exposure to Cyberbullying	n	$\overline{X}$	SD
The Lowest	58	25.396	4.364
Medium	170	25.747	4.237
The Upper	83	27.542	5.372
Total	311	26.160	4.651

	Sum of Squares	DF	Mean of Squares	F	p
Between Groups	221.356	2	110.678		
Within Groups	6486.605	308	21.060	5.255	0.006
Total	6707.961	310			

The result of the One-Way Analysis of Variance (ANOVA) conducted to investigate whether there was a difference in the mean scores of the Cyberbullying Scale among participants exposed to cyberbullying at different levels indicated that there was a statistically significant difference between the mean Cyberbullying scores of participants who did not experience cyberbullying, those exposed to cyberbullying at a moderate level, and those exposed to cyberbullying at a severe level. The significant difference obtained indicates that the effect of different exposure levels should not be ignored when examining the predictors of being exposed to cyberbullying.

Table 4. Results of Regression Analysis for Predicting Cyberbullying Scores Based on Levels of Exposure to Cyberbullying, Rosenberg Self-Esteem Scale, Pathological Narcissism Inventory Sub-Dimensions, and Empathetic Anger Scale Scores.

Levels of Exposure to Cyberbullying	Independent Variables	B	Standard Error of B	t	F
The Lowest	Constant	17.908	3.318	5.397***	5.238*
	Self-Esteem	0.260	0.114	2.289*	
					$R^2=0.086$
Medium	Constant	24.174	0.712	33.947***	6.118*
	Entitlement Rage	0.095	0.039	2.473*	
					$R^2=0.035$
The Upper	Constant	19.607	1.735	11.298***	12.510***
	Exploitativeness	0.394	0.102	3.852***	
	Grandiosity Fantasies	0.146	0.065	2.255*	
					$R^2=0.238$

*p<0.05; **p<0.01; ***p<0.001

Statistically significant results were obtained in the correlation analysis between the total scores of cyberbullying and the sub-dimensions as well as the total scores of the scales. Afterwards, a multiple linear regression analysis was conducted to examine the effect of the Rosenberg Self-Esteem Scale, Pathological Narcissism Inventory sub-dimensions, and Empathic Anger Scale total scores on the cyberbullying score according to levels of exposure to cyberbullying. As a result, for the level of not being exposed to cyberbullying, the slope parameter for Self-Esteem ($t(56)=2.289$; $p<0.05$), for moderate exposure level, the slope parameter for Entitlement Rage ($t(168)=2.473$; $p<0.05$) and for advanced exposure level, the slope parameters for Exploitativeness ($t(80)=3.852$; $p<0.001$) and Grandiosity Fantasies ($t(80)=2.255$; $p<0.05$) were statistically significant.

4. Discussion

The potential difference in the levels of cyberbullying perpetration due to participants' exposure to different levels of cyberbullying was examined by One-Way ANOVA. According to the result, it was found that the cyberbullying perpetration scores were differed according to the levels of cyberbullying exposure. These results suggest that the predictors of cyberbullying may differ according to the level of exposure to cyberbullying. Therefore, the predictors of cyberbullying according to the participants' levels of exposure to cyberbullying are Self-Esteem, Entitlement Rage, Exploitativeness, and Grandiosity Fantasies.

In this study, it was shown that Self-Esteem had an important effect on participants who did not experience cyberbullying because most likely that their self-esteem levels were not affected by cyberbullying experience, which reduced their likelihood of becoming a cyberbully. From the perspective of Entitlement Rage, it has been concluded that participants who experienced moderate levels of cyberbullying engage in cyberbullying behavior to fulfill their narcissistic aggression and to express their anger. For Exploitativeness, the anger caused by exposing to high level of cyberbullying goes beyond psychological over time and gains a behavioral dimension among adolescents. Victims might express themselves by exploiting others. Finally, Grandiosity Fantasies signifies excessive efforts to gain reputation and approval and can indicate that participants corresponded to the upper level of exposure are trying to increase their respect among peers through cyberbullying.

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