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Evaluation of bullying and cyber victimization in adolescents

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Abstract

Introduction: In recent years, with the change in people's lifestyles and the advent of technology, the method of bullying has changed. In the 21st century, bullies use new methods to harass their former peers. This type of bullying is bullying behaviours through electronic and digital media. In addition, its main feature is the lack of dependence on face-to-face communication between the victim and the bully. According to statistics, this problem has affected more than 32% of teens worldwide since 2007.

Materials and Methods: The present study was a cross-sectional analytical study examining cyberbullying and victimization rates in adolescents aged 12 to 18. In this study, 254 children of working parents and clients referred to Shafa Educational and Medical Center of Guilan University of Medical Sciences were evaluated by a CBVEQ questionnaire (during 2021).

Results: The scores from the factors of victimization and cyberbullying in this study were obtained. They showed that the average score of adolescents was 22.79 in the context of cyber victimization. Moreover, the score was 20.27 in the context of cyberbullying. Besides, Boys were more likely than girls to be victims of cyberbullying. The rate of cyberbullying in adolescents aged 15 to 18 was higher than the younger ages. Furthermore, the lower the parents' educational level, the rate of cyberbullying and victimization increased in adolescents.

Conclusion: The findings of this study and a recent study about the extent of cyberbullying and victimization among teenagers suggest that preventive strategies and interventions of parents and schools are needed.

Keywords: Bullying, Victimization, Cyber Bullying, Cyber Victimization, Teenager

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Introduction

In recent years, with people's lifestyle changes and technology introduction into their lives, the way of bullying has also changed. Today, the American Psychological Association considers bullying a form of behavioural aggression in which one person intentionally and systematically harasses and offends another (1, 2).

In the 21st century, bullies are using new methods of harassment and bullying than their previous peers. This new bullying refers to bullying behaviour through electronic and digital media. The main feature of this new bullying is the lack of dependence on face-to-face communication between the bully and the victim. This latest type of bullying is called cyberbullying and victimization (3).

Various studies on bullying and cyberbullying found that approximately 43% of children were targeted by bullying and harassment online. Moreover, 70% of students reported experiencing bullying and harassment online. Girls were twice as likely as boys to be victims of cyberbullying (4).

A study investigated the risks of child and adolescent victimization through cyberbullying during the entry/exit restrictions of COVID-19 (5). This study found that with the increasing use of social media among children and adolescents during restrictions, most became cyberbullying victims. Besides, where young people were bullied, most posts and comments contained content about sex and sexual opinions. There were videos about the images of young girls and the trending of videos about school children fighting and insulting each other. A notable finding of this study was the use of fake accounts to commit cyberbullying (5).

As Aguaded (2014) points out, the most thoughtful response to a bullying society requires the development of media competence (6). Consequently, according to studies by Livingstone et al (2017), families and schools should seek to maximize the use of media for learning and entertainment (7, 8). Other researchers pointed to the need to reinforce the idea of educating children to become friends on social media (9).

Furthermore, the parental attachment was critical to preventing adolescent misconduct (10).

According to the social control theory, the individual's association with society is essential in reducing deviant behaviours. Besides, research showed that students with more significant family problems were more involved in cyberbullying. Additionally, school bullying, like cyberbullying, was negatively related to family support for adolescents (10).

Researchers also noted the importance of using evidence-based research on bullying interventions in schools to inform students better and prevent cyberbullying (11).

The issue of victimization and cyberbullying in adolescents has been one of the hot topics in the field of psychiatry and, in the last three years, has been examined by various researchers in different countries (12-17).According to the studies, behaviours that occurred in adolescence were the source of people's problems during childhood.

One of the pathological and destructive behaviours during childhood is bullying. If childhood and adolescence bullying behaviours are not attended to, they become more violent and aggressive in the next years (18).Therefore, paying attention to the issue of cyberbullying and its profound psychological effects is one of the most critical concerns of the country's education at present.

It is necessary to conduct more studies at the national level and in the provinces to solve this cyberbullying crisis. Consequently, the prevalence and distribution of cyberbullying and its psychological effects can be determined, and preventive strategies can be identified to avoid the increasing growth of this harassment. For this aim, this study was conducted on employees' and clients' cyber-sacrificed children of Shafa Educational and Medical Center of Guilan University of Medical Sciences during the year 1400 (2022-2023), and its increasing importance in setting current policies was noted.

Materials and Methods

The present study consisted of a clinical and cross-secctional trial . The statistical population included adolescents aged 12 to 18 years whose parents were employees of or referrals to Shafa Medical Center of Guilan University of Medical Sciences. The

participants were selected since they were available and eligible for admission. The sample size required for this study was estimated to be 233 people .

The data was collected using an online questionnaire. The questionnaire included patient information and a cyberbullying victim experience questionnaire. First, parents were informed about the research process, goals, and possible consequences of the problem. Then, after obtaining consent to participate in the study, parents were asked to participate in an online questionnaire, which included demographic and bullying and cyberbullying questions .

Subsequently, a safe environment was provided for their children and the parents were reassured that their children won't be harmed. If the child was present, the adolescents were provided additional information about their previous access to cyberspace. However, if the adolescents had previous mental illness in the past that they received the treatment they were excluded from the study.

After completing the re-processing, the individuals were assured that the information obtained would remain completely confidential. Besides, they were told there was no need to mention the person's name, address, or telephone number in the questionnaire. In addition, if the participants thought they had any problems regarding cyberbullying, they were referred to the counsellors and specialists of the Child and Adolescent Psychiatric Clinic of Shafa Hospital.

Measures

The Cyberbullying Victim Experience Questionnaire (CBVEQ) was designed and validated by Antoniadou et al. (2016) to assess the cyberbullying experience among adolescents. The scoring method of this questionnaire was in the form of a 5-point Likert scale (1 = never, 2 = once or twice, 3 = sometimes, 4 = most of the time, 5 = every day). This questionnaire had two factors: 1 is the cyber victim factor, 2 is the cyberbullying factor, and each factor had 12 questions (19).

 In a study conducted in Iran, Cronbach's alpha coefficient of this scale for cyberbullying, cyber victim, and the whole scale were reported to be 0.75, 0.78, and 0.79, respectively (20).

Statistical Analysis

Statistical analyses were presented cross-sectionally. Using the Kolmogorov-Smirnov test, it was found that the scores obtained in the field of victimization and cyberbullying from the CBVEQ questionnaire did not have a normal distribution (P = 0.001). Therefore, Mann Whitney U and Kruskal Wallis tests were used for examining the variables. Besides, a regression model was used to investigate the relationship between independent factors and dependent factors of the study. All data were analyzed in SPSS 26 software, and a significant level below 0.05 is acceptable.

Results

Findings showed that about 75% of the parents of the studied adolescents had a diploma to a bachelor's degree (Table 1).

Table 1. Personal characteristics of the participants.

Variable	Situation	Number
Gender	Boy	117 (46.1%)
	Girl	137(53.9%)
Age	12-14	115(45.3%)
	15-18	139(54.7%)
(Age) Mean ± SD (min-max)	1/82(12-±14/85 18)	
Mothers education	Unlettered	12(4.7%)
	Primary education	1(0.4%)
	High school	38(15%)
	Diploma	101(39.8%)
	Associates degree	17(6.7%)
	Bachelors degree	69(27.2%)
	Masters degree	9(3.5%)
	Doctorate	7(2.8%)
Fathers education	unlettered	3(1.2%)
	Primary education	4(1.6%)
	High school	21(8.3%)
	Diploma	77(30,3)
	Associates degree	22(8.7%)
	Bachelors degree	92(36.2%)
	Masters degree	23(9.1%)
	Doctorate	12(4.7%)

Based on the CBVEQ questionnaire, the scores of the victimization and cyberbullying factors were examined. The results showed that adolescents'

average internet victimization score was 22.79. Moreover, in cyberbullying, the score was 20.27 (Table 2).

Table 2. Cyber victim and cyberbullying factors obtained from the CBVEQ questionnaire.

Factor	Number	Range of achievable points	Mean ± SD	Minimum points earned	Maximum points earned
Cyber victim	254	12-60	8/42±22/79	12	52
Cyberbullying	254	12-60	8/88±20/27	12	54

Using the Mann-Whitney U test, it was determined that there is a statistically significant difference between the scores obtained in the Cyber victimization according to gender(P=0.019). According to our study, boys had more cyber victimization than girls.

It was also found that there is no statistically significant difference between the scores obtained in the area of cyber victimization from the CBVEQ questionnaire according to the age groups of children and adolescents under investigation (P=0.093). Adolescents between the ages of 15 and 18 have been cyber victimization little more.

Using the Kruskal Wallis test, it was determined that there is a statistically significant difference between the scores obtained in cyber victimization, according to the education of the mothers (P=0.0001). It was also determined that there is a statistically significant difference among the points obtained in the cyber victimization, according to the education of the fathers, it can be seen (P=0.0001).

Adolescents whose parents had illiterate/primary education have been bullied more than other adolescents. Also, teenagers whose parents had master's/doctorate degrees have been victims less than others. (Table 3).

Table 3. Comparison of the points obtained in cyber victimization, according to some individual characteristics.

Variable	Situation	Number	Mean ± SD	P value
Gender	Boy	117	9.11±24.3	P=0.019
	Girl	137	7.58±21.51	
Age (year)	12-14 year	115	7.77±21.67	P=0.093
	15-18 year	139	8.84±23.72	
Mother's education	Illiterate/elementary	13	7.2±27.61	P=0.0001
	Sub Diploma / Diploma	139	8.53±24.44	
	Associate / Bachelor	86	7.47±20.3	
	Master's degree/ Ph.D	16	7.92±18	
Father's education	illiterate/elementary	7	13.08±31.28	P=0.0001
	Sub Diploma / Diploma	98	8.22±24.69	
	Associate / Bachelor	114	8.1±21.72	
	Master's degree/ Ph.D	35	6.64±19.28	

Using the Kolmogorov-Smirnov test, it was determined that the data on cyberbullying does not have a normal distribution (P=0.001).

Using the Mann-Whitney U test, it was determined that there is no statistically significant difference between the scores of cyberbullying, according to gender (P=0.732). The amount of cyberbullying in girls and boys was not much different.

It was also found that there is a statistically significant difference between the scores of cyberbullying, according to age (P=0.004). Teenagers in the age group

of 15 to 18 years were more likely to commit cyberbullying.

Using the Kruskal Wallis test, it was found that there is a statistically significant difference between the scores of cyberbullying, according to the education of the mothers of the investigated children (P=0.001). It was also found that there is a statistically significant difference between the points of cyberbullying can be seen according to the education of the fathers (P=0.028).

Adolescents whose mothers had illiterate/primary education have committed cyberbullying more than others. On the other hand, adolescents whose mothers had a master's/doctorate degree did not necessarily bully less than others.

Adolescents whose fathers had a sub diploma/diploma have committed cyberbullying more than others.(Table 4).

Table 4. Comparison of the points obtained in cyberbullying, according to some individual characteristics.

Variable	Situation	Number	Mean ± SD	P value
Gender	Boy	117	8.55±20.11	P=0.732
	Girl	137	9.18±20.4	
Age (year)	12-14 year	115	7.48±18.32	P=0.004
	15-18 year	139	9.62±21.89	
Mother's education	Illiterate/elementary	13	9.76±27.61	P=0.001
	Sub Diploma / Diploma	139	9.14±21.35	
	Associate / Bachelor	86	7.43±17.94	
	Master's degree/ Ph.D	16	10.78±20.31	
Father's education	illiterate/elementary	7	8.42±17	P=0.028
	Sub Diploma / Diploma	98	9.64±22.53	
	Associate / Bachelor	114	6.98±18.57	
	Master's degree/ Ph.D	35	10.97±20.17	

In addition, the Spearman Rho correlation coefficient was used. This evaluation showed a positive correlation between the scores of internet victimization and bullying in male children (P = 0.0001). The finding conveyed that in male children, the increase or decrease of scores in cyberbullying was correlated with the increase or decrease of the scores from internet victimization.

Furthermore, a positive correlation was found between internet victimization and cyberbullying scores (P = 0.0001) in female children, using the Spearman Rho correlation coefficient. This finding signified that the increase or decrease in cyberbullying scores was correlated with the increase or decrease in internet victimization scores in female children (Table 5).

Table 5. Correlation between the scores of Internet victimization and Internet bullying by gender of adolescents 12 to 18 years.

Gender	Variable		Points earned in cyber victimization
Boy	Points earned in internet bullying	Spearman Rho	0/337
		P-Value	P=0/0001
		Type of correlation	Positive correlation
Girl	Points earned in internet bullying	Spearman Rho	0/439
		P-Value	P=0/0001
		Type of correlation	Positive correlation

Discussion

The current study investigated the involvement of adolescents aged 12 to 18 in being bullied and internet victims (through the CBVEQ questionnaire) in Guilan province. This study was one of the first on the frequency and extent of adolescent involvement in cyberbullying in Guilan. Therefore, there was no previous background to compare the findings of this study. However, the results of this study can be compared with future research.

The present study showed that the mean scores of the adolescents were 22.79 in the internet victimization field and 20.27 in the field of internet bullying. The scores reflected a relatively high rate of conflict. The differences between the results of the studies can mostly be related to different methods and tools used to determine the prevalence and involvement of adolescents in cyberbullying.

A comparison of the results with other studies, we showed that the average score of internet victimization was significantly higher in boys than girls. Furthermore, bullying was somewhat higher in boys but not significantly that different from the findings of Chou et al.(2021) study (21).

In li study's the demographic variables, gender and school scores were closely related to cyberbullying. In particular, male students had a higher rate of cyberbullying than female students(22). In addition, according to Goa's research(2016), male students were more likely than female students to commit cybercrime, which is consistent with the current study's results (23).

The present paper's results showed no significant difference between girls and boys regarding cyberbullying. This finding was consistent with the study by Agnes Zsila et al. (2018). However, in Zsila's study, there was no significant gender difference, even in the case of cyberbullying victims. In the current study, boys were more likely than girls to be victims of cyberbullying. The reason for this difference can be the different cultural contexts of countries, differences in friendship groups and intimacy of girls' relationships, and the extent of adolescents' involvement with social spaces (24).

This study showed that cyberbullying in teenagers aged 15 to 18 is higher than among teenagers in lower age groups. The rate of cyber victimization in bullying was also higher in the same age group, but there was no significant difference. This finding is consistent with the study of Ding et al. who reported that older students are less likely to be victims of cyberbullying, there was no correlation. In our study, both cyberbullying and cyber victimization increased with age; The reason for this difference can be attributed to the level of parental support at a younger age in different societies, dependence on friends at a younger age, and the role of empathic relationships in friendships, younger teenagers being more vulnerable, hours of using cyberspace which naturally the higher it is, the more it is and the type of virtual groups that older teenagers participate in. In other words, older teenagers have more courage to do this and parental supervision is less (25).

On the other hand, the findings showed that a higher level of parents' education resulted in a lower rate of internet victimization in adolescents. Moreover, the adolescents whose parents were illiterate or had primary education were more vulnerable to cyberbullying. Internet bullying was also reported more in adolescents whose mothers had primary education. These findings were consistent with a study by Camerini et al. (2020) reported in a systematic review. Camerini et al. (2020) showed that family social support and parental attachment reduced the risk of bullying and cyberbullying. The more accurate and comprehensive the control and supervision of the family, the greater the empathy between family members (4).

Besides, another critical finding in this study was that the rate of scores was relatively high for cyberbullying in adolescents whose parents had a master's/doctoral degree. This finding could indicate that parents who spent more time outside the home and interacted less with their children provided the space for teens to have more access to cyberspace. Especially mothers could have a significant impact on adolescents' skills in their social relationships. This impact is because mothers are usually considered the moral role models of their children in Iran, and there is a deep dependence

between mother and child. In other words, the finding demonstrated that the less interaction between the family members, the more alone time adolescents spend in cyberspace.

As empathy and love at home diminish, children increasingly try to hide their problems from their parents. As a result, they would try to cope with these psychological stresses on their own by turning to high-risk groups. However, the more they work in these groups, the more psychological tensions overwhelm them.

In addition, this study found that an increase or decrease in cyberbullying was associated with an increase or decrease in cyber victimization. In traditional societies, a bully is considered a strong and valuable person. Even the victims, who have tasted the harassment and violence of the social space, try to become a bully themselves after a while to feel more socially accepted by gaining the support and attention of others.

The cyber bullies in traditional societies try to align more people with themselves by gathering fans in cyberspace. On the other hand, adolescents who were victims usually try to hide the violence and refuse to inform parents and teachers in schools. Thus, the necessary legal and social prosecution is not employed for a bully. Consequently, this cycle continues into adulthood and involves more and more people. Bullies continue to operate through physical, verbal, and psychological violence in such a society. Besides, victims suffer extreme stress and anxiety, social isolation, and severe psychological damage by concealing their problems.

Conclusions

The findings of this study and the extent of adolescents' involvement with cyberbullying and victimization suggest that the authorities need more effective measures to adopt preventive strategies and interventions for parents and schools. To better formulate preventive cyberbullying and victimization measures, we need to consider all the factors mentioned in this study for designing an interactive model.

Author contribution

All the authors of this article researched the subject with intellectual participation, wrote the manuscript, and approved the final manuscript.

Conflict of interest

The authors of this study have no conflicts of interest to declare.

Statement of Ethics

All methods and procedures were approved by the Animal Care and Use Committee of Guilan University of Medical Sciences, with code IR.GUMS.REC.1400.199

References

1.   Iranzo B, Buelga S, Cava M-J, Ortega-Barón J. Cyberbullying, psychosocial adjustment, and suicidal ideation in adolescence. Psychosoc Interv. 2019;28(2):75-81.

2.   Rosa H, Pereira N, Ribeiro R, Ferreira PC, Carvalho JP, Oliveira S, et al. Automatic cyberbullying detection: A systematic review. Comput Hum Behav. 2019;93:333-45.

3.   Patchin JW, Hinduja S. Traditional and nontraditional bullying among youth: A test of general strain theory. Youth Soc. 2011;43(2):727-51.

4.   Camerini A-L, Marciano L, Carrara A, Schulz PJ. Cyberbullying perpetration and victimization among children and adolescents: A systematic review of longitudinal studies. Telemat Inform. 2020;49:101362.

5.   Mkhize S, Gopal N. Cyberbullying perpetration: Children and youth at risk of victimization during Covid-19 lockdown. Int J Criminol Sociol. 2021;10:525-37.

6.   Aguaded I. Desde la infoxicación al derecho a la comunicación. Comunicar: Revista Científica de Comunicación y Educación. 2014;21(42):07-8.

7.   Livingstone S, Ólafsson K, Helsper EJ, Lupiáñez-Villanueva F, Veltri GA, Folkvord F. Maximizing opportunities and minimizing risks for

children online: The role of digital skills in emerging strategies of parental mediation. J Commun. 2017;67(1):82-105.

8. Livingstone S, Third A. Children and young people's rights in the digital age: An emerging agenda. New Media Soc. 2017. p. 657-70.

9. Villarejo-Carballido B, Pulido CM, de Botton L, Serradell O. Dialogic model of prevention and resolution of conflicts: Evidence of the success of cyberbullying prevention in a primary school in Catalonia. Int J Environ Res Public Health. 2019;16(6):918.

10. Lee C, Shin N. Prevalence of cyberbullying and predictors of cyberbullying perpetration among Korean adolescents. Comput Hum Behav. 2017;68:352-8.

11. Gaffney H, Ttofi MM, Farrington DP. Evaluating the effectiveness of school-bullying prevention programs: An updated meta-analytical review. Aggress Violent Behav. 2019;45:111-33.

12. Kırcaburun K, Tosuntaş ŞB. Cyberbullying perpetration among undergraduates: evidence of the roles of chronotype and sleep quality. Biol Rhythm Res. 2018;49(2):247-65.

13. Sani S. Prevalence of traditional and cyber bullying among teenagers Herat-Afghanistan. Journal of School of Public Health & Institute of Public Health Research. 2019;17(2).

14. Sampasa-Kanyinga H, Chaput JP, Hamilton HA, Colman I. Bullying involvement, psychological distress, and short sleep duration among adolescents. Soc Psychiatry Psychiatr Epidemiol. 2018;53(12):1371-80.

15. Hellfeldt K, López-Romero L, Andershed H. Cyberbullying and psychological well-being in young adolescence: the potential protective mediation effects of social support from family, friends, and teachers. Int J Environ Res Public Health. 2020;17(1):45.

16. Audrin C, Blaya C. Psychological well-being in a connected world: The impact of cybervictimization in children's and young people's life in France. Front Psychol. 2020;11:1427.

17. Hashmi, M.N. and Kureshi, N., 2020. Cyberbullying: perceptions, effects and behabiours amoung teenagers. Journal of Strategy and Performance Management, 8(4), pp.136-141.

18. Yurtal F, Artut K. An investigation of school violence through Turkish children's drawings. J Interpers Violence. 2010;25(1):50-62.

19. Antoniadou N, Kokkinos CM, Markos A. Development, construct validation and measurement invariance of the Greek cyber-bullying/victimization experiences questionnaire (CBVEQ-G). Comput Hum Behav. 2016;65:380-90.

20. Basharpoor S, Zardi B. Psychometric Properties of Cyber-Bullying/Victimization Experiences Questionnaire (CBVEQ) in Students. J Sch Psychol. 2019;8(1):43-57.

21. Cho S, Rustu D. Examining the impacts of low self-control and online lifestyles on cyberbullying perpetration among Korean adolescents: Using parallel process latent growth curve modeling. Child Youth Serv Rev. 2020;117:105288.

22. Li J, Sidibe AM, Shen X, Hesketh T. Incidence, risk factors and psychosomatic symptoms for traditional bullying and cyberbullying in Chinese adolescents. Child Youth Serv Rev. 2019;107:104511.

23. Guo S. A meta-analysis of the predictors of cyberbullying perpetration and victimization. Psychol Sch. 2016;53(4):432-53.

24. Zsila Á, Orosz G, Király O, Urbán R, Ujhelyi A, Jármi É, et al. Psychoactive substance use and problematic internet use as predictors of bullying and cyberbullying victimization. Int J Ment Health Addict. 2018;16(2):466-79.

25. Ding Y, Li D, Li X, Xiao J, Zhang H, Wang Y. Profiles of adolescent traditional and cyber bullying and victimization: The role of demographic, individual, family, school, and peer factors. Comput Hum Behav. 2020;111:106439.