

Psychological Predictors of Cyber Bullying in Early Adulthood

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Received: February 08, 2016, Accepted: February 27, 2016, Published: February 29, 2016

Abstract

Objectives: The aim of the present research was to investigate the possible psychological predictors of cyber bullying behavior in early adulthood. It was hypothesized that lack of empathy and emotional-behavioral problems would be related to the cyber bullying as well as will prove significant predictors of cyber bullying behavior in early adulthood.

Design: It was a co-relational study and cross-sectional research design was followed.

Duration and place of study: It took six months to collect data from three sites of Lahore, Pakistan; that were colleges, universities and net cafés.

Sample and method: Purposive Sample of 150 young adults including 78 men and 72 women with age range 18-25 was drawn Assessment measures were Toronto Empathy Questionnaire 1 and Cyber Bullying Scale2. For emotional problems Depression, Anxiety and Stress 23 and for behavioral problems Aggression Questionnaire 4 was used.

Results: Results revealed that there was a significant inverse relationship between empathy and cyber bullying, whereas significant positive relationship between emotional-behavioral problems and cyber bullying. Multiple Hierarchical regression analysis revealed that lack of empathy and emotional problems were significant predictors of cyber bullying. All the three groups including young adults from universities, colleges and net cafes perform significantly different on all study variables. The present research findings will give new directions for future studies in the field of cyber crimes as well as in making therapeutic intervention plans to treat emotional-behavioural problems in youth.

Keywords: Empathy; Emotional- behavioral problems; Cyber bullying; Young adults

messages, rumors and threats online are the part of cyber bullying [6]. National Crime Prevention Council [7], defined cyber bullying as an action of torment, threatening, harassment, humiliation and to embarrass others by using internet and advanced digital technologies.

Cyber bullying includes repeated threats, attacks, defamation, distress and harassment towards the target. Minority groups mostly targeted by the bullies have different race, religion, culture, sexual orientation, physical ability and features, intellectual ability, social status and personality as compared to the bully [8]. Cyber bullying has different types like harassment, flaming, impersonation, denigration, exclusion, tricking, outing, cyber-threats and cyber-stalking [9].

Cyber bullying as being involved in using information and communication technologies like cell-phones, e-mail, page text messages, online personal web sites, internet to repeat the hostile behavior which is intended to harm others [10]. It is also known as online social cruelty or electronic bullying. It is a repeated harm infliction through the use of computers, cell phones and other electronic devices [11].

Social learning theory [12] is efficient to explain and recognize the nature of the bully. It focuses on the behavioral aspects the cues and cognitive processes which emerges shortly afterwards. His explanation of modeling and observational learning is very important in the context to understand the phenomena of cognition of the cyber bully [13]. Socio cultural theory [14] suggested that bullying as the consequences of power differences towards social groups.

Federal Government of U.S. [15] stated cyber bullying is more mental torturing and different from the bullying which includes physical empowerment. As it can happen twenty-four hours a day and seven days a week anytime whether night or day and whether person is alone or in gathering. Hostility, psychoticism, interpersonal sensitivity, phobic anxiety and somatization are significant predictors of cyber bullying. It is repetitive extensive harmful behavior and the resulting consequences cyber bullying is now considered as a mental and public issue [16,17].

Empathy is related to pro-social behavior, and its lack leads to be offensive and aggressive tendencies. It proceeds through four steps: emotional recognition, emotional response, perspective taking and reparative action [18]. There is a negative relationship between empathy and aggression [19]. Expressing compassion with having deep level of understanding when entered in other person's experience is empathy [20].

Introduction

An online aggressive behavior in a digital space is called cyber bullying, and it is as damaging as other conventional aggression can cause harm [1-5]. Stalking, spreading mean

Emotional- behavioral problems are characterized in two groups as: Externalizing behavior: includes acting out style which is explained in terms of impulsivity, aggression. Internalized behaviors: Includes inhibited styles as withdrawn, depressed, lonely or anxious [21]. Impulsive people have a strong urge to act without thinking. Impulsivity includes poor self-control, making decisions quickly, without any concern for regard of consequences [22]. Impulsivity exists in clinical disorders as Attention Deficit Hyper Activity Disorder (ADHD), drug dependence, mania and antisocial behavior. Impulsivity plays an important role in the pathogenesis of neuropsychiatric disorders [23].

Externalizing problem behavior is explained as by acting-out style which includes noncompliant, impulsive, coercive and aggressive behaviors. And other are more straightly described as inward. Which includes internalizing behaviors; a typical inhibited style includes depressed, lonely, withdrawn and anxious [24].

Kowalski²⁵ tries to find out the psychological, physical and academic functions and performances of adolescents who experience cyber-bullying and traditional bullying. According to his study results the negative physical, psychological and academic effects of cyber-bullying are more pronounced than traditional bullying. Result also suggests emotional problems related to the bully/ victim and behavioral problems associated to the one who bully. Anxiety is found to be high in those who bully. Anxiety and depression is found to be high who belong to high school. Correlational analysis indicated anxiety, depression, self-esteem, health problems and absentees, grades problem and other difficulties are significantly related to student's involvement in cyber-bullying others, being cyber-bullied, bullying others and being bullied.

The research conducted was on the dark triad personality traits and adolescents cyber-aggression by Pabian [25,26] on the sample of 324 adolescents. The consequences lead to the view that only Face-book intensity and psychopath significantly predict cyber-aggression in adolescents. Associations between frequencies of bullying involvement with adjustment problems in adolescents were examined by Gower [27] and results proved that infrequent bullying perpetration and victimization associated with increased levels of all adjustment problems.

Males are engaged in cyber bullying more as compared to females and pretended to be someone else. More over this study uncover the reality that some psychiatric symptoms do exists; which provoke cyber bullying mal-adaptive behaviors¹⁶. Results of meta-analysis revealed that low level of agreeableness and conscientiousness and higher levels of extraversion and neuroticism were associated with both bullying and victimization. On the other hand affective and cognitive empathy were negatively linked to bullying behavior [28].

Brewer [29] compared to investigate the level of influence of, self-esteem, empathy and loneliness on cyber-bullying. Sample was based on adolescents of 16-18 years of age. According to the analysis of standard multiple regression it was concluded that self-esteem was a significant predictor of cyber

bullying perpetration while low self-esteem people were most likely to report experience of cyber bullying. Also decrease in empathy increases the likelihood of cyber bullying perpetration.

Pakistan is progressing rapidly in the field of education. As long as the academic demands preceded to the heavens the demands to the use of cyber technology enhanced. Those who excel in utilizing this technology try to charm their id and egos by doing cyber-crimes. As like in our country where dominating male chauvinism prevails; the cyber field is also dominated and miss-used. This study will allow having a glance over the reason and causes which exists behind cyber-crime. Less research has carried out on the starting issues of cyber bullying especially in our evolving country. Only one fact "the consequences" of the bullying is studied precisely over and over which negotiate severe effects specifically. Present study aims to get access to emotional and behavioral problems and to saw the level of empathy which is linked to cyber bullying. Findings of the present research bring the knowledge of the new crime cyber bullying and helps to get aware of the bully after viewing their queer and odd behaviors.

Hypotheses

- Lack of empathy and emotional behavioral problems are likely to related with and predict cyber bullying in young adults.
- Men are likely to be more involved in cyber bullying as compared to women.
- Young adults from universities, colleges and public sites will likely to be different across all study variables.

Method

Research design

It was a co-relational study and cross-sectional research design was followed.

Participants

Non probability purposive sample of 150 young adults including 78 men and 72 women were drawn from 2 universities, 2 Colleges and from two net cafés in Lahore city of Pakistan with age range 18-25 (M=21.24, SD=2.06) (Table 1).

Inclusion/exclusion criteria

- Only those young adults were included who use internet on daily basis.
- Only those young adults were included who has been using internet for at least two years

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Table 1 Demographic Characteristics of Young Adults (N=150).

Characteristics	f	%	M	SD
Age (18-25)	-	-	21.24	2.06
Gender				
Male	80	51.3		
Female	70	44.9		
Education				
ICS, F.Sc, F.A	23	14.7		
B.A, B.com	19	12.2		
B.S, M.Sc, M.A	94	60.3		
M.Phil, M.BA, M.com	14	9		
Employment Status of Students				
Employed	39	25		
Private job	28	17.9		
Government job	12	7.7		
Unemployed	111	71.2		
Marital Status				
Married	11	7.1		
Unmarried	139	89.1		
Family System				
Nuclear	72	46.2		
Joint	78	46.4		
Internet use (2-15 years)			5.02	3.44
Aim of using internet				
Work and information	36	23.1		
Fun	52	33.3		
Time pass	11	7.1		
All above	50	32.1		

Measures

The toronto empathy questionnaire

Empathy is assessed by the Toronto Empathy Questionnaire [1] An easily administered brief self-report measure of empathy which emphasis the emotional components of empathetic responding. Responses were given to a 5-point likert scale corresponding level of frequencies as (never, rarely, sometimes, often and always). The internal consistency of the measure is =.87. Have high test retest reliability = .81. The TEQ contains 16 questions that encompass a wide range of attributes associated with the theoretical facets of empathy.

Scale of cyber bullying

Cyber bullying is assessed by Cyber victim and bullying scale [2]. Scale includes 22 items with two sections. First section includes Scale of Cyber Victim (SCV), and second section includes Scale of Cyber Bullying (SCB). For present research SCB will be used. The scale also includes three-factor structure Cyber Forgery (CF), Cyber Verbal Bullying (CVB), Hiding Identity (HI). Its internal consistency coefficients were .89 and split half coefficients were .79 for both scales. Test-retest reliability for cyber victim is .85, for cyber bullying .90 respectively.

Emotional-behavioral problems

Emotional and behavioral problems are assessed by two different scales. The first scale for measuring emotional problems is the (DASS 21) and for measuring behavioral problems the second scale is Aggression Questionnaire (AQ).

Depression, anxiety & stress scale

Emotional problems are assessed by DASS 21 [3]. An easily administered brief self-report questionnaire designed to measure severity of symptoms common in depression and anxiety. The reliability scores of the scales in terms of Cronbach's alpha scores rate the Depression scale 0.91, the Anxiety scale at 0.84 and the Stress scale 0.90 in the normative sample. The DASS 21 contains 21 questions that encompass a wide range of attributes associated with the theoretical facets of emotional problems.

Aggression questionnaire

Behavioral problems were assessed by Aggression Questionnaire [4]. It is intended to be administered as a screening instrument. The 34-item AQ consists of five sub-scales namely physical aggression (physical expression of anger), verbal aggression (argumentative and hostile language), anger (agitation and sense of control) and hostility (resentment, social isolation and paranoia) and indirect aggression (expression of anger without direct confrontation). The Coefficient Alpha for Physical Aggression ($r = .88$), Verbal Aggression ($r = .76$), Anger ($r = .78$), Hostility ($r = .82$), Indirect Aggression ($r = .71$) and the total scale ($r = .94$).

Demographic information questionnaire

The demographic information questionnaire includes questions about age, gender, family system, education, birth order, number of siblings, monthly family income, marital status, aim of using the internet and amount of years for how long the person was using the internet.

Translation of two measures for data collection

Permission for translation of two instruments Cyber Bullying Scale (CBS) and Toronto Empathy Questionnaire (TEQ) was appropriately sought from the authors. To ensure the rigorous process of translation, it had done in an appropriate way as according to the MAPI [30] guidelines. The objective of the

translation was to make the measures understandable to the participants of the research as Urdu is easier to comprehend and national language of Pakistan. The scales were translated with multiple phases.

Step 1: Forward translation

Step 2: Evaluation of translated items by the researchers

Step 3: Back translation

Step 4: Evaluation of the backward translated items

Step 5: Try out

To ensure correct translation and validity of the scale, try out study was carried out. The scales were administered on the sample of 20 students with age of 18-20 years. Sample consists of M.Sc students of Institute of Applied Psychology, University of the Punjab, Lahore. The purpose to select those students was that they had command over both Urdu and English language. Convenient sampling technique was used in the try out study. Urdu and English versions of TEQ and SCB was administered on the students in their free time. Both scales were divided in half of 20 students with half to the males and half to the females. Correlation of original and translated versions was measured as TEQ ($r = .73^*$) and SCB ($r = .80^{**}$).

Procedure

After getting the permission from the authors of the measures, the permission from the head of all the departments was collected from colleges, universities and net cafés. Before taking the information from the participants, written consent was signed by every participant. Demographic information questionnaire, Toronto Empathy Questionnaire, Cyber Bullying Questionnaire, DASS 21 and Aggression questionnaire were filled by the participant under the supervision of the researcher. Researcher administered the questionnaire after brief instructions. During attempting the questionnaire booklet, every query that the participant encountered, was explained in detail by the researcher. The participants complete the questionnaires in approximately 30-35 minutes. After completing the questionnaire, the questionnaires were taken back and the participants were thanked for their cooperation.

Ethical Considerations

- The present research carried out after the approval of Departmental Board of Studies.
- Assessment tools were translated and used after the permission of related authors.
- Prior permission was sought from the concern authorities of Universities and colleges for data collection

- Informed consent was taken from participants and they were briefed about the certain feature of the research.
- Confidentiality of information and anonymity of the participants were maintained.
- The results were accurately presented and discussed.

Results

Results section includes descriptive analysis for all study variables as well as describes reliability analysis through Alpha coefficient. For measuring relationship among empathy, emotional-behavioural problems and cyber bullying co relational analysis (Pearson Product Moment) was carried out. Multiple Hierarchical regression analysis was conducted to explain the main hypothesis that psychological predictors of cyber bullying in early adulthood. In order to examine gender difference Independent Sample t test, and see whether sample from colleges, universities and net cafes are different on study variables or not One way ANOVA was also computed (Table 2).

Table 2 Descriptive Statistics and Cronbach Alpha of study variables for Young Adults (N=150).

Variables	k	Cut off	M (SD)	α
Empathy	16	39	39.36 (7.28)	0.58
DASS	21	-	25.97 (12.02)	0.88
Depression	8	0-9	8.0 (5.11)	0.8
Anxiety	7	10-14	14.2 (6.0)	0.72
Stress	7	0-14	9.95 (4.38)	0.72
Aggression	34	85-93	83.32 (21.89)	0.86
Physical Aggression	8	-	18.7 (6.02)	0.72
Verbal Aggression	5	-	12.27 (3.53)	0.5
Anger	7	-	18.35 (5.53)	0.51
Hostility	8	-	19.5 (6.46)	0.61
Indirect Aggression	6	-	14.39 (5.47)	0.39
Cyber Bullying	22	110	41.67 (20.18)	0.95
Cyber Verbal Bullying (CVB)	7	-	14.45 (6.74)	0.86
Hiding Identity (HI)	5	-	9.4 (4.70)	0.82
Cyber Forgery (CF)	10	-	17.95 (10.35)	0.95

k= No. of items. α =Coefficient Alpha. DASS= Depression Anxiety Stress Scale.

Table 3 Correlation between Empathy, Emotional-behavioral Problems and Cyber Bullying among Young Adults (N=150)

Variables	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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1 Empathy	-.23**	-.35**	-.43**	0.02	-.43**	-.46**	-.23**	-.30**	-.29**	-.44**	-.45**	-.39**	-.43**	-.43**
2 DASS	-	.90**	.33**	.83**	.53**	.38**	.37**	.43**	.56**	.38**	.36**	.33**	.36**	.33**
3 Depression	-	-	.40**	.62**	.56**	.43**	.33**	.43**	.60**	.42**	.43**	.38**	.40**	.41**
4 Anxiety	-	-	-	0.13	.51**	.45**	.39**	.40**	.40**	.39**	.96**	.91**	.87**	.90**
5 Stress	-	-	-	-	.35**	.17*	.34**	.30**	.40**	.20*	0.12	0.13	0.14	0.09
6 Aggression	-	-	-	-	-	.81s**	.71**	.83**	.86**	.76**	.54**	.46**	.49**	.52**
7 Phys. Ag.	-	-	-	-	-	-	.54**	.55**	.57**	.56**	.51**	.43**	.45**	.49**
8 Verbal Ag.	-	-	-	-	-	-	.49**	.56**	.46**	.38**	.34**	.39**	.34**	
9 Anger	-	-	-	-	-	-	-	.74**	.52**	.42**	.36**	.39**	.40**	
10 Hostility	-	-	-	-	-	-	-	-	.52**	.42**	.35**	.36**	.43**	
11 Indi. Ag.	-	-	-	-	-	-	-	-	-	.42**	.37**	.38**	.41**	
12 Cyb. Bull.	-	-	-	-	-	-	-	-	-	-	.91**	.89**	.96**	
13 CVB	-	-	-	-	-	-	-	-	-	-	-	.76**	.80**	
14 Hid. Iden.	-	-	-	-	-	-	-	-	-	-	-	-	.80**	
15 C. Forgery	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: **p<.01. *** p<.001.

According to the obtained results it is suggested that empathy is inversely associated with cyber bullying. This leads to conclude that low level of empathy is linked to the increased cyber bullying behavior among young adults. Results indicated that depression and anxiety is significantly correlated

with cyber bullying behavior while stress has non-significant relationship with the cyber bullying behavior. Physical aggression, verbal aggression, anger, hostility and indirect aggression all components of aggression are also significantly related to the cyber bullying behavior in young adults (Table 3 and 4).

Table 4 Hierarchical Regression Analysis predicting Cyber Bullying on Empathy, Emotional-Behavioral Problems in young adults (N=150).

Predictors	Cyber Bullying		Cyber verbal bull.		Hiding Identity		Cyber Forgery	
	R2	β	R2	β	R2	β	R2	β
Step 1	.223***		.149***		.157***		.258***	
Gender		-.06**		-0.02		0		-.09*
Education		0.02		0.03		0.01		0.02
Net vs. college		-0.02		0.04		0		-0.04
Net vs. university		-0.03		.09*		-0.03		-.10*
Step 2	.113***		.092***		.119***		.094***	
Empathy		-0.01		0.02		-0.05		-0.01
Step 3	.603***		.596***		.516***		.489***	
DASS		.19*		0.1		.30*		0.16
Depression		-0.07		-0.04		-0.12		-0.05
Anxiety		.89***		.91***		.81***		.80**
Stress		-0.08		-0.04		-0.11		-0.09
Step 4	0.002		0.003		0.008		0.003	
Aggression								

Physical Aggression		0.05		0.06		0.02		0.05
Verbal Aggression		-0.01		-0.01		0.08		-0.06
Anger		-0.01		0.02		0.03		-0.01
Hostility		-0.01		-0.05		-0.12		0.05
Indirect Aggression		0		0.01		-0.01		0
Total R2		0.94		0.84		0.8		0.84

Note: Net vs. college were given the values as net= 0 and college=1. On the other hand Net vs. university were given with the values as net= 0 and university = 1. DASS= Depression Anxiety Stress Scale.

* $p < .05$. ** $p < .01$. *** $p < .001$.

The results of the above model $F(14, 133) = 149.50$, *** $p < .000$ manifested 22% variance in cyber bullying, 14% variance is present in cyber verbal bullying, 15% variance and change is seen in hiding identity and 25% variance is explained in the cyber forgery by the demographic variables.

Gender is also seen as a predictor of cyber bullying and cyber forgery, which reveals that the women do less cyber bullying as compared to men. In cyber forgery, by the reference of gender, the beta value of gender was inversely significant. The value reveals the conclusion that women do less hiding forgery as compared to men.

As manifested by the values, it is also seen that university students do more cyber verbal bullying. Moreover the university students were found to be doing less cyber forgery as compared to the public in net cafés.

Over all variances explained by the next model $F(14, 134) = 50.27$, *** $p < .000$ cyber bullying and its sub scales is 11% with cyber bullying, 9% with cyber verbal bullying, 11% with hiding identity and 94% with cyber forgery. The high value in cyber forgery shows that lack of empathy is a strong predictor of cyber forgery.

The second last model including emotional problems $F(14, 134) = 38.19$, *** $p < .000$ explain 60% variance in cyber bullying, 59% variance in cyber verbal bullying, 51% in hiding identity and 48% variance in cyber forgery.

Further results of the analysis with the study variables through an ample light over the significant predictor of cyber bullying and reveals anxiety as a strong predictor of cyber bullying behaviors.

The last model $F(14, 133) = 51.64$, *** $p < .000$ shows 0.2% variance in cyber bullying, 0.3% variance in cyber bullying, 0.8% variance in hiding identity and 0.3% variance in cyber forgery. Over all result of hierarchical regression shows that university student significantly does cyber verbal bullying (Table 5).

Table 5 Gender wise differences comparing Empathy, Emotional-behavioral problems and Cyber bullying between Men and Women (N=150).

Variables	Men		Women		t (df=148)	P	95% of CI		Cohen's d
	(n=78)		(n=72)				LL	UL	
Empathy	M	SD	M	SD					
Empathy	37.67	6.72	41.3	7.45	-3.1	0.02	-5.93	-1.31	-0.5
DASS	26.08	12.29	25.84	11.8	0.124	0.9	-3.65	4.15	0.02
Depression	8.63	5.36	7.4	4.76	1.48	0.14	-0.41	2.88	0.24
Anxiety	16.45	7.01	11.82	5.14	4.54	0	2.61	6.63	0.74
Stress	9.26	4.27	10.74	4.4	-2.08	0.03	-2.88	-0.08	-0.34
Aggression	88.22	22.03	77.71	20.4	3.01	0.03	3.61	17.4	0.49
Physical Aggression	20.16	5.91	17.11	5.76	3.18	0.02	1.15	4.93	0.52
Verbal Aggression	12.72	3.74	11.75	3.28	1.67	0.09	-0.18	2.11	0.27
Anger	19.31	5.84	17.25	4.97	2.3	0.02	0.29	3.81	0.37
Hostility	20.4	6.88	18.6	5.84	1.71	0.08	-0.27	3.87	0.28
Indirect Aggression	15.62	6.23	12.98	4.06	3.02	0	0.91	4.36	0.49
Cyber Bullying	49.08	21.61	33.31	14.5	5.2	0	9.86	21.68	0.85

Cyber Verbal Bull.	16.53	7.05	12.07	5.45	4.3	0	2.44	6.48	0.7
Hiding Identity	10.81	4.94	7.85	3.88	4	0	1.52	4,38	0.65
Cyber Forgery	22	11.19	13.38	6.96	5.7	0	5.62	11.59	0.93

Note: CI= Confidence Interval, LL= Lower Limit, UL= Upper Limit. DASS= Depression Anxiety Stress Scale.

Results indicated that males had less level of empathy more emotional-behavioural problems and more involved in cyber bullying as compared to females.

Table 6 One way ANOVA for Sample Type and Study Variable (N=150).

Scale	University (n=50)		College (n=50)		Public (n=50)		F(2,147)	p	Partial Eta2
	M	SD	M	SD	M	SD			
Cyber Bullying	35.8	15.9	39.07	18.9	50.8	22.67	8.06	0	0.09
Cyber Verbal Bullying	13.48	5.7	13.42	6.73	16.6	7.29	3.67	0.02	0.04
Hiding Identity	8.12	3.87	8.96	4.34	11.3	5.32	6.48	0	0.08
Cyber Forgery	14.2	8.22	16.69	9.08	23.3	11.62	11.45	0	0.13

Table 7 One way ANOVA for Sample Type and Study Variables (N=150).

Scale	University (n=50)		College (n=50)		Public (n=50)		F(2, 147)	p	Partial Eta2
	M	SD	M	SD	M	Eta2			
Empathy	41.28	6.08	39.05	8.21	37.7	7.03	3.1	0.04	0.04
DASS	25.72	10.93	24.01	13.34	28.4	11.39	1.67	0.19	0.02
Aggression	77.58	19.43	79.88	20.84	93.02	22.58	7.7	0.01	0.09

Note: SD=Standard Deviation, M= Mean, p= significant. DASS= Depression Anxiety Stress Scale.

The results manifested that all the three groups participants from universities, colleges and net cafes perform significantly different on all study variables. And mean scores shows cyber bullying and aggression was higher in public as compare to other two academic groups (Table 6 and 7).

Discussion

The current research aims to investigate the psychological predictors of cyber bullying. Another important objective was to see gender difference and to see either people in colleges, universities and net café's users are different on all study variables.

The first finding depicts the inverse relationship between empathy and cyber bullying which indicates that lack of empathy is related with cyber bullying. Present research finding supported by the study [28] that the level of empathy is negatively associated with the bullying behavior, as lower level of agreeableness and conscientiousness were associated with bullying and victimization. The low level of empathy is significantly related to all the sub types of the cyber bullying

including cyber verbal bullying, cyber forgery and hiding identity.

Griezel [31] uncovered the structure, gender and developmental differences in cyber bullying in 803 students. Results revealed that gender, grade, and gender by grade interaction effects cyber forms of bullying and being bullied. There is a link between bullying and cyber bullying, bullies tend to cyber bullies afterwards, significant difference between bullies and cyber bullies is yet determined. Results also show that cyber bullies demonstrate less empathetic responsiveness [32].

Secondly it was hypothesized that emotional problems are likely to be positively related to cyber bullying. Emotional problems include three factors as depression, anxiety and stress. The findings on this research represents that there is a significant relationship between emotional problems and cyber bullying. As emotional problems in an individual enhances more chances of cyber bullying behavior. There is a moderate positive correlation between cyber bullying and psychoticism [33]. Depression, anxiety, self esteem, self-reported health problems and low grades of the students are significantly related to the student's involvement in cyber bullying others, being cyber bullied and bullying others

through traditional means and being bullied through traditional means [34].

All these findings are consistent with the present research findings. The findings from the regression analysis also show that emotional problems were the strong predictor of cyber bullying as compared to behavioral problems. So the current study's result is consistent with the previous finding.

Behavioral problems also had a significant relationship with cyber bullying behavior. Behavioral problems include physical aggression, verbal aggression, anger, hostility and indirect aggression. Anger factors are related to the cyber bullying behaviors. Cyber bullying has become one of the anger expression styles, that one can show itself without using real identity. Females had higher social anxiety and avoidance scores as compared to males. Expressing the thoughts and emotions through aggressive behavior are acceptable between males than females because of the socio-cultural factors [35].

As far as gender differences are concerned the results also suggested significant gender differences in empathy level, as empathy is high in females as compared to males. Those who had high psychopath scores also contains reduced accuracy of emotion recognition and low effective responsiveness to emotion recognition and so they also had high level of violent assaults. The result of this study helps us to see the empathy in a large way that low level of empathy leads to the violent assaults-here it is high level of cyber bullying behavior [36].

Freud [32] explains three important segments of personality Id: the spoil child of personality always work upon pleasure principal, the Ego make balance between id and super ego works on reality principal and the super ego based upon moral principal and tell strictly to the person what is wrong and what is right. According to Molchanov [37] high level of empathy correlates with care strategy and low level was found for egoistic strategy. So if the findings compared to see the results in a broader sense, it leads towards the conclusion that those with less empathy level has more egoistic strategy- the defense against the dilemma between id and ego which emerges when id is stronger and super ego is more fragile, so it will lead to interpret that males have stronger id and they are more prone towards cyber bullying behaviors, which could be their egoistic strategy to solace their id.

Anxiety is high in those who bully, further results of his study tells that anxiety, depression, self-esteem, health problems and low grades in academic performance and other difficulties are significantly related to the student's involvement in cyber bullying others and being cyber bullied. Behavioral problems as aggression are also high in males as compared to females [25]. Gender affects cyber forms of bullying. Male are more prone to do cyber bullying as compared to females [31]. Bullying is associated with increased levels of all adjustment problems [27].

Low affective empathy is related to the bullying by males but not exists in females [38]. High self-esteem is a significant predictor of cyber bullying and low self-esteem people experience cyber bullying, further more decreased empathy increases the likelihood of cyber bullying perpetration [29].

Aggressive behaviors are acceptable in males as compared to females because of socio-cultural factors. Moreover he revealed the similar finding to current study that anger factors are related to the cyber bullying behaviors [35].

Limitations

- Sample size should be large enough to make reliable generalizations.
- The custom of using net café's is decreasing because of the easy availability of net service at homes, academic and at occupational settings
- Items of the cyber bullying scale required personal information from the participants leads them to be instantaneously suspicious about uncovering the reality of their cyber bullying behaviors.
- The questionnaire booklet was lengthy, leads to the enhanced boredom of the participants.
- Researcher was unable to get a complete control over all environmental and social factors this makes it difficult to rule out influences of confounding variables.

Conclusion and Implications

The whole findings of the research after comparing with the literature review leads to the conclusion that cyber bullying is related to the lack of empathy and emotional-behavioral problems. It was also found that lack of empathy and emotional-behavioral problems were the significant predictors of cyber bullying. Furthermore the gender differences were also found as the cyber bullying is higher in men as compared to women. Those who got high score in cyber bullying had more high scores in emotional-behavior problems. Important implications of the study are as following.

- The research can give new directions for future studies in the field of cyber crimes.
- Awareness can be given that cyber bullying can be reduced by having our legal authorities, forensic psychologist's and criminal investigator's grip over them fully with the help of their own technological enhancements.
- Furthermore the clinical as well as educational psychologists should chase those psychiatric problems which are behind this bullying behavior to shun it completely. Screening can be conducted before entering into educational institutions along with entrance examination. Prevention and cure can be possible through awareness raising campaigns, written materials and educational programmes for youth.
- This research study will allow both forensic psychologists and legal authorities to apprehend coordinately about this topic of cyber bullying to reduce its level of cyber-crimes in society.

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