Cyber Bullying Victimization: Perceptions and Experiences among University Students

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Abstract

Present study was aimed to explore the phenomenon of cyber bullying victimization among university students. It has twofold objectives i.e; to prepare and validate indigenous instruments and to study the experiences and perceptions of cyber bullying victimization among university students. For this purpose, sample (N=223) of students age 18-30 years was collected from different private and government sector universities of Rawalpindi and Islamabad. Study was done in two phases. In phase I instruments were developed and validated. Instruments used were Cyber Bullying Victimization Questionnaire (CBVQ) developed by Campfield (2008), adapted in present study to measure prevalence, experiences and bother so meness about cyber bullying whereas; Perception of Cyber Bullying Questionnaire (PCBQ) developed indigenously in present study. CBVQ was emerged with two factors through Principle Component Analysis (PCA) found reliability coefficient as .94. PCBQ emerged with two factor found reliability coefficient ranging from .72 to .82. Psychometrics of scales were established. Gender difference was explored. Results indicated that 88.6% university students engaged in cyber bullying. It was found that cyber bullying is more prevalent among male university students and they scored high on cyber bullying experiences. Female students scored high on perception about reasons and remedies of cyber bullying. These measures will be helpful to give quantitative assessment in future for measuring cyber bullying experiences and perception of cyber bullying among

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university students. The findings may be utilized to develop plans to deal with cyber bullying issue.

Keywords

Cyber bullying victimization, Prevalence, Gender differences in cyber bullying

New media technologies have darker and troubling aspect in their accessibility. Majority of people are engaging with cyber space in their daily life. Electronic media serves as a source of bullying and harassment. Bullying through electronic media has become a great alarm for educators, parents, media and government. Considerable research has shown that many students are engaged in cyber bullying which shows the seriousness of the problem (Kowalski & Limber, 2007; Li, 2006; 2008; Willard, 2004). Merritt (2013) reported cyber bullying is a big issue in Asia as it is elsewhere. In Pakistani context cyber bullying research is in its infancy. Only media reporting reveals the incidences (Imran, 2014). For example; in 2014 it was reported on Urdu point that a student of Lahore University of Management and Technology (UMT) took pictures of female student's and public them without their permission on fake Facebook page.

Bullying is the term that is often described as being an aggressive intentional act or behaviour that is carried out by a group or an individual repeatedly over time against a victim that can't easily defend himself or herself (Olweus, 1994). Cyber bullying is the advanced form of bullying that is, it is the bullying played in cyber space. Cyber bullying has its roots in traditional bullying because in this type of bullying people's behaviour is intended to harm others but through social media or electronic channels. Li (2005) stated that both types of bullying repeat same pattern and procedure regarding gender involvement. It is said to be negative use of technology. It is important to cater the protective factor for cyber bullying at university campus to tap the buffering effect of the protective factor against cyber bullying.

Campfield (2008) defined experiences of cyber bullying as, sending hateful e-mails to someone, saying hurtful things in an instant message or spreading nasty rumours about someone on the Internet, ignoring

someone in a chat room or while playing a game online, posting hurtful or embarrassing things about them on a web site, or teasing or making fun of someone, making threats to physically hurt someone over the Internet or cell phone and taking digital photos of someone without permission. Findings also revealed a bullying to cyber bullying to victim cycle revealing bullying, cyber bullying, and victimization are closely related (Campfield, 2008; Li, 2005; Ybarra & Mitchell, 2004). Findings shown that about half the bullies were also cyber victims (Ybarra, Mitchell, Wolak, & Finkelhor, 2006).

Campfield (2008) showed that 69% of people were the part of cyber bullying victimization. It was also stated that most frequently occurring type of cyber bullying is harassment (Campfield, 2006; Li, 2005). Gordon (2014) found harassment as the target is embarrassed, threatened and harassed by using text messaging, instant messaging and emails, rumours, threats or embarrassing information on social networking sites.

Regarding the prevalence and experiences of issue in Asia, Su and Holt (2010) stated that in China denigration, flaming and outing trickery are common experiences of cyber bullying. Imran (2014) reported that Pakistani girls perceive the denigration, misusing the picture data or outing trickery are common experiences of cyber bullying. Munawar, Inam-ul-haq, Ali, and Maqsood (2014) found that girls do more cyber bullying than boys through the use of internet by computer text messages to harass, by posting pictures without permission, by phone calls to harass.

Coming to the prevalence of issue in Asia, Zhu (2008) reported cyber bullying and cyber victimization as bullying by direct victimization, being bullied through rumour spreading, being ignored by peers, and peer assault were the most common forms of bullying experienced by both male and female participants in terms of lifetime and preceding-year prevalence, respectively. Capturing the issue in Pakistan, Imran (2014) reported that Pakistani girls provided the following reasons of facing cyber bullying for themselves and their friends: attraction of opposite gender; crush from opposite gender; jealousy of others on being popular in school; broken relationship with the guy; take revenge; get amused by misusing pictures; to bring down

the impression of some famous person; lack of parental supervision; Family politics by a relative. Munawar, Inam-ul-haq, Ali, and Maqsood (2014) found that girls do more cyber bullying than boys through the use of internet by computer text messages to harass, by posting pictures without permission, by phone calls to harass. Girls do more cyber bullying with unknown persons, peer group and immediate group fellow either the person is boy or girl. Whereas; boys do more involve in cyber bullying through mobile usage, by posting humiliating posts online. Boys do cyber bullying with known persons which are mostly boys.

Gender differences were found in cyber bullying with boys bullying others more than girls in cyber space (Dilmac, 2009; Hinduja & Patchin, 2009; Huang & Chou, 2010; Li, 2006; Ojedokun & Idemudia, 2013; Smith, Thompson & Bhatti, 2012). There are also contrary findings exists, that is; females were over-represented among cyber bullies, victims, and bully/victims (Campfield, 2008). Higgins, Marcum, Freiburger and Ricketts (2012) also suggested that females are more interested to post gossip online to hurt other than males.

Multiple theories explain the phenomenon of cyber bullying. Agnew and White (1992) argued that people who experience strain are more likely to experience frustration or anger and are then more vulnerable to engaging in criminal or deviant behaviour. Strain could stem from three sources: positively valued goals that are not achieved; loss of positively valued stimuli (e.g., loss of a job, loss of a romantic relationship); and presentation of negative stimuli (e.g, being victimized in playground). It is important to note that deviant behaviour is a coping mechanism when strain develops. Since the 1990s, strain theory has been applied to other behaviours, and it has been posited that there may be a relationship between strain and cyber bullying. Strain theory may be helpful in explaining the causes of cyber bullying (Burton, Florell & Wygant, 2013). General strain theory (GST) argues that individuals who experience strain, they also face its resultant negative emotions so, they become at risk to engage in deviant behaviour such as bullying and cyber bullying (Hinduja & Patchin, 2010).

A combination of Rational Choice Theory (Blume & Easley, 2010; Cornish & Clarke, 2014) and Self-Control Theory (Mischel, 2011) used

to explain cyber bullying. Rational Choice Theory states that deviant behaviour is the result of an assessment of costs and benefits whereby the benefits outweigh the costs. Due to the low risks of bullying in cyberspace, cyber bullies feel free from restraints on their behaviour. To determine why some youth make the rational decision to cyber bully while others do not, Self-Control Theory will use. This theory assumes that engagement in deviant behaviour depends on a person's extent of self-control.

Sociocultural theory illustrates that there is difference of bullying between different social groups according to different levels of power. And typically the difference between groups is gender, ethnicity race, or social class. The basis of these differences is historical and cultural. We live in a patriarchal society. During the course of history men have been considered as the dominant sex. Men have been gifted with power and authority. Males then exhibit their dominance by daunting and exerting power over females. Research has revealed that males are more likely to bully and have a propensity to bully girls (Rigby, 2002).

Social learning theory by Bandura (1986) in which he says that individual learns by observing others. Students observe other students acting as cyber bullies then they learn from them and next time they play the role which they have observed previously and become cyber bullies. Another often cited viewpoint to explain human behaviour in terms of continuous reciprocal interaction among cognitive, behavioural, and environmental influences in social learning theory is modelling and reinforcement of behaviours (Bandura, 1973, 1977).

According to the dominance theory, a need for dominance and control is highly related to bullying behaviours. Olweus (1994) described the typical bully as having an "aggression reaction pattern combined, in the case of boys, with physical strength" (p. 1180). However, Olweus (1994) points out that dominance does not always involve physical strength; dominance or leadership status may also be established through verbal abuse, threats, and other intimidating behaviours (e.g., sexually aversive behaviours) that are motivated by the individual's need for power, control and social status. Thus, for some individuals, the electronic medium may simply be another venue for dominating others.

Dilmac (2009) stated that, expected bullies tend to have a need for attention and superiority. Dominance theory stated that how bullies maintain and manage their dominance on victims through exerting power on victims. Bullies enjoy special privileges because they have power and they misuse their power by coming unethical online behaviour. Dominants (bullies) recognize the legal right of dominants, whereas the subordinates (victims) receive little social recognition and even stigmatized. Dominance theory also explains intersecting kind of group oppression like men dominates the women with holding disproportionate power and freedoms (Pratto & Stewart, 2011). The aim of bullies is power, control, domination and subjugation. Bullies confirm the power and control by use of provocation. When the target responds, it's a sign that the bully has successfully exerted control ("Bully Online," 2014).

Although many studies concerning bullying and victimization have several limitations. A primary concern is the investigations have been restricted to school context and focused on school-related factors, such as school climate, attitude of school personnel towards bullying, and peer relationship (Furlong, Chung, Bates, & Morrison, 1995). Another limitation in past research on bullying has focused on either an individual's psychosocial characteristics or school-related isolation factors (Swearer, Song, Cary, Eagle, & Mickelson, 2001). It was revealed that there is a lack of instruments with subscales derived from factor analysis. Some tools are reported having limited reliability and validity testing, and then only internal consistency and convergent validity had been tested (Smith & Steffgen, 2013). Hence need for adaptation of an instrument that can tap the cyber bullying experiences among university students. In light of above mentioned studies it was clear that to work with cyber bullying experiences had significant importance because it was a prevailing problem in Pakistan and still not considered by the researchers. Also handful research work has been done with school aged children and adolescents. It was decided to explore the perceptions and experiences of cyber bullying among university students.

Moreover present research aimed to investigate the phenomena of cyber bullying quantitatively. Because it has a lot of literature in qualitative dimension. Because it is said to be an emerging problem in

educational context, so it is important to investigate its pattern among gender. This provide practical reason to address cyber bullying victimization through mix method approach. Furthermore it provided a clear stance to administration of educational setups to take concern and take wise decisions in institutions so that cyber bullying victimization can be controlled to some extent.

Objectives

The study was carried out to achieve the following objectives.

1. To explore the perceptions of cyber bullying among university students.
2. To explore the prevalence of cyber bullying among university students.
3. To investigate from which source cyber bullying is more prevalent (i.e; mobile phone or internet).
4. To explore the differences across demographic variable i.e., Gender in perceptions and experiences of cyber bullying.

Research Design

Research was accomplished in following parts.

Part I

Preparation of study instruments was done in this part. Part I is further comprised of two phases which are given in following:

Phase I: In this phase, focus group discussions were conducted to explore the perceptions and experiences of cyber bullying among university students.

Phase II: In this phase, development of Perception of Cyber Bullying Questionnaire to tap perceptions of cyber bullying among university students, adaptation of Cyber Bullying Victimization Questionnaire previously developed by Campfield (2008) and Validation of these two instruments were done.

Phase III: In this phase, pilot study was done with a small sample to examine the trends of findings for further use of data.

Part II: Main study

Main study was conducted in Part II. This part of study further comprised of two phases which are given in following:

Phase I: In this phase, confirmatory factor analysis (CFA) was done to verify the newly emerged factor structures for newly developed questionnaire i.e; Perception of Cyber Bullying Questionnaire and newly adapted questionnaire i.e; Cyber Bullying Victimization Questionnaire developed by Campfield (2008).

Phase II: In this phase, hypotheses testing were done.

Present study comprised two phases. Phase I dealt with the preparation and psychometrics of instruments, whereas Phase II measures the experiences and perceptions of cyber bullying.

Phase I. Development of Perception of Cyber Bullying Questionnaire (PCBQ) and adaptation of Cyber Bullying Victimization Questionnaire (CBVQ) previously developed by Campfield (2008) and Validation of these two instruments were done in Phase I. It further comprised of multiple stages.

Stage I. Stage I consists of items pool generation. Seven Focus groups were conducted with 47 participants, according to rules given by Kreuger (2002) and questions according to format given by Doucette (2013). Thematic analysis given by Braun and Clarke (2006) was done to formulate themes. 38 Indicators were generated on the basis of themes and 23 were extracted from existing questionnaire developed by Campfield (2008). Questionnaire, that can tap perceptions of cyber bullying thirty statements were constructed and generated on the basis of focus group discussions. Items of Perception of Cyber Bullying Questionnaire (PCBQ) were made on five point response options.

Stage II. At stage II items of both instruments reviewed by subject matter experts (SMEs). They found no statement as inappropriate for Cyber Bullying Victimization Questionnaire. SMEs found three statements inappropriate for questionnaire that was developed to tap the Perception of Cyber Bullying Questionnaire.

Stage III. It consists of try out. Appropriateness of layout and items difficulty and appropriateness of instructions examined through tried it out on sample of 27 university students.

Stage IV. It focused on determining factor structure of study instruments. This stage focused on the exploration of newly adapted and developed questionnaires. For this purpose, the sample of 223 university students (females 132, males 91) of age 18-30 years, users of electronic media, enrolled in different programs of different departments of public and private sector universities of Rawalpindi and Islamabad were conveniently approached. Only those participants were taken who volunteered to participate. Two instruments developed in previous stages i.e; (1) Cyber Bullying Victimization Questionnaire (CBVQ), (2) Perception of Cyber Bullying Questionnaire (PCBQ) were used.

Initially Kaiser-Meyers-Olkin (KMO) compute of sampling sufficiency and Bartlett's Test of Sphericity were used to make sure for the sampling sufficiency (N = 223) to run Exploratory Factor Analysis (EFA). For CBVQ the KMO (.828), for PCBQ (.735) achieved, revealed that correlations are solid enough to generate separate and reliable factors with Bartlett test of Sphericity $\chi 2$ (223) = 8957.199 for CBVQ, for PCBQ it is 1248.022 significant at $p < .000$ indicated that the data is better to run factor analysis (Garson, 2008). Principal component analysis was done with varimax rotation, yielded two factors solution for both instruments with eigen values greater than 1. For CBVQ factor one accounts for adding 28.39% variance to 61 items with reliability as .94, skewness as 2.63, kurtosis as 7.89, and factor two accounts for adding 5.11% variance to 61 items with reliability .47, skewness 1.07 and kurtosis .79. One factor is looking clear and more worthy to retain than second factor of CBVQ (Cattell, 1966; Ledesma & Valero-Mora, 2007). For PCBQ factor one accounts for adding 21.48% variance to 27 variables with reliability as .82, skewness -.84, kurtosis .85. Factor two accounts for adding 8.49% variance to 27 variables with reliability as .70, skewness -.06 and kurtosis .32. Both factors of this instrument look clear and worthy.

Initial analysis revealed factor solution explained 33.50% variance to CBVQ. Principal Component Analysis (PCA) yielded two factors

solution. Items with Eigen values > 1.0 were retained (Kaiser, 1960). For factor 1 Eigen value was 17.31, for factor 2 Eigen value was 3.12. In present research, those items were retained having .30 or more loading on one factor (Hair, Black, Babin, Anderson & Tatham, 2007). Items loaded on these two factors in the following way, as shown in table given below:

For Perception about Cyber Bullying Questionnaire two factors were retained with Eigen values > 1.0 (Kaiser, 1960). Eigen value for factor I is 5.80, whereas; Eigen value for factor II is 2.29 respectively and these factors explained 29.97% of variance to this instrument. Items were retained having .30 or more loading on one factor (Hair, Black, Babin, Anderson & Tatham, 2007). Items loaded on these two factors in the following way, as shown in table given below.

Items were given a name according to content by subject matter experts. They suggested name "Cyber bullying victimization" for factor I of Cyber Bullying Victimization Questionnaire. According to SMEs item no. 5 is not going to compliment the factor I, factor II was meaningless as a whole and not worthwhile to retain. It was decided to examine psychometric properties of Factor II in Confirmatory Factor Analysis (CFA) to take final decision to drop.

For Perception of Cyber Bullying Victimization (PCBQ) subject matter experts (SMEs) suggested label to factor I as "Perception about reasons-remedies of cyber bullying" and to factor II "Perception about Context/Scenario of Cyber Bullying". In their opinion items no. 3, 10 and 12 did not show relevance with any of these two factors. As item no 26 shows more than .30 loading on both factors, so it was analysed according to content by SMEs to decide for which factor it will set best. SMEs suggested that this item should retain in second factor that represents the perception about context/scenario of cyber bullying.

Confirmatory Factor Analysis: The data further subjected to confirmatory factor analysis (CFA) to test newly emerging items structure for instruments and to establish construct validity of these questionnaires in Pakistani context. The purpose for CFA in data analysis is to determine the degree to which the hypothesized model goes parallel with the empirical data. The differences are indicated as goodness of fit

indices and a wide range of indices can be used as a summary measure of an overall model fit. For this purpose several indices were used to indicate the best model fit that indices are Comparative fit index (CFI > .90) by Bentler (1990), Tucker-Lewis index (TLI > .90) by Tucker and Lewis (1973), Goodness of fit index (GFI > .90) by Joreskog and Sorborn (1989), root mean square error of approximation (RMSEA the smaller is better) given by Bentler (1990) Normed fit index (NFI > .90) by Bentler and Bonett (1980).

Table 1) Chi square value, degree of freedom, Goodness of fit indices of Cyber Bullying Victimization Questionnaire (N=386).

			Goodness of fit indices					
CBV	χ^2	*Df*	$\chi^2(df)$	CFI	IFI	TLI	RMSEA	$\Delta\chi^2$
M1	3333.69	1080	3.08	.74	.73	.75	.07	-
M2	2303.84	1122	2.05	.87	.87	.84	.05	1029.85
M3	1467.49	911	1.61	.93	.93	.92	.04	836.35

Note: CBV= Cyber Bullying Victimization, *M1*= Initial Model without covariance added, *M2*= Two factor Model, *M3*= Uni-factor Model, CFI=Comparative Fit Index, IFI=Incremental Fit Index, TLI= Tuker-Lewis Fit Index, RMSEA= Root Mean Square Error of Approximation.

Based on the initial criteria for retaining items that is item loading should be > .30 the model obtained through EFA was examined in CFA and this factor structure indicated a good fit to the data with the chi square 1467.49 (df = 911), CFI=.93, TLI= .92, IFI =.93 and RMSEA = .04. The final model comprised of 48 items with one factor 'Cyber Bullying Victimization'. Factor loadings ranged from .32 to .70 for the model with unifactor structure. Model I indicated the poor fit of model that is; CBVQ with two factor structure is not a good one to use further. By taking account on previous evidences (Scree plot, SMEs opinion, low reliability coefficient of .47) and recent evidence (CFA), it was decided to drop the factor 2 here. And in next phase only 48 items of CBVQ will be used.

For PCBQ result indicated a good fit to the data with the chi square 271.38 (df = 148), CFI=.94, GFI= .93, IFI =.94, AGFI=.91, TLI= .93 and RMSEA = .04. The final model comprised of 21 items with two factors 'Perception of Reasons-Remedies of Cyber Bullying' having 17 items in

it and 'Perception of Context of Cyber Bullying' has 4 items in it. Factor loadings ranged from .37 to .82.

Table 2) Chi square value, degree of freedom, Goodness of fit indices of Perception of Cyber Bullying Questionnaire (N=386).

						Goodness of fit indices				
PCB	χ^2	*df*	$\chi^2(df)$	GFI	IFI	CFI	AGFI	TLI	RMSEA	$\Delta\chi^2$
M1	627.66	189	3.32	.85	.80	.80	.82	.78	.07	-
M2	291.59	166	1.75	.93	.94	.94	.91	.93	.04	336.07

Note: M1 = Initial Model without covariance added, *M2*= Two Factor Model with Covariances, CFI=Comparative Fit Index, IFI=Incremental Fit Index, GFI= Goodness of Fit Index, RMSEA= Root Mean Square Error of Approximation, PCB= Perception of Cyber Bullying.

Finally, Cyber Bullying Victimization Questionnaire consisted 48 items with unifactor and three response categories found Alpha reliability of .94. First category measures prevalence of cyber bullying with response options Yes (1) No (0). Second category measures frequency or experiences of CB with response options range from 1-2 times (1), once a week (2), few times a month (3), almost every day (4) and daily (5). Third category measures the how the behaviour in question is bothersome for respondent, with response options none (0), some (1), very much (2). High score represents more prevalence; experiences and bothersomeness of Cyber Bullying Victimization. Perception of Cyber Bullying Questionnaire comprised of 21 items out of 27 items with scoring categories as strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5). High scores represent perception about different reasons, remedies and context for cyber bullying among university students.

Perception of Cyber bullying questionnaire comprised of 21 items out of 27 with reliability ranges from .70 to .82 for its both factors. Items curtailed scoring categories as strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5). High scores represent high perception about different reasons, remedies and context for cyber bullying among university students.

Phase II focused on measurement of perceptions and experiences of cyber bullying. Phase II was done to explore experiences and perceptions

of cyber bullying among university students. Frequencies and percentages were calculated across gender on the sample of N= 386 (M= 22.23, SD=2.46) university students in order to examine the differences in perceptions and experiences of cyber bullying.

Results

Table 1) Frequencies of Cyber Bullying among university students (N = 386)

Groups	Frequency (*N)*	*%*
Cyber Bullies-Victims	342	88.6
Male Cyber Bullies-Victims	185	54.09
Female Cyber Bullies-Victims	157	45.90
Non Cyber Bullies-Victims	44	11.4
Male Non Cyber Bullies-Victims	15	34.09
Female Non Cyber Bullies Victims	29	65.90

Note: No overlap within categories.

Table 1 shows that 88.6% (n = 342) participants reported, they were involved in cyber bullying victimization 1-2 times or more than that. A small percentage (11%) of participants reported they were not involved in cyber bullying victimization.

Table 2 shows experiences, prevalence and bothersomeness of cyber bullying, perceptions about reasons-remedies and context of cyber bullying among university students on the basis of gender.

Table 2) Mean, SD, and t-values for Cyber bullying Experiences, Perception of Cyber bullying among male and female university students (N=386).

	Male (n=200)		Female (n=186)				95% CI		
Variables	*M*	*SD*	*M*	*SD*	*t*	*P*	*LL*	*UL*	*Cohen's d*
CBE	30.23	31.19	18.65	25.22	3.97	.00	5.85	17.31	0.40
CBP	14.00	11.39	8.71	8.81	5.05	.00	3.22	7.33	0.51
CBB	114.33	27.37	123.11	26.87	-3.11	.00	-14.30	-3.23	-0.32
PRR	57.	10.4	62.3	10.5	-	.0	-	-	-0.42

	87	8	5	6	4.07	0	6.64	2.32	
PCXT	12.08	3.30	12.24	3.37	-.46	.64	-.82	.50	-0.04

*Note: *p < .05, ** p < 0.01, ***p<.000; CBE=Cyber Bullying Experiences, CBP= Cyber Bullying Prevalence, CBB= Bothersomeness of Cyber Bullying, PRR=Perception about Reasons-Remedies of Cyber bullying, PCXT=Perception about Context/ Scenario of Cyber bullying.*

Significant mean difference are found in experiences, prevalence, bothersomeness of cyber bullying and perceptions about reasons-remedies of cyber bullying for male university students (n =200) and female university students (n = 186). Cohens'd (0.40, 0.51, -0.32 and -0.42) indicate the strength of the relationship.

Table 3) Gender differences in Cyber bullying Status (N= 386).

Cyber bullying status	Male	Female
Cyber Bullies- Cyber Victim	54.1% (185)	45.9% (157)
Non Cyber Bullies-Cyber Victim	34.1% (15)	65.9% (29)
		χ^2 (1) = 6.24*

*Note: **p < .01, *p < .05, df= 1, Percentages sum to 100% across rows; absolute frequencies are provided in parentheses.*

A Pearson's chi-square analysis was performed and a significant likelihood for CBVs and non-CBVs on basis of gender exists, that is; $\chi 2$ (1, N = 386) = 6.24, P < .001. Table 3 shows the chi square ($\chi 2$) values. There is a significant difference between gender as CBVs and non-CBVs among university students. Table 3 delivered information that between the genders males are more likely to become as CBVs (92.5%) as compared to female university students.

Table 4) Chi-square test for difference in sources for cyber bullying (N=386).

Cyber bullying status	Mobile	Internet
Cyber Bullies-Victims	78.1% (260)	21.9% (73)
Non Cyber Bullies-Victims	90.7% (39)	9.3% (4)
		χ^2 (1) = 3.72*

*Note (In Table 4): **p < .01, *p < .05, df= 1, Missing= 10, N = 376; Percentages sum to 100% across rows; absolute frequencies are provided in parentheses.*

In table 4, the chi square $\chi 2$ (1, N = 376) = 3.72, p < .001) values show the significant difference between cyber bully-victims (CBVs) and non cyber bully-victims (NCBVs) of university students along with two sources of electronic communication i.e; mobile and internet. University students who used to give preference to mobile phone usage score high on cyber bullying-victimization (CBV).

Discussion

In order to meet the study objectives, focus group discussions were conducted. Themes were generated according to top to bottom approach (Braun & Clarke, 2006). On these themes, indicators were formulated for study instruments. Statements were also extracted, modified and added from previously developed instrument. Tryout of instruments was done to evaluate instructions, layout and difficulty level of instruments. Exploratory factor analysis was done in order to get factor structure and principal component analysis solutions were obtained. For both instruments two factors solution was obtained with Eigen values greater than 1.00 by using varimax rotation method.

For Cyber Bullying Victimization Questionnaire one clear factor named as cyber bullying victimization existed, while other factor was not so much clear in scree plot and its items are not worthwhile to retain (Ledesma & Valero-Mora, 2007; Cattell, 1966). For PCBQ one factor named by SMEs as Perception about Reasons-Remedies of Cyber Bullying while the other factor named as Perception about Context/Scenario of Cyber Bullying.

For CBVQ it was examined that few items were found with factor loadings < .30 hence excluded. For PCBQ, twenty items found loading on factor I greater than or equal to .30. Four items shown loading on factor two. According to SMEs factor two of CBVQ was seemed as meaningless as a whole. For two factors of PCBQ they set out names as Perception about Reasons-Remedies of Cyber Bullying and Perception about Context/Scenario of Cyber Bullying. In order to test internal

consistency of scores of these two instruments alpha reliabilities of these tools were calculated. Reliability of factor cyber bullying victimization was calculated as .94 while alpha reliability for factor two was calculated as .47. In case of PCBQ it was evident that it has also good internal consistency reflecting .82 reliability coefficient for Perception about Reasons-Remedies of Cyber Bullying and .70 for Perception about Context/ Scenario of Cyber Bullying.

These results indicated that both are good to use further. As Kline (2005) suggested that for reliable behavioural measure the reliability coefficient must be ≥ .70. Issues regarding univariate normality were addressed. It was revealed for PCBQ skewness and kurtosis values range from -2 to +2 for both factors These values reflected that the assumptions of univariate normality were not distorted for this instrument. For Cyber Bullying Victimization Questionnaire it was seen that assumption of univariate normality was distorted. CBVQ has value of skewness as 2.6 and value of kurtosis is 7.9. The central limit theorem is one of the most fundamental ideas of statistics. It tells that no matter what the underlying distributions of individual observations is, if there is a large enough sample then the sampling distribution of random variable will be normally distributed (Rosenblatt, 1956). Hence, it can be justified because sample size is satisfactorily large. Confirmatory analysis tested the data that how well data supports the factor structure of these two measures. For CBVQ, model 3 was tested and model fit indices shown a good fit. For PCBQ model 2 shows good model fit indices (Schreiber et al., 2006).

It is reflected that a high prevalence rate for cyber bullying occur among university students. It needs a special attention by the institutions and also government level policy making departments like FIA, cyber crime department etc. It was also evident here that mostly students get enter into cyber bullying vicious cycle. Though in studies suggest participants were identified as cyber bullies, cyber victims, cyber bully-victim, non-cyber bully-victim (e.g., Campfield, 2008) but in present study there are only cyber bully- victims and non cyber bully- victims identified. Results indicated that the major ratio was of those who were cyber bullies were also cyber victims. They need special attention.

Present study also reflected that there is a high ratio of cyber bullies-victim. Bully-victims seem to be the most troubled. They tend to exhibit more emotional issues (Wolke, Copeland, Angold, & Costello, 2013). In present study it was revealed that cyber bullying more prevails among males. Previous studies also suggested boys bullying others more than girls in cyber space (Dilmac, 2009; Hinduja & Patchin, 2009; Huong & Chou, 2010).

It reveals that there are significant difference existed for gender with respect to cyber bullying experiences. It was examined that males significantly scored high for experiences of cyber bullying. There is contradiction in literature about association of gender with cyber bullying. For example; Hinduja and Pachin (2013) stated that gender is non significantly associated with cyber bullying. On the other hand, it was seen that females are more likely to be associated with the group of cyber bullies-victims (Campfield, 2008). It is also found that males are more likely to be cyber bullies (Dilmac, 2009). Huang and Chou (2010) indicated that male students were more likely to bully others in cyberspace. Hence there are mixed findings about gender differences in experiences of cyber bullying. It was found that males have more experiences of cyber bullying than females (Li, 2006; Ojedokun & Idemudia, 2013; Smith, Thompson & Bhatti, 2012).

It was examined that participants were preferred to use mobile phones more for communication purpose as compared to internet. In order to examine the difference in prevalence of cyber bullying through two electronic mediums i.e; mobile phones and internet, chi-square was calculated. Results revealed that there is likelihood for cyber bullies-victims to use mobile phones more than internet. These findings contradict the previous findings given by Hinduja and Patchin (2012) that 14.3% bullying occurs through internet and 7% bullying occurs through mobile phone. As technology gets advancement and mobiles turned into smart phones and all time internet availability is there. Hence, boundaries between computer and mobiles are becoming thin with ignorable differences between both mediums. There is a strong positive relationship between engaging in bullying behaviours and having been victimized by bullying behaviours (Kokkinos & Kipritsi, 2012; Lomas,

Stough, Hansen, & Downey, 2012). A history of victimization often leads to a perpetuation of similar behaviour (Polan, Sieving, Pettingell, Bearinger & McMorris, 2012).

In short, present research identified that cyber bullying victimization more prevails among male university students. It was also found that male university students scored high on different experiences of cyber bullying. Whereas; female university students identified to be bothersome about cyber bullying. They have shown serious concerns about this phenomenon. Moreover, females scored high on perception about different reasons and remedies of cyber bullying. Female university students not only bothersome about the phenomena but also wanted to be solved this on immediate basis through different strategies. Whereas there is no significant difference was found among male and female university students for perceptions of context or scenario of cyber bullying.

Last but not least, it was also found that mobile phone or cell phone plays a role of vehicle in exhibiting the phenomena of cyber bullying. It was found that male and female university students who prefer to use mobile phone more to communicate with others, they tend to be more involve in said phenomena, cyber bullying. This happens may be due to reason that cell phone is more easy to use and it has pocket value and easy to carry anywhere, and even when a person may not have internet package yet he/she may have instant message package, this reason may cause to involve them in cyber bullying phenomena. In this regard cellular companies should take effective steps and may not offer such an easy to use instant message packages to customers or especially may not offer night packages to customers. This may help to reduce or overcome the problem.

Conclusion and Implications

As in Pakistan research on cyber space and psychological correlated is in its infancy hood. Therefore; present research was the effort to find the perceptions and experiences of cyber bullying among university students. In present research it is concluded that an alarming ratio of cyber bully-victimization exist among male and female university

students. It was revealed that both genders nearly equally prevail and experience the cyber bullying victimization and both genders bothersome about the phenomenon. It was the concern that issue should be resolved at government level. Government should take an action and actively respond to the present issue and provide the safe and sound cyber environment to the users. It is concluded that issue should be taken on serious note by the organizations involve in devising laws and legislations against criminal or illegal act.

Moreover it was concluded that more cyber bullying victimization exists among university students through mobile phone medium. It presents an insight for Pakistan Telecommunication Authority may take this matter seriously to devise, activate and implement cybercrime act against people involve in cyber bullying. Though cyber crime law exists in Pakistan but students perceived it is in inactive state. Students argued that cyber crime law should be activated to address the issue.

In order to meet the study objectives research tools were developed in cultural context. Indigenously developed questionnaires have exhibited sound psychometrics in term of internal consistency and construct validation. These measures will be helpful to give quantitative assessment in future for measuring cyber bullying experiences and perception of cyber bullying among university students.

It may also be concluded that cyber bullying is prevalent in Pakistani universities and the pattern of experience is almost same as in western literature appears. The findings may be utilized to develop intervention plans to deal with cyber bullying issue.

Limitations

Present study is strongly lacking in identification of forms of cyber bullying and to find which form is more prevalent in present context. As self-report measures were used, responses might not be genuine. Each and every aspect of cyber bullying could not gauge in present study as it includes only cyber bullying victimization.

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