Cyberbullying, Self-Esteem and Interpersonal Trust in Young Adults

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While the internet has transformed the world into a global community, it exposes its users to various perils such as cyberbullying and cybervictimization. This study intended to scrutinize the role of cyberbullying and cybervictimization in self-esteem and interpersonal trust of young adults. A sample of 200 young adults (100 men; 100 women) between the age range 18 to 22 years were recruited from Beaconhouse National University; Lahore, Pakistan. Participants were administered the Revised Cyberbullying Inventory II (Topcu & Erdur-Baker, 2018), Rosenberg's Self-Esteem Scale (Rosenberg, 1965) and Rotter's Interpersonal Trust Scale (Rotter, 1967) with a self-developed demographic information questionnaire. Results revealed a significant positive correlation among cyberbullying and cybervictimization. Moreover, cybervictimization significantly positively predicted interpersonal trust. Results also identified that self-esteem significantly negatively predicted interpersonal trust. It was also observed that men were engaged significantly more in cyberbullying than women. However, no pronounced gender differences were observed in cybervictimization, self-esteem or interpersonal trust. Implications of the results pertaining to society, particularly concerned authorities and victims of cyberbullying are discussed.
Keywords: cyberbullying, cybervictimization, self-esteem, interpersonal trust, young adults.

With the rate of 22 percent internet usage penetration in Pakistan alone and 53 percent internet usage penetration rate worldwide, internet usage has become a part of the livelihood of the global community today (Kemp, 2018). The internet has hence become a space that is pivotal to the lives of human beings (Lenhart, Purcell, Smith & Zickuhr, 2010). The cyber community has indeed facilitated the immense growth and fast distribution of thoughts, feelings, ideas, knowledge, communication and a variety of activities from the tips of an individual's fingers. While these advancements have eased and enhanced human lives greatly, they have also given birth to a variety of negative issues. One of the most potent for the last decade being cyberbullying (Barlett, Gentile & Chew, 2016).

Cyberbullying is expounded as "behavior performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others" (Tokunaga, 2010). It is perceived to be an "indirect" form of bullying. This primarily owes to the indirect tools used to exert aggression like usage of technology (cellphones, computers etc.) that exert bullying through the indirect presence of the aggressor (Slonje, Smith & Frisen, 2012). Cyberbullying includes three prescriptive components; intentionality, repetition and power imbalance. However, it must have specific components of anonymity and publicity to qualify as cyberbullying (Smith & Page, 2015). Sampasa-Kanyinga and Hamilton (2015) purport that aggression is also a crucial precipitating factor for cyberbullying.

Such aggression can be adequately explained via Albert Bandura (1977, 1986) who presented the Social Cognitive theory. It purports that individuals learn behavior through four stages that include attention, retention, reproduction as well as motivation (Powell & Ladd, 2010). This theory particularly highlights that individuals can learn such aggressive behaviors from indirect sources like media, television and peers (Mihalic & Elliot, 1997). Olweus (1993)

further explains the motives that make the Social Learning model relevant to cyberbullying. Firstly, cyber-aggressors have a potent need for dominance and power. Secondly, an aggressor who has witnessed environmental hostility by themselves in any domain of their life may view the world in a hostile manner and gain satisfaction from seeing others suffer. Lastly, cyber-aggressors gain benefits from cyberbullying by having access to others information and exploiting it. These behaviors act as vicarious and self-reinforcement for the aggressors online (Powell & Ladd, 2010).

Barlett and Gentile (2012) have proposed a cyberbullying model based on the premise that cyberbullying is significantly different than traditional bullying. The model primarily identifies the differences between the two domains. Firstly, cyberbullying is done in a mediated world, so any individual irrespective of strength and size can now divulge in online aggressive behaviors. This hereby removes the power dissonance due to the nonphysical form of cyberbullying (Barlett & Gentile, 2012). An additional distinction between the traditional bullying and cyberbullying is the absence of direct contact. This does not include victims not physically knowing their aggressor; victims may often know them (Vandebosch & Van Cleemput, 2008).

Literature pertaining to cyberbullying's relationship with gender is divided. Erdur-Baker and Kavsut (2007) reported that self-reports of men being cyberbullies were higher than that of women. Magsi, Agha and Magsi (2017) revealed that women who were cyberbullied refrained from reporting such incidents to their families and law agencies owing of the concern of being perceived as immoral and a lack of trust in them.

Savoldi and Ferraz de Abreu (2016) observed that cyberbullying activities are impacted by the hours spent online (HSO), frequency of online activity (FOA) and the online medium usage frequency (OMUF) of the users. They found that cyberbullies and cybervictims were typically heavy class internet users. They connected to the internet from more than one device. Such users also conducted an extensive range of activities. This consisted of at least 10 activities per person (OMUF), which was way over the average activity range of normal users. Heavy class users also used Social Networking Sites (SNS) in a more vigorous way. This included using more than one social networking account (OMUF) coinciding to 7 activities per person (FOA) on Social Networking

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Sites (SNS). Overall these heavy class users connected to Social Networking Sites several times a day (HSO).

Cyberbullying is evidently a vicious new incarnation of aggression that produces many detrimental effects. Research has linked cyberbullying with symptoms of low self-confidence, diminished self-esteem as well as having a negative impact on relationships. Other symptoms like depression, anxiety and suicide ideation are also reported (Dredge, Gleeson & Garcia, 2014).

Self-esteem can be viewed as "the general evaluation of one's self" (Wagner, Ludke & Trautwein, 2016). Such appraisals may be positive or negative in their respective nature (Mann, Hosman, Schaalma & de Vries, 2004). These positive or negative appraisals made in light of self-esteem immensely impact daily life functioning. Positive self-esteem functions as a deterrent inimical to negative influences in return enhancing health, productivity, satisfaction and social interaction. However, negative appraisal and self-esteem operate as a precipitating factor of social problems simultaneously contributing to various mental issues such as violence, aggression and high-risk behaviors (Mann, Hosman, Schaalma & de Vries, 2004). Leary et al., (1995) posited that one of the primary contributors to behavior and emotional problems is low self-esteem. Some researchers claim there is a linkage amid aggression and low self-esteem (Papps & O'Carroll, 1998). Others however claim that aggression like cyberbullying is allied to high self-esteem (Worchel, 1958; Ireland, 2002).

Self-esteem performs a pivotal function in cyberbullying. Patchin and Hinduja (2012) examined the varying levels of self-esteem in cyberbullies and cybervictims in a random sample of 1963 men and women all over the United States. Results revealed lower self-esteem scores were yielded by cybervictims. Didden et al., (2009) conducted a research in special education settings in Netherlands to explore cyberbullying in pupils manifesting intellectual and developmental disabilities. A significant negative correlation ($r = -0.53$) among cybervictimization online and self-esteem was observed.

Cognitions and perceptions about the world are colored by self-esteem (Mann, Hosman, Schaalma & de Vries, 2004). Individuals do not survive in isolation. For successful functioning, interaction must be maintained with others (Xin, Xin & Lin, 2015). The success of interaction with others is primarily based on interpersonal trust. Interpersonal trust is expounded as "the willingness of a trustor to be vulnerable to the actions of a trustee based on the expectation that the trustee will perform a particular action" (Gupta, Ho, Pollack & Lai, 2016). It facilitates social functioning.

The trustee is judged on three aspects: ability, benevolence and integrity (Mayer, Davis & Schoorman, 1995). The trustor uses ability along with motivation as vantage points to establish trust with a trustee (Wieselquist et al., 1999). Hence, a trustor's interpersonal trust is co-dependent on their perception. Their personal positive or negative appraisal of themselves in turn impacts their perceptions and subsequently their ability to draw motivation & prior information to establish interpersonal trust (Righetti & Finkenauer, 2011).

Various empirical studies demonstrate the impact self-esteem and interpersonal trust purport on each other. Research shows that fluctuations in self-esteem create individualistic issues that leave an impact on society. Individuals facing personal emotional and behavioral issues owing to intrinsic self-esteem issues impact their ability to trust others in society (Righetti & Finkenauer, 2011). Rotter's Locus of Control Theory posits that individuals exercise

either internal or external locus of control whereby depending on their inclination they attribute their successes to themselves or others (Rotter, 1954). Hence, individuals with an elevated internal locus of control are internally self-sufficient. They have high esteem and require no validation from external sources. On the contrary, individuals with an external locus of control have diminished beliefs in their own abilities and hence search for fulfilment and validation outside themselves; hence seeking out trust in others.

In Pakistan, there is a paucity of research pertaining to the construct of cyberbullying. Imran (2014) aimed a cross-cultural examination of cyberbullying in Pakistan along with Sweden by recruiting a total of 12 females aged 15 to 16 who were victims of cyberbullying in both nations. The results yielded that indeed both nations fall prey to the menace of cyberbullying.

Magsi, Agha and Magsi (2017) conducted a research to see how cyberbullying occurs in female university students within their campuses in Sindh, Pakistan. It was observed that there was a high frequency of blackmailing and threatening experienced by female students in university campuses. It was also revealed that 45% of the females did not report such incidents to their families and law agencies owing to the concern of being perceived as immoral and a lack of trust in them.

Musharraf and Haque (2018) examined cyberbullying and its ramifications on the mental state of university students in Pakistan. They recruited a convenience sample of 508 participants with 160 male and 348 female students ranging from 18 to 25 years of age from various universities in Rawalpindi and Islamabad, Pakistan. The results showed that 67 percent participants reported an involvement in cyberbullying with 25 percent self-reported cyber victims. Furthermore, 4 percent of the participants reported to being cyber bullies and 39 percent reported being both victims and bullies.

This study intended to fulfill the progressive dearth in literature pertaining to the pressing issue of cyberbullying. The domain of cyberbullying is relatively new. It demands exploration into various loopholes present in the empirical context. This is particularly necessary in an indigenous setting to manage this current cyber epidemic. As discussed previously, a lot of research has been done on various independent domains pertaining to cyberbullying. Despite this, there is no single conclusive empirical writing that discusses the scattered links between the constantly linked domain of cyberbullying, self-esteem and interpersonal trust; especially in Pakistan. Furthermore, an exploration about the impact of cyberbullying on the young adult population needs to be addressed as there is a dearth in research pertaining to this segment of the population.

Objectives

a. To identify the relationship between cyberbullying and cybervictimization.
b. To explore the gender differences in cyberbullying.
c. To investigate cybervictimization and self-esteem as predictors of interpersonal trust.

Hypotheses

This research primarily hypothesizes:
H1. There is a positive correlation between cyberbullying and cybervictimization.
H2. There are gender differences in cyberbullying.

H3. Cybervictimization significantly predicts interpersonal trust.
H4. Self-esteem significantly predicts interpersonal trust.

Methodology

Sample

Two hundred young adult male and female participants with an age range between 18 to 22 years (M = 20.59, SD = 1.15) were recruited from Beaconhouse National University enrolled in an undergraduate degree program. The university was limited to the locality of Lahore, Pakistan. Participants were required to have the ability to comprehend and inscribe in English language, utilize at least one form of electronic medium of communication and willing to be part of the research.

Instruments

Revised Cyberbullying Inventory II (RCBI-II). The Revised Cyberbullying Scale II (RCBI- II) was apprenticed by Topcu and Erdur-Baker in 2018. It is composed of two parallel forms with 10 statements that must be responded via both perspectives of a bully and victim. The response format is a four-point Likert-type scale where 1 = never, 2 = once, 3 = twice or three times, 4 = more than three times. The responses are added to receive a total score in each form. The Cronbach Alpha coefficient for the cyberbullying form is .79 and for the cyber victimization form is .80 (Topcu & Erdur-Baker, 2018).

Rosenberg Self Esteem Scale. Self-esteem was measured by administering the Rosenberg Self-Esteem Scale (1965) articulated by Morris Rosenberg. It includes 10 items in the form of statements. There are five positive worded and five negative worded statements. The response format is a four-point Likert-type scale ranging from "strongly agree" to "strongly disagree". It has a score range of 0 to 30 whereby scores within 15 to 25 are considered to be in the acceptable range. The internal consistency coefficient is 0.77 and the minimum retest reliability coefficient is 0.90 (Rosenberg, 1965).

Rotter's Interpersonal Trust Scale. Rotter's Interpersonal Trust Scale was administered to measure interpersonal trust (Rotter, 1967). It was authored by Julian Rotter. It has 25 items in the form statements. It has a five-point Likert-type scale response format spanning between 1 "strongly agree" to 5 "strong disagree." On a sample of 248 males and 299 females, a split-half reliability yielded a score of r = 0.76 (Rotter, 1967).

Demographic Information Questionnaire. A basic demographic information questionnaire was utilized by the researchers to obtain data regarding the socio-demographic details of the participants recruited for the research. It included details regarding age, gender, major of degree, names and number of electronic mediums participants utilize, frequency and duration of usage of electronic mediums of communication number of social media forums participants are active on.

Procedure and Ethical Considerations. After obtaining consent from the concerned educational institute, participants were approached at Beaconhouse National University. They were educated regarding the intent of the research. After deriving an informed consent, questionnaires were provided to be filled out with the right to withdraw at any point. Queries regarding the questionnaire and research purpose were solved thoroughly and the participants were requested to provide accurate responses. Maintenance of participant and response confidentiality was ensured to all.

Results

The responses collected were analyzed employing IBM Statistical Package for Social Sciences (SPSS) Version 22. Descriptive statistics including the reliability analysis for each scale, a Pearson Correlation, Multiple Regression and an Independent Sample t-test was conducted on the data.

Table 1

Descriptive Statistics and Reliability Analysis of Revised Cyberbullying Inventory II, Rosenberg Self-Esteem Scale and Rotter's Interpersonal Trust Scale (N=200).

	Scales	k	M	SD	α	Range	
						Actual	*Potential*
1.	Revised Cyberbullying Inventory-II	20	-	-	-		
a.	Cyberbullying Inventory	10	15.78	6.32	.87	10-39	10-40
b.	Cybervictmization Inventory	10	18.53	6.44	.83	10-37	10-40
2.	Rosenberg Self-Esteem Scale	10	16.64	5.34	.82	0-28	0-30
3.	Rotter's Interpersonal Trust Scale	25	89.09	10.88	.783	25-121	66-125

Note. k= number of items, M= median, SD= standard deviation, α= Alpha Cronbach level.

It can be observed that the Alpha Coefficient for all variables are in the acceptable range that is, they fall between the minimum score of .78 and a maximum score of .87. The range of scores is also available in the table. The widest range of scores is available in the Revised Cyberbullying Inventory II.

Table 2

Pearson's Correlation Matrix between Age, Hours Spent Online, Frequency of Online Activity, Online Medium Usage Frequency, Cyberbullying, Cybervictimization Self-Esteem and Interpersonal Trust.

	Variables	1	2	3	4	5	6	7	8
1.	Age	-	.04	-.13	.06	-.00	.00	.18**	.00
2.	HSO		-	-.34**	.15*	.10	.12	.03	-.08
3.	FOA			-	-.08	-.12	-.16*	-.00	-.06
4.	OMUF				-	.08	.16*	.02	-.00
5.	CB					-	.42**	-.31**	.28**
6.	CV						-	-.22**	.33**
7.	SE							-	-.27**
8.	IT								-

Note. HSO= Hours Spent Online, FOA= Frequency of Online Activity, OMUF= Online Medium Usage Frequency, CB= Cyberbullying, CV= Cybervictimization, SE= Self-Esteem, IT=Interpersonal Trust.

It was hypothesized in H1 that there would be a positive correlation between cyberbullying and cybervictimization. It was observed that cyberbullying and cybervictimization yielded a significant positive correlation ($r = .42$) confirming the hypothesis. Results also yielded a significant negative correlation between cyberbullying and self-esteem ($r = -.31$). A positive correlation between cyberbullying and interpersonal trust was also observed with a score of $r = .28$. Lastly, a significant negative correlation between self-esteem and interpersonal trust was also observed ($r = -.27$).

Additional findings were also retrieved from the Pearson Correlation matrix. Cybervictimization yielded a significant negative correlation with self-esteem ($r = -.22$) and a significant positive correlation with interpersonal trust ($r = .33$). A significant positive correlation of self-esteem was observed with age ($r = .18$). Hours Spent Online (HSO) yielded a significant negative correlation with Frequency of Online Activity (FOA) with a score of $r = -.34$. Lastly, Online Medium Usage Frequency (OMUF) yielded a significant positive correlation with cybervictimization ($r = .16$).

Table 3

Multiple Regression Analysis predicting Interpersonal Trust from Age, Gender, Cyberbullying, Cybervictimization and Self-Esteem.

Predictors	B	SE	β
Constant	74.707	13.320	
Age (in years)	.34	.63	.03
Gender	1.29	1.47	.06
Cyberbullying Total	.24	.13	.14
Cybervictimization Total	.39	.12	.23**
Self-Esteem Total	-.35	.14	-.17*
	$F (5, 194) = 7.875, p < .001$		
	$R^2 = .169, p < .001$		

$**p < .001; *p < .05$

Note. Men = 1, Women = 2

Multiple regression analysis was run to predict interpersonal trust from age, gender, cyberbullying, cybervictimization and self-esteem. It was observed that cybervictimization predicted interpersonal trust confirming H3. It was also found that self-esteem negatively predicted interpersonal trust confirming H4. However, cyberbullying, gender and age did not predict interpersonal trust in young adults.

Table 4

Independent Sample t-test showing gender differences in Cyberbullying, Cybervictimization, Self-esteem and Interpersonal Trust (N=200)

	Men (n=100)		Women(n=100)				95% CI		
Variables	M	SD	M	SD	t(198)	p	LL	UL	Cohen's d
Cyberbullying	17.13	7.09	14.44	5.12	3.07	.002	.96	4.41	0.43
Cybervictimization	18.16	6.09	18.54	6.79	.17	.861	-1.64	1.96	0.02
Self-Esteem	17.01	5.11	16.27	5.56	.97	.329	-.75	2.23	0.13
Interpersonal Trust	88.69	11.00	89.49	10.80	-.51	.604	-3.84	2.24	0.07

The Independent Sample t-test showed that a significant gender difference was present in the sample. Results revealed that a significant gender difference was evident in the cyberbullying domain (H2) whereby men yielded a score of $M = 17.13, SD = 7.09$ who compared to women yielded a score of $M = 14.44, SD = 5.12$. However, no significant gender differences were found in the cybervictimization, self-esteem and interpersonal trust domains.

Additional Findings

A demographic questionnaire was employed to investigate the findings of the online social media usage of the cyberbullies and the cybervictims. The results revealed that both cyberbullies and cybervictims preferred WhatsApp as the first medium of communication followed by Snapchat as the second preference. Facebook was the third preference and also voted as the forum with the most unwanted contact. Results are summarized in Figure 5 and Figure 6.
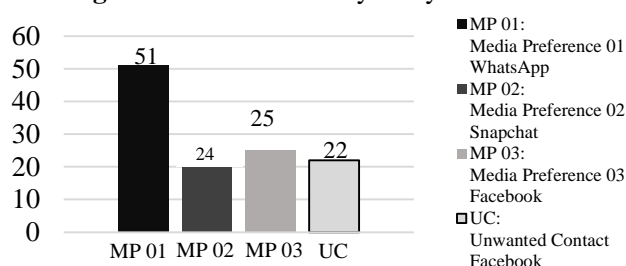
Figure 05. Online Activity in Cyberbullies

Figure 05. The online activity for the cyberbully category manifests WhatsApp as the highest first preference followed by Snapchat as the second and Facebook as the third preference. The maximum unwanted contact forum was reported to be Facebook.
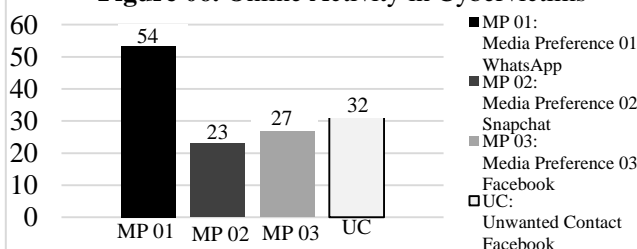
Figure 06. Online Activity in Cybervictims

Figure 06. The online activity for the cybervictims category manifests WhatsApp as the highest first preference followed by Snapchat as the second and Facebook as the third preference. The maximum unwanted contact forum was reported to be Facebook.

Discussion

Cyberbullying is an emerging construct in the contemporary research with a particular dearth on this issue in the indigenous scenario. Hence, the primary objective was to inspect the ramifications of cyberbullying and cybervictimization on self-esteem and interpersonal trust.

The research hypothesized a positive correlation between cyberbullying and cybervictimization. Results revealed that there was a significant positive correlation between cyberbullying and cybervictimization confirming the hypothesis. This is in line with the findings of Kowalski, Giumetti, Schroeder and Lattanner (2014) who observed cyberbullying and cybervictimization to have a significant positive relationship. They noted a cyclic relationship whereby cyberbullies not only bullied victims online but in face to face settings as well. It was also found that cyberbullies tended to be cybervictims too. Hence cybervictims can also take the role of cyberbullies. These findings are in line with the work of Park, Na and Kim (2014) who found that cyberbullies and cybervictims manifested an asymmetrical relationship online. The cyberspace is a fluid place whereby victims can turn into cyberbullies themselves.

This creates an interchangeable role cycle between the cyberbullies, cybervictims and the bystanders. Individuals can undertake manifold roles which are changeable over time, varying across disparate circumstances (Law, Shapka, Hymel, Olson, &

Waterhouse, 2012). Park, Na and Kim (2014) further point out that the cause of this role-reversal may be owing to the power imbalance that can manifest unusually online, irrespective of the power balance in reality offline. Individuals are aware of the anonymous nature of the cyberbullying empowering them to change their roles simultaneously in a threatening manner.

The research also observed that there was a significant negative correlation between cyberbullying and self-esteem. According to Harmen, Hansen, Cochran and Lindsey (2005) individuals irrespective of their status as a cyberbully or cybervictim when involved in any kind of cyberbullying situation seemed to be more vulnerable to hopelessness as well as depression and anxiety (Patchin & Hinduja, 2010; Wild, Flisher, Bhana & Carl, 2004).

Research has also found that increased cyberbullying perpetration is observed to be linked to low self-esteem. Salmivalli, Kaukiainen, Kaistaniemi, and Lagerspetz (1999) detailed higher self-esteem in cyberbullies. Researchers also observed that cyberbullies tended to have both higher and lower self-esteem than non-cyberbullies (Jankauskiene, Kardelis, Sukys, & Kardeliene, 2008; Yang, Kim, Kim, Shin, & Yoon, 2006). Such research literature supports the negative correlation observed whereby if cyberbullying increases, self-esteem decreases and vice versa.

The results yielded a significant positive correlation between cyberbullying and interpersonal trust. Interpersonal trust is dependent on the acquiescence of a trustor to be in peril to the behavior of a trustee reliant on the presumption that the trustee will execute a specific act (Schoorman, Mayer, & Davis, 2007). In cyberbullying, the cyber realm absolves the cyberbully as the trustor to fulfill the expectation placed upon them as a trustee increasing the likelihood of the parties to trust one another.

Online unidentifiability ensures anonymity in spite of using real names as it disguises other identifiable personal features unlike in face-to-face situations where they can be used to identify an individual (Chester & Bretherton, 2007). Identifiability moreover impacts an individual's behavior and emotions greater than recognizing the identity empowered cues of others (Tanis & Postmen, 2007). Anonymity gives rise to users of the cyber realm to be unaccountable for their negative actions owing to unrecognition as the culprits of their behaviors. Such diminished accountability gives rise to greater incidences of toxic disinhibition thus encouraging aggressive and abusive behaviors like cyberbullying (Christopherson, 2007). Hence, online anonymity increases the cyberbully's interpersonal trust levels as the anonymous identity diminishes accountability for aggressive actions.

The Pearson Correlation results revealed a significant negative correlation between self-esteem and interpersonal trust. This finding is in-line with the work of McCarthy, Wood and Holmes (2017) who observed that in high-risk disclosures that included negative emotions and cognitions, high self-esteem did not act as a sufficient construct and predictor of high trust. Ellison and Firestone (1974) found that individuals with lower self-esteem manifested greater trust than individuals of high self-esteem who displayed lower trust (Weining & Smith, 2012).

Perhaps an explanation to understand the negative relationship between self-esteem and interpersonal trust is by using Rotter's Locus of Control theory. The theory proposed by Rotter (1954) explains the magnitude to which people perceive they have active power over the end results of events in their lives contrary to the external forces beyond their power. Those who feel they exert control over their lives have a high internal locus of control. In

contrast, individuals who attribute control of their lives to external sources have a high external locus of control.

Rotter's Locus of Control theory can be utilized to support the results of the multiple regression analysis. It was evident that self-esteem predicted interpersonal trust. Saadat, Ghasemzadeh, Karami and Soleimani (2012) observed a positive linkage among self-esteem and internal locus of control. A relationship like this may turn negative owing to opting for external cues and chance. This discrepancy hence supports the findings of this hypothesis too whereby individuals with high self-esteem who believed they controlled the events of their lives did not require support from external sources; hence having lower interpersonal trust. The results also revealed that cybervictimization predicted interpersonal trust. As highlighted above, individuals who manifest low self-esteem tend to trust others greater as they lack an internal locus of control for self-fulfillment.

Results from the independent sample t-test exhibited a significant gender difference in the cyberbullying domain. Male students scored higher on the cyberbullying sub-scale than female students. The gender differences in the cyberbullying domain are supported by prior research. Erdur- Baker and Kavsut (2007) observed males to self-report as cyberbullies more than females. Imran (2014) revealed that cyberbullying in Pakistan was occurring as a result of jealousy, patriarchal harassment and relative feuds. This enhanced the role of males as bullies as the culture promotes a patriarchal culture.

Results of the t-test also revealed no significant gender differences in cybervictimization. Magsi, Agha and Magsi (2017) revealed that cyberbullied women did not reveal cyberbullying incidents to their families and law agencies owing to concerns of being perceived as immoral and a lack of trust in both agencies. As Imran (2014) revealed, the patriarchal set-up of Pakistan inhibits the men from admitting to being cyberbullied as it seems like admitting being less of a man than the others.

Results of the t-test also revealed no significant gender differences in self-esteem and interpersonal trust in the sample. The Pakistani society is a community whereby great emphasis is placed on more collectivistic constructs defined by society such as gender role expectations than intrinsic motivators like self-esteem. Hence males and female's behavior is not essentially consciously seen as dependent on self-esteem. Lastly, Pakistani culture promotes unity and togetherness. The cultural moto of the nation as "akhuwat awaam" (united nation) evokes a deep-rooted sense of togetherness, trust and brotherhood. Hence, this inculcates a deep sense to trust in both males and females equally and resulting in no gender differences in interpersonal trust.

An additional finding of the research was that cybervictimization had a significant negative correlation with self-esteem. Research regarding cyberbullying and self-esteem consistently reported that cybervictims manifested lower self-esteem than non-cybervictims (Glover, Gough, Johnson & Cartwright, 2000; Wild, Flisher, Bhana, & Carl; 2004). Patchin and Hinduja (2010) found that cybervictims, when juxtaposed to normal individuals exhibited lower levels of self-esteem.

Furthermore, findings highlighted a significant positive correlation between cybervictimization and interpersonal trust. Anonymity plays a key role in establishing such a relationship. Research shows that when cyberbullies opt for visual anonymity, pseudo anonymity or full anonymity, the cybervictims live under the impression of interacting with someone that the perpetrator is not. Thus, usernames operate as protective barriers of the perpetrators identity online. Such lack of interaction and proof of verification in the cyber realm enhances the perpetrators chance to cyber bully whilst enhances the cybervictims scope to trust the cyberbully (Keipi et al., 2015).

This can be explicated using the social identity model of deindividuation effects (SIDE). SIDE explains that when individuals feel as a part of a group, they tend to move their focus from their individual personal identity to a cohesive social identity. This model purports that anonymous members with pronounced links to the group feel an intensified sense of social identity and perform actions that such an identity demands of them. In the case of cybervictims, they hence end up trusting the cyberbully to maintain their membership as a part of the cyber realm (Reicher, Spears & Postmes, 1995).

A significant positive correlation was also seen between self-esteem and age. Trzesniewski, Donnellan and Robins (2003) saw that higher and consistently stable levels of self-esteem were found in adulthood than in adolescence. A significant negative correlation was found between hours spent online (HSO) and frequency of online activity (FOA). Furthermore, a significant positive correlation between hours spent online (HSO) and online medium usage frequency (OMUF) was also seen in the results. Livingstone and Helsper (2010) discovered that internet usage and internet skills were associated positively with online risks.

Park (2009) found that more skilled internet users with narrow focus usage were more vulnerable to negative online content. Speculation suggests that users who spend a concentrated time on the internet than those who spend longer amounts of time pose a higher chance of being cyberbullies. This supports the works of Floros, Siomos, Fisoun, Dafouli, and Geroukalis (2013), who found that cyberbullies engaged in greater online usage and negative online activities such as gambling, inappropriate content downloading and pornography. Risky Social Networking Sites use which encouraged a disclosure of personal information or befriending strangers increased vulnerability to be being cyberbullied (Kwan & Skoric, 2013).

Additionally, the Social Networking Application WhatsApp was voted as the first preference by cyberbullies and cybervictims as their online medium preference. Snapchat was ranked second in preference by both the cyberbullies and cybervictims. Facebook was the third preference and the forum whereby both the typologies were contacted the most unwantedly. According to Kemp (2018), the global community has a rate of 51.5% mobile internet users with 3.29 billion social media users. Out of these users 3.02 billion access social media via cellphones. The survey highlights that WhatsApp employs 1500 million users followed by Snapchat users with 225 million. Facebook tops the statistical poll with 2234 million internet users in the second quarter of 2018. These statistics highlight that the electronic media preference of the young adults in the Pakistani community are in line with those globally.

Limitations

The research has limitations. The sample had a limited age bracket restricted to individuals aged 18 to 24 years of age only. Furthermore, the sample was restricted to data collected from Beaconhouse National University in Lahore. Lastly, data collection was only quantitative in nature. This reduces the chance to explore and analyze the responses of the participants in-depth.

Future Recommendations

Future research may incorporate a young adult sample that extends beyond the age of 24 years to explore the phenomenon in older young adults. Moreover, the research can be expanded to more localities and institutions. This will enable an exploration of responses from individuals in major and minor cities of Pakistan as well as help in analyzing the differences in mindsets of individuals in public and private institutes. Future research may also incorporate qualitative analysis to gain in-depth data exploring the reasons participants provide the responses that they do. It may also be useful to explore the type of online activity on the cyber realm. Furthermore, researchers may also examine the reasons individuals use the cyber realm in detail. Lastly, novel variables such as anonymity and locus of control as examined in other researches may be incorporated in new research designs to examine their connections to cyberbullying in the research.

Implications

It is evident that cyberbullying has negative impacts for both the victim and the perpetrator yielding that both genders should exercise equal precaution. The findings of the research may be communicated to young adults to educate them about the harm of cyberbullying as well as the psychological harm inflicted on the cybervictims. Faculties at educational institutes may be educated about the negative impact of cyberbullying, how to facilitate cybervictims and how to identify and deal with cyberbullies. Cybervictims may be educated about their legal rights as preys of cybervictimization. They should be educated about how to report such crimes, facilities available to help them and the laws present to protect them. Furthermore, these research findings carry implications for the dearth of research on cyberbullying in Pakistan.

Conclusion

The research intended to scrutinize the role of cyberbullying, self-esteem and interpersonal trust in young adults. A variety of psychometrically potent scales were employed to test various hypotheses in a young adult sample. Results revealed cyberbullying to have significant positive correlations with cybervictimization and interpersonal trust but significant negative correlations with self-esteem. Interpersonal trust yielded a significant negative correlation with self-esteem. Furthermore, gender differences were evident in the cyberbullying domain. Conclusively, cyberbullying is a menace that not only affects individuals in the cyber realm but extends beyond it by impacting the self-esteem and interpersonal trust of individuals.

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