

An analysis of the Attitude Towards Cyberbullying and Cyber Victimization Among the University Students of Sri Lanka

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Abstract

Cyberbullying is a form of bullying that occurs through technological means, such as social networking, instant messaging and through mails. It can be constant, and at other times may occur in isolated incidents, but despite the timeline of progression, some scholars argue that the effects are almost always catastrophic (Kowalski, Limber, & Agatston, 2012). With the emergence of internet and sophisticated cyber technologies, real words bullies have been applied to cyberspaces by those who tend to be aggressive without being aware of the potential harm they cause to another person. This has become an intriguing area for academics and practitioners. The present study aims at explaining the attitude towards cyberbullying and cyber victimization among the university students in Sri Lanka in terms of their personality factors. A short form of Eysenck personality Questionnaire, Rank scale for cyberbullying indexes were given for 113 university students. The frequency statistics and person correlation of coefficients were carried out in analyzing data. The most important findings of the study is that, the attitude towards cyberbullying and cyber victimization was related to psychoticism and extraversion dimensions of personality. Regarding the cyber victimization levels, it was found that most of the participants were subjected to cyber victimization at least in one occasion in their life. Results indicate that Female participants were more likely to be subjected to cyber victimization than the males. Further, it was found that anonymous calls, creating fake profiles or web pages are the most popular methods used by university students for cyberbullying.

Keywords: *Cyberbullying, Cyber victimization, personality*

1. Introduction

1.1 Background of the Study

With the rapid growth in technological advancements, the availability and use of internet has been increased exponentially in recent years and it continues to grow at an explosive rate. Thus, the use of internet has become an integral part of peoples' life's and often people use it to communicate with others through text messages, sharing videos, photographs and social network sites etc. In parallel to these developments in the context of technology, various problems have come in to the existence about the use of internet by various parties such as students who are at the stage of adolescence period, representing various universities and colleges.

Research in this field demonstrates that today we face with cyberbullying behaviors more often which is a new form of violence emerged with the advancements in technology and internet related services. The word "bullying" is often defined as being an aggressive, intentional act or behavior that is carried out by a group or an individual repeatedly (Whitney & Smith, 1993, Olweus, 1999). Vandebesch and Cleemput, (2008) describes Cyberbullying behavior, literally, as a kind of violence, including the usage of internet and mobile phones. Accordingly, Li (2007) described cyber bullying as a kind of bullying behavior involving inclination as hacking personnel websites, accounts and damaging one's reputation and information presented, through the use of technologies.

Cyberbullying is a form of bullying which has in recent years become more apparent with the increase in usage of electronic devices such as computers and mobile phones by young people. Cyber - Bullying has been increasing in online environment at an explosive rate like no other. Gunawardana, K D (2005) Researches believes the increasing online shared life among youngsters such as university students has contributed significantly for the dramatic increase in cyberbullying behaviors. (Campell, 2005; Dehue, Bolman and Vollink 2008). According to a research

done by UNICEF, 19.7% university students reported engaging in cyberbullying at least one time, and 54.4% of them reported as Victims of cyberbullying at least once in their life time. Accordingly, it can be said that a new kind aggression called as Cyber - bullying has emerged with the rapid growth in technology in cyberspace which may also bring out cyber victimization.

Cyberbullying can take many forms. The main types of cyberbullying behaviors are anonymous calling, sending spam mails or viruses, creating fake profile or web pages, posting photographs or videos of someone without his consent, hacking someone's profile, sending mean, vulgar or threatening messages and spreading lies and rumors through internet about someone else. Cyberbullying is also different from traditional bullying because it is anonymous and it can have a rapid effect through comments or sharing videos or photographs etc. are sent around the world in minutes and it can occur at anywhere – anytime. Cyberbullying is a particularly invasive form of bullying and one from which it can be difficult to escape (Lodge, Frydenberg, 2012)

Researchers has found through studies that, all over the world people use internet in many different ways depending on their own personal factors and preferences especially, based on the three dimensions of personality defined as neuroticism, psychoticism, extraversion which are identified under the Eysenck's personality theory. Neuroticism is a dimension of personality defined by instability and high anxiety at one end and stability and low anxiety at the other end. Extraversion dimension of personality is characterized by being outgoing, talkative, high on positive affect and in need for external stimulation. Psychoticism personality is characterized by such as recklessness, anger, inconsideration and hostility. In addition to that psychoticism personality may associate with psychotic disorders or have a greater risk of developing such diseases. Findings indicate that the greater use of internet is related to decreased communication with family members, social isolation and an increase in depression and loneliness which associated with the above mentioned personalities of Extraversion, Neuroticism and Psychoticism. Hence this study aims at seeking a relationship between attitudes towards cyberbullying, cyber victimization and personality factors of university students.

1.2 Objectives of the Study

The aim of the study is to achieve the following research objectives,

1. To find out the existing level of cyberbullying and cyber victimization among university students of Sri Lanka,
2. To find out a relationship between attitudes of cyberbullying, cyber victimization and personality of university students.

1.3 Scope of the Study

Undergraduates of various departments of management and commerce faculty of university of Sri Jayewardenepura were selected for the study irrespective of their year of study.

2. Literature Review

2.1 Summary of the Base Research

Cyberbullying is a fairly recent concept, and the research exploring it is still in its initial phase. Nevertheless, most of the researches has been able to conduct successful studies in the context of cyberbullying by exploring relationships between cyberbullying behaviors and the intensity of those cyberbullying behaviors with demographic variables such as age and gender.

One of the research carried out by Ozden, M.S & Serra, 2013 discuss the perception of cyberbullying and cyber victimization by university students in terms of their personality factors. The objective of the researcher was to find an association between university student's perceptions of cyberbullying, cyber victimization and their personality factors. The researcher defines cyberbullying as electronic bullying and online social cruelty that occurs through e-mail, instant messaging, chat rooms, web pages, video gaming and digital messages sent via cellular phones. On the other hand, the concept of cyber victimization is explaining in a simple manner as being victims of cyberbullying activities.

For the study the researcher identifies ten types of cyberbullying behaviors listed below;

- Anonymous calls
- sending spam mails or viruses
- sending mean, vulgar and threatening messages
- spreading lies and rumors about someone else

- creating fake profile or web page
- posting photographs or videos of someone without his consent
- sending request for sexual intercourse
- hacking someone's profile
- fake statue or place statements
- Harassing or threatening statements devoted to a partner in a romantic relationship.

The personality factors of the students (independent variable of the research) were determined by the researcher in his study through Eysenck personality Questionnaire (EPI) which is a widely accepted method for assessing personality of humans. The questionnaire assessed the personality of a person in three dimensions including 101 sample self – reported items designed to top each of the factors with “Yes” or “No” answers and give score for psychoticism, neuroticism and extraversion (Cervone and Pervin, 2008). In addition to that the researcher had used four point Likert scale type of questions to assess the degree of harmfulness of ten cyberbullying behaviors identified for the research. A cyber-bully/Victim scale was used to assess the perception of students in cyberbullying and cyber victimization. The scale consist of 19 items under 3 factors. 1. Factor is about online sexual harassment, 2. Factor is about intentionally excluding someone from an online group and disturbing him, 3. Factor is about spreading mean or embarrassing rumors.

The researcher picked a sample of 136 students in age range of 18 - 39 for the study from Istanbul Kultur University. Among his total sample, 39% represented males' students and 61% represented females. Using the data collected the researcher has examined gender influences on student's beliefs regarding cyberbullying and found a significant difference between males and female university students only in cyberbullying behavior of “spreading means or embarrassing rumors. The researchers state that male university students were more concerned as cyberbullying offenders as spreading mean or embarrassing rumors, than females.

In addition to the above, the findings of the researcher show that male university students perceived “Posting photographs or videos of someone without his consent”, “sending online request for sexual intercourse”, “hacking someone's profile” as significantly harmless cyberbullying behaviors than the females. Further the researcher has found a relationship between cyberbullying behaviors and personality factors. A strong co- relation has been found between sending online requests for sexual intercourse and psychoticism personality dimension where as a medium significant co – relation founds between “creating fake profile or web page” and being psychoticism and “hackings someone's profile” and being psychoticism. As per the research findings the other personality dimensions such as extraversion and cyberbullying behaviors such as creating fake profile or web page seems to show a weak but significant negative co- relation. The researcher states that the personality dimension of extraversion increases the student's perception of creating fake profiles or web pages as more harmful. Further the researcher was able to found a relationship between cyber victimization and personality factors. According to the research findings a weak significant co- relation exists between cyber victimization and psychoticism personality factors.

In conclusion, the researcher address the primary question of the research that is whether the tendency to be a cyberbullying offender or victim is associated with personality factors or not. Based on findings of the study the researcher emphasizes that being either a cyberbullying offender or to be a victim was related to be psychoticism.

2.2 Review of Existing Other Literature

Most of the researchers has made efforts to examine the factors behind cyberbullying. Among those studies of cyberbullying, Sourander (2010) discussed the wide range of psychiatric and psychosomatic problems associated with the cyberbullying. The researcher states that most of the cyberbullying offenders and victims experience more frequent psychosomatic problems, headaches, sleep disorders, a higher number of emotional and peer – related problems and neglected by others.

Perren, Dooley, Shaw & Cross (2010) found that the cyberbullying behaviors are highly correlated with psychological and physical problems. Through the examination of large number of respondents, they found that both cyber –victims and cyber – bullies experienced higher level of stress than their peers, including higher depressive symptoms, which eventually led them to engage in destructive behaviors such as tendency to smoke and increased alcohol consumption.

Bauman (2010) in this study found that majority of those who engage in cyberbullying activities had experiences in cyberbullying activities before as offenders and victims. Further, it was emphasized that most of the persons victimized through cyberbullying activities were tend to blame themselves for their own behavior and found to

tolerate such abuses resulted through cyberbullying activities than taking necessary actions to avoid such victimization in future such as being disconnected from technology.

A study conducted by Wolak, Mitchell & Finkelhor (2007) examines adolescent perceptions of online harassment which is one of the cyberbullying behaviors. Researchers found that “those harassed by known peers were about five times more likely to have used the internet to harass someone they were mad at than youth not harassed”. This one were confirmed by Gunawardana, K D (2005) In addition to that the study shows an impressive result in which females were found to be much more likely to engage in cyberbullying activities than their male counterparts.

Koing, Gollwitzr, & Steffgen (2010), Gunawardana, K D (2005) in their study found that revenge/retaliation as a motivational factor contributes significantly to the increase in cyberbullying activities in cyber space.

There are some other studies conducted by the researchers with regard to intensity of cyberbullying behaviors. A study conducted on 177 secondary school students in Canada shows that 23% of the respondents have been exposed to bullying via e- mail and 41% of them via telephone) messages. Further 35% of them have bullying via chat rooms.32% of them have been exposed by friends they know in school.11% of students have been exposed to cyberbullying by students they do not know. (Shariff.2005)

National children’s home (NCH) have produced a survey on cyberbullying. The survey conducted on 770 young people aged 11-19. The results of the survey show that 20% of the young people had been bullied or threatened by some sort of digital bullying such as posting videos and pictures, and 14% through text messages. Further 5% of respondents found to be bullied through chat rooms and 4% by e mail.

2.3 Secondary Data

Numerous sites and publicly available information sources reports researches and vital information with respect to cyberbullying and cyber victimization. An American website I – safe reports research in cyberbullying, from a survey of 1,500 students aged between 9-13 years old. The main findings (cited from www.mmu.k12.vt.us) were that 42% of children claimed to have been bullied online. 35% had been threatened online, and among them 21% had received threatening e- mails or other messages.

An Australian news website www.theinquirer.net provide brief statistics on cyberbullying. The statistics has been produced based on a study conducted on Queensland University of technology. According to the published information it is revealed that 13% of the respondents of the study seems to have already experienced cyberbullying at the year of 8, and 25% of them knew somebody who had experienced in cyberbullying.

The national society for the prevention of cruelty to child (NSPCC) provide statistics with regard to cyberbullying on their official web – site (www.nspcc.org.uk). According to one of the self – completion survey conducted on online, it was found that 28% of children aged 11-16 with a profile on a social networking has experienced upsetting cyberbullying activities in United Kingdom. Among them 37% were exposed to trolling (Unkind, sarcastic or negative comments or rumors circulated through online) where as 22% of them were excluded from social groups through cyberbullying activities.12% reported being harassed by sending sexual messages online.

The UNICEF organization’s official website provides some key findings with respect to cyberbullying and cyber victimization. According one of the studies carried out by UNICEF, 19.7% of university students found to be engage in cyberbullying at least one time and 54.4% of them reported being victims of cyberbullying at least one of their life time

The nobullying.com which is an online forum aimed at educating, advising, counselling and all importantly helping to stop bullying. According to the public statistics published on the web – site, 25% of teenagers have experienced cyberbullying via cell phone or internet. Further 11% percent of the respondents have report cyberbullying activities such as taking photos and ideas and posting them online. Further, it was found that Over 55% of the respondents has witnesses cyberbullying on social media.

3. Research Method

3.1 Data Collection Method

A questionnaire was devised for the purpose of data collection. The questionnaire consists with four parts as Part A, Part B, Part C and Part D. The Part A of the questionnaire records demographic information of the respondents such as gender, age, department to which they belong and year of study. Part B of the questionnaire consists with Single choice questions developed in order to identify existing levels of cyberbullying and cyber victimization. Part C of the

questionnaire presents likert scale questions for assessing the attitudes of cyberbullying/cyber victimization of university students in terms of endangerment degrees of harmful behaviors defined as cyberbullying. The cyberbullying behaviors used for Part C was derived from the definitions of “Cyberbullying” in literature. The cyberbullying behaviors are listed as below;

- Anonymous calls
- Sending spam mails or viruses
- Sending mean, vulgar and threatening messages
- Spreading lies and rumors about someone else
- Creating fake profile or web page
- Posting photographs or videos of someone without his consent
- Sending request for sexual intercourse
- Hacking someone’s profile
- Harassing or threatening statements devoted to a partner in a romantic relationship
- Fake statue or place statements

The undergraduates were asked to rank cyberbullying behaviors on a five point likert type of scale; 1= More harmful, 2 = Harmful, 3= Neutral, 4= Harmless, 5= More harmless

The part D of the questionnaire consists with thirty (30) likert scale type of questions where ten (10) questions each has been developed to assess personality dimensions of respondents identified as Psychoticism, Extraversion and Neuroticism. The questions developed under part D follows the structure of Eysenck personality questionnaire, which is a popular set of questionnaires used to assess the personality in three dimensions as mentioned above.

3.2 Types of Variables

According to the research objectives of the study the following independent and dependent variables has been identified and the questionnaire has been developed in manner to measure such variables through Likert scale questions as explain in 3.1 above.

1. Independent variables – Three dimensions of Personality defined as,
 - i. Psychoticism,
 - ii. Extraversion and,
 - iii. Neuroticism
2. Dependent variables –
 - i. Attitudes towards cyberbullying
 - ii. Attitude towards cyber victimization

The relationship between above mentioned variables can be illustrated as follows.

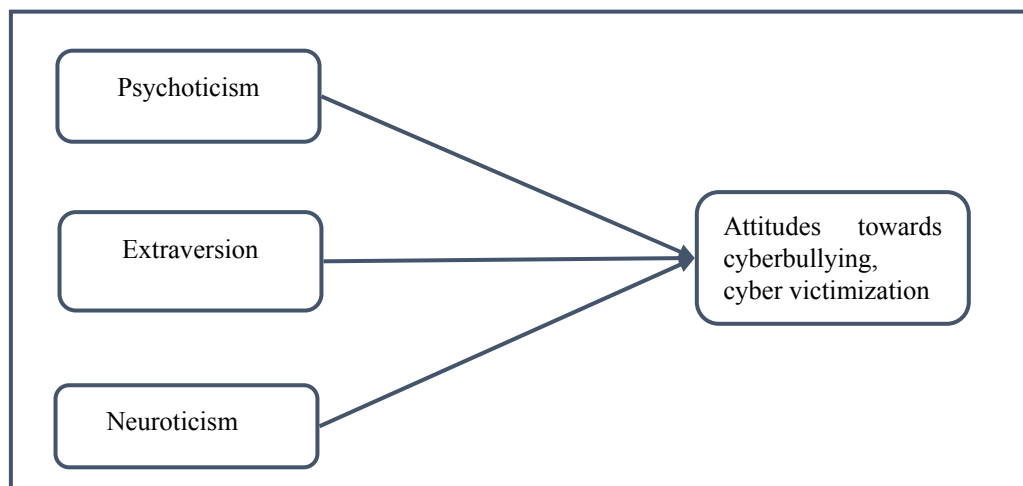


Figure 1. Conceptual Frame Work

3.2.1 Independent Variables

The three dimensions of personality neuroticism, psychoticism and extraversion as defined by Eysenck's personality theory have been identified as the independent variables of the study. These personality dimensions of the individuals have measured through likert scale type of questions which have been formulated to address each type of personality dimension. Under the data analysis hypothesis testing has been done under the said dimensions and assessed whether any relationship exists between the attitude of cyberbullying, cyber victimization and personality dimensions.

3.2.2 Dependent Variables

The attitude towards cyberbullying and cyber victimization have been identified as dependent variables of the study. More ever, the attitude of cyberbullying and cyber victimization are two sides of the same coin. In other words, harassing other people through activities such as creating fake profiles, sending spams and mails, posting photographs or videos in internet without someone's consent are considers as cyberbullying and being expose to them known as cyber victimization. As aforementioned, since cyber victimization and cyberbullying are two sides of the same coin, it was decided to assess the attitude on those two variables using the same set of Likert scale questions which provides scale 1 to 5 as 1 = more Harmful, 2= Harmful, 3 =Neutral, 4= Harmless, 5 = More harmless. For an instance if a particular person select scale 5 for a particular cyberbullying activity it implies that such person seems it as more harmless when engage in such cyberbullying activity and on the hand, he seems it as more harmless when he/she is cyber victimized through the same activity by another person.

3.3 Sample

A convenience sample of 113 students enrolled in different departments of management and commerce faculty of university of Sri Jayewardenepura participated in the study. Out of the total participants 69% was males and 31% was females.

3.4 List of Hypotheses

This study aims to explain university students' perception of cyberbullying and cyber-victimization in terms of its relationship with their personality factors.

Within the above framework, the hypotheses of the study were formulated as follows.

Hypothesis 1:

Null hypothesis (H_0): There is a relationship between the attitude of cyberbullying, cyber victimization and psychoticism personality dimension.

Alternative hypothesis (H_1): There is no relationship between the attitude of cyberbullying, cyber victimization and psychoticism personality dimension.

Hypothesis 2:

Null hypothesis (H_0): There is a relationship between the attitude of cyberbullying, cyber victimization and extraversion personality dimension.

Alternative hypothesis (H_1): There is no relationship between the attitude of cyberbullying, cyber victimization and extraversion personality dimension.

Hypothesis 3:

Null hypothesis (H_0): There is a relationship between the attitude of cyberbullying, cyber victimization and neuroticism personality dimension.

Alternative hypothesis (H_1): There is no relationship between the attitude of cyberbullying, cyber victimization and neuroticism personality dimension.

3.5 Data Analysis Method

The data gathered during the study were analyzed using statistical package for social sciences (SPSS). Demographic data and single choice questions i.e. Yes and No questions analyzed using descriptive statistics of frequency technique. Hypothesis testing performed using person's correlation to find out the relationship between the dependent and independent variables.

4. Data analysis

4.1 Descriptive Statistics

Demographic information

The respective information for the research collected from 113 participants who enrolled in different departments of management and commerce of university of Sri Jayewardenepura irrespective of their year of study. The below tables summarize the demographic information of participants.

Table 1. Gender Analysis of the Respondents

	Response	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	77	68%	68%	68%
	Female	36	32%	32%	100%
	Total	113	100%	100%	0%

Table 2. Age Analysis of the Respondents

Description	N	Minimum	Maximum	Mean
Age	113	22	24	23
Valid N (list wise)		113		

As above table denotes among the total respondents 77% were males and 36% represents females. The average age of the respondents were 23 years, where minimum and maximum ages were 22 and 23 years respectively.

Existing level of cyberbullying and cyber victimization

Further, descriptive analysis over data has been carried out for the purpose of identifying the existing level of cyberbullying and cyber victimization among university students in Sri Lanka. As per the findings it was noted that 47% of the respondents are victims of cyberbullying at least one occasion in their life time, where 53% were not.

Table 3. Have You Been Ever Cyber Victimized?

	Response	Frequency	Percent	Valid Percent
Valid	No	53	47%	47%
	Yes	60	53%	53%
	Total	113	100%	100%

In combination of the above finding it was noted that females are subjected to cyber victimization more than the males. The descriptive statistics shown in the below table provides a higher mean related to cyber victimization for females than the males.

Table 4. Group Statistics for Cyber Victimization on Gender Wise

Group Statistics			
	Gender	N	Mean
Cyber victimization	Male	77	0.45
	Female	36	0.69

Further, the data was analyzed to find out how often the university students are subjected to cyber victimization. The results show that, among the people who has been cyber victimized, 65% were subjected to cyber victimization on very rare basis, 10 % rarely, 20 % monthly and 5 % weekly. This explains that most of the students are not exposed to cyberbullying activities too often rather than on rare occasions.

Table 5. How Often Have You Been Cyber Victimized?

Response	Frequency	Percent	Valid Percent
Very rarely	39	65%	65%
Rarely	6	10%	10%
Monthly	12	20%	20%
Weekly	3	5%	5%
Total	60	100	100

Based on the gender analysis it was found that females are subjected to the cyber victimization too frequently (monthly, weekly) than the males. The below graph shows that among the respondents females were subjected cyber victimization on monthly and weekly basis where males were not. This indicates that cyberbullying activities are direct towards females on frequent basis rather than males at university level.

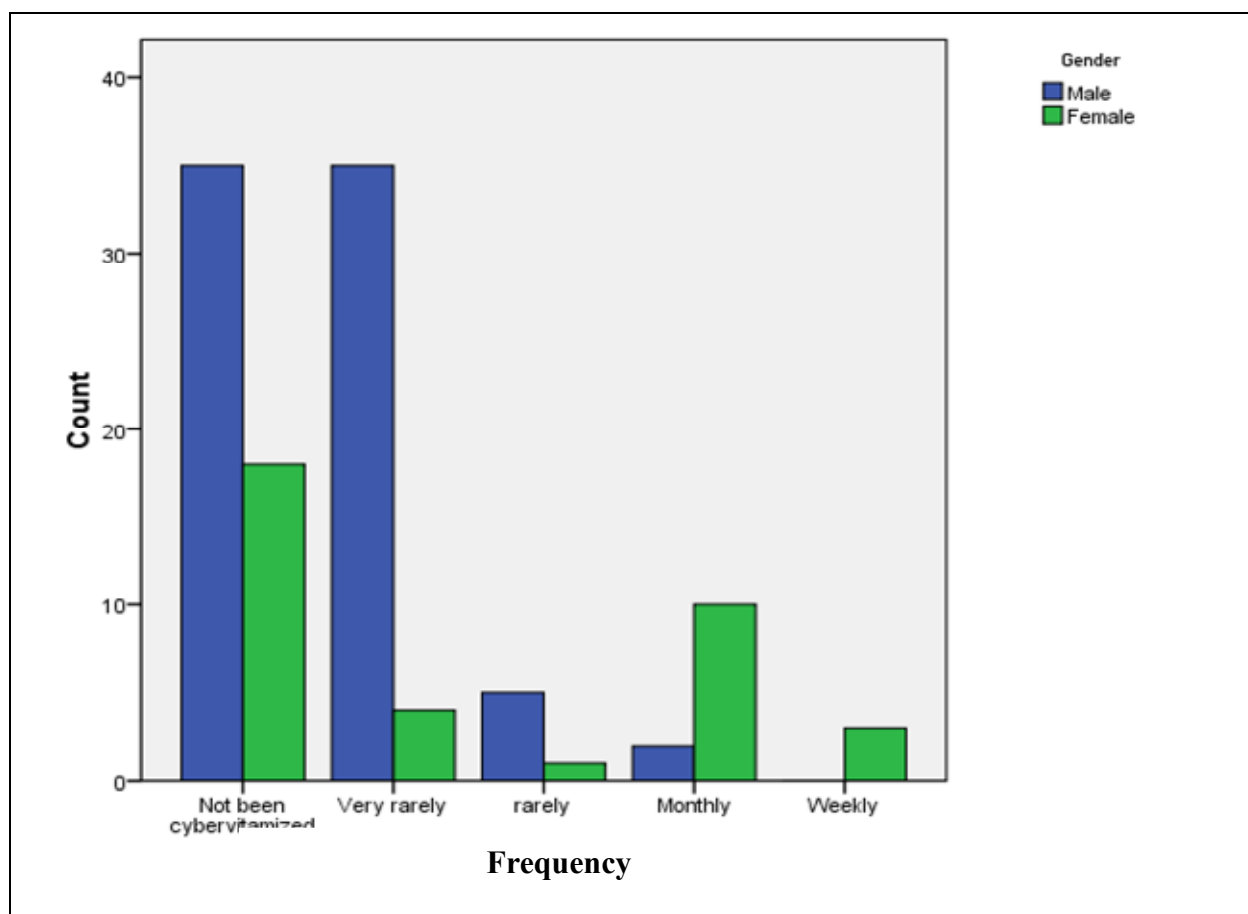


Figure 2. How Often Have You Been Cyber Victimized?

In addition to the above findings, the data was analyzed to detect cyber bullying behaviors which have had a most impact towards cyber victimization among undergraduates. According to the results 48% were found to be cyber bullied through anonymous calling where 17% has been cyberbullied through creating fake profiles and websites. 15% were cyber victims of posting their photographs or videos by someone else without their consent. Hence it is evident that most students are exposed to anonymous calling than the other cyberbullying behaviors.

Table 6. In Which Way You Have Been Cyber Victimized in Most Cases?

Response	Frequency	Percent	Valid Percent
Anonymous calling	29	48%	18%
Creating fake profile or web site	10	17%	32%
Spreading lies and rumors about yourself in internet	5	8%	8%
Posting photographs or video of you without consent	9	15%	32%
Sending online request for sexual intercourse	5	8%	5%
Hacking your profile	2	3%	5%
Total	60	100%	100

With respect to the involvement in cyberbullying activities by university students, it was found that among the respondents, 27% engage in cyberbullying activities where 73% were not. As per the results, it is evident that most undergraduates do not engage in cyberbullying activities.

In addition to the above, it is important to understand that the current involvement in cyberbullying activities by university students are prevailing at a lower level.

Table 7. Have You Ever Engage in Cyberbullying Activities?

Response	Frequency	Percent	Valid Percent
Valid No	82	73%	73
Yes	31	27%	27
Total	113	100	100

Among the cyberbullying activities used by the undergraduates, Anonymous calls were found to be the most popular method as shown in the below table. Among the other methods creating fake profile or website were used as cyberbullying activities by 35% of the respondents who engage in cyberbullying activities.

Table 8. Which Method Do You Often Use for Cyberbullying?

	Frequency	Percent	Valid Percent
Anonymous calls	20	65%	65%
Creating fake profile or website	11	35%	35%
Total	31	100%	100%

4.2 Hypothesis Testing

The correlation between the attitudes towards cyberbullying, cyber victimization and different personality factors were checked using the person correlation analysis.

4.2.1 Attitudes Towards Cyberbullying/Cyber Victimization in Terms of Psychoticism

It was examined whether there is any relationship exists between the attitudes towards cyberbullying/ cyber victimization (which is the average score for the ten indexed given under the cyberbullying activities for respondents) and personality dimension of psychoticism

Table 9. Correlation between Attitudes Towards Cyberbullying/Cyber Victimization and Psychoticism

	Psychoticism
Cyberbullying/Cyber victimization	Pearson Correlation 0.559**
	Sig. (2-tailed) 0.000
	N 113.00

** Correlation is significant at the 0.01 level (2 - tailed).

* Correlation is significant at the 0.05 level (2 - tailed).

The findings elicit that there is a moderate positive correlation (correlation = 0.559, $p < 0.05$) between the attitudes towards cyberbullying/ cyber victimization and the personality dimension of psychoticism. In other words, the outcomes of the test show that cyberbullying/cyber victimization is perceived as more harmless by the persons as the level of psychoticism possessed by them increases.

In the above analysis, attitudes towards cyberbullying, cyber victimization has been considered in a more holistic manner rather than considering the attitudes towards individual cyberbullying activities. Further, in order to examine relationships between the attitudes towards individual cyberbullying activities given under the cyberbullying index, a person correlation analysis was carried out between the attitudes of individual cyberbullying activities and psychotic personality dimension.

Table 10. Correlation Between Attitude Towards Individual Cyberbullying Activities and Psychoticism

Cyberbullying activity		Psychoticism
Anonymous Callings	Pearson Correlation	0.690**
	Sig. (2-tailed)	0.000
	N	113
Creating fake profile or web page	Pearson Correlation	0.542**
	Sig. (2-tailed)	0.000
	N	113
Hacking someone's profile	Pearson Correlation	0.434**
	Sig. (2-tailed)	0.000
	N	113
Sending online requests to sexual intercourse	Pearson Correlation	0.351**
	Sig. (2-tailed)	0.000
	N	113
Harassing or threatening statements devoted to a partner in a romantic relationship	Pearson Correlation	0.276**
	Sig. (2-tailed)	0.003
	N	113

** Correlation is significant at the 0.01 level (2 - tailed).

* Correlation is significant at the 0.05 level (2 - tailed).

Based on the outcomes of the analysis it was found that a strong positive co – relation exists between the attitudes towards cyber bullying activity “anonymous calling” and psychoticism. When the level of psychoticism increases, anonymous calls given to other people seems harmless (Correlation = 0.69, $p < 0.05$).

Further, a moderated positive co – relation observed between creating “fake profiles or web page” and being psychoticism (Correlation = 0.54, $p < 0.05$).and “hacking's someone profile” (Correlation = 0.43, $p < 0.05$) and being psychoticism. In other words, creating fake profile or web page and hacking someone's profile considered to be harmless by a student when the level of psychoticism possessed by such student tend to increase. In addition to that a weak positive relationship found between “sending online requests to sexual intercourse” and being psychoticism (Correlation = 0.35, $p < 0.05$) and “harassing or threatening statements devoted to a partner in a romantic relationship” (Correlation = 0.28, $p < 0.05$) and being psychoticism. Undergraduates perceive online request for sexual intercourse as well as harassing and threatening statements devoted a partner in a romantic relationship as more harmless with the increase in psychoticism levels. The dimension of psychoticism personality reflects traits such as non-conformity, tough – minded, willingness to take risks, unconcerned about the rights of other people and welfare of others and tendency towards anti-social behaviors. Most of the traits which are attributed with psychoticism personality is negative factors which lead to the initiation of negative activities. As above shown, when the level of psychoticism increases of a person, he or she perceive certain cyberbullying activities as harmless and such perception may cause

them to engage cyberbullying behaviors.

Expect for above cyberbullying behaviors, no obvious co – relation can be found between remaining cyberbullying activities (Sending spam mails and viruses, sending mean, Vulgar or threatening messages, spreading lies or rumors about someone else, Post photographs and videos of someone without his consent, Fake statute or place statements) and psychoticism.

Table 11. Correlation Between Attitude Towards Individual Cyberbullying Activities and Psychoticism

Cyberbullying activity		Psychoticism
Sending spam mails and viruses	Pearson Correlation	0.192
	Sig. (2-tailed)	0.061
	N	113
Sending mean, Vulgar or threatening messages	Pearson Correlation	0.066
	Sig. (2-tailed)	0.489
	N	113
Spreading lies or rumors about some else	Pearson Correlation	0.152
	Sig. (2-tailed)	0.108
	N	113
Post photographs or videos of someone without his consent	Pearson Correlation	-0.021
	Sig. (2-tailed)	0.822
	N	113
Fake statue or place statements	Pearson Correlation	0.107
	Sig. (2-tailed)	0.261
	N	113

** Correlation is significant at the 0.01 level (2 - tailed).

* Correlation is significant at the 0.05 level (2 - tailed).

4.2.1 Attitudes towards Cyberbullying, Cyber Victimization in Terms of Extraversion

Person correlation analysis was carried out in order to identify whether any relationship exists between the extraversion personality dimension and attitudes towards cyberbullying and cyber victimization.

Table 12. Correlation between Attitudes Towards Cyberbullying/Cyber Victimization and Extraversion

		Extraversion
Cyberbullying	Pearson Correlation	- 0.221**
	Sig. (2-tailed)	0.019
	N	113

** Correlation is significant at the 0.01 level (2 - tailed).

* Correlation is significant at the 0.05 level (2 - tailed).

The results show that a weak negative correlation (correlation = - 0.221, $p < 0.05$) exists between the attitudes towards cyberbullying, cyber-victimization and extraversion personality. That is when the level of extraversion increases, the cyberbullying activities seem as harmful. Hence an undergraduate who tend to have a high level of extraversion personality dimensions have a less probability of engaging in cyberbullying activities.

The attitudes towards each individual cyberbullying activity, categorized under the cyberbullying index were also evaluated in terms of extraversion to gather more information regarding the relationship exists between the attitudes of cyberbullying activities and personality.

Table 13. Correlation between Attitude Towards Individual Cyberbullying Activities and Extraversion

Cyberbullying activity		Extraversion
Creating fake profile or web page	Pearson Correlation	-.404**
	Sig. (2-tailed)	0
	N	113
Sending online requests to sexual intercourse	Pearson Correlation	-.356**
	Sig. (2-tailed)	0
	N	113
Anonymous Callings	Pearson Correlation	-.238*
	Sig. (2-tailed)	0.011
	N	113

** Correlation is significant at the 0.01 level (2 - tailed).

* Correlation is significant at the 0.05 level (2 - tailed).

Table 14. Correlation between Attitude Towards Individual Cyberbullying Activities and Extraversion

Cyberbullying activity		Extraversion
Sending spam mails and viruses	Pearson Correlation	-0.036
	Sig. (2-tailed)	0.708
	N	113
Sending mean, Vulgar or threatening messages	Pearson Correlation	0.038
	Sig. (2-tailed)	0.688
	N	113
Spreading lies or rumors about some else	Pearson Correlation	0.067
	Sig. (2-tailed)	0.478
	N	113
Post photographs or videos of someone without his consent	Pearson Correlation	-0.052
	Sig. (2-tailed)	0.587
	N	113
Hacking someone's profile	Pearson Correlation	-0.149
	Sig. (2-tailed)	0.115
	N	113
Harassing or threatening statements devoted to a partner in a romantic relationship	Pearson Correlation	0.117
	Sig. (2-tailed)	0.218
	N	113
Fake statue or place statements	Pearson Correlation	0.081
	Sig. (2-tailed)	0.393
	N	113

** Correlation is significant at the 0.01 level (2 - tailed).

* Correlation is significant at the 0.05 level (2 - tailed).

The outcomes of the analysis show a moderate negative relationship between “creating fake profile or web page” and extraversion (Correlation = -.404, $p < 0.05$). In other word this emphasizes the fact that when the level of extraversion increases, creating fake profile or webpage perceive as harmful. A weak negative correlation was found between

“sending online requests to sexual intercourse” and being extraversion (Correlation = -0.356 , $p < 0.05$) and “anonymous callings” and being extraversion (Correlation = -0.238 , $p < 0.05$). For the same group of people, in this case undergraduates, as the level of extraversion increases the cyberbullying behaviors, sending online requests to sexual intercourse and anonymous callings seem harmful. The extraversion personality, as express associated with traits such as high sociability, impulsive, like for excitement, talkative, active and expressive. Therefore it is evident that, when a person possesses more extraversion traits rather than other traits associated with different personality dimensions, a negative attitude towards is directed towards the anonymous cyberbullying activities such as giving anonymous calls, creating fake profiles or webpages and sending online request for sexual intercourse.

There was no significant correlation found between the other cyberbullying activities used for the research expect for the above and extraversion personality dimension. As given in the below table in each and every case the null hypothesis, which is there is a relationship between the extraversion personality and perception of cyberbullying is rejected as of significant level (p) is greater than 0.05. However, there is a relationship between user perceptions of cyberbullying activities and personality for certain cyberbullying activities as above-mentioned.

4.2.3 Attitudes towards Cyberbullying/Cyber victimization in terms of Neuroticism

According to person correlation analysis, no relationship can be examined between attitudes towards cyberbullying (perception in a holistic view, the aggregate of perception of individual cyberbullying activities) and neuroticism. As the below table provides, the significance level is above 0.05 ($p > 0.05$) with respect to correlation analysis. This indicate that the obtained relationship is just due to chance rather than real. Therefore the null hypothesis, that is there is a relationship between the attitudes towards cyberbullying/cyber victimization and neuroticism personality dimension cannot be accepted in this case.

Table 15. Correlation between Attitudes Towards Cyberbullying/Cyber Victimization and Neuroticism

	Neuroticism	
Cyberbullying	Pearson Correlation	0.032
	Sig. (2-tailed)	0.733
	N	113

** Correlation is significant at the 0.01 level (2 - tailed).

* Correlation is significant at the 0.05 level (2 - tailed).

5. Conclusion

Cyberbullying seems to be a type of bullying which is becoming increasingly prevalent, as the use of technology increases by young people such as undergraduates. Previous studies with respect to cyberbullying has made various findings including an identification of relationship between the perceptions of cyberbullying, cyber victimization and personality factors of students.

The primary questions of interest in this study was whether the attitudes towards cyberbullying, cyber victimization depend on the personality factors of undergraduates. The personality of the undergraduates was considered under three dimensions of personality as explained in Eysenck's personality theory. The findings of the research correlated with previous findings, and shows that there is a relationship between the attitude towards cyberbullying and personality dimensions of psychoticism and extraversion. As per the findings, when level of the psychoticism possessed by an individual increases such person tend to see cyberbullying, cyber victimization as harmless and therefore, may engage in those activities. On the other hand, there is a weak negative correlation found between the attitudes towards cyberbullying and extraversion which indicates that people tend to see cyberbullying, cyber victimization as harmful when the level of extraversion increases.

In addition to that the existing level of cyberbullying and cyber victimization levels among university students has been analyzed and found that undergraduates are engage in cyberbullying and use anonymous calling, creating fake profile and web pages as cyberbullying behaviors. Further, it was found that undergraduates are subjected to cyber victimization on rare basis and cyberbullying activities are more frequently directed towards females rather than males.

The main implication arise from the present findings is that the young internet users are not aware of the level of endangerment of their online behaviors and its effects on other people's lives. The nature and increasing extent of cyberbullying obviously raise issues about how to deal with it. Future research could highlight these areas and provide a foundation to develop suitable strategies to change attitude of undergraduates towards cyberbullying and

cyber victimization in order to reduce intensity of such behaviors among the university students in Sri Lanka as well as in other countries.

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