SMARTPHONE ADDICTION AND CYBERBULLYING VICTIMIZATION: PREVALENCE OF SOCIAL ANXIETY AMONG FEMALE UNDERGRADUATES

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Abstract

Smartphone pervasiveness is a global issue among teenagers, and the continual presence of smartphones has a negative impact on their well-being. With the extensive, daily use of the Internet and smartphones, young people are at increased risk to be exposed to some form of cyberbullying (Ljepava, & Tomic, 2019). Cyberbullying is a public health issue that affects mostly women and causes them grief and anxiety. Cyber-victimization has the ability to inflict serious harm as well as increased social anxiety. Cyberbullying is a common social maladjustment that has negative repercussions on the wellbeing and development of adolescents, but numerous questions remain as to the relationship between cyberbullying and social anxiety in adolescence (Martínez-Monteagudo et al, 2020). The primary purpose of the present study is to explore the relationship between social anxiety and cyberbullying victimization among female undergraduates and to establish if smartphone addiction moderates the above relationship. Ex-post facto research design and purposive sampling technique were adopted in the present study. Data was collected from samples (69 female undergraduate students) through self-reported questionnaires covering smartphone addiction, cyber bullying victimization, and social anxiety as variables. Moderator analyses were performed using SPSS 22.0. The results revealed higher the social anxiety, the higher the cyberbullying victimization, and the higher the smartphone addiction, the higher the cyberbullying victimization. Understanding the relationship between social anxiety and cyberbullying victimization and the impact of smartphone addiction could help the researchers to develop effective coping strategies, to prevent or combat the progression of social anxiety.

Keywords: Smartphone Addiction, Cyber Bullying, Cyber-Victimization, Social Anxiety.

Introduction

Cyber-victimization has the ability to inflict serious harm as well as increased social anxiety. There are several studies relating to cyber victimisation and social anxiety, while few studies have related the cyberbullying with social anxiety. Cyberbullying is the deliberate use of electronic communication tools to disturb an individual or specific group of individuals intentionally and repeatedly (Ang & Goh, 2010; Patchin & Hinduja, 2006). The use of electronic technology including email, text messaging, various social networking sites such as Instagram, Facebook, twitter and blogs have become a primary means of communication for college students. Smartphones are the most remarkable gadgets and the fastest diffusing technology. Smartphones provide adolescents with a vast media platform (especially the social media) that allows them to share two-way information rather than one-way information. It is a communication network where an individual can create many ways of sharing information without any restrictions time and space limits. In terms of the daily usage of smartphones, Qudah et al. (2019) in their study found that 67.3 per cent of the participants were using smartphones for more than 4 hours a day. The frequency of cyberbullying reported by these participants was 20.7 per cent. Information technology has become one of the most important aspects of human life in terms of making life easier, bridging gaps between people, socializing, and lowering transportation costs (Aktürk et al., 2008; Yıldız, 2004). Kawabe et al. (2016) stated that continuous use of technology and the Internet often, and unregulated use of these platforms significantly harm individuals' lives. Lavanya & Prasad (2014) from the results of their study found that over 85 per cent of the sample was accessing cyber space through their smartphones or computers on a regular basis, which has exposed them to the brunt of cyber bullying.

Smartphone Addiction

The use of smartphones, which are equipped with different capabilities, is widespread in society, teens are becoming increasingly reliant on them. Photos, movies, and personal information are stored by the users. Smartphone has been steadily increasing in popularity around the world (Batyuk et al., 2011). Smartphone uses have both positive and negative consequences. As for as positive features are concerned, smartphones provide information sharing, web-based interactions, access to business opportunities, educational content, and enrich people's digital media consumerism. While negative dimension creates problems such as spending excessive amounts of time, insomnia, facing cyberbullying, depression, violations of privacy, advertising, and consumer rights. According to Laconi et al. (2015) problematic internet use causes a multifaceted syndrome that includes mood swings, perceived social benefits when online, and negative consequences of Internet use. Students' academic performance and social connections have negatively impacted by smartphone addiction. Smartphone Addiction has been found to correlate with many variables. According to research by Emanuel et al. (2015), one out of every five students is fully reliant on smartphones. Half of the survey participants admitted to using their smartphones excessively to escape their problems and improve their mood. Several students have admitted to being bullied, harassed and cornered in cyberspace by the peers and have felt powerless since they were deeply

wounded by the humiliation and couldn't get the situation under control. Some students have also openly admitted to have bullied someone over cyberspace (Lavanya & Prasad, 2014).

Cyber bullying and Victimization

Cyberbullying is defined as "any behavior performed through electronic media by individuals or groups that repeatedly communicates hostile messages intended to inflict harm or discomfort on others" (Tokunaga, 2010). Cyberbullying is defined as causing purposeful harm to individuals or groups by frequently sending or posting hurtful and abusive texts or photographs via the Internet or social media. Olweus & Limber (2014) found cyberbullying in schools increases as prolonged use of smart phone. Cyberbullying is the use of different social networking platforms to obtain power, domination, and control over other people. Bullying can be done anonymously or by someone who is known to the victim (Tokunaga, 2010). Martínez-Monteagudo, et al. (2020) found in their research that students with the high cyberbullying profile (bully-victims) presented high scores on social avoidance and distress in social situations in general with peers, whereas these students presented lower levels of fear of negative evaluation and distress and social avoidance in new situations as compared to the low cyberbullying (rare victim/bully). Adolescents are the most vulnerable to cyber bullying. They plan to spread cyberbullying to others, but circumstances conspire against them, and they become victims. With the advancement and growth of technology, a new form of victimization called cyberbullying has evolved in the last decade. Anxiety and depression are linked to cyber-victimization, and victims of cyberbullying have a higher level of depression than non-victims. Empirical research has shown that there is a link between internet addiction and cyberbullying (Sam et al., 2019). Martínez-Monteagudo et al. (2020) found that the cyberbullying patterns varied significantly for all social anxiety subscales.

Gender differences in Smartphone Addiction and Cyberbullying

A study found the link between gender and anxiety; girls had a greater tendency to experience the onset of various types of anxiety, including panic disorder, generalized anxiety disorder, separation anxiety disorder, and social anxiety (Kaloeti et al, 2021). Gender disparities in smartphone addiction have been found in their study (Al-Barashdi et al, 2015). While Usman et al. (2014) found no variations in smartphone addiction between males and females in their studies. Other research, on the other hand, found male-female differences. According to the findings of Aljomaa, et al. (2016), males are more likely than females to be smartphone addicts. Bisen and Deshpande (2016) examined the prevalence of smartphone addiction among engineering students. Male students are more prone to smartphone addiction than female students, according to the findings. Similarly, Bolle (2014) study revealed that smartphone addiction is more prevalent among Dutch male students than among females. Research studies conducted in the Korean context (Kwon & Paek, 2016) and Italian contexts reported the same results (De Pasquale et al., 2015). In contrast, a study (Park & Lee, 2014) found that Korean university ladies have a greater rate of smartphone addiction than males. In two investigations conducted in Taiwan (Chiu et al., 2013) and Germany, a similar conclusion was reached (Randler et al., 2016).

Social Anxiety and Cyber-victimization

Cyber-victimization can occur when someone sends embarrassing information about them or others over the Internet. This victimization results in emotional humiliation and embarrassment, leading to the idea that cyber-victimization is linked to the development of social anxiety symptoms (Campbell et al., 2012; Dempsey et al., 2009). According to Troy and Sroufe (1987), students with social anxiety are more likely to be victimized by others due to overt displays of worry, putting them at risk for victimization. According to a study by Storch et al. (2003), adolescents who have been relationally traumatized by their peers have higher levels of social anxiety. Social anxiety was significantly associated with several forms of bullying involvement in adolescents with Autism Spectrum Disorder (ASD) and Attention-Deficit/Hyperactivity Disorder (ADHD) and warrants being considered into prevention and intervention programs for bullying involvement (Liu et al., 2021). In a study by Dempsey et al. (2009), cyber victimization was linked to social anxiety symptoms in public middle school students. Campbell et al. (2012) found that adolescents who experienced cyber victimization reported more social difficulties and higher levels of anxiety than adolescents who had experienced traditional bullying. Schenk & Fremouw (2012) in their study found that college students who experienced cyber-victimization reported frustration (46.25 per cent), stress (40.9 per cent), hurt (37.9 per cent), anger (33.8 per cent), and difficulty in concentrating (23.4 per cent). Many cyber-victimization research projects have used middle school or high school students. However, collegiate samples have been used in few research projects especially in India. Research involving college students is warranted and has been found that college students experience cyber victimization (Dilmac, 2009) and experience symptoms of social anxiety (Terlecki et al., 2014). The results of the study by Trompeter, Bussey, & Fitzpatrick (2018) revealed that most domains of coping self-efficacy and emotion dysregulation partially mediated the relationship between cyber victimization and depression, and fully mediated the relationship between cyber victimization and social anxiety.

Therefore, the current study aims to investigate whether there is a relationship between social anxiety, cyber victimization, and the impact of smartphone addiction. More specifically, looking at whether the impact of social anxiety on cyberbullying is moderated by smartphone addiction.

Methodology

Objective

To study the relationship between social anxiety and cyber bullying victimization and the impact of smartphone addiction.

Hypotheses

The following hypotheses were formulated

H1: Social anxiety will have no impact on cyberbullying victimization

H2: Smartphone addiction will have no impact on cyberbullying victimization

H3: The impact of social anxiety on cyberbullying will be moderated by smartphone addiction

Participants and Procedures

The subjects of the study were 69 undergraduate female college students of the age ranging from 18 to 21 years, selected randomly from city colleges. Selected subjects were approached individually by the researchers. After obtaining informed consent and with the assurance of confidentiality, a set of questionnaires were handed over to the subjects with the request to complete them truthfully and submit next day to the researchers. All selected subjects submitted the completed questionnaires the next day. According to the estimation of subjects, it took on average about 30 minutes to complete.

Measures (Tools of the study)

SAS - Smartphone Addiction Scale (SAS) developed by Kwon et al. (2003). The scale consists of 6 factors and 33 items with a six-point Likert scale (1 "strongly disagree" and 6 "strongly agree"). The six factors were daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse, and tolerance. The internal consistency reliability of the whole scale is 0.769.

Cyberbullying Victimization Scale - Cyberbullying Victimization Scale was developed by Hinduja and Patchin (2009). The scale consists of 9 items with a "yes" or "no" scale which describes an individual's experience. The internal consistency reliability of the whole scale is 0.707.

The Liebowitz Social Anxiety Scale (LSAS) comprises 24 social situations to be replied to twice on a 4-point response scale (0=none to 3=severe) for social fear and social avoidance. Social fear has internal consistency reliability of 0.769, while social avoidance has internal consistency reliability of 0.756 (Liebowitz, 1987).

Research Design and Analysis

Information on all variables was collected simultaneously using the ex-post-facto correlational approach. The summation of all item scores was treated as the variable score for further statistical treatment. For social anxiety the two components viz., social fear and social avoidance were summed together as social anxiety scores. Social anxiety was treated as an independent variable, cyberbullying as a dependent variable, and degrees of smartphone addiction as a moderator variable in a moderator regression. To estimate moderator effects, the Andrew Hayes process model was utilized. The type 1 error rate is fixed at a 10 per cent level for testing the proposed hypotheses.

Results and Discussion

Table 1 presents the descriptive statistics for all three research variables. Skewness and kurtosis values, being within ±1, signifies the normal distribution of all variables.

Table 1: Descriptive Statistics and Intercorrelation of Variables

Variables	Descriptive				Intercorrelations		
	MEAN	STD.DV	SKEWNESS	KURTOSIS	SA	SPA	CBV
Society Anxiety (SA)	137.928	10.256	0.357	-0.584	1	-0.102	-0.0132
Smart Phone addiction (SPA)	167.97	7.430	0.740	0.286		1	-0.080
Cyber bullying victimization (CBV)	39.78	5.808	-0.093	-0.834			1

The intercorrelation of variables is so weak and non-significant showing a strong possibility of a moderator effect of smartphone addiction. This shows that the female undergraduates who overuse smartphones exhibit trance, withdrawal, the inability to control cravings, and leads to social anxiety, creating problems in their personal and social lives. This leads them to feel emotional distress and have difficult experiences when they are bullied. Table 2 confirms that possibility. The interaction (moderator) effect of SA and SPA is statistically significant (B= -0.02, p= 0.062). The major impacts of SA (B= 3.319, p= 0.068) and SPA (B= 2.717, p= 0.070) are also significant, demonstrating that the negative psychological repercussions of cyberbullying, such as stress, anxiety, isolation, fear, and depression, contribute to poor academic performance and social and familial interactions; a similar result was found Kaloeti et al. (2021) in their research. According to a study by Emanuel et al. (2015), one out of every five students is entirely reliant on their smartphones. The participants have a strong urge to spend leisure time which has a negative impact on self-control.

The findings of the moderator regression analysis reject hypotheses H1 and H2, as well as hypothesis H3. This implies that the higher the social anxiety, the higher the cyberbullying victimization, and the higher the smartphone addiction, the higher the cyberbullying victimization. It is reasonable to assume that these female undergraduates isolate themselves, avoid interpersonal relationships, and receive minimal social acceptability.

Table 2: Moderator Regression Analysis

VARIABLES	B	SE(B)	T	p
Constant	-404.07	247.3	1.634	0.107
Society Anxiety (SA)	3.319	1.794	1.849	0.068
Smart Phone addiction (SPA)	2.717	1.475	1.841	0.070
Interaction (SA x SPA)	-0.0203	0.01	1.895	0.062

R=0.2778; R^2 = 0.077, Model F = 1.812, df= (3,65), p=0.1537

SA X SPA: R^3 Change=0.051; F= 3.592' df= (1,65), p=0.063

Dependent: Cyberbullying victimization

The interaction effect and the two main factors together account for 7 per cent of the variation in cyberbullying victimization. This interaction component accounts for 5.1 per cent of the variance. This indicates a significant moderator impact. Long-term use of smartphones, being preoccupied with them, and not being able to control them have negative psychological, educational, and social ramifications. Smartphone overuse is also being viewed as a new type of abuse and can leads to crime or victimization. According to Navarro et al. (2013), the amount of time spent on a smartphone increases the likelihood of displaying a cyberbullying attitude. With the extensive, daily use of the Internet and smartphones, young people are at increased risk to be exposed to some form of cyberbullying (Ljepava, & Tomic, 2019).

Table 3: Moderator Effects of Smartphone addiction

Smartphone addiction	Effect	Social anxiety	t	P
Low	0.059	0.099	0.589	0.558
Medium	-0.092	0.068	1.352	0.181
High	-0.243	0.109	2.219	0.030

Figure 1: Moderator effects of Smart Phone Addiction

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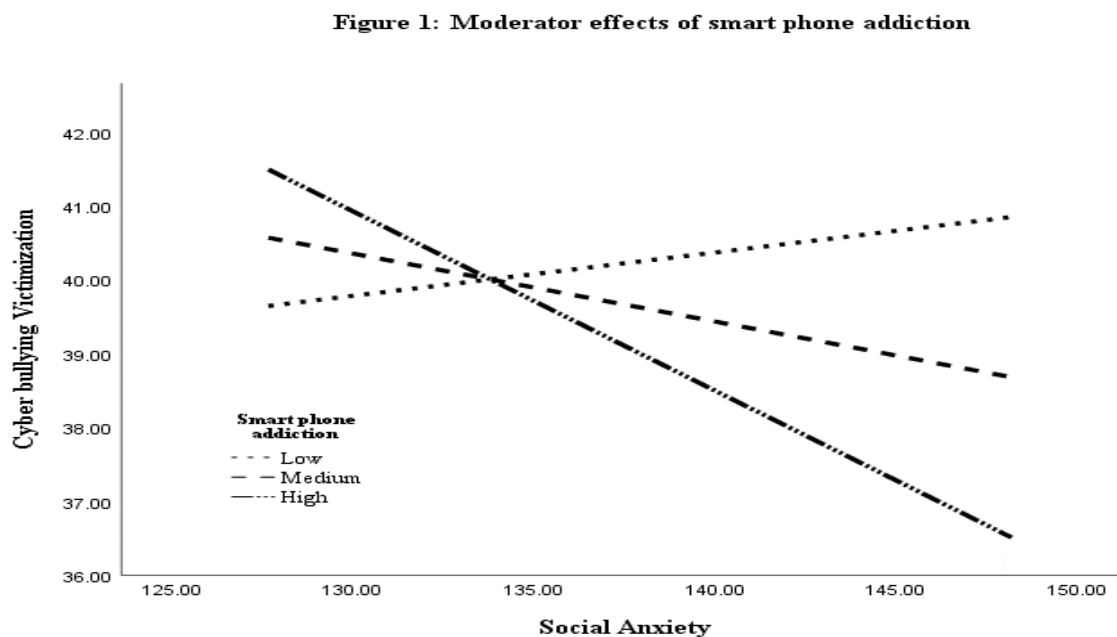
Low (B= 0.059, p= 0.558) and medium (B= -0.092, p= 0.181) levels of smartphone addiction had no effect on the relationship between social anxiety and cyberbullying victimization. High levels of smartphone addiction, on the other hand, have changed the association significantly (B= -0.243, p= 0.030). When the level of smartphone addiction is high, higher levels of social anxiety are linked to lower levels of cyberbullying victimization. A similar result was found by Liu, Hsiao, Chou, & Yen, (2021) with cyber victimization and depression, they fully mediate the relationship between cyber victimization and social anxiety (Trompeter, Bussey, & Fitzpatrick, 2018).

Conclusion

We can infer from the results of this study that when young female undergraduate smartphone addiction is high, more social anxiety is associated with lesser cyberbullying victimization. This study highlights the importance of adopting an early detection system for socially anxious female undergraduates to better their daily social interactions; Parents must carefully monitor their children's activity in cyber space and talk to them openly if, they find anything troublesome (Lavanya and Prasad, 2014), in order to address the problem promptly. Although, smartphones make life easier for undergraduate students by providing a wide range of applications and functions, they also pose a risk of potential harm with high anonymity; these issues have paved way to study the cyber victimization from different perspectives (Jaishankar, 2020). This leads to a variety of psychologically negative behaviors that have an impact on social interaction. Preventive methods against excessive smartphone use among undergraduates, as well as proper smartphone usage, can provide significant results. Improving undergraduates' digital literacy will lead to their mastery of understanding how to use technology legally and ethically in everyday life. Cybercrime and bullying among undergraduates can be avoided, resulting in the purification of cyberspace and the construction of healthy cyberculture.

Suggestions
Research

Future research should examine the relationship between social anxiety, cyber victimization, and smartphone addiction, as well as the variables' predictability. To protect the younger generation from becoming cyber victims; preventive and coping measures should be incorporated into the course curriculum at educational institutions.

Education

Digital education, by providing a different viewpoint on cyberbullying, is a crucial tool for preventing cyberbullying.

Government

- To effectively reduce cyberbullying victimization among students, comprehensive procedures and governance systems can be applied.
- India is dealing with cybercrime victimization with its conventional laws (Jaishankar, 2020) and IT Act, but without creating specific laws. Hence, a specific law should be enacted in India.
- Cyber Bullying among the students need to be address without any Legal and Policy Vacuum in India (Halder & Jaishankar, 2007), so as to make better cyberspace for the youth.
- Guidelines, rules, regulations and control mechanism with appropriate laws, user guides and awareness should be made mandatory for young user through all the educational institutions.

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