



## **Role of Routine Activity Theory in Cyber Victimization among Adolescents: A Gendered Perspective**

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### **Abstract**

The relationship between dimensions of Routine Activity Theory (RAT) and adolescent vulnerability to cyber victimization in the light of gender influences was examined. For this purpose, 200 high school students, age 16-18 years, studying in various private schools of Delhi/NCR were approached. The aim was to determine if engaging in certain ‘risky’ online activities/ behavior would escalate one’s ‘target suitability’, hence, making them a potential victim. It was also observed as to what measures under ‘parental supervision’ helped increase or decrease one’s chances to be cyber victimized. The results revealed that males and females differed on the component of target suitability, but showed no significant differences for parental supervision. Further, neither target suitability nor parental supervision were found to be significant predictors of cyber victimization among both males and females. Therefore, partial support for the applicability of RAT in studying cyber victimization has been provided by means of this study. Additionally, the results have raised questions regarding revamping this theoretical perspective so that academicians, institutions and practitioners are provided with effective means to deal with the global menace of cyber victimization.

**Keywords:** cyber victimization, routine activity theory, gender

## Introduction

Internet use as noted by Lenhart (2010) is prolific among adolescents. In his study, he found that 93% of his sample of 12-17 year old children used internet extensively, with 63% of the sample reporting daily usage of internet. Additionally, his study revealed that adolescent use of internet was also not limited to a single location, with 89% accessing internet from home, 71% at a friend's or a neighbor's place, 77% from school and 27% used their mobile phones to access internet. On similar lines, Kowalski and Fedina (2011) in their study reported that nearly 41% of the participants spent three to four hours daily online.

Cyberbullying is a relatively new phenomenon which has only been recently recognized at a global level. The most prominent definition has been given by Hinduja and Patchin (2008), who define it as “willful and repeated harm inflicted through the medium of electronic text .Mason (2008) defined cyberbullying as “an individual or a group willfully using information and communication involving electronic technologies to facilitate deliberate and repeated harassment or threat to another individual or group by sending or posting cruel text and/or graphics using technological means”.

Individuals at the receiving end of cyberbullying behaviors are considered cyber victims. Talking about defining cyber victimization, currently no standard definition exists, but all the definitions generally contain elements of intentional and repeated harm inflicted through the use of technology (Brown C.F., Demaray M.K., and Secord S.M.,2014). Olweus (2013) defines cyber bullying as “as bullying performed via electronic forms of contact or communication such as mobile/cell phones or the Internet”. Willard (2007) identified and

organized cyber bullying into eight different categories: flaming, harassment, denigration, cyber stalking, impersonation, outing, trickery, and exclusion.

In the present study, the term cyber victimization was linked to cyber bullying, as participants were required to give more authentic reactions when asked about cyber victimization occurrences. Akbulut, Y., Sahin, Y. L., & Eristi, B, 2010, too utilized this presumption as a part of their investigation of Turkish understudies. Also, to frame out questions and to understand the phenomenon of cyber bullying, the Indian definition by Jaishankar's (2008) has been used which defined it as "abuse/harassment by teasing or insulting, victim's body shape, intellect, family background, dress sense, mother tongue, place of origin, attitude, race, caste, class, name calling, using modern telecommunication networks such as mobile phones (SMS/MMS) and Internet (Chat rooms, emails, notice boards and groups)."

### **Theoretical Framework**

Developed by Marcus Felson and Lawrence Cohen (1979) the Routine Activity Theory (hereafter, RAT) gives an explanation of crime opportunities that occur in everyday life. RAT emphasizes that crime follows regular patterns in time and space, and is never randomly distributed. RAT comprises of three components,

- 1) Motivated Offender
- 2) Target Suitability
- 3) Capable Guardianship

Cyber bullying research, till date, lacks appropriate usage of a theoretical framework to understand the phenomenon in-depth (Hinduja & Patchin, 2007; Beran & Li, 2007) and hence, effective measures to deal with the problem are not yet discovered and the awareness of its

consequences are yet to be explored. As per Marcum (2008), RAT has proved to be successful in analyzing adolescent use of internet and their cyber bullying experiences. In his study, he found that the more time one spent online in communicating with others or shared personal information online, indeed increased their likelihood of falling prey to online predators and hence, being cyber victimized. Another study by Mesch (2009), involving parents and 935 teen participants within the age range 12-17 years, revealed that the chances of cyber victimization get hiked whilst engaging in peculiar internet activities, namely, having an active social networking site profile, participating in chat rooms or accessing sites like YouTube. Additionally, Navarro and Jasinski (2011) also confirmed the usefulness of the applicability of RAT in explaining cyber victimization, as they found that people who accessed social networking sites had a heightened risk of being cyber victimized (39.4%), than people who were cyber victimized elsewhere(22.5%).

Thus, the aim of the present work is to extend RAT to studying cyber victimization and understand how online activities or the online environment itself provides opportunities for crime to occur online. Additionally, it is aimed to determine as to how members of one gender may be at a greater risk for being cyber victimized than the members of the other group(Cohen, Lawrence & Marcus Felson,1979).The first variable is a given inclination as per the theory and hence, is not a concern for the present work. We have utilized the other two variables on Target Suitability and lack of capable guardianship, which aim to be studied using the two questionnaires made for this study.

**Two research questions are focused upon:**

- 1) Will males and females differ on parental supervision, target suitability and its

dimensions?

- 2) Will gender predict parental supervision, target suitability and its dimensions?

## **Methodology**

### **Population and sample**

The sample consists of 200 adolescents (Male=120, Female=80; Mean age=16.89, SD=0.653), age range 16-18 years studying in grades 11<sup>th</sup> and 12<sup>th</sup>. The one's who were internet users, were fluent in English language and were able to provide consent for the study were included for the study.

### **Tools**

The following questionnaires have been developed for the study.

#### ***The Target Suitability Questionnaire***

This 42 item questionnaire quizzed participants upon their perception as being a suitable target by asking about their online routine and also knowing aspects about themselves making them more vulnerable online. Since, this questionnaire was made keeping in mind the Routine Activity Theory, it had four dimensions, Value, Inertia, Visibility and Access.

#### ***The Capable Guardianship Questionnaire***

A total of 28 items made up for this questionnaire. However, upon scrutiny, the capable guardianship questionnaire seemed lacking what Mesch, 2009 says as active involvement and actually knowing what is happening online might be a contributing factor as well. Thus, items

catering to parental knowledge of social networking sites were added along with items relating to parental guardianship and virtual guardianship.

### Procedure

Broad conceptualizations were made and objectives were chalked out. For the item writing phase, rigorous review of past literature was done and thematic analysis was used to chalk out major areas to be covered under each scale. Focused group interviews with a larger population was done at first and then a short survey with almost 100 students was conducted so as to take their views which helped in gaining more field experience and also frame items culturally sensitive. Later, inter rater reliability was determined by sending all three questionnaires to experts from various fields who rated the questions on a scale of 1-5, being poor to perfect; and also provided suggestions for modifications. After modifications, the final questionnaires were utilized for data collection. The table below provides a summary for the same.

Scale Name	Item Writing I (Focused Group Interview)	Item Writing II(Survey)	Expert Opinion (Data collection)
The Target Suitability in Cyber Victimization Scale	72 items	59 items	42 items
The Capable Guardianship in Cyber Victimization Scale	82 items	38 items	28 items

### Results

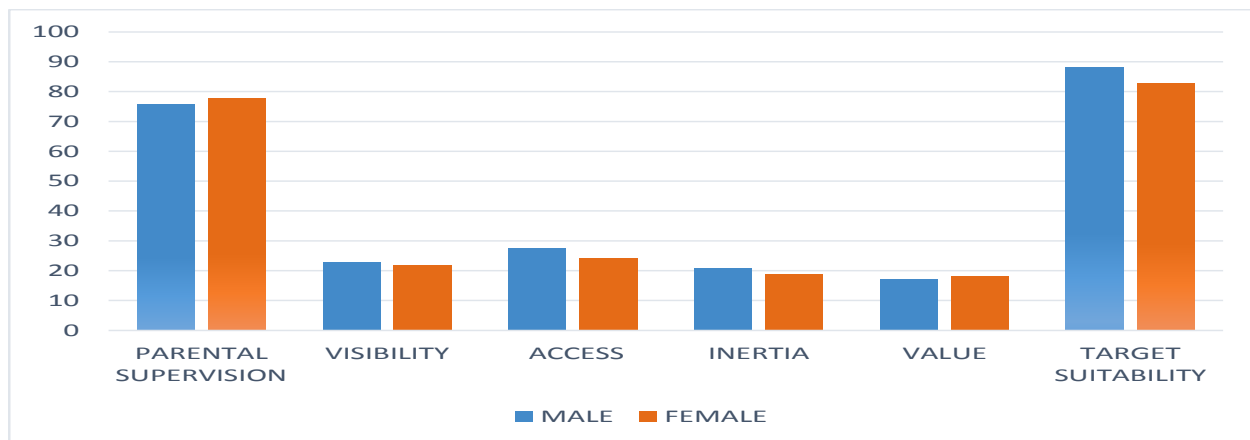
*Table1: Summary results of t-tests showing the difference on parental supervision, target attractiveness and its dimensions across gender*

Variable	Gender	N	Mean	Std. Deviation	t	Significance	Cohen's d
Parental supervision	Male	120	75.78	12.32	1.003	.317	0.142
	Female	80	77.62	13.43			
Visibility	Male	120	22.87	6.66	1.08	0.27	0.157
	Female	80	21.81	6.78			
Access	Male	120	27.56	5.41	4.52	0.00	0.655
	Female	80	24.06	5.26			
Inertia	Male	120	20.69	5.23	2.45	0.01	0.349
	Female	80	18.74	5.91			
Value	Male	120	16.99	3.03	1.93	0.04	0.299
	Female	80	18.22	4.95			
Target suitability	Male	120	88.11	15.83	2.11	0.03	0.309
	Female	80	82.84	18.13			

Cohen's D value  $\leq 0.20$  is a small effect size, 0.50 is a moderate effect size and  $\geq 0.80$  is a large effect size (Cohen, 1992)

Illustration table 1 shows that there was a significant difference between males ( $M=20.69$ ,  $SD=5.23$ ) and females ( $M=18.74$ ,  $SD=5.91$ ) on the inertia dimension;  $t(198)=2.45$ ,  $p<0.05$ ; significant difference existed between males ( $M=16.99$ ,  $SD=3.03$ ) and females ( $M=18.22$ ,  $SD=4.95$ ) on the value dimension;  $t(198)=1.93$ ,  $p<0.05$ ; and males ( $M=88.11$ ,  $SD=15.83$ ) and females ( $M=82.84$ ,  $SD=18.13$ ) also showed significant differences on overall target attractiveness;  $t(198)=2.11$ ,  $p<0.05$  with moderate effect size. On the access dimension of target attractiveness significant differences existed between males ( $M=27.56$ ,  $SD=5.41$ ) and females ( $M=24.06$ ,  $SD=5.26$ )  $t(198)=4.52$  with Cohen's d 0.65, indicating moderate effect size.

**Figure 1: Graphical representation of mean difference between male and female on parental supervision and target attractiveness and its dimensions**



**Table 2: Result of Multiple Regression analysis for parent supervision as a criterion variable and gender as predictor**

R	R Square	Adjusted R	Std. error	F	Sig.
0.23 <sup>a</sup>	0.50	0.41	12.51	5.205	0.006 <sup>a</sup>
Variables	Beta Value	Std. Error	t-value		Significance
(Constant)	69.77	2.27	30.723		0.00
Gender	1.262	1.817	0.695		0.488

a. Predictors : (Constant), Gender

b. Dependent variable: Parent Scale

Illustration table 2 shows that the multiple regression R is, 0.23, indicating insignificant correlation among all the variables. R square indicates how much contribution is there in criterion variable, that is, parental supervision is being influenced by the predictors, R<sup>2</sup> is 0.50, implying that 50% of the contribution in parental supervision can be attributed to predictors. The Beta value for the gender is 1.26 with t value 0.695 and not significant (0.05 level of significance). Also, on gender there is no significant difference (p>0.05) which indicates that gender does not predict parental supervision.

**Table 3: Result of Multiple Regression analysis for visibility dimension of target attractiveness as a criterion variable and gender as predictor**



<b>R</b>	<b>R Square</b>	<b>Adjusted R</b>	<b>Std. error</b>	<b>F</b>	<b>Sig.</b>
0.23 <sup>a</sup>	0.054	0.044	6.567	5.59	0.004 <sup>a</sup>
Variables	Beta Value	Std. Error	t-value		Significance
(Constant)	26.11	1.19	21.91		0.00
Gender	-0.73	0.95	-0.77		0.44

a. Predictors: (Constant), Gender

b. Dependent Variable: Visibility

Illustration table 3 shows that the multiple regression R is,0.23, indicating insignificant correlation among all the variables. R square indicates how much contribution is there in criterion variable, that is, visibility dimension of target attractiveness, is being influenced by the predictors , the value is 0.054, implying that 5.4% of the contribution in visibility can be attributed to predictors. The Beta value for the gender is -0.73 with t value -0.77 and not significant (0.05 level of significance). Also, on gender there is no significant difference ( $p>0.05$ ) which indicates that gender does not exist as a predicting factor for visibility dimension of target attractiveness.

**Table 4: Result of Multiple Regression analysis for access dimension of target attractiveness as a criterion variable and gender as predictor**

<b>R</b>	<b>R Square</b>	<b>Adjusted R</b>	<b>Std. error</b>	<b>F</b>	<b>Sig.</b>
0.404 <sup>a</sup>	0.163	0.155	5.16	19.19	0.000 <sup>a</sup>
Variables	Beta Value	Std. Error	t-value		Significance
(Constant)	30.83	0.936	32.92		0.000
Gender	-3.17	0.74	-4.23		0.000

a. Predictors: (Constant), Gender

b. Dependent Variable: Access

Illustration table 4 shows that the multiple regression R is,0.404, indicating insignificant correlation among all the variables. R square indicates how much contribution is there in criterion variable, that is, access dimension of target attractiveness, is being influenced by the

predictors , the value is 0.163, implying that 16.3% of the contribution in access can be attributed to predictors. The Beta value for the gender is -3.17 with t value -4.23 and not significant (0.05 level of significance). Also, on gender there is significant difference at 0.01 level of significance which indicates as a significant predictor for access dimension of target attractiveness with males scoring a higher value of 3.17 than females.

**Table 5: Result of Multiple Regression analysis for inertia dimension of target attractiveness as a criterion variable and gender as predictor**

<b>R</b>	<b>R Square</b>	<b>Adjusted R</b>	<b>Std. error</b>	<b>F</b>	<b>Sig.</b>
0.289 <sup>a</sup>	0.083	0.074	5.37	8.97	0.000 <sup>a</sup>
Variables	Beta Value	Std. Error	t-value		Significance
(Constant)	23.56	0.976	24.15		0.000
Gender	-1.67	0.781	-2.14		0.033

a. Predictors: (Constant), Gender

b. Dependent Variable: Inertia

Table 5 shows that the multiple regression R is, 0.289, indicating insignificant correlation among all the variables. R square indicates how much contribution is there in criterion variable, that is, inertia dimension of target attractiveness, is being influenced by the predictors , the value is 0.083, implying that 8.3% of the contribution in inertia can be attributed to predictors. The Beta value for the gender is -1.67 with t value -2.14 and not significant (0.05 level of significance). Also, on gender there is significant difference at 0.05 level of significance which indicates as a significant predictor for inertia dimension of target attractiveness with males scoring a higher value of 1.67 than females.

**Table 6: Result of Multiple Regression analysis for value dimension of target attractiveness as a criterion variable and gender as predictor**

<b>R</b>	<b>R Square</b>	<b>Adjusted R</b>	<b>Std. error</b>	<b>F</b>	<b>Sig.</b>
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0.522 <sup>a</sup>	0.272	0.265	3.38	36.82	0.000 <sup>a</sup>
Variables	Beta Value	Std. Error	t-value		Significance
(Constant)	21.34	0.614	34.75		0.000
Gender	1.66	0.49	3.37		0.001

a. Predictors: (Constant), Gender

b. Dependent Variable: Value

Table 6 shows that the multiple regression R is,0.52, indicating insignificant correlation among all the variables. R square indicates how much contribution is there in criterion variable, that is, visibility dimension of target attractiveness, is being influenced by the predictors, the value is 0.272, implying that 27.2% of the contribution in value can be attributed to predictors. The Beta value for the gender is 1.66 with t value 3.37 and significant at 0.05 level of significance. Also, on gender there is significant difference at 0.01 level of significance which indicates as a significant predictor for value dimension of target attractiveness with males scoring a lesser value of 1.66 than females.

**Table 7: Result of Multiple Regression analysis for target attractiveness as a criterion variable and gender as predictor**

<b>R</b>	<b>R Square</b>	<b>Adjusted R</b>	<b>Std. error</b>	<b>F</b>	<b>Sig.</b>
0.397 <sup>a</sup>	0.158	0.149	15.63	18.45	0.000 <sup>a</sup>
Variables	Beta Value	Std. Error	t-value		Significance
(Constant)	101.85	2.83	35.91		0.000
Gender	-3.92	2.26	-1.73		0.085

a. Predictors: (Constant), Gender

b. Dependent Variable: Target Attractiveness

Table 7 shows that the multiple regression R is,0.39, indicating insignificant correlation among all the variables. R square indicates how much contribution is there in criterion variable, that is, target attractiveness, is being influenced by the predictors, the value is 0.15, implying that 15%

of the contribution in value can be attributed to predictors. The Beta value for the gender is -3.92 with t value -1.73 and not significant (0.05 level of significance). Also, on gender there is no significant difference ( $p>0.05$ ) which indicates that gender does not predict target attractiveness.

## Discussion

Statistical analysis for this study has revealed much about the population under study. With the help of t-test and multiple regression, the two research questions for the study sought to answer questions, answers to which would be helpful in dealing with those vulnerable to cyber victimization. As already emphasized, RAT holds that the risk of one's victimization is escalated, when one is exposed to potential offenders (Miethe & Meier, 1990; Reyns, Henson and Fisher, 2011). Further, engaging in certain types of online activities, for example, disclosing one's personal information may also add up to one being a 'suitable target' online. As explained by Juvonen & Gross 2008, this is one reason why one might be an easy prey online because the frequent use of internet increases such a risk.

The study has made observations across gender utilizing two questionnaires developed exclusively for this study, so as to examine the applicability of RAT in studying cyber victimization on a sample of 200 adolescents studying in grade 11 and 12 in Delhi/NCR. Participants were asked if they had had any negative encounters online (i.e., being called mean names, being teased, etc). Using the Indian definition of cyberbullying, quite a few pointers of cybervictimization have been explored. Based upon the data collected, the results strongly held true for the applicability of the routine activity theory in studying the phenomenon of cyber victimization. Past inattention to gender effects has created much lacunae in examining the role of gender while studying cybervictimization, especially under the light of a theoretical framework. Thus, failing to explain how gender roles and online routines might be altering cyber

victimization experiences (Jensen & Brownfield, 1986; Lauritsen & Carbone-Lopez, 2011; Popp & Peguero, 2011).

The first research question sought to know if a significant difference existed between males and females on the variables under study i.e., parental supervision, target suitability and its dimensions. While significant differences were observed for the target suitability variable and its dimensions, namely, access, inertia and value, no significant differences were observed for the visibility dimension of target suitability and for the parental supervision variable. In this study, males had means higher than that of females, indicating more amount of online accessibility, inertia online, and more online target suitability. This is justifiable as they scored lower means on the parental supervision dimension, even though the result was insignificant. Thus, leading us to conclude that because of the less amount of parental supervision, males become more susceptible than females to being cyber victimized. Chapell, Hasselman, Kitchin, Lomon, Maclver, and Sarullo.(2006) provides support for this result as they in their study of college students found that males participated more often than females in cyberbullying/victimization incidents. Another study on male Chinese students by Li, Mao, and Stanton (2006) revealed that males were more prone to engage in cyber bullying and risky online activities than the female counterparts. Our study however, found that females scored higher means on the value dimension of target suitability. One reason for such a result could be attributed to the fact that females are considered to be the weaker sex and hence, perceived to have a higher value as a victim. The fact that females are often perceived as ‘soft’ targets and rarely report such incidents due to fear of defamation, makes them vulnerable online. Support also comes from a study conducted by Li (2007), which found that about 60% of cyber victims were young girls.

The results of the study further reveal no significant difference in parental supervision among males and females. However, male means were lower than that of females, indicating that males are more prone to cyber victimization. This is justifiable in RAT literature which states that “the offender chooses the target that is more visible and easily accessible” (Cohen and Felson, 1979). Also, as previously stated that girls have more ‘value’ and hence, increased chances of being cyber victimized, therefore, it is not a surprise that they had means higher than that of males. This reduced guardianship for males is also indicative of them scoring higher on the three dimensions of target suitability- namely, visibility, access and inertia

Further, the above results are explainable in Hindelang, Gottfredson, and Garofalo (1978) argument, which suggested that gender is significantly related to individual lifestyle. They also explain that due to gender related role expectations, females were more prone to have lifestyles that reduce chances of cyber victimization. Females also tend to have greater parental and social control, thus, confining their activities and not associating with delinquent peers. Thus, limiting their proximity to potential online predators and diminishing their vulnerability or ‘suitability’ as a cyber victim (Henson, Billy, Wilcox, Reyns, and Cullen., 2010; Jensen & Brownfield, 1986). Thus, hypothesis one stands being partially accepted.

The second research question sought to know if gender predicted parental supervision, target suitability and its dimensions. Results revealed that both males and females did not predict parental supervision variable and target suitability variable. However, gender did predict three dimensions of target suitability, with males scoring higher than females on the visibility, access and inertia dimension and females scoring higher than males on the value dimension. This was consistent with the results obtained for research question one. Since, males in the current sample had lower parental supervision and had higher target suitability, hence, they predicted more on

these dimensions as justified in research question one. Mesch (2009) in his study found that one's frequency of social networking and their number of friends online was positively related with encountering online risks. Reynolds et al., (2011) mentioned that social networking activities like posting photographs and the frequency of updates was also positively associated with sexual advances and online harassment. This study too indicated that communicating with others online and passing on personal information to online contacts did in fact increase online target suitability.

However, gender did not predict parental guardianship. Many reasons can be attributed to such a result. On many items regarding parental involvement, the children scored low, thus, indicating parental lapse in guarding their children. It is more like that the parents wait for an incident to occur rather than taking prior preventive measures. Also, parents lack knowledge of social networking sites as indicated in the participant's responses, thus, making guardianship less effective, as they clearly do not understand what their child is engaging in online. Even though that the obtained means for all three dimensions of capable guardianship aren't poles apart and the result being non-significant, it led us to conclude that parental guardianship had almost little effect in reducing cyber victimization as originally suggested by RAT. Since, today's youth effectively hide their tracks online, it becomes tedious for the parents to know what they are up to while they are online. This may lead us to believe that guardianship lacks direction.

With the advent of smart phones, the fact that adolescents access internet in the privacy of their bedroom doesn't come as a surprise. This makes parental intervention less effective, thus, increasing online risk. Keeping passwords for their phones and laptops or other devices, children have literally locked out their guardians. As suggested by Mesch (2009), guardianship under RAT framework, plays a pivotal role in preventing cyber victimization. However, with

such secrecy, adolescents easily fall prey to victimization online and face negative consequences. Therefore, it can be concluded that the second research question too stands partially answered. Till date, only a few studies have addressed the issue of parental mediation and its effects on cyber victimization (Navarro & Jasinki, 2012). Dehue, Bolman and Volland (2008) interviewed parents with children, and asked about their house rules about the Internet and text messaging. They found that 60% of the parents set rules about the frequency of Internet use and 80% set rules about what the children were allowed or not allowed to do on the Internet. Nevertheless, many parents did not know that their child was a victim of cyber bullying. The study results highlight that despite the rules the parents set, they were not sufficiently aware of online bullying. One reason for this can be attributed to the fact that many parents only after they learn about their child's victimization take measures to prevent further damage. Their behavior becomes restrictive and they proceed with great caution as far as their child's internet usage is concerned.

### **Conclusion and Implications.**

The current research provides partial support for routine activity theory's applicability to explaining cyber victimization vulnerability across gender, in an Indian context. As predicted from the results, gender is a significant predictor of target suitability, but doesn't really predict parental supervision. The strength lies in the fact that testing the much neglected gender model, revealed how males are more prone to be victimized online and how females are in constant need for protection against online predators. However, future research needs to include other aspects of criminal victimization (especially, online female sexual victimization).

However, the study does push forward the need to raise awareness about cyber victimization and its various consequences from a gendered perspective. This will allow focusing



on the primary problematic area for each gender, exclusively. It also raises the need for teachers, parents and school administrators to collaborate and formulate policies which would help protect adolescents against cyber victimization. The results of this study are further being extended to making appropriate measures to study cyber victimization under the RAT framework, with the aim to provide more quantitatively sound assessment of the phenomenon.

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