

Excessive Social Media use and its Association with Depression and Rumination in an Indian Young Adult Population: A Mediation Model

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ABSTRACT

Social media related research has explored a plethora of issues about wellbeing. Studies from the west have shown that there is a significant relationship between social media use, depression and that increased usage can be a risk factor for developing symptoms of depression. The present study examines the relationship between social media overuse, depression and rumination in a sample of young adults. Data was collected from 264 participants. The results revealed a significant positive correlation. Mediation analysis revealed that rumination mediated the relationship between social media addiction and depression.

Keywords: Social Media, Depression, Rumination, Indian youth

INTRODUCTION

There has been a growing interest in exploring the association between social media use, rumination and depression. People use social media because it provides them an easy to access platform to fulfil their needs related to entertainment, social interaction and news. As a result, this phenomenon of social media has gained much popularity (Whiting & Williams, 2013). However, this has also led to excessive usage, which in turn has led to social media addiction. Social media addiction is frequently classified as a form of behavioural addiction. Behavioural addiction is defined as an addiction to the feeling brought about by social media usage (Alavi *et al.*, 2012).

Some of the major factors promoting excessive social media use, comprise the user's self-esteem and their status-quo within their group, which can have negative influences (Baron & Kenny, 1986). Moreover, a study found that quality rather than

just the frequency of social media use was related to depression; and rumination strengthened the association of depression with negative social networking interactions. (Davila *et al.*, 2012).

Social media and Depression

Higher levels of social media use, especially at night, among adolescents was found to be associated with greater levels of depression (Woods & Scott, 2016). Among adults too, addictive use of social media was revealed to have a positive relationship with depressive symptom. Using a separate set of participants consisting of adults in the United States, a significant association was found in the same relationship (Lin *et al.*, 2016). With emphasis on use and abuse of internet by undergraduate students, significant differences were found among males and females especially when it came to be using the internet for social interactions. Males tend to use the internet more for filling purposes of social interactions as compared to females. The association between social networking sites addiction and depression was explored and rumination was revealed to be a mediating factor between the two. Especially, participants with low self-esteem, were reported of having a stronger effect of rumination and depression as compared to the participants who had high self-esteem (Wang *et al.*, 2018).

Social media and Rumination

Rumination refers to the repeated and passive thinking about one's negative emotions and focusing on the symptoms of distress and worrying about the meanings associated with that distress (Lyubomirsky, Caldwell & Hoeksma, 1998). Research has found that adolescents who were classified as problematic internet users were associated with higher levels of rumination (McNicol & Thorsteinsson, 2017). Focus was laid on the similarities in the online and offline coping responses to loneliness in adolescents.

Rumination and Depression

A study examined rumination as a predictor for depressive episodes among adults of various age groups. The results implied that rumination served as a predictor for the onset of depressive episodes as well as depressive symptoms which were chronic in nature (Hoeksma, 2000). A longitudinal investigation was conducted on adults struggling with grief. The results showed that participants who adopted a ruminative style of response were more associated with increased level of depressive symptoms.

Therefore, addictive levels of social media use, is associated with increased tendencies to ruminate, which may further lead to the development of depressive symptoms. Individuals who ruminate more tend to fall under depression due to

spending inordinate amounts of time on social media platforms. Considering the evidence from the literature mentioned, the present study aims to evaluate questions about the relationship between social media addiction and depression and whether rumination mediates this relationship among young Indian adults.

METHOD

All participants were obtained from the college going population in an urban Indian city. A sample of 264 young adult individuals between the ages of 18-25 years were contacted for this study (164 females and 100 males). The mean age of the participants was 21.56 years (sd = 1.65). Digital versions of the questionnaires were distributed. All participants of this study could answer the questionnaires only after reading and endorsing the Informed Consent document. No incentives were provided to the participants. They were informed of all the risks and benefits involved in this study.

RESULTS

Table 1

Reliability (Alpha Coefficient) for Clinically useful Depression Outcome Scale and Ruminative Response Scale

Scale	N	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
Clinically useful depression outcome scale	16	.90	.91
Ruminative Response scale	22	.94	.94

Table 2

Descriptive Statistics Showing Normality of Data.

Variable	N	Mean	SD	W	sig
Depression	264	19.29	12.92	.956	.000*
Rumination	264	48.26	15.71	.974	.000*
Social media addiction	264	2.59	2.45	.885	.000*
Social media usage	264	21.19	6.72	.958	.000*

Note : *P<.05

Table 3
Percentage use of various platforms in Male and Female participants

Platform	Males		Females	
	No use/Rarely	1-5 or more times/day	No use/Rarely	1-5 or more times/day
Facebook	45	46	44	41
Twitter	23	4	7	4
Google+	26	6	30	10
Linkedin	0	0	51	8
Instagram	41	39	23	56
Pinterest	15	5	32	9
Vine	2	0	0	0
Snapchat	20	17	18	28
Reddit	17	2	7	2
Tumblr	7	3	11	1

Table 4
Correlation among Depression, Rumination and Social Media Addiction

Variables	Mean	SD	W	1	2
Depression (1)	19.29	12.92	.956		
Rumination (2)	48.26	15.71	.974	.782**	
Social media addiction (3)	2.59	2.45	.885	.404**	.392**

Note **p < 0.01

Table 5
The Beta Value, Significance, R² change of Mediation Model

Predictor	β	T	sig	R ²	ΔR^2
Social media addiction	.422	7.52	.000	.178	.178
Social media addiction	.157	3.84	.000	.625	.625
Rumination	.719	17.62	.000		
Indirect-effect	.265	.0407	.000		

Data was obtained from the following questionnaires:

Social Media Disorder Scale.

The Social Media Disorder Scale (Van den Eijnden, Lemmens & Valkenburg, 2016) was used to evaluate excessive social media use in the participants.

Ruminative Responses Scale. The Ruminative Response Scale was used to measure rumination of the participants. It was made on the basis of Response Style Theory (Hoeksema, Parker & Larson, 1994).

Clinically Useful Depression Outcome Scale.

The Clinically Useful Depression Outcome Scale (Zimmerman, Chelminski, McGlinchey & Posternak, 2008) was used to measure the level of depression of the participants.

All the three questionnaires were obtained from the Psytoolkit resource maintained by Professor Gijbert Stoet ([url:https://www.psytoolkit.org/](https://www.psytoolkit.org/)).

Statistical Analysis

The data was reviewed and cleaned. Subsequently the sample descriptors (Sociodemographic & Social Media Usage) were examined using descriptive statistics. The data was checked for normality and correlation analysis was conducted between Social Media Addiction, Rumination and Depression measures. The analyses were conducted with SPSS 20.0 (IBM). To examine the correlation pattern further mediation analysis was conducted using the four-step procedure defined by Hayes²³. The mediation model was analysed by Hayes's PROCESS macro (Model 4). To test for significance bootstrapping method was used which generated 95% bias-corrected confidence intervals from 1000 resample of the data. Confidence intervals that do not include zero indicated effects that were significant at $\alpha=0.05$.

Preliminary analysis

The data was cleaned and normality test revealed that it was not normally distributed. The sample was categorized into males and females. Each was further divided into two groups that describes the percentage of those among them that rarely use a certain social media platform and those that use it more frequently. The data was collected for a total of ten social media platforms including Facebook and Instagram. Facebook and Instagram were seen to have the highest percentages of users both among males and females. Over 40% of both males and females use Facebook regularly. For Instagram, nearly 40% of the males and over 50% of females are frequent users. Snapchat was seen to have average use from both males and females at 17% and 28% respectively. Other platforms have much lesser percentage of users, especially Twitter, Vine, Reddit and Tumbler, each of which have less than 5% of frequent users.

Correlation analysis was then performed, and it was revealed that there is a positive correlation of social media addiction with rumination and depression, $r=0.40$, $p < 0.001$ and $r=0.39$, $p < 0.001$, respectively along with a positive correlation between rumination and depression, $r=0.78$, $p < 0.001$.

Mediation analysis

It is assumed that rumination would mediate the relationship between Social media addiction and depression. In order to test this assumption, the four-step procedure to test the mediation effect was used (Baron & Kenny, 1986). The first step was to establish a significant relationship between Social media addiction and depression. The second step involved establishing a significant relationship between Social media addiction and rumination. The third step was to establish a significant relationship between rumination and depression after controlling for Social media addiction. The last step involves establishing a significant coefficient for the indirect path between Social media addiction and depression through rumination. The bias-corrected percentile bootstrap approach determines whether the last condition is satisfied.

The results of the regression analysis revealed that, in the first step, Social media addiction positively predicted depression, $\beta=0.42$, $p < 0.001$. In the second step, Social media addiction positively predicted rumination, $\beta=0.36$, $p < 0.001$. In the third step, after controlling for social media addiction, rumination positively predicted depression, $\beta=0.71$, $p < 0.001$. Finally, the bias-corrected percentile bootstrap method showed that the indirect effect of Social media addiction on depression via rumination was significant, $ab=0.26$, $SE=0.36$, Confidence interval - 95%.

DISCUSSION

This study explored the underlying mechanisms of the relationship between social media addiction and depression among young adults through the establishment of a mediation model. The results showed that rumination indeed played a mediating role in the relationship between social media addiction and depression among young adults. As shown in the results, the value for the indirect effect came out to be 0.26 which indicates that the regression has a high power. Previous studies indicated that high or increased usage of social networking sites served as a predisposing factor, making individuals vulnerable towards developing depression. However, there is still less emphasis on addictive levels of using social media because of the lack of a clear-cut diagnosis for addiction. More importantly, less focus has been given to the levels of rumination playing a role among those who use excessive social media in making the individual more vulnerable towards developing depressive symptoms. Many studies have shown that depression can be predicted through usage of social media sites however, they focus more on increased level of usage rather than

addictive. The present study therefore, explored rumination as a mediator between the relationship of social media addiction and depression among young adults. First, significant associations were established between social media addiction and depression, social media addiction and rumination and finally rumination and depression. Even though there is considerable amount of evidence regarding the relationship of rumination and depression, its role as a mediator between social media addiction and depression is very much less explored. All the results of the study came significant. There was a significant relationship among all the three variables and rumination was predicted through social media addiction. More importantly, rumination did mediate the relationship between social media addiction and depression. In today's era, social media is heavily involved in one's life as compared to the previous generations. There has been considerable amount of information regarding social media involving suicides or attempt to suicide and it is seen most prevalent among adolescents and young adults. Despite its advantages, the limitations of using social media also needs to be considered as depressive symptoms associated with its use causes significant impairment in the individual's life. Maladaptive usage may cause distress to the individual further hindering his or her mental stability. Also, individuals might face restrictions in using social media in certain places such as colleges and other institutions where the individual might be working. This may contribute to the increased levels of rumination which in turn contributes to the development of depressive symptoms and may reinforce the need to use social media, causing vulnerability towards getting addicted to it. Henceforth, it is important to explore the various dimensions of using social media with relation to depression especially among adolescents and young adults as these two populations are more vulnerable than their older generations.

The present study involves several limitations which need to be considered. First of all, with respect to interpreting the results, qualitative research design or experimental research design would help in justifying the association among the variables better as compared to the limited structure in the design of this study. Secondly, the sample was obtained through snowball sampling as the population selected for this study did not require to have specific characteristics. Thirdly, the present study could not identify the variables confounding the mediation. It was not known if the individuals ruminated specifically on social media or in general which was associated with their levels of depressive symptoms. This is one of the major limitations of this study and future research should focus on exploring the differences in ruminating in general and with respect to social media usage along with the behaviours involved in these ruminations. However, despite these limitations, the present study found that rumination indeed acted as a mediator in the relationship between social media addiction

and rumination. This helps us gaining a deeper understanding of how the levels of using social media can help predict the vulnerability towards developing depressive symptoms.

CONCLUSION

Thus, it can be concluded by saying that social media addiction contributes to the vulnerability of developing depressive symptoms among young adults. This conclusion can be supported from the research done by Lin et al. (2018), where it was found that excessive social media use leads to the development of depressive symptoms. This relationship is further explained by the mediating role of rumination. Hoeksema (2000) found that rumination is significantly associated with depression and as found, the relationship between social media addiction and depression is mediated by levels of rumination.

Implications and guidelines

With respect to the Indian context, social media is used excessively as a platform to communicate along with share and receive information. The first implication involves the re-designing of cognitive-behaviour therapy specifically for social media addiction as the depressive symptoms due to social media addiction manifests differently from depressive symptoms otherwise (Hoeksema, 2000). The second implication involves psycho-educating individuals about the dangers of using social media platforms excessively and how it eventually leads to the development of depressive symptoms, as found by the present study. Finally, the data from the present study can be used for developing applications for monitoring social media use to prevent development of depressive symptoms.

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