

Social Media Addiction, Depression and Aggression in Young Adults

Muhammad Sajjad Shahid¹, Rida Yousaf², Havaida Munir^{3*}**Abstract**

Social media platforms provide avenues for content sharing and online interaction. However, excessive usage, particularly among young adults, can lead to clinical challenges. The study aims to explore the relationships between social media addiction, depression, and aggression in young adults, specifically investigating whether depression serves as a mediator between social media addiction and aggression. Using a convenient sampling method, the study included 150 participants (got their own smartphone and use social media) aged 18 to 30 (88 men, 62 women). The researchers evaluated social media addiction using the Bergen Social Media Addiction Scale and assessed depression using the Beck Depression Inventory, and aggression was evaluated with the Puss Berry Aggression Questionnaire. Findings revealed significant positive connections between social media addiction, depression ($r=.25, p<.01$), and aggression ($r=.26, p<.001$), the relationship between depression and aggression is positively significantly as well ($r=.35, p<.001$). Depression mediates significantly between social media addiction and aggression as the direct and indirect effect are statistically significant. Notably, gender differences were observed, with women exhibiting significantly higher depression levels ($M=19.31, SD=13.61, p<.01$) compared to men. The independent sample *t* test for employment status shows that employed participants score high on depression ($M=16.67, SD=14.32$) and aggression ($M=75.12, SD=15.93$) but unemployed were slightly more addict of social media ($M=16.46, SD=5.23$). The study discusses implications for fostering positive societal changes by addressing social media addiction among young adults and enhancing awareness on how depression interplays between social media addiction and aggression. The results offer recommendations while acknowledging study limitations.

Keywords: Aggression, Depression, Social Media Addiction, Young Adults

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Introduction

Social media functions as a virtual space facilitating the exchange of ideas,

information, interests, and expressions (Obar & Wildman, 2015). Its versatility spans various domains such as education, commerce, and international diplomacy (Jiang et al., 2023). Nevertheless, social media addiction emerges when its usage starts to hinder various facets of functioning, encompassing professional, practical, educational, and social dimensions, often stemming from an excessive investment of time on online networking platforms (Tarafdar et al., 2020).

Scholarly inquiries indicate a positive correlation between prolonged screen exposure, particularly on social media platforms, and the severity of depressive symptoms (Coyne et al., 2020). Moreover, empirical research has revealed significant

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positive associations between manifestations of depression, including suicidal ideation, and occurrences of aggressive behavior (Rothenberg et al., 2019). It is evident that problematic use of social media is significantly as well as positively related to increase in aggressive behaviour (Mohamad et al., 2023).

Previous studies have explained that social media adversely impact mental health like feeling lonely, or depressed, across developing countries (Shensa et al., 2018; Waqas et al., 2018). It is clear from studies that spending multiple hours on social media can lead to depressive mood, thoughts of self-harm, trouble sleeping, and getting asocial (Shensa et al., 2017). Thus, spending longer hours on social media is linked to down feeling, and inclination towards depressive symptoms (Dhir et al., 2018). Depressive tendencies in turn lead towards aggressive behaviour (Roberts et al., 2010). Nevertheless, it remains plausible to know the mechanisms on the basis of which social media dependency leads to aggressive tendencies, particularly within the demographic of young adults, where depression acts as an intermediary factor. An investigation unearthed that both the utilization of Instagram and active engagement on various social networking platforms serve as robust indicators of depressive symptoms (Donnelly & Kuss, 2016). Hence, this study endeavours to elucidate the nuanced interplay between social media addiction, depressive states, and aggressive inclinations, particularly among the youthful cohort, while acknowledging the mediating influence of depression on aggression.

This forthcoming study holds promise in unraveling the correlations among social media addiction, depression, and aggression, and also to investigate whether depression plays a role of a mediator in between social media addiction and aggression among young adults. It aims to address gaps in prior

research, particularly in investigating the predictive pathway from social media addiction to aggression through depression. Previous studies have found that people who spend long hours or enormous amount of time on social media can end up feeling really down because they're always comparing themselves to others. This study delves into a critical aspect of contemporary human behavior. It aims to find the relationship between excessive social media addiction, depression, and the subsequent emergence of aggression. Interestingly, while prior research has primarily focused on the link between addictive behaviors related to social media, internet usage, or gaming and heightened aggression, this study seeks to expand our understanding. It endeavors to explore the nuanced connections between these factors. Specifically, it investigates how spending prolonged periods on social media may contribute to depression, ultimately leading to an increase in aggressive behavior. Thus, the study aims to provide insights into the complex interplay between our digital lifestyles and mental well-being.

Hypotheses

H1: Young adults experience an interconnectedness between social media addiction, depression, and aggression

H2: Depression likely acts as a mediator between social media addiction and aggression in young adults

H3: Significant gender differences will be observed in social media addiction, depression, and aggression among young adults.

H4. There will likely to be a significant positive difference between employed and unemployed young adults in variables i.e., social media addiction, depression and aggression.

Method

Research Design

The study used a type of research design called correlational to explore how social

media addiction, depression, and aggression are connected in young adults.

Sample

Information was gathered from 150 individuals, spanning across various employment statuses, including both employed and unemployed individuals, as well as college and university students, within the age bracket of 18 to 30 years. Participants underwent a comprehensive assessment process, which encompassed completing a demographic questionnaire alongside evaluations utilizing study three variables' questionnaires. Convenient sampling was utilized for data collection in this study.

Inclusion/Exclusion Criteria

Those individuals with smartphone and social media were selected in the study. Those above 30 and below 18 were excluded from the study. The study includes, employed, unemployed and students for generalizability of the study.

Measures

Demographic Questionnaire

The study gathered details about the participants' gender, age, socioeconomic status, educational background, and employment situation

Bergen Social Media Addiction Scale (BSMAS)

Six-questions likert scale called the Bergen Social Media Addiction Scale was employed to evaluate social media addiction, it was developed by Adreassen and her colleagues in 2016. The reliability of this scale used in the current study is .82.

Beck Depression Inventory Second Edition (BDI-II)

Depression's severity was measured through 21-question Likert scale called the BDI-II, developed by Beck and Steer in 1984. The reliability of this scale used in the study is .66.

Buss and Perry Aggression Questionnaire (BPAQ)

The level of aggression was gauged using a 29-question Likert Scale known as the BPAQ, which was created by H. Buss and Mark Perry in 1992. The reliability of the scale in the current study is .88.

Data Analysis

SPSS version 22 was used to analyze the study results. We looked at how different factors, like age and gender, were related to each other. To understand mediator depression between social media addiction and aggression the Hayes Process Mediation Model 4 was used. Men and Women were compared to see if there were differences in gender between social media addiction, depression and aggression.

Ethical Considerations

Following the guidelines of the APA ethical code, researchers took measures to safeguard the well-being of participants, ensuring protection from both physical and psychological harm. Privacy protocols were upheld, and participants were provided with comprehensive information and gave voluntary consent to participate, with the option to withdraw from the study at any juncture. The study was approved from research ethical board after examining all ethical standards.

Results

Table 1

The Sociodemographic Characteristics of the Participants (N=150)

Participants' Characteristics	<i>f</i>	%	<i>M</i>	<i>SD</i>
Gender				
Men	88	59		
Women	62	41		
Age			24.13	2.58
Socioeconomic Status				
Upper Class	2	1.3		
Middle Class	134	89		
Lower Class	14	9		
Education			2.29	.61
Intermediate	12	8		
Bachelor	82	55		
Master	56	37		
Employment Status				
Employed	58	39		
Unemployed	92	61		

Note *f*=frequency, %=Percentage, *M*=Mean, *SD*=Standard deviation

According to the Table 1, 59% of study participants were men while 41% of the participants were women. The participants' mean age was 24.13 years, with a standard deviation of 2.58. Participants were mostly from the middle class, accounting for 89%, followed by the upper-middle class at 9% and only 1.3% were from lower class. Majority

participants held bachelor's degrees (55%), followed by master's degrees (37%), with only 8% having intermediate qualifications, mean value of education remained 2.29 with standard deviation of .61. Regarding employment, 39% of participants were employed, while the majority (61%) were unemployed.

Table 2

The Correlation among Study Variables (N=150)

Variable	1	2	3	<i>M</i>	<i>SD</i>
1.SMA	-	.25**	.26***	16.42	5.18
2.Depression		-	.35**	16.12	13.29
3. Aggression			-	74.81	18.57

Note. ** $p < .01$, *** $p < .001$, SMA=Social Media Addiction, *M*= Mean, *SD*= Standard Deviation

The Table 2 presented above illustrates as social media addiction levels increase, there is a corresponding increase in both depression and aggression among the participants i.e., there is positive significant correlation between study three variables. The correlation between social media addiction with depression is positive

significant ($r = .25, p < .01$), the relationship of social media addiction with depression is also significantly positive ($r = .26, p < .001$). The table also shows that depression and aggression are also significantly plus positively correlated ($r = .35, p < .001$) The mean value of social media addiction is 16.42, with standard deviation of 5.18. The

mean value of depression is 16.12 with standard deviation of 13.29. The aggression's

mean value is 74.81 with standard deviation of 18.57.

Table 3

Regression Coefficients For Study Variables In Study 150 Participants.

Antecedent	Consequent												
	Depression (M)			Aggression (Y)			Aggression (Y)						
	Bootstrap 95% CI												
	β	SE	P	β	SE	P	β	SE	LL	UL			
SMA (X)	a	.65	.20	.001	c'	.65	.28	.02	a.b	.27	.11	.10	.5
Depression (M)	-	-	-	-	b	.42	.11	.001					
Constant	I	5.52	3.52	.11	I	57.2	4.73	.001					
	$R^2 = .006$			$R^2 = .15$			$R^2 = .06$						
	$F=10.02, p = .001***$			$F=13.4, p = .001***$			$F=10.70$						

Note. SMA=Social Media Addiction * $p < .05$, ** $p < .01$, *** $p < .001$, a.b= indirect effect of SMA on aggression via mediator depression.

According to the table above, there is a positive significant direct effect of social media addiction on depression ($\beta = .65***$, $SE = .20$, $p = .001$). Furthermore, direct effect social media addiction is significantly positive on aggression ($\beta = .19*$, $SE = .28$, $p = .02$). The depression effect on aggression is

also significantly positive ($B = .42***$, $p = .001$). The indirect effect indicates that social media addiction positively and positively and significantly and positively predicts aggression through the mediator depression as lower and upper level confidence interval are positive.

Table 4

Variable	Gender		Women(n=62)		t (148)	p	Cohen's d
	Men(n=88)	SD	M	SD			
SMA	16.64	5.43	16.11	4.82	.63	.52	0.10
Depression	13.87	12.67	19.31	13.61	-2.51	.01**	0.41
Aggression	75.65	19.32	73.61	17.53	.67	.5	0.11

Note. SMA= Social Media Addiction, M= Mean, SD= Standard Deviation, * $p < .05$, ** $p < .01$

No significant differences found between women and men in terms of social media addiction and aggression, mean score

indicates men tend to exhibit slightly higher levels of addiction and aggression compared to women. Additionally, table indicates that

women tend to experience higher levels of depression than men, as evidenced by a positive and significant difference between the genders ($M=19.31$, $SD=13.61$, $p<.01^{**}$). The effect size of depression between men

and women is .41 which is less than but near to medium effect size value i.e., 0.5, however still the significant difference exists due to p value which is $.01^{**}$.

Table 5

Independent Sample t test for Employment Status Differences (N=150)

Variable	Employment Status Employed($n=58$)		Unemployed ($n=92$)		t (148)	p	Cohen's d
	M	SD	M	SD			
SMA	16.36	5.30	16.46	5.13	-.12	.90	0.01
Depression	16.67	14.32	15.77	12.67	.40	.68	0.06
Aggression	75.12	15.93	74.62	20.14	.16	.86	0.02

Note. SMA= Social Media Addiction, M = Mean, SD = Standard Deviation,

The Table 5 shows no significant differences between study variables in employed and unemployed participants however as far as mean score is concerned unemployed participants score high on social media

addiction ($M=16.46$, $SD=5.23$), whereas employed participants score high on depression ($M=16.67$, $SD=14.32$) and aggression ($M=75.12$, $SD=15.93$).

Discussion

The objective of this research was to elucidate to find interrelationships among social media addiction, depression, and aggression within the demographic of young adults. The initial hypothesis was robustly substantiated by our empirical findings, unveiling a substantial nexus among these multifaceted variables in the young adult cohort. These empirical revelations resonate harmoniously with prior scholarly endeavours, such as the seminal work conducted by Haand and Shuwang (2020), which underscored the heightened vulnerability to depressive manifestations among individuals ensnared by the labyrinthine complexities of social media addiction. Research conducted on young Lebanese adults by Malaeb et al. (2021) provided comprehensive evidence regarding correlation between detrimental social network habits and depressive signs and symptoms. Furthermore, our study corroborates with ample of literature which

indicates long hours on social media has a positive relationship with aggression among young adults (Bersani et al., 2022). Our study also harmonizes with empirical finding which says aggression and depression interplay significantly and positively. (Roberts et al., 2010).

The second assumption also received ample of validation from literature, thereby averring the significant positive mediator depression between social media addiction and aggression among young adults. Study conducted by Akin and Iskender (2011), found a positive tie between internet addiction and depressive symptoms, with the latter leads towards aggression (Stucke & Sporer, 2002). Furthermore, our empirical findings resonate with scholarly a study showcasing depression as a crucial predictor of aggression within the adult demographic (Yavuzer et al., 2019). Hence, our empirical exegesis contribute significantly positive to advancing the subtlety understanding of the complex relationship between maladaptive

social media engagement, daily clinical disturbances, and the mental health maladies i.e., aggression, mediated by depression, particularly in young adults.

The third hypothesis received partial empirical validation, as men according to independent sample analysis show more score on aggression and social media addiction than their counterparts' female. However, it is also noteworthy that even scores are slightly high for men in both variables but not significantly different. These empirical insights resonate with previous study, which states that men are more prone to heightened aggression (Güler et al., 2022) and also towards gaming addiction than their opposite gender (Shabir et al., 2020). However, findings shows that women are more depressive than men and the difference is positively significant too. Scholarly inquiries in Germany reported that females are prone to more depressive symptoms than their opposite gender (Abreu et al., 2021). Furthermore, the reserve culture and men dominant society of Pakistan leads to emotional suppression, may contribute to the elevated manifestations of depression among female participants, as delineated by Husain et al. (2018).

The fourth hypothesis is not significantly proved however, there are mean differences between employed and unemployed participants in study variables. Employed participants score high on aggression and depression than unemployed participants. Our study is similar to a study which states that there is significant positive relationship between depression and aggression among mental health professionals (Tzeletopoulou et al., 2018). Our finding also shows that unemployed participants are slightly more addict to social media addiction than employed participants. Our finding is similar to a study which indicates that technology use is positively and significantly related to unemployment (Jaradat et al., 2020).

Limitations and Recommendations

The study only focuses on age range between 18 to 30 years old individuals so the generality of the study is limited. To enhance inclusivity in future researches broader age range is recommended and potential biases like sampling biases small sample size that may not represent the population should be avoided for the generality of the study. The data could have been equally or almost equally taken from across three sub groups of education i.e., intermediate, bachelor and masters to observe the difference in study variables between these. It is therefore recommended to take data from different sub groups equally to observe difference between them.

Furthermore, the study did not measure specific social media platforms such as Facebook, YouTube, or Instagram separately. This overlooked strategy missed valuable insight about level of young adult's inclination towards particular platforms. Hence, it is recommended to include platforms such as Facebook, YouTube, or Instagram separately in future studies. Future researches should include violent video games addiction in comparison to problematic use of networking sites towards aggression rather than only gender differences. Factors like sleep deprivation, though not addressed in the current study, are known to exert a significant influence on mental well-being. Hence, forthcoming research endeavours could explore the intricate interplay between sleep patterns, social media engagement, depression, and aggression.

It is recommended for social media stakeholders, policymakers, mental health professionals and government authorities to ponder on these findings and investigate more on this issue to overcome the adverse consequences of social media and come up and highlight the intervention strategies for public.

This study was cross sectional and convenient sampling strategy was used which

are major limitation of the study. The longitudinal research is recommended to observe the aggression and depression of participants throughout their lifespan to see at what age they are more prone social media use, depression and aggression. Moreover, stratified sampling strategy could have been more effective to investigate the relationship between study variables across different places and cultures.

Implications of the Study

The study's result leads us to a conclusion that social media addiction leads to aggression via depression. Therefore, effective steps regarding spreading awareness about social media effective use, prioritising physical healthy activities like meditation, yoga, playing sports which are good for mental health. The Parents needs to spend quality time with their children and look after their mental health.

The mental health experts should conduct seminars, workshops and other effective programs to spread awareness about detrimental effect of social media problematic use on one mental health.

The youth should be acknowledged to seek help when they feel that they are being addicted and there is no need to feel ashamed in taking help from mental health experts.

Policy makers, social media stakeholders and government authorities also need to take effective steps for countering social media excessive use and enhancing mental health awareness.

Contribution of Authors

Muhammad Sajjad Shahid: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft
Rida Yousaf: Investigation, Data Curation, Writing – Original Draft
Havaida Munir: Methodology, Writing - Reviewing & Editing, Supervision

Conflict of Interest

There is no conflict of interest declared by the authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [H.M.] upon the reasonable request.

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