

SOCIAL MEDIA USAGE: INVESTIGATING ITS IMPACT ON AGGRESSION AND SOCIAL ISOLATION AMONG ADOLESCENTS

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Abstract

The use of social media has contributed to rising aggression and social isolation in adolescents. Current research examined the relationship of social media use, aggression, and social isolation among adolescents. Meezan International School and Divisional Public School were selected for data collection from Sahiwal city. Sample was included 200 participants as 100 girls and 100 boys. This study used UCLA Loneliness Scale, Aggression Questionnaire and Social Use Survey to measure social isolation, aggression, and social media use, respectively. SPSS (27 version) was used for statistical analyses and remarkable findings were obtained. Results of current study depicted that social media usage does not increase the level of aggression and social isolation in adolescents. Further, social isolation increases due to the increase of aggression and vice versa. Moreover, current study depicted that social media use was a significant predictor of aggression and non-significant predictor of social isolation in our society. Furthermore, there was a prominent difference of social media use, aggression and social isolation in adolescent boys and girls. Girls use more social media as compared to boys and boys are more socially isolated and aggressive than girls in adolescence.

Keywords: *Social Media Usage, Aggression, Social Isolation, Adolescence*

INTRODUCTION

Current study focused to find out the relationship of social media usage, aggression, and social isolation among adolescents. As well as to see the impact of social media usage on aggression and social isolation. Further, to find out the gender difference regarding the use of social media, aggression, and social isolation.

Adolescence, between the ages of 10 and 19, is a critical period of social, emotional, and physical development (WHO, 2024). This complex consideration involves biological, psychological, and social factors. Erikson's theories on psychosocial development and Piaget's theories on cognitive development emphasize the importance of understanding these interactions. Recent research has highlighted the unique challenges young people face in today's culture. These challenges include the influence of social media, perceived violence, and feelings of isolation. By examining these factors, we can gain a deeper understanding of the issues facing young people and develop strategies to improve their health (Santrock, 2018; Steinberg, 2017).

Further, digital technology has become common and has influenced young people's use of social media. There is a lot of use for their own ideas and relationships. Research has explored the many effects of relationships on youth health, particularly in the areas of interpersonal relationships, body image, and self-esteem (Primack et al., 2017; Twenge & Campbell, 2018). Concerns regarding social inclusion, violence, and cyberbullying have also been expressed (Hasebrink et al., 2020; Kowalski et al., 2014). In addition, excessive participation in social media can result in addictive behaviors and time distortion, which can affect adolescent's mental health and social relationships in life (Andreassen et al., 2017). Narcissists are going to have less satisfaction with their lives, if a person is addicted to social media, worsen the course of narcissism, and would have negative impact on satisfaction with their life (Adeeb et al., 2020).

Furthermore, notable changes occur in a person's psychological, physical, and social nature during adolescence. One such development is aggression, which is characterized as negative behavior towards other individuals. Research looks at biological, psychological, and environmental elements that affect how it manifests during this time. Moffitt (1993) provided a life-course taxonomy continuous and restricted to adolescent routes to aggression, whereas Raine's (2002) biosocial model emphasizes environmental and genetic factors.

Moreover, adolescent social isolation is associated with unfavorable outcomes, such as mental health problems (Loades et al., 2020; Qualter et al., 2013), impacted by elements such as perceived social isolation and bullying (Cacioppo & Hawkley, 2009; Laursen & Hartl, 2013). New aspects are added to this study (Primack et al., 2017) by the involvement of digital technology, which is important for interventions that improve the well-being of teenagers. The determination

of social isolation is based on the presence or absence of social support networks, which suggests impairments in the quality of relationships. Social support is a key independent variable in studies regarding health and quality of life, and it also functions as an indicator of a person's level of isolation.

A comprehensive understanding of the study necessitates a thorough exploration of existing literature and by finding the gap in literature. Shensa et al. (2018) investigated the relationship between social media usage (SMU) patterns and anxiety and depression in adolescents. This study involved a large sample and identified two different patterns of use that may be associated with this risk of mental health problems. These findings suggest that when developing educational interventions to improve youth health, it may be better to focus on specific usage patterns rather than time spent on social media.

On the other hand, Primack et al. (2017) sought to determine how youth in the United States experience social isolation due to their social media use. Given the link between perceived social isolation (PSI) and negative health outcomes, researchers have explored the potential of popular media to help young people cope with block separation. The study evaluated data from a cross-sectional survey study carried out in October and November 2014, with a nationally representative sample of 1,787 Americans between the ages of 19 and 32. The aim was to determine whether specific social media platforms might be utilized as an approach to reduce PSI. The findings showed that young adults who used social media use (SMU) were more likely than those who used it less frequently to feel socially isolated.

Further, another study indicated that public spaces have long been the gathering spot for young people to chat, struggle for their social lives, and spend quality time with friends. Although social media sites like Facebook, Instagram, Twitter, and YouTube have given rise to a new form of communication that is easily accessible and does not respect boundaries between public and private spaces (Wolff et al., 2011). Participation in social media goes beyond informal discussions to important discussions that can occasionally degenerate into violence. Literature regarding aggression and given variables is missing

Furthermore, to better understand this common occurrence, use technical research language the current paper also aims to investigate how social media use influences aggression and social isolation. It does this by combining theoretical frameworks with empirical data. An investigation into the relationships between aggression, mental health, and social media addiction was conducted on 1354 teenagers (808 girls and 546 males; mean age = 14.12, SD = 1.51). The association between social media addiction and mental well-being was found to be partially mediated by aggression, according to data gathered using the Buss Perry Aggression Questionnaire, the Warwick-Edinburgh Mental Wellbeing Scale, and the Bergen Social Media

Addiction Scale. As a result, social media addiction was found to have a negative effect on mental health due to its correlation with aggressiveness. These results illustrate how essential it is for mental health providers to treat aggression as well as social media addiction to support teenagers' mental health (Rustamov et al., 2023).

Moreover, there were gender differences regarding the use of social media use, aggression and social isolation. As a study conducted by Hossain and Prodhan (2020) in Bangladesh surveyed 278 university students to examine gender disparities in social media (SM) usage and its impact on academic performance. Results showed males favored Facebook, while females preferred YouTube. Both genders started social media use at the age of 14-18 years, with males spending more time on social media than females. Significant differences existed in social media purposes and YouTube viewing. Despite using social media for academic purposes, most students felt it negatively impacted their academic performance. Gender disparities influence social media usage patterns. Additionally, another study conducted by Umberson et al. (2022) indicated that Social isolation significantly impacts health, well-being, and longevity, with gender differences emerging across the life course and marital status. Boys/men tend to experience greater isolation, particularly if never married or with disrupted relationship histories. Social isolation escalates from adolescence through later life for both genders, highlighting the need for targeted interventions. Furthermore, Buhari et al. (2017) conducted a study on the aggression in males and females. Results of that study depicted the significant difference in level of aggression in female and male university students. As anger and physical aggression was high in male university students and female university students have higher level of hostility and verbal aggression.

Hypotheses

1. There will be a significant positive relationship among social media usage, aggression, and social isolation among adolescents.
2. There will be a significant positive relationship among social media usage and physical aggression, verbal aggression, anger, and hostility in adolescents.
3. Social media usage will be a significant predictor of aggression among adolescents.
4. Social media usage will be a significant predictor of social isolation among adolescents.
5. The level of social isolation will be higher among boys than girls.
6. The level of aggression will be higher among boys than girls.
7. The use of social media will be higher among girls than boys.

Method

Participants and Procedure

This research aimed to investigate the association among teenage social media use, aggression, and social isolation as well as the difference of these variables across male and female adolescents. Correlational design and purposive sampling were employed. The study's sample consisted of 200 adolescents as boys ($n=100$) and girls ($n=100$, between the age of 13 to 18 years ($M = 15.73$, $SD = 1.55$)).

The sample was collected from both government and private schools in Sahiwal, including Meezan International High School Sahiwal and Divisional Public School and College, Sahiwal. Researcher granted permission from these schools for the data collection. Research participant's consent was first gathered. They were then required to fill up questionnaires and demographic information. In addition, individuals received reassurance that the information they provided would remain private and that they may leave the study whenever they want.

Measures

Social Networking Usage Questionnaire (Gupta & Bashir, 2018)

Examining social media use from four dimensions: academic, social, entertainment, and informative, the Social Network Usage Questionnaire has 19 items. A 5-point Likert scale was used to record the responses: 1 represented "never," 2 indicated "rarely," 3 represented "sometimes," 4 meant "often," and 5 indicated "always." Each dimension has a mean value between 1-5, where higher scores correspond to more social network usage. Urdu version the scale was used for this study. And internal consistency indices, Cronbach's alpha of social networking usage ($\alpha = .830$) indicates good internal reliability.

The Aggression Questionnaire (Buss & Perry, 1992)

The Aggression Questionnaire is a set of 29 questions designed to measure an individual's level of aggression. The responses are entered on a scale of 1-5, and the factor scores are added together to determine the final score. Asterisk-designated questions have their scores reversed. Original English version was used for this study. It has demonstrated good internal consistency and strong convergent and discriminant validity.

UCLA Loneliness Scale (Russell et al., 1978)

The overall score ranges from 20 to 80, with higher numbers corresponding to more

isolated feelings. The following is the frequently used classification: Low scores between 20 and 34 indicate a low degree of loneliness, whereas moderate levels are indicated by scores between 35 and 49. Scores between 50 and 64 indicate a moderate level of loneliness, suggesting feelings of isolation. Scores ranging from 65 to 80 signify a high level of loneliness, which could be indicative of significant social disconnection and potential mental health concerns. Original English version was used for this study. It has good internal consistency, concurrent validity and construct validity.

Results

The independent sample t-test, linear regression, and Pearson product-moment correlation were employed to assess the hypotheses.

Table 1

Demographic Characteristics of Adolescents (N=200)

Variables	<i>f</i>	<i>Percentage</i>
Gender		
Girls	100	50
Boys	100	50
Education		
Matriculation	94	47
Intermediate	106	53
Social Media usage time		
6 Hours	123	61.5
More than 6 hours	77	38.5

Note. *f* = Frequency, % = Percentage

Hypotheses Testing

Hypothesis 1

There will be a significant positive relationship among social media usage, aggression and social isolation in adolescents.

Hypothesis 2

There will be a significant positive relationship among social media usage and physical aggression, verbal aggression, anger and hostility in adolescents.

Table 2

Pearson Product Moment Correlations of Social Media Usage, Social Isolation & Aggression in Adolescents (N=200)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
Social Media Use	51.68	10.01	-						
Social Isolation	54.31	9.67	-.06	-					
Aggression	91.04	18.49	-.55**	.01	-				
Physical Aggression	28.13	7.11	-.52**	.10	.88**	-			
Verbal Aggression	15.95	4.59	-.50**	.09	.85**	.71**	-		
Anger	21.27	4.86	-.41**	.01	.83**	.65**	.68**	-	
Hostility	25.69	5.59	-.38**	-.16*	.75**	.49**	.50**	.51**	-

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, *M*=Mean, *SD*=Standard Deviation

Table 2 shows that social media use and social isolation have a non-significant negative correlation ($r = -.06$, $p > .05$), indicating that social isolation does not increase as social media use does and a significant negative connection ($r = -.55^{**}$, $p < .001$) with overall aggression, indicating that increased use of social media is associated with increased aggression. Furthermore, there is a strong negative correlation between using social media and hostility, verbal, physical, and other forms of aggressiveness ($r = -.52^{**}$, $r = -.50^{**}$, $r = -.41^{**}$, $r = -.38^{**}$, $p < .001$). Furthermore, there is a non-significant positive correlation between aggression and social isolation ($r = .01$, $p > .05$), indicating that adolescents' higher levels of aggression contribute to social isolation. In addition, there is a significant negative correlation ($r = -.16^*$, $p < .001$) and a non-significant positive relationship ($r = .10$, $r = .09$, $r = .01$, $r = .10$, $p > .05$) between social isolation and hostility as well as verbal and physical aggressiveness.

Hypothesis 3

Social media usage will be a predictor of aggression among adolescents.

Table 3

Regression Coefficient for Predicting Aggression (N=200)

Predictor Variable	B	95%CI	β	T	p
SMU	-1.01	-1.23, -.80	-.55	-9.30	.00

Note. $R^2 = 0.30$ (N=200, $p = .00$). CI =Confidence Interval for B.

Based on statistical research, linear regression analysis indicates that social media usage is a statistically significant predictor of aggression, accounting for 55% of the variance in aggression ($\beta = -.55$, $p = .00$). This suggests that the amount of aggressiveness exhibited by teenagers is significantly impacted by their use of social media. Furthermore, a strong negative link ($r = -.55$, $p = .00$) has been demonstrated between the use of social media and aggression.

Hypothesis 4

Social media usage will be a predictor of social isolation among adolescents.

Table 4

Regression Coefficient for Predicting Social Isolation (N = 200)

Predictor Variable	B	95% CI	β	T	p
Social Media Usage	-.06	-.20, .07	-.06	-.95	.34

Note. $R^2 = 0.00$ (N=200, $p = .00$). CI = Confidence interval for B.

The analysis using linear regression revealed that social media usage is not a statistically significant predictor of social isolation among adolescents ($\beta = -.06$, $p = .34$). In simpler terms, the results suggest that the amount of time spent on social media does not have a statistically meaningful impact on feelings of social isolation. Furthermore, the correlation coefficient ($r = -.06$) indicates a weak negative relationship, meaning there might be a very slight tendency for higher social media use to be associated with lower social isolation, but this association is not statistically significant ($p = .34$).

Hypothesis 5

The level of social isolation will be higher in boys than girls.

Hypothesis 6

The level of aggression due to social media will be higher in boys than girls.

Hypothesis 7

The use of social media will be higher in girls than boys.

Table 5

Means Comparison between Girls and Boys related to Social Isolation, Aggression & Social Media Usage (N=200)

Variables	Girls		Boys		<i>t</i> (198)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Social Isolation	52.61	10.82	56.01	8.06	2.51	.01	.35
Aggression	82.69	15.17	99.39	17.78	7.14	.00	1.01
Social Media Usage	54.75	10.33	48.61	8.70	-4.54	.00	-0.64

Note. *M*=Mean, *SD*=Standard Deviation

Table 5 revealed a statistically significant difference in social media usage between boys and girls ($t(198) = -4.54, p < .001$). Results reveal that adolescence females use social media more than boys do ($M = 54.75, SD = 10.33$ vs. $M = 48.61, SD = 8.70$). The statistically significant mean differences in boys' and girls' social media usage ($t(198) = -4.54, p < .001$). Girls use social media more than boys do, according to the results ($M = 54.75, SD = 10.33$ vs. $M = 48.61, SD = 8.70$). This indicates that compared to boys ($M = 56.01, SD = 8.06$), girls are less socially isolated ($M = 52.61, SD = 10.82$). Cohen's *d* has a value of .35 ($< .001$), indicating a medium effect size. Additionally, analysis also revealed a statistically significant difference in aggression levels between boys and girls ($t(198) = 7.14, p < .001$). On average, boys in the study scored higher on aggression measures ($M = 99.39, SD = 17.78$) compared to girls ($M = 82.69, SD = 15.17$). However, it's important to note that the sentence "indicating that girls are less aggressive than boys as a result of social media use" goes beyond what the data directly shows. Given that Cohen's *d* is 1.01 ($< .001$), a significant impact size is indicated.

DISCUSSION

Results of current study explained that social media usage has a negative correlation with

aggression. That means level of aggression does not increase in our society due to the use of social media in adolescents. It may be due to different factors such as parental guidance and supervision, social environment, positive role models, emotional regulation skills, cultural and social norms as aggression is not reinforced in Pakistani society. But literature showed that moderate positive correlation was found between social media addiction and aggression (Guler et al., 2022). Further, current study indicated a negative relationship of social media use and social isolation. That means social isolation decrease due to the use of social media among adolescents. It may be by connecting with distant family and friends, participating in online events, utilizing messaging and video calls, finding social support and joining online communities. It was supported by literature as there was no significant relationship or effect between social media use and social isolation (Romo, 2023). But some literature showed that young adults with high social media use seem to feel more socially isolated than their counterparts with lower social media use (Primack et al., 2017). Furthermore, there was a positive relationship of social isolation and aggression. That means social isolation increase due to the increase of aggression and vice versa. It was supported by literature as significant positive relationship was found in adolescent's loneliness and aggression (Dey, 2019).

Moreover, current study depicted that social media use is a significant predictor of aggression and it was supported by previous studies as research indicated that exposure to social media, including violent television programs, movies, videos/video games, and various social networking sites, has a detrimental effect on adolescents by fostering aggressive behaviors (Okeke & Anierobi, 2021). Furthermore, social media use is not a significant predictor of social isolation in our society but adolescents do not socialize in real world. It may be due to various reasons as access to communication, virtual social support network, increased social opportunities, platform features and design, adolescent adaptation to technology and parental involvement. A study conducted by Romo (2023) provided the support as there was no significance between social media and social isolation.

Additionally, there was a prominent difference of social media use, aggression and social isolation in adolescent boys and girls. Girls use more social media as compared to boys at adolescent stage and previous studies also support this finding as number of girls using social media was higher than boys (Svensson et al., 2022). Another study revealed that girls spend more time on social media than boys (Rose, 2012). Boys are more socially isolated than girls as many researches indicated that boys are more socially isolated than girls throughout the life course (Umberson et al., 2022). Boys are more aggressive in adolescence as compared to girls that was supported by many researches as boys are more aggressive after using social media than girls (Kruttschnitt, 1994; Panksepp & Biven, 2012).

Implications of the Study

The current findings provide further insight into the relationship between social media use, aggression, and social isolation among youth, as well as the effects of social media use on these outcomes. Additionally, the results of this study may help regulators and policymakers understand the dangers of overuse of social media; this may lead to the development of rules or regulations that will reduce the effects of social media. Additionally, educational institutions can use the information from this study to develop curricula that encourage students to use social media responsibly and healthily, which will greatly help reduce violence and isolation among students. It can also raise parents' and teens' awareness of the mental health dangers of excessive media use. It can also encourage people to develop healthy online habits and seek help when needed. Additionally, these topics can help counselors and professionals develop strategic plans to deal with some of the risks associated with social media use, such as online harassment and cyberbullying.

Limitations and Suggestions

The current study's primary limitation is its sample size. A comparatively small sample can limit the generalizability of the conclusions to a broader population of adolescents. Moreover, the research's accuracy may be impacted by the way the time length is stored. Future research efforts could delve deeper into the types of aggression most impacted by social media use in adolescents. Additional studies will be able to look into the many forms of social isolation.

CONCLUSION

It was conclusive that there was a negative relationship between social media use and social isolation. Additionally, there was a significant negative relationship of social media use and aggression as physical aggression, verbal aggression, anger and hostility. Further, there was a positive relationship of social isolation and aggression among adolescents. Furthermore, social media use in present study was not a significant predictor of social isolation. Adolescent boys and girls differed significantly in their usage of social media, level of aggression, and social isolation. Boys were more aggressive and socially isolated than girls, as well as girls use social media more frequently than boys do.

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