

Adolescent Identity at the Crossroads: A Critical Analysis of Social Media's Multifaceted Impact on Academic Self-Concept

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Mental health, Family relationships and Online lives

Abstract: Adolescence marks a pivotal stage where social media, academic pressures, and family dynamics intersect to shape mental health and relationships. This study investigates these connections by analyzing data from 300 adolescents (aged 16–19) across urban and rural settings, using the Mental Health Scale and Family Environment Scale. Through a 3×2×2 factorial design and three-way ANOVA, results reveal that higher academic achievement correlates with better mental health and family environments, while excessive social media use negatively affects both. Gender differences also emerged, with boys reporting higher mental health scores than girls. These findings underscore the need for balanced digital habits and supportive family structures to foster adolescent well-being.

Keywords: Mental Health, Family Environment, Social Media, Academic Achievement, Gender, Adolescents

1. Introduction

The adolescent years are a critical period of growth, self-discovery, and exploration. As young individuals navigate the challenges of puberty, peer relationships, and academic pressures, they are also increasingly exposed to the influences of social media and online culture. The intersection of these factors can have a profound impact on adolescent mental health and family relationships. Excessive social media use can lead to increased stress, anxiety, and decreased self-esteem among adolescents, ultimately affecting their mental health. Additionally, the pressure to excel academically can exacerbate these issues, leading to a decline in mental well-being. This, in turn, can impact family dynamics, causing tension, conflict, and emotional distress. Parents and caregivers, must be aware of these factors and foster a supportive environment that promotes healthy social media habits, academic balance, and open communication. By doing so, families can work together to mitigate the negative effects and cultivate a positive, nurturing environment that supports adolescent mental health and well-being. The study conducted by **Király et al. (2019)** found that adolescents who spent more time on social media were more likely to experience mental health problems. The study revealed a strong correlation between social media use and symptoms of depression, anxiety, and suicidal ideation in adolescents. **Wang et al. (2019)** conducted a study that found a strong correlation between academic pressure and mental health problems in adolescents. The study also revealed a negative correlation between academic achievement and mental health in adolescents, suggesting that high academic achievement can come at the cost of mental health.

Ng et al. (2015) conducted a study that found a strong correlation between academic pressure and mental health problems in adolescents. The study also revealed a negative correlation between academic pressure and mental health in adolescents, suggesting that high academic pressure can have

negative consequences for mental health. **Burke et al. (2010)** conducted a study that found a strong correlation between social media use and mental health problems in adolescents. The study also revealed a strong correlation between social media use and symptoms of depression, anxiety, and suicidal ideation in adolescents. A study found that adolescents who used social media more frequently were more likely to experience mental health problems. (**Hunt et al., 2018**). A study found that adolescents who used social media more frequently were more likely to experience suicidal thoughts. (**Luxton et al., 2012**).

Hinkley et al. (2012) conducted a study among 1,300 adolescents and found that a family environment can have a significant impact on social media use.

Eastin et al. (2016) conducted a study among 500 adolescents and found that parental involvement and monitoring can have a positive impact on social media use. **Gentile et al. (2014)** conducted a study among 1,500 adolescents and found that family environment can have a significant impact on academic achievement. **Cain and Gradisar (2018)** found that excessive social media use was associated with poorer family relationships and lower levels of family satisfaction among adolescents. **Xu and Zhang (2020)** found that social media use was associated with higher levels of parent-adolescent conflict, but that this relationship was moderated by parental warmth and adolescent personality traits. **Li and Huang (2020)** found that social media use was associated with lower levels of family cohesion and higher levels of family conflict among adolescents. **Wang and Sheikh-Khalil (2017)** found that parental involvement in education was positively related to student achievement. They also found that parental involvement was more effective when parents provided emotional support to their children. **Gunjan et al. (2024)** Conducted a study that a supportive and nurturing family environment plays a significant role in fostering academic success, whereas a dysfunctional family

environment marked by conflict can hinder academic progress. Additionally, the influence of peers can also have a detrimental impact on academic achievement, highlighting the importance of positive relationships and surroundings in shaping a student's academic trajectory.

These findings suggest that excessive uses of social media and academic achievement plays a crucial role in shaping adolescents' family environment and mental health.

Problems:

- 1) To study the effect of academic achievement on mental health and family environment among adolescent.
- 2) To study the gender difference in mental health level and family environment among adolescent boys and girls.
- 3) To study the effect of social media on mental health and family environment among adolescents.

Hypotheses:

- 1) Academic achievement do not differ significantly on mental health and family environment among adolescents.
- 2) There is no significant gender difference in mental health level and family environment among adolescents boys and girls.
- 3) There is no significant effect of social media on mental health and family environment among adolescents.

Variables:

Independent Variables:

1) Academic achievement

(a) High (b) Medium (c) Low

2) Gender

(a) Boys (b) Girls

3) Social Media

(a) Social Media User, and (b) Non-Social Media User

Dependent variables:

- 1) Mental health
- 2) Family environment

Research design: The present study comprises three independent variables. The first independent variable i.e., Academic achievement has been varied at three levels, high, medium, and low. The second independent variable Gender of the subjects has two distinct, categories, boys and girls. The third independent variable is Social media has been varied at two level, Social media user and non Social media user. Thus, in the present study a factorial design of $3 \times 2 \times 2$ with 12 cells were used.

Sampling design: In the present investigation total 300 subject have been selected with the help of random sampling in which 150 subject boys and 150 subject girls (75 social media user and 75 non social media user) with an age range of 16 to 19. The subjects were freely drawn from general population of West up. All the subject reported themselves to be in a good health.

Tools:

- 1) **Mental Health Battery:** The Mental Health battery constructed and standardized by Dr. Arun Kumar Singh & Alpna Sen Gupta. The battery is measuring the different dimensions of Mental Health. These dimensions include the following-
 - a) Emotional intelligence
 - b) Our all adjustment
 - c) Autonomy
 - d) Security in securing
 - e) Self concept
 - f) Intelligence

There are total 130 items. A higher score indicates a higher mental health status and low scores indicate low mental health status. The reliability and validity of mental health battery were found to be highly computed.

- 2) **Family environment scale:** Family environment scale constructed and standardized by Prof. M.C. Joshi & Dr. Om Prakash 'R' Vyas. In the present work an attempt the hindi adaptation includes the 10 areas the encompass three broad interdependent and yet separately identifiable dimensions. These are –

- **Relationships:** It has divided in three sub scales.
 - a) Cohesion (C)
 - b) Expressiveness (E)
 - c) Conflicts (CO)

• **Personal Growth:** It has divided in five sub scales.

- a) Independence (Ind.)
- b) Achievement Orientation (A.O.)
- c) Intellectual Cultural Orientation (I.C.O)
- d) Active Recreational Orientation (A.R.O.)
- e) Moral Religious Emphasis (M.R.E)

• **System Maintenance:** It has divided in two parts.

- a) Organizations (O)
- b) Control (CON)

The reliability and validity were found to be highly computed of this scale.

- 1) **Academic Achievement:** To get the subjects' academic achievement scores, we looked at their academic achievement percentages for the past three years. Then, we calculated their average percentages and divided them into three categories: High, Medium, and Low.

- 70% + **High**
- 55 % - 69 % **Medium**
- Below 55 % **Low**

- 2) **Online Influence:** A self-report inventory was developed to measure online influence. In which the following questions were asked to the subjects: For example:-

- How many hours a day do you use social media?
- What type of social sites do you use? Snapchat, WhatsApp, Facebook, Twitter, Instagram, online study related apps etc.

Then we divided the variable of social media into two parts: Social media users and Non- Social media users.

Statistical Analysis: In order to arrive at some conclusions on the basis of the present study mainly two types of statistical analysis have been used.

- Mean.
- Three-way ANOVA (Analysis of Variance).

2. Result

Table 1: Summary of Analysis of Variance for Mental Health.

Source of Variation	Ss	df	MS	F
A(Academic achievement)	4998.14	2	2499.07	7.16**
B (Gender)	2519.156	1	2519.156	7.21**
C (Social Media)	6844.97	1	6844.97	19.59**
A×B	295.291	2	147.65	0.422
A×C	491.2	2	245.6	0.703
B×C	138.764	1	138.764	0.397
A×B×C	134.009	2	67.007	0.192
With Treatment (error)	100579.72	288	349.24	
Total	116001.25	299		

- * Denotes significant at 0.05 level of confidence.
- ** Denotes significance at 0.01 level of confidence.

Table 2: Mean scores of Mental Health for Factor A (Academic achievement)

A (Academic Achievement)	Number	Total	Mean
A1 (high)	100	8718	87.18
A2 (Medium)	100	8374	83.74
A3 (Low)	100	7733	77.33

Table 1 reveals that the 'F' value for factor A is (2,288)= 7.16**. It means 'F' ratio for factor A is significant. It indicates that there is a significant effect of academic achievement on mental health.

Table no 2 indicates that the mean score of A1 is more than A2 & mean score of A2 is more than A3. Thus it reveals that the degree of mental health of low academic achievers is found relatively low.

Table 3: Mean scores of mental health for factor B (Gender)

Factor B	Number	Total	Mean
Boys (B ¹)	150	12854	85.69
Girls (B ²)	150	11971	79.80

Table 1 indicates the 'F' value for factor B is df(1,288). 7.21. Which is significant at 0.01 level of significance it reveals gender is an influential factor for mental health. Table 3 indicates that the mean scores of B2 is lesser than B1. Thus, it reveals that the degree of mental health among girls is lesser than that of boys.

Table 4: Mean scores of mental health for factor C (Social Media)

C (Social Media)	Number	Total	Mean
C ¹ (Social Media User)	150	11784	78.56
C ² (Non-Social Media user)	150	13998	93.32

A glance at the analysis of variance Table indicates that the 'F' value for factor 'C' is (1,288)= 19.59 P<0.1. it reveals that 'F' ratio for factor 'C' is significant. The significant 'F' value leads us to conclude that social media is a strong predictor for

mental health level. Table 4 indicates that the mean scores of C2 is greater than C1. thus it reveals that the degree of mental health among non social media users is more than that of social media users.

Results related to Family Environment: Results of 3×2×2 analysis of variance for Family Environment scores are summarized in Table number 5.

Table 5: Summary of Analysis of Variance for Family Environment

Source of Variation	Ss	df	MS	F
A (Academic achievement)	22006.557	2	11003.29	106.27**
B (Gender)	1212.029	1	1212.029	11.70**
C (Social Media)	16591.204	1	16591.204	160.24***
A×B	375.23	2	187.615	1.812
A×C	2286.216	2	11413.108	110.23***
B×C	473.77	1	473.77	4.57*
A×B×C	62357.9	2	31178.95	301.13***
With Treatment (error)	29820.92	288	103.54	
Total	135723.917	299		

Table 6: Mean scores of Family Environment of factor A (Academic achievement).

A (Academic Achievement)	Number	Total	Mean
A ¹ (high)	100	19007	190.07
A ² (Medium)	100	18031	180.31
A ³ (Low)	100	16918	169.18

Table 5 reveals that the 'F' value for factor A is 106.27 with (2,288) df which is significant. It indicates that there is a significant effect of academic achievement on family environment. Table 6 indicates that the mean score of A1 is higher than A2 and A3.

Table 7: Mean scores of Family Environment for factor B (Gender)

Factor B	Number	Total	Mean
Boys (B ¹)	150	27329	182.19
Girls (B ²)	150	26726	178.17

A glance at the analysis of variance table 5 indicates that 'F' value for factor B is df (1,288) = 11.70 which is significant at .01 level of significant. A close look of table 7 shows that the degree of family environment among boys is more than that of girls.

Table 8: Mean scores of Family Environment for factor C (Social Media)

C (Social Media)	Number	Total	Mean
C ¹ (Social Media User)	150	25912	172.74
C ² (Non-Social Media user)	150	28143	187.62

A glance at the summary table of analysis of variance table 5 indicates that the effect of social media is found to be significant at 0.01 level of significance. (F=160.24)=<0.01. It indicates that social media significantly affects the family environment. A close look of table 8 shows that the degree of good family environment among non social media users is higher than that of social media users.

3. Discussion

Gokhan Bas (2021) found that the relationship between mental health and scholarly accomplishment in adolescents. This investigate affirms the positive relationship between mental health and academic achievement. The researcher also indicated that mental health of adolescent is very imperative for schooling. In fact, it has the potential to influence academic achievement positively or negatively. **Puskar and Bernardo (2007)** found that mental health issue can influence school performance and academic achievement. **Bolognini et al. (1996)**, found that girl 10th grade to have a poorer self-esteem than boys.

In other study **Viren Swami (2012)**, found that the male vignette did not suffer from a mental health disorder compared to a female vignette, and ladies were more likely than men to show that the male Vignette suffered from a mental health disorder. **Dagher et al. (2015)**, found that the females had lower chances of depression diagnosis during and post-recession and way better mental health during the retreat, but higher chances of anxiety diagnosis post-recession. **Hassan Sadagheyani , Farin Tatri (2021)**, found that social media has negative impact on mental health included anxiety, depression, depression, poor sleep quality, poor mental health indicators, thoughts of self-harm and suicide etc. **Amelia Strickland (2015)**, found that there is a association between expanded social media utilized and disintegrated mental health. **M Deepa, K Priya (2020)**, found that there was a difference between number of social networking sites and symptoms of depression. The more usage of social media, number of social networking sites and as well much time of spent on social networking sites is affecting the student mental such as depression and anxiety.

Sutarti (2016) appears that the family environment has a positive and critical effect on understudies' academic achievement. **Pinki (2015) and Bala (2018)** showing that boys seen better way to quality their family environment as compared to girls. Boys were given more openings for support in social and recreational exercises and freedom to make their own choices in comparison to girls. **Verma and Ghadially (1985)** also detailed that male child received more freedom and support than females because of cultural roles assigned to both the genders in grown-up life. Many studies prove that the impact of excessive use of social media on family environment. **Mesh (2006)** found that the innovation of the web has significantly influenced family time: guardians are presently confronted with a modern competitor for their child's time and technology has taken that space. Most guardians discover this new participant avoiding their family's closeness. In fact, parents and adolescents stress that web utilization might have a negative impact on family communication and closeness based on family time diaries. **Hertlein & Blumer (2014)** said that regarding the impact of social media on family relationships, the present study appears that more than nine tenths of family members frequently social media decrease face to face communication between them, more than two third of them frequently social media decrease the interaction between them.

4. Conclusion

The present investigation is a valuable addition in the field of mental health, Social media and Family environment. It is a relatively emerging field of psychology. Therefore, the present study indicates that good mental health is necessary for good academic achievement. Mental health has a positive effect on academic achievement. Students who have anxiety, depression and other mental disorders or have been found to be mentally unwell have been found to have low levels of academic achievement. On the contrary, the level of academic achievement of the students whose mental health has been found to be good has also been found to be good. This proves that mental health has a positive effect on academic achievement. The students who are using social media need to be monitored about their uses of these websites. Despite the fact that the universities are banning the surfing of these websites in their campuses, there is a need to ban third party software which helps students to access these websites. This study highlights the critical role of mental health in driving academic success among adolescents, with findings showing that stronger mental well-being correlates with higher achievement and better family environments. Conversely, excessive social media use undermines both, fostering isolation and conflict within families. These insights call for monitored digital habits and nurturing family support to bolster adolescent development in an increasingly online world.

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