ACADEMICIA: An International Multidisciplinary Research Journal
ISSN: 2249-7137 Vol. 16 Issue 3, March, 2026 SJIF 2022= 8.252
A peer reviewed journal

IMPACT OF SOCIAL MEDIA ADDICTION ON INHIBITION OF INFORMATION AND COGNITIVE STYLE IN ADOLESCENTS OF KOLKATA

Dr. Anindita Gupta*

*Assistant Professor,
Department Of Human Development,
Acharya Prafulla Chandra College,
New Barrackpore, Kolkata,
West Bengal, INDIA
ORCID ID: 0000-0003-3797-9470
Email Id: Anindita16.Gupta@Gmail.Com

DOI: 10.5958/2249-7137.2026.00012.5

ABSTRACT :

Exposure to media, particularly digital media, can lead to various cognitive changes, including impaired attention, memory problems, and reduced executive function, especially in children and adolescents. Additionally, excessive screen time can disrupt sleep patterns, which further impacts cognitive function. Excessive media use, particularly fast-paced content, can shorten attention spans. Observational studies have linked early exposure to fast-paced television with attentional deficits in later childhood. Multi-tasking with media can also negatively impact attention. Excessive screen time can negatively affect short-term memory. Memory loss can be a symptom of digital dementia, which is linked to excessive technology use. Using media to document experiences may actually diminish memory for those experiences. Digital media overuse can impair executive functions like inhibitory control, which is the ability to resist distractions. Early screen media exposure may lead to weaker executive functions in preschool children. Multi-tasking with media has been associated with poorer executive functioning. Excessive screen time can lead to a decline in cognitive abilities, including memory loss, attention deficit, reduced ability to communicate, and impaired decision-making. Digital media use, especially multitasking, has been linked to increased impulsiveness and a reduced ability to adapt to changing situations. Impaired social communication skills can be a consequence of excessive media use, especially in children. Research suggests that social media use may impact social problem-solving skills. Excessive screen time may reduce opportunities for creative thinking. Factors influencing cognitive effects could be age, type of media, amount of use, individual differences etc. The present study tries to find out the impact of social media addiction on ability to inhibit irrelevant information and cognitive style. The study uses the Social Media Addiction Test, Stroop Test and the Group Embedded figure Test for this purpose. The sample size of the study was hundred. There were equal number of boys and girls in the study. The age group of the sample was 13 to 16 years. Mean, standard deviation, Pearsonean correlation coefficient was

found out. Results revealed that there was a significant impact of social media addiction on inhibition and cognitive style of the adolescents.

KEYWORDS: *Social media addiction, cognitive style, cognitive inhibition, Pearsonean correlation coefficient, Stroop Test, Group embedded figures Test.*

INTRODUCTION :

Digital media exposure can lead to impaired cognitive functioning in children and adolescents. The major cognitive effects are reduced attention and concentration, reduced memory and executive functions etc. Excessive media usage can lead to attention deficit, communication difficulty and problems in decision making. Sometimes people engaged in excessive media exposure may experience impulsiveness and may find it difficult to adapt to difficult situation. Impaired social communication, reduced social problem solving skills and delayed language development may be the outcome of too much of screen time also. This may also effect their ability of critical thinking.Cognitive inhibition is the process to separate and supress irrelevant information from relevant ones. This process helps in the retraction of required information and thereby helps in efficient recollection. It helps to control irrelevant thoughts, behaviours and responses for proper processing of information.Goldstein and Blackman (1978) define cognitive style as the hypothetical construct which refers to characteristic ways in which individuals conceptually organize the environment. They add that cognitive style is an information transformation process whereby objective stimuli are interpreted into meaningful schema. Morgan et al. (1987) have explained the concept of cognitive style more simply by stating that people differ in the ways they typically and characteristically process information. The general processing strategies that characterize different people are termed as cognitive style. Ridding and Cheema (1991) suggest that cognitive style is a bridge between cognition/intelligence measures and personality measures. They also point out that cognitive style is unique in it's polar nature, having an "either or" quality, where the absence of one characteristic implies the presence of its extreme form. This distinguishes cognitive style from the majority of personality measures which are more multifaceted (Ridding and Cheema, 1991). Digital media exposure or social media addiction seem to play a significant and negative role on both cognitive style and cognitive inhibition (Amirthalingam and Khera, 2024). According to Montag and Market(2023) social media addiction may lead to severe cognitive failure. This may also be responsible for reduced social networking. Internet addiction may also be associated with impairment in cognitive control, there may be a decline in the executive functioning in adolescents (Mandez, et. al., 2023). In a study by Christakis et. al.(2018) it has been proved that impact of social media in the first three years of life may have a detrimental effect on children. The study has also made it clear that excessive sensory stimulation may lead to cognitive and behavioural deficits. Increase in the screen time may influence children's and adolescents socio-emotional and cognitive development (Sitskoorn et. al., 2023). Studies have also revealed that excessive use of social media platforms have adverse effects on cognitive functioning. Excessive social media use may cause addictive behaviors and may influence certain individual characteristics like emotions, thoughts, and actions (Montag and Markett, 2023). In a study by Mandez et. al.(2023) social media addiction is associated with impairments in cognitive control. The present study would try to find out the impact of social media addiction on cognitive style and cognitive inhibition of adolescent living in Kolkata.

METHODOLOGY:

Objectives: The objectives of the study were to find out: -

1. whether there is significant relationship between the impact of social media addiction on ability to inhibit irrelevant information in children and adolescents (11 – 15 years).
2. whether there is significant relationship between the impact of social media addiction on cognitive style in children and adolescents (11 – 15 years).

Variables:

The variables selected for the present study were, social media addiction, ability to inhibit irrelevant information, cognitive style, age and gender. Social media addiction is a condition where an individual engages oneself excessively in social media. The ability to inhibit irrelevant information is also called cognitive inhibition. This ability allows the individual to suppress irrelevant thoughts and optimize cognitive processing. Cognitive style on the other hand is defined as the information transformation process(Goldstein and Blackman, 1978). Age is the chronological age of an individual and gender is the social construction to the biological factor described as sex. In the present study age and gender are considered as independent variables. Cognitive inhibition, cognitive style and social media addiction are the dependent variables.

Tools Used:

For the purpose of assessing the variables mentioned, the following tools were selected to serve the purpose of data collection.

1. Internet Addiction Test by Kimberly Young (2017)
2. Group Embedded Figures Test developed by Philip K. Oltman, Evelyn Raskin and Herman K. Witkin (1971)
3. Stroop Color and Word Test Kit for Children by Charles J. Golden, Shawna M. Freshwater, Zarabeth Golden and Brian M. Syzdek (2003)

Alternative Hypotheses:

The alternative hypotheses of the study are:

1. There is significant relationship between the impact of social media addiction on ability to inhibit irrelevant information in children and adolescents (11 – 15 years).
2. There is significant relationship between the impact of social media addiction on cognitive style in children and adolescents (11 – 15 years).

Sample:

In the present context, the population comprised of hundred, eleven to fifteen year old girls and boys residing and studying in Kolkata. The population comprised of both girls and boys to ensure that the findings of the investigation can be generalized irrespective of gender. The population was restricted to the residents of the city of Kolkata to control, as far as possible, the influence of the differences in geographical area (viz., urban, semi – urban, rural, tribal etc.) and the associated cultural influences on the data. The method of stratified random sampling technique was used for data collection.

Analysis of the Data:

After scoring of the standardized tests the mean and the standard deviation andPearsonean correlation coefficients was calculated to find out the relationship between the variables.

Result and Discussion:

At the outset, the descriptive statistics i.e., the mean and standard deviation was calculated for all the three variables.

Table 1: Mean and Standard Deviation of the variables

Variables	Mean	Standard Deviation
Social media addiction	80.83	5.93
Cognitive style	8.86	2.33
Cognitive Inhibition	52.13	4.55

The standard deviation values reported in Table 1 are moderate indicating that the scores of variables (N = 100) are more or less homogeneous.

To probe the relations among the pertinent variables of the investigation, Pearsonean correlation coefficients between pairs of these variables were computed for the entire sample

Table 2: Correlations Among Relevant Variables (N = 100)

Variables	Social Media addiction	Cognitive Inhibition	Cognitive Style
Social media addiction	1.00		
Cognitive Inhibition	0.79**	1.00	
Cognitive Style	0.83**	0.80**	1.00

** p< .01

Table 2 shows that cognitive style scores of the subjects are significantly related to their cognitive inhibition and social media addiction. Since the p-value < α, H_0 is rejected. In other words, the difference between the sample correlation and the expected correlation is big enough

to be statistically significant. Therefore, we reject the null hypotheses and accept the alternative hypotheses.

The result is in leu with the findings of Mandez, et. al. (2023) and Christakis et. al. (2018). They have also stated in their study that internet addiction or social media addiction has a significant impact on cognitive functioning in children and adolescents. A study on the impact of problematic internet use on cognitive ability depicts a significant impact of problematic internet use on inhibitory control (Ioannidis et al. 2019). Internet addiction is also associated with cognitive instability and lack of cognitive complexity (Devine et al. 2022). A study on internet addicted and internet non addicted adolescents revealed that the internet non addicted adolescents had a greater intelligence quotient than the internet addicted adolescents. Though in this study it is not clear that internet addiction affects cognitive development, it can be said that as brain development is active during adolescence, internet addiction during this time may adversely affect cognitive functioning (Park et al. 2011). It can thus be stated that the findings of the present study can be considered as appropriate as there are several other supporting research findings in this related topic. The findings can be further considered if the population of the study is increased and we can compare the findings with a control group.

CONCLUSION:

In the present scenario internet addiction or addiction to social network cannot be avoided for children and adolescents. Even though we understand the negative consequences of the internet or social network, our children and adolescents use them inevitably. Several research have highlighted the consequences of internet addiction as depression, anxiety, reduced cognitive complexity, impulsivity etc. The present study has tried to highlight the impact of social media addiction on cognitive style and cognitive inhibition. The results prove that there is a significant impact of social media addiction on cognitive inhibition and cognitive style. The study does not focus on the influence of gender on the variables. This can be considered in future studies. We can also include the influence of social media addiction on a control group to understand the difference between the two groups. The findings can help us plan a strategy to control social media addiction by controlling screen time in children and adolescents. Specific policy framework regarding educational system and activity-oriented curriculum and group activities can be incorporated to reduce screen time in children and adolescents. The study can therefore help us pave a pathway to guide our children and adolescents for a better psychological wellbeing.

DECLARATION OF CONFLICTING INTERESTS:

There is no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. There is no financial support received from any organization for this study. There is no commercial or financial arrangement related to this study.

ACKNOWLEDGEMENT:

I am grateful to all the subjects who participated in data collection.

REFERENCES:

1. Amirthalingam J and Khera A. 2024, “Understanding Social Media Addiction: A Deep Dive”, Cureus 16(10).

2. Aviv Weinstein. 2025, "Cognitive Impairment and Problematic Internet Use", American Journal of Psychiatry, 182(7).

3. Christian Montag and Sebastian Markett. 2023, "Social media use and everyday cognitive failure: investigating the fear of missing out and social networks use disorder relationship",BMC Psychiatry, 23(872).

4. Diana Devine, Aaron M. Ogletree, Priti Shah, Benjamin Katz. 2022, "Internet addiction, cognitive, and dispositional factors among US adults", Computers in Human Behavior Reports, 6.

5. Dimitri A Christakis , Julian S Benedikt Ramirez , Susan M Ferguson, Shilpa Ravinder , Jan-Marino Ramirez. 2018, "How early media exposure may affect cognitive function: A review of results from observations in humans and experiments in mice", Proceedings of national academy of science of United States of America, 115(40):9851-9858.

6. Goldstein K. M.,and Blackman S. 1978, Cognitive Style: Five Approaches and Relevant Research. New York: Wiley.

7. Konstantinos Ioannidis , Roxanne Hook , Anna E Goudriaan , Simon Vlies , Naomi A Fineberg , Jon E Grant , Samuel R Chamberlain.2019, "Cognitive deficits in problematic internet use: meta-analysis of 40 studies", Journal of Psychiatry, 215(5):639–646.

8. León Méndez , I. Padrón, A. Fumero, R.J. Marrero. 2019, "Effects of internet and smartphone addiction on cognitive control in adolescents and young adults: A systematic review of fMRI studies", Journal of Psychiatry, 215(5):639–646.

9. Morgan, C. T.; King, R.A.; Weiz, J. R. and Schopler, J. 1987, Introduction To psychology, 7th ed., New York: McGraw – Hill.

10. Park M. H., Park E. J., Choi J., Chai S., Lee J. H., Lee C. and Kim D. J.2011, "Preliminary study of Internet addiction and cognitive function in adolescents based on IQ tests", Psychiatry Research, 190(2-3).

11. Riding, R., & Cheema, I. 1991, "Cognitive styles: An overview and integration". Educational Psychology, 11(3-4), 193–215. https://doi.org/10.1080/0144341910110301.