# RELATIONSHIP BETWEEN SOCIAL MEDIA ADDICTION AND COGNITIVE STYLES AMONG ADULTS: AN EMPIRICAL INVESTIGATION

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## Abstract

In the last few years, the use of social media has increased tremendously. Social media refers to online platforms and tools that allow people to create, share, and interact with content and each other. It's where people connect, communicate, and express themselves digitally whether it's through photos, videos, text, or live streams. Examples of social media platforms include facebook, Instagram, ,You Tube, X (Earlier known as twitter), LinkedIn, Snapchat etc. Excessive use of social media has often lead to mental health implications in the form social media addiction. Cognitive styles refer to the preferred ways individuals process information, think, perceive, and remember. It is an individual's habitual and preferred way of thinking, perceiving, remembering and solving problems. Research has shown some association between social media use and cognitive styles. The aim of this research paper is to examine the relationship between social media addiction and cognitive styles among adults. The specific objective objectives of this paper were to (i) Examine social media addiction among adults (ii) Examine cognitive styles among adults (iii) Examine correlations between social media addiction and cognitive styles iv) Gender differences in social media addiction and v) Gender differences in cognitive styles. For the purpose of this research 120 adults were selected as per their age range i.e 18-40 years using convenience sampling. Twenty two item Social networking addiction scale by Shahnawaz and Rehman (2020) was used to assess social addiction while Cognitive styles were assessed by 40 item scale developed by Jha in 2001. Both the scales had sufficient psychometric properties. Descriptive and inferential statistics were used to analyze the data. Moderate social media addiction was found based on the obtained mean scores on the scale. Results showed that there is a positive significant relationship between social networking addiction scale and intuitive Cognitive style and no correlation between social networking addiction scale and systematic Cognitive style. No gender differences were found on the social media addiction and cognitive styles.

The study highlights the significance of intuitive cognitive cognitive style as associated with social media addiction. Training these adults to work on their intuitive cognitive style as a possible intervention to counter social media addiction.

*Key words*: Social media addiction, cognitive styles, adults,

## Introduction

Behavior scientists like Psychologists, Sociologists define adulthood or adult in different ways based on their different developmental pattern like cognitive, emotional, biological etc. Cultural factors also play a role in defining who is Adult. Adulthood starts at age of 20 years and is divided into three stages; early, middle and late. It is a phase in which people develop sexual maturity and there is physical and cognitive development. Adults become decisive and self-reliant.

Arnett a psychologist calls the early 20s as emerging adulthood. Gavin et.al (2009) and Sylwester (2007) consider the age span 10–24 years as adolescence. Erikson's theory defines 19-40 years of Age as Young adulthood (1959). Park et.al (2006) argues that young adult is someone following the adolescence.

The term Social media includes websites and applications that enable people to create, share, and interact with content and connect with others online. It allows them to communicate, express themselves, and engage with content in real-time across the world.

The key features of social media are user generated content like photos, posts, people's profiles,  etc. Some of the social examples of social media include, Facebook, Instagram, X (Earlier called Twitter), Tik-Tok, LinkedIn & You-Tube.

The term addiction refers to a chronic dysfunction of the brain system that involves reward, motivation, and memory. It's characterized by the compulsive use of a substance or engagement in a behavior despite harmful consequences.  It may include substance addiction like drugs and behavioral addicttions like gaming, gambling, internet use etc.

Since the last couple decades, having access to the internet has become a basic requirement. People of any age use the internet for both business and pleasure, making it a significant tool for education, entertainment, social networking, and communication.

Excessive worry over social media, an uncontrollable need to use or log on to it, and devoting so much work and energy to it in which it interferes with other important elements of one's life constitute social media addiction.

Social media addiction basically relates to somebody who engages in obsessive conduct that has bad consequences, and in this context, it refers to someone who engages in compulsive usage of social media. For example, individuals who are continually checking Fb for information or even who harass others for hours.

Cognitive style indicate to a people's regular, prominent, or preferred way of thinking.

A person's preferred manner of teaching or learning is referred to as their cognitive style. Cognitive style is sometimes referred to as decision-making style, problem-solving style, learning style, mind style, conceptual speed, perceptual style. Researchers believe that an individual's cognitive style stays constant throughout time, but it may alter based on their surroundings.

Early experiments by Witkin et al. resulted in the evolution of cognitive-style theories (1954; 1962). These researches led to ideas that postulated a single cognitive style dimension with two extremes. Systematic Style and Intuitive Style were coined by Keen (1973), Mikenney & Keen (1974), and Botkin (1974) to describe the two extremes. The systematic method to thinking, learning, problem-solving, and decision-making is identical with logical, reasonable behavior that follows a step-by-step, sequential approach. The intuitive-style, on the contrary, is connected with both a spontaneous holistic as well as visual approach. These two types, however, did not reasonate the whole range of people's behavior in terms of thinking, learning, and, in particular, problem-solving and decision-making. As a result, a multi-dimensional model that reflects the Theories of cognitive-styles were developed as a result of early studies conducted by Witkin, et al; (1954; 1962). These researches led to ideas that postulated a single cognitive style dimension with two extremes. In broad terms, the two extremes were described. by Keen (1973); Mikenney & Keen(1974) and Botkin (1974) as; Systematic Style and Intuitive Style. The systematic style to thinking, learning, problem-solving, and decision-making is connected with logical, reasonable conduct that follows a step-by-step, sequential approach. The intuitive-style, on the contrary, is allied with a visual and spontaneous holistic approach. These two styles however did not reflect the complete range of

human behavior in terms of thinking, learning, and, in particular, problem-solving and decision-making. As a result, a multi-dimensional model was proposed to reflect the complete spectrum (Martin, 1983).

Gaur, Verma and Lata (2016) studied a sample of 115 university students belonging to the streams of Commerce, Humanities and Science with a mean age of 23.26 years examining their cognitive style and internet addiction among them. The study found a positive but insignificant correlation between experiential cognitive style and internet addiction. The study also revealed negative correlation between rational cognitive style and internet addiction.

Aksu et al (2019) conducted a study to examine the analysis of automatic thinking, intermediate beliefs, and basic beliefs of people who use social media in the context of cognitive theories, as well as the comparison of cognitive structures based on their addiction levels. The study comprised 35 male and 49 female young individuals between the ages of 18 and 25 years. They discovered a link among social media addiction and social issue solutions, according to their findings. There was a link between social issue resolution, negative problem orientation, avoidance style subscales, and social media addiction in particular. Positive social problem-solving behavior was revealed to be negatively associated to negative cognition. The researchers believe that assessing negative cognitions and social problem-solving abilities can help people manage their social media addiction. Simsek et al (2019) conducted a comparative study for social media addiction in which sample size was of total 700 students, 397 was high school students whereas 303 was university students and it was found that both university and high school children have a moderate level of social media addiction. The findings revealed that both university and high school pupils have a moderate level of social media addiction.

Gaur et al., (2016) conducted a study to see if cognitive style affects the degree to which people become dependent on social media. They found a correlation between social media addiction and their cognitive styles. Seabrook et al (2016) studied to find and synthesise research on anxiety and depression in the setting of social networking sites (SNSs). It was found that Positive social interactions, social connectivity and social support on social media were all linked to reduced levels of depression and anxiety, but negative social interactions and social comparisons were linked to higher levels of despair and anxiety. SNS use was linked to a reduction in loneliness, as well as increased self-esteem and life satisfaction.

Brand et al. (2014) conducted a study to test a new theoretical model revealing basic cognitive mechanisms that contribute to the development as well as maintenance of Internet addiction in order to fully understand the clinical significance of the illness. The findings reveal that certain cognitions (poor coping as well as cognitive expectancies) enhanced the probability of generalized Internet addiction social media addiction and cognitive style.

## METHOD

**Aim & Objectives**

The aim of this research paper is to examine the relationship between social media addiction and cognitive styles among adults.

. Objectives of this paper were to

- (i)      Examine social media addiction among adults
- (ii)      Examine cognitive styles among adults
- (iii)      Examine correlations between social media addiction and cognitive styles
- (iv)      Gender differences in social media addiction and
- (v)      Gender differences in cognitive styles.

**Hypotheses:**

H0I: There will not be any association between social media addiction & cognitive styles

H02: Males and females will not differ on social media addiction

H03: Males and females will not differ on their cognitive styles

**Research design**

Descriptive research was carried out to understand the variations in the sample groups under study. The cross-sectional research design was being used in the current research.

**Participants**

Data was collected from normal population of age range 18 to 60 years. Convenience sampling technique was utilizeed to collect responses. In total, 120 comprised the sample, consisting of 57 female (47.5%), 63 male adults (52.5%).

**Measures**

1) **Socio Demographic Data Sheet.** It was developed by the investigator indicating participants' sociodemographic variables like name, age, gender, course, and Religion.

2) **Social networking addiction scale.** It was was developed by M.G Shahnawaz and Usama Rehman in 2020. It consisted of 21 items with 6 dimensions namely, salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse. It has is 7 point rating scale ranging from strongly disagree (1) to strongly agree (7). The score ranges from 21 to 147. Score above 84 indicates social networking addiction. The reliability of the scale is 0.88.

3) **Cognitive Style Inventory.** It was was developed by P.K. Jha in 2003. It consisted of 20 items with 2 dimensions namely, systemic and intuitive type.. It is 5 point rating scale ranging from strongly total disagreement (1) to total agreement (5). The score ranges from 20 to 100 in both the dimensions. Score above 84 indicates social networking addiction. The reliability of the scale is 0.65.

**PROCEDURE**

Considering the research was done during Corona pandemic, data collection was done entirely online. A Google form had been made and circulated. The participants were instructed on the study and told that the information they submitted would be kept confidential. They were informed that they can leave the research at any time and that there would be any potential psychological or physical harm to them during the research process. Before using the tools on the subject, informed consent was taken. Demographic information was also obtained. The data was collected between 10 February and 7th October 2021.

**Analyses of data**

The protocols were scored and descriptive statistics like mean and SD were calculated. Pearson Product moment correlation was used to examine correlation between the variables. Independent t- test was used to examine gender differences.

<div align="center">

**RESULT AND DISCUSSION**

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This section deals with the demographic profile of the participants. It would help to understand the characteristics of them and some factors that may influence the data collected in the research.

**Table: 1.1 Demographic profile of participants (N=120)**

| *Characteristics* | *Category* | *n* | *%* |
|---|---|---|---|
| Gender | Male | 63 | 52.5% |
| | Female | 57 | 47.5% |
| Age | 18-25 years | 111 | 92.5% |
| | 26-40 years | 9 | 7.5% |

The sample consisted of 120 participants, out of which 52.5% (n=63) males and 47.5% (n= 57) females. Of the total sample, 92.5% (n=111) are in the age group of 18-25 years, 7.5% (n= 9) in 26-40 years.
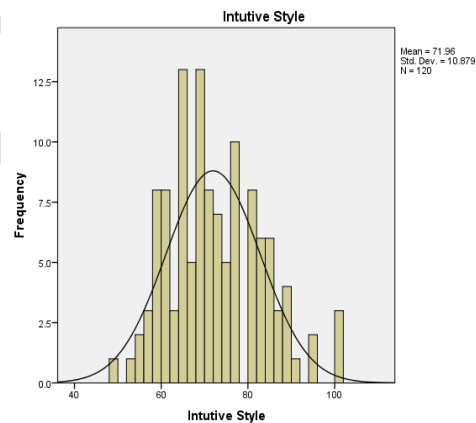
## FIGURE 1- SOCIAL MEDIA ADDICTION
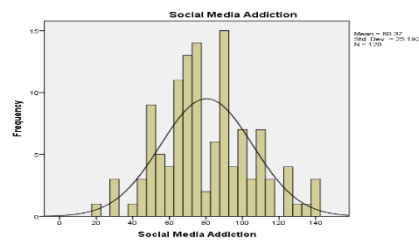


The above histogram shows that the data is normally distributed for social media addiction scale's score.

## FIGURE 2 SYSTEMATIC STYLE
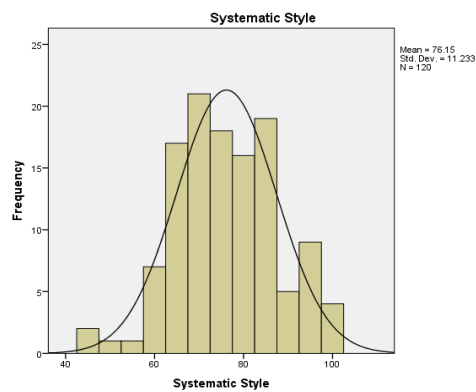


The above data in the histogram shows the normal distribution of systematic style's scale scores.

## FIGURE 3 INTUITIVE STYLE



The histogram above depicts the normal distribution of Intuitive style scale scores.

1. **Social networking addiction scale**

*Table 1.2 descriptive statistics of social networking addiction scale.*

| Scale | Mean | Median | Mode | SD |
|---|---|---|---|---|
| Social networking addiction scale | 80.37 | 76 | 75 | 25.192 |

For the social media networking addiction scale, the mean score is 80.37 which means individuals have moderate social networking addiction, median is 76, mode is 75 with an SD of 25.192.

2. **Cognitive style inventory**

*Table 1.3 descriptive statistics of cognitive style inventory.*

| S.no. | Subscale | Mean | Median | Mode | Standard deviation |
|-------|----------|------|--------|------|--------------------|
| 1. | Systematic style | 76.15 | 75 | 74 | 11.233 |
| 2. | Intuitive style | 71.96 | 70 | 69 | 10.879 |

There are 2 subscales in the cognitive style inventory, namely, systematic style and intuitive style. For systematic style the mean score is 76.15, whereas for intuitive style is 71.96. for systematic style the median score is 75, whereas for intuitive style is 70. For systematic style mode is 74 whereas for intuitive style is 69. For systematic style SD is 11.233 whereas for intuitive style is 10.879.

*Table 1.4 correlation among the major variables of the study.*

| S.no. | Variable | Social networking addiction scale | Systematic style | Intuitive style |
|-------|----------|-----------------------------------|------------------|-----------------|
| 1. | Social networking addiction scale | 1 | .139 | .269** |
| 2. | Systematic style | .139 | 1 | .832** |
| 3. | Intuitive style | .269** | .832** | 1 |

** Correlation is significant at the 0.01 level (2-tailed).

To study the correlation between social networking addiction scale, systematic style and intuitive style, Pearson-product moment correlation was used. This table interprets that there is a positive significant relationship between social networking addiction scale and intuitive style at 0.01 levels and no correlation between social networking addiction scale and systematic style means there is zero impact of the two variables on each other.

*Table 1.5 t-test among the major variables on the basis of gender.*

| S.no. | Variable | Gender | N | Mean | SD | t | p-value |
|-------|----------|--------|---|------|-----|---|---------|
| 1. | Social networking addiction scale | Male | 63 | 78.98 | 26.517 | -.634 | .527 |
|    |          | Female | 57 | 81.89 | 23.782 |       |      |
| 2. | Systematic style | Male | 63 | 77.94 | 11.888 | 1.864 | .065 |
|    |          | Female | 57 | 74.18 | 10.204 |       |      |
| 3. | Intuitive style | Male | 63 | 74.33 | 11.768 | 2.573 | .011 |
|    |          | Female | 57 | 69.33 | 9.211 |       |      |

The above table presents variables, gender, no. of males and females, mean, SD, t and p value. A total sample of 120 was taken for the study in which there were 63 males and 57 females. Independent sample t-test was applied to find if gender difference are found among these these variables. Males and females are not equal in number that is why results are not assumed for equal variances. The results indicate that the gender difference have no effect on the three variables because p values for all the three constructs are greater than the alpha level of 0.01.

For the social media networking addiction scale, the mean score is 80.37 table 1.2 which means individuals have moderate social networking addiction, with a Standard Deviation of 25.192. As result showed that there is a moderate social networking addiction. In a study conducted by Simsek et al. 2019 it was found that both university and high school children have a moderate level of social media addiction. Another study by Azizi et al. 2019 found that the social networking addiction of the students was at moderate level. A study conducted by Fauzi et al. 2021 found that students had a high level of addictiveness for social media which contradicted the present study the reason might be because of the smaller sample size and other demographic factors.

Gavin et.al (2009) established that the brain undergoes a "rewiring" process that is not complete until approximately 25 years of age. The brain rewires itself from the onset of puberty up until 24 years old, especially in the prefrontal cortex. limbic system and the prefrontal cortex are used has provided a partial explanation for certain characteristics of adolescents and adolescent behaviors, such as quickness to anger, intense mood swings, and making decisions on the basis of "gut" feelings. Because adolescents rely heavily on the emotional regions of their brains, it can be challenging to make what adults consider logical and appropriate decisions.

The prefrontal cortex, the part of the frontal lobes lying just behind the forehead, is responsible for cognitive analysis, abstract thought, and the moderation of correct behavior in social situations. The prefrontal cortex acquires information from all of the senses and orchestrates thoughts and actions in order to achieve specific goals.

The nucleus accumbens and amygdala are the two most prominent parts of the central nervous system involved in riskier behavior and increased sex drive among teenage adolescents. The nucleus accumbens is highly sensitized to accomplish desirable goals. A decrease in dopamine in the nucleus accumbens is involved in increased vulnerability to drug addiction and risky decisions. Sex hormones (estrogen and testosterone) bind with their receptors to induce increased sex drive and emotional volatility and impulsivity. Due to an immature prefrontal cortex, adolescents also have an increased sex drive and problems in self-regulation. (Casey,Jones & Hare, 2008.; Steinberg, 2009; Benes, 2001, Gardner & Steinberg, 2005).

Steinberg (2004) posits that adolescents take risks to test and define themselves as risk taking behavior can be both beneficial and harmful and they learn new skills and new experiences can prepare them for future challenges in their lives. Risk-taking serves as a means of discovery about oneself, others, and the world at large. The tendency for risk-taking behavior plays a significant role in

adolescent development. This knowledge may help in developing physiologically and pharmacologically effective interventions that focus on reducing the negative consequences associated with risk-taking behavior among the adolescent population.

The other two variables come's under a broad category of Cognitive Style which is divided into Systematic Cognitive Style and Intuitive Cognitive Style. For Systematic Cognitive Style mean score is 76.15 and standard deviation of 11.233 as shown in table 1.3.. For intuitive style mean score is 71.96 and standard deviation is 10.879. for all the variables the N remains the same that is N=120.

Table 1.4 shows that there is a significant positive correlation found between social media addiction and intuitive styles at 0.01 level among adults. Hence hypothesis 2 is completely accepted. Finally, to study corelation between social media addiction and systematic style, table 4.4 showed that there is no significant correlation found between the two variables at any level of significance i.e at 0.01 and 0.05 level. Hence hypothesis 1 is rejected. As hypothesis 2 has been accepted, it can be said that people who has social media addiction has intuitive style which means that they have a spontaneous, holistic and visual approach, which requires inconsistent examination of problems. As a result showed that there is a significant relationship between social networking addiction scale and intuitive style but there was no significant relationship between social networking addiction and systematic style. In a study conducted by Gaur et al., 2016 it was found that there is a positive but non-significant correlation between experientiality and internet addiction. In another study by Nygren et al., 2002 stated that when a more intuitive style is utilized, human performance can be considerably altered.

Table 1.5 showed that the gender differences have no effect on the three variables because p values for all the three constructs are greater than the alpha level of 0.01. It means males and females do not differ on the measured variables social media addiction and cognitive style. The differences in findings on these variables might be explained due to differences in research design, different tools used, cultural factors and participants also.

## LIMITATIONS, STRENGTHS, IMPLICATIONS AND FUTURE DIRECTIONS

One of the limitations of the current research is using convenient sampling leading to limited generalizations. Qualitative research will give better results on variables like social media addiction and cognitive style.. The implication of the current research is to incorporate the construct of cognitive style working with clients with social media addiction in mental health care system.

## CONCLUSIONS

1.No gender differences were found on social media addiction

2. No gender differences were found on cognitive styles

3. Significant positive correlation was found between social media addiction and intuitive cognitive styles among adults

4. No significant correlation was found between social media addiction and systemtic cognitive styles among adults

There is no conflict of interest in the current research

The author wants to express gratitude to the participants who took part in the research.

Ms. Mahima is the main researcher and corresponding author. This is the part of her PG Dissertation work. Dr Tripathi is the research supervisor

Dr Kirmani has done the editing work.

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