



Social Media Usage, Everyday Memory Failures and Emotional Contagion among Indian College Students

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Abstract: The present study was undertaken with the curious intent to investigate the cognitive consequences of social networking/social media usage in terms of its relationship with memory failure and emotional contagion among college students, who are the ardent and fluent users of social networking. Six hypotheses were formulated for the purpose of finding out if significant correlation exists between the variables and also to look for significant gender differences between male and female college students on those variables. A sample of 150 college students (75 male and 75 female) with age range 18-25 were chosen using incidental sampling. The data was collected through online as well as offline mode from different colleges across India. The Social Networking Usage

Questionnaire by Gupta and Bashir, Everyday Memory Questionnaire-revised (EMQ-R) by Royale and Lincoln and Emotional Contagion Scale by Doherty were applied as research tools to quantitatively measure the variables. Coefficient of correlation, Mean, Standard deviation and t-ratio of the obtained scores were calculated for testing the hypotheses. The study found significant positive correlation between social networking usage and emotional contagion among college students. No significant positive correlation was found between the pairs: social networking usage and everyday memory failure and everyday memory failure and emotional contagion among college students. The difference between male and female social networking usage and emotional contagion between male and female college students was found to be significant whereas gender difference in everyday memory failure was not significant among college students.

Keywords: Social media usage, Everyday Memory Failure, Emotional Contagion, College Students.

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Introduction:

Social media can be defined as the relationship that exists between networks of people through the internet. It is a computer-based technology that facilitates the sharing of ideas, thoughts, and information through the building of virtual networks and communities (Dollahide, 2021).

Social media and social networking are the same and therefore can be used interchangeably. By Design, both social networking and social media are internet-based and give users quick electronic interaction and communication (Haley 2021). Social media use is an ever increasing phenomenon of the 21st century. Lenhart, Purcell, Smith, and Zickuhr (2010) found that 72% of all college students have a social media profile with 45% of college students using a social media site at least once a day. Many of these young adults use social media networks to communicate with family, friends, and even strangers. However, multiple studies have found a strong link between social media usage and an increased risk for depression, anxiety, loneliness, self harm and even suicidal thoughts. Social media seems to be an addictive platform and is associated with anxiety, depressions and even physical ailments. The psychological effects of social media indirectly include the impact of sleep deprivation (Prajapati, 2021). Apart from these, social media has many positive effects on college students including better communication, timely information, socialising online, learning, enhancing skills. With the advance use of social media platforms, the students get encouraged and motivated to learn.

Memory in the real world is often known as everyday memory and is concerned with the way memory is used as people go about their daily lives. Among the characteristic features of everyday memory research is its emphasis on the functional aspects of memory, that is, on what memory is for. Examples of everyday memory include remembering names, remembering plans for the day, recalling items that one needs to purchase at the grocery store, remembering to take medications, and remembering telephone numbers, directions, or recent newsworthy events. Memory failure is a common everyday experience, with the majority of healthy adults having at least several instances per week, and many adults having several dozen. Despite the prevalence of everyday memory failures (EMFs), little is known about their consequences and the specific types that have the strongest impact on everyday life (Nied wie ska et al, 2020).

Frequent failures to retrieve information that should be readily accessible can generally be attributed to

physical, environmental, and strategic reasons.

Researches have shown that people who documented and shared their experiences made less precise memories of those events (Gregory, 2018). Social media usage has also been found to affect transactive memory due to availability of outsourcing of information storage facilitated by social media (Fotuhi, 2020).

Emotional contagion refers to a phenomenon of an automatic adoption of an emotional state of another person. (Singer & Tusche, 2014) Emotional contagion is the precipitating stimuli that arises from one individual, act upon (i.e, are perceived and interpreted by) one or more other individuals, and yield corresponding or complementary emotions (conversant, awareness, facial, vocal and postural expression, neurophysiological, and autonomic nervous system activity, and gross emotional behavioural responses) in these individuals. It is the tendency to automatically mimic and synchronise facial expression, vocalisations, postures, and movements with those of another person and consequently, to converge emotionally (Hatfield et.al.,1994).

Kramer, Guillory, and Hancock (2014) famously explored whether emotional contagion can occur without in-person contact, through social media platforms. Internet videos are widely shared or “go viral” based on the intensity of the emotional response they elicit, regardless of whether that emotional response is positive or negative. We should consider the possible outcomes of either negative or positive emotional contagion in social media, and act accordingly. A study by Isabella (2016) shows that the emotional contagion from a picture can also change consumer behaviours. To verify whether the emotion created in consumers comes from emotional contagion, she videotaped participants' facial expressions. After analysing the changes in their expressions, she concluded that participants who show a smiling model in an ad mimicked the picture (smiling back), thus confirming the process of emotional contagion.

Objectives: Researches have shown that college students are highly engaged in social media usage and its relationship can be observed in various cognitive

phenomena like failure of everyday memory and effect of emotional contagion. Hence, we attempt to explore the cognitive implications of social networking usage by studying how social media, everyday memory failure and emotional contagion are related with one another.

The objectives of the study were:

1. To explore the relationship between social media usage and everyday memory failure among college students.
2. To explore the relationship between social media usage and emotional contagion among college students.
3. To find out the relationship between everyday memory failure and emotional contagion among college students.
4. To examine gender differences in social media usage among college students.
5. To find out gender differences in everyday memory failure among college students.
6. To examine gender differences in emotional contagion among college students.

Hypotheses:

On the basis of the objectives of the study, following hypothesis were formulated:

1. There would be a significant positive correlation between social media usage and everyday memory failure among college students.
2. There would be a significant positive correlation between social media usage and emotional contagion among college students.
3. There would be a significant positive correlation between everyday memory failure and emotional contagion among college students.
4. There would be a significant gender difference in social media usage among college students.
5. There would be a significant gender difference in everyday memory failure among college students.
6. There would be a significant gender difference in emotional contagion among college students.

Method :

Sample: The study was conducted on 150 college students, out of which 75 were male college students and 75 were female college students enrolled as undergraduate or postgraduate students in different institutes across India. The age range was 18-25 years. Incidental sampling was used.

Research tools: The following tools were used for the measurement of the variables in the study.

- *Social Networking Usage Questionnaire:* The scale was constructed by Gupta and Bashir (2018). The scale consisted of 19 items that were to be answered on a 5 point Likert scale. The Cronbach's alpha for the scale, $\alpha = 0.830$.
- *Everyday Memory Questionnaire-revised:* This scale was developed and revised by Royale and Lincoln (2008). The scale was a five point Likert scale and consisted of 13 items to assess everyday memory failure. The internal reliability of the scale is, $\alpha = 0.91$.
- *Emotional Contagion Scale:* The scale was developed by Doherty (1997). The scale was rated on a five point Likert scale and consisted of 15 items to assess mimetic tendency to five basic emotions (love, happiness, fear, anger, and sadness). The high internal reliability of the scale is suggested by $\alpha = 0.90$.

Procedure of Data Collection: The collection of data was carried out through a combination of online and offline mode. Out of 150, 40 samples (20 males and 20 females) were involved through offline mode. Voluntary participation of college students was sought during their class hours. They were provided with questionnaires and instructed accordingly, the purpose of study was explained to them along with. 110 Samples (55 males and 55 females) were taken through online mode. Google form was carefully created and shared with prospect samples. The purpose and instructions were provided to them in written form.

All the participants cooperated and they were thanked for it. The process of data collection was completed in a month.

Result Interpretation:

The mean, Standard Deviation (SD), Coefficient of Correlation(r) and t -ratio were computed and the graphical representation was also done for the analysis of the data according to the requirement of the hypotheses.

Hypothesis 1. There would be significant positive correlation between social media usage and everyday memory failure among college students.

For testing this hypothesis, the scores of social media usage($N=150$) and everyday memory failure ($N=150$) were correlated.

The hypothesis was formulated on the research evidence that social media negatively affects memory. Fransen found that a brain exposed to a typical session of social media browsing can easily become hobbled by information overload (The Indian Express, 2013). The result is that less information gets filed away in memory.

The results are presented in Table 1 below:

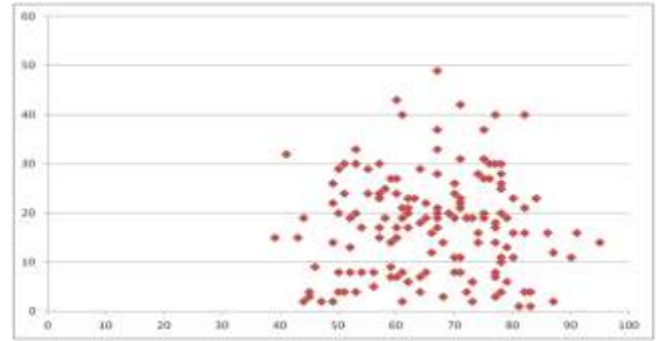
Table 1. showing coefficient of correlation between social networking usage and everyday memory failure

Variable	N	r	df	Level of significance
Social Networking Usage	150	0.022	148	$P>0.05$
Everyday Memory Failure	150			

Not significant at 0.05 level (0.159)

Table 1 shows that the obtained ' r ' value, 0.022 is not significant at 0.05 level of significance as the table value is greater, 0.159. The result does not indicate a significant positive correlation between the variables. Therefore, the hypothesis "There would be positive correlation between social media usage and everyday memory failure among college students" was rejected. This may be due to sampling error.

The correlation between the two variables is presented through a scatter plot in Graph 1 below:



In contrast with the present result, Sharifian and Zahodne (2020)'s model suggested that on days when social media use was high, individuals reported more memory failures.

Hypothesis 2. There would be significant positive correlation between social media usage and emotional contagion among college students.

For testing this hypothesis, the scores of social networking usage ($N=150$) and emotional contagion ($N=150$) of the same were correlated.

The results are presented in Table 2 below:

Table 2. Showing coefficient of correlation between social networking usage and emotional contagion

Variable	N	r	df	Level of significance
Social Networking Usage	150	0.431	148	$P>0.01$
Everyday Memory Failure	150			

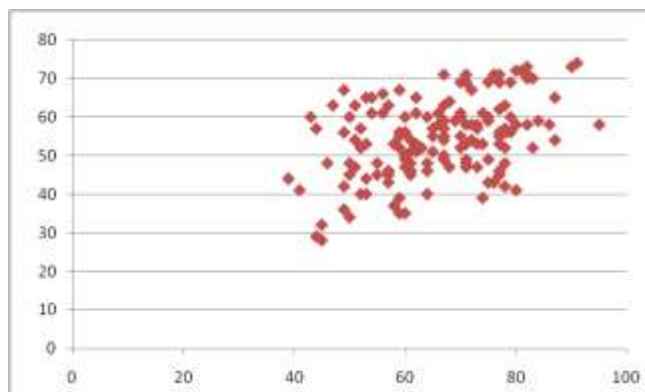
Significant at 0.01 level (0.208)

In Table 2, the Pearson's coefficient of correlation or the r value obtained is 0.431 which is greater than the table value 0.208 at 0.01 level of significance. Therefore, the r is significant at 0.01 level of confidence which clearly indicates a positive correlation between two variables. A positive correlation between social media usage and emotional contagion is that as the level of social media usage increases so does the level of emotional contagion increases and if it decreases, then the other will also decrease. Thus, the hypothesis is accepted.

Kramer et al (2014) also found that emotions expressed by others on Facebook influence our own

emotions, constituting experimental evidence for massive-scale contagion via social networks. This finding also supports the hypothesis 2 “There would be significant positive correlation between social media usage and emotional contagion among college students”.

The correlation between the two variables is presented through a scatter plot in Graph 2 below:



Hypothesis 3. There would be significant positive correlation between Everyday Memory Failure and Emotional Contagion among College Students.

The hypothesis was formulated on the basis that emotion has a substantial influence on cognitive processes like memory. For testing this hypothesis, the score of everyday memory failure (N=150) and emotional contagion (150) of the same were correlated. The results are presented in Table 3 below:

Table 3. showing coefficient of correlation between everyday memory failure and emotional contagion

Variable	N	R	df	Level of Significance
Everyday memory failure	150	0.092	148	P>0.05
Emotional contagion	150			

Not Significant at 0.05 level(0.159)

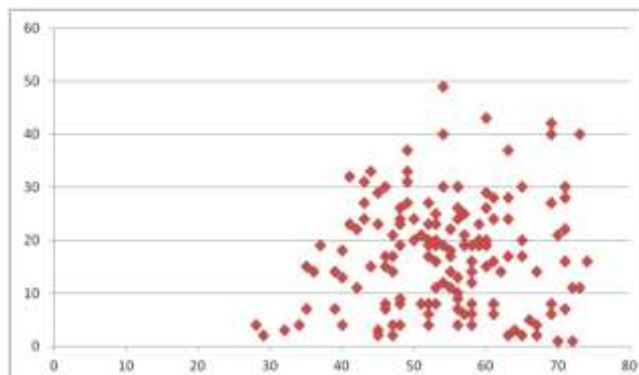
The table 3 shows that the obtained 'r' value, 0.092 is not significant at 0.05 level of significance as the table value is greater, 0.159. The result does not indicate a significant positive correlation between the variables. Therefore, the hypothesis “There would be positive correlation between everyday memory failure and

emotional contagion among college students” was rejected.

This may be due to the fact that different dimensions of memory failure and emotional contagion were not comprehensively investigated.

In contrast with the present result, Barbaranelli et al (2019) stated that proposition that higher contagion of anger (i.e., a negative emotion accompanied by dysfunctional cognition) would be associated with greater cognitive failures, whereas higher contagion of joy (i.e., a positive emotion accompanied by pleasant information processing, attention and positive cognition) would be associated with fewer cognitive failures.

The correlation between the two variables is presented through a scatter plot in Graph 3 below:



Hypothesis 4: There would be significant gender differences in social networking usage among college students.

For testing this hypothesis, the mean of scores of social networking usage of the entire sample (N=150: 75 males, 75 females) were compared on the measure of social networking usage.

The results are presented in Table 4 below

Table 4. showing Mean, Standard Deviation (SD) and t-value of social networking usage scores among college students

Variable	Gender	N	Mean	SD	t-ratio	Level of significance
Social Networking Usage	Male	75	63.693	12.290	2.66	P< 0.01
	Female	75	68.253	10.895		

Significant at 0.01 level (2.61) df=148

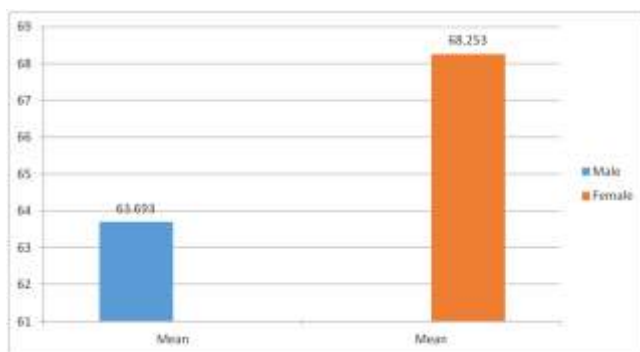
The hypothesis was formulated with the intent to investigate the gender difference in social media usage with regard to the disparity in needs and accessibility between men and women might result in different social networking usage by men and women.a

Table 4 shows that the obtained mean difference of scores between male and female sample in social networking usage is significant at 0.01 level. As evident from the table, social networking usage is higher in females (68.253) than in males (63.693). This indicates that women are more involved in social media use compared to men. The standard deviations of male and female scores respectively, 12.290 and 10.895 are quite less compared to their means, thus the respondents have shown less variation and the responses are homogenous.

The obtained t-value for the mean difference, 2.66 is significant at 0.01 level, Therefore, the hypothesis “There would be significant gender difference in social networking usage among college students” is accepted.

Habes et al (2021), have also found explicit differences between social media usage among teenage boys and girls. Boys mainly use social media for communication and interaction, while girls use social networking sites for educational purposes.

Graphical representation of social networking usage between male and female college students is given in Graph 4 below:



Hypothesis 5. There would be significant gender differences in everyday memory failure among college students.

For testing this hypothesis, the scores of all subjects (N=150; 75 males, 75 females) were compared on the measure of everyday memory failure.

The hypothesis is discussed and interpreted on the basis of Table 5.

Table 5. Showing Mean, Standard deviation (SD) and t-ratio of everyday memory failure scores among college students

Variable	Gender	N	Mean	SD	t-ratio	Level of significance
Everyday memory failure	Male	75	16.24	10.136	1.49	P < 0.05
	Female	75	18.72	10.268		

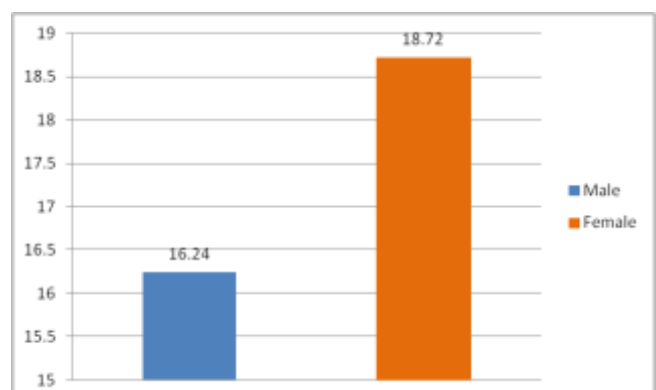
Not significant even at 0.05 (1.98) df=148

Table 5 provides Mean, SD, and t-ratio of male and female on everyday memory failure. The obtained mean values 16.24 and 18.72 of male and female respectively. The difference between the mean values of male and female is 2.48 which is very low. The Standard Deviations of male and female scores are 10.136 and 10.268 respectively. The t-ratio is 1.49, which is less than the table value provided at 0.05 level of significance 1.98. Therefore the result is not significant even at 0.05 level. So, there is no significant gender difference in everyday memory failure in college students. Thus, the hypothesis is not accepted.

This may be due to the fact that memory failures are not influenced by gender attributes, also different aspects of memory are not comprehensively investigated in the present study.

In support of our presented hypothesis, McDougall et al (2014) found that age was not a significant predictor of cognition or memory performance, nor did males have greater memory impairment than females, which supported the presented hypothesis.

Graphical representation of everyday memory failure between male and female college students is given in Graph 5 below:



Hypothesis 6. There would be significant gender differences in emotional contagion among college students.

The hypothesis was formulated with regard to the gender roles theory, according to which there exists emotional and cognitive differences between men and women. For testing this hypothesis, the scores of all subjects (N=150; 75 males, 75 females) were compared on the measure of emotional contagion.

The hypothesis is discussed and interpreted on the basis of Table 6.

Table 6. showing Mean, Standard deviation (SD) and t-ratio and level of significance of male and female scores in emotional contagion.

Variable	Gender	N	Mean	SD	t-ratio	Level of significance
Emotional Contagion	Male	75	51.96	9.498	3.089	P< 0.01
	Female	75	56.81	9.732		

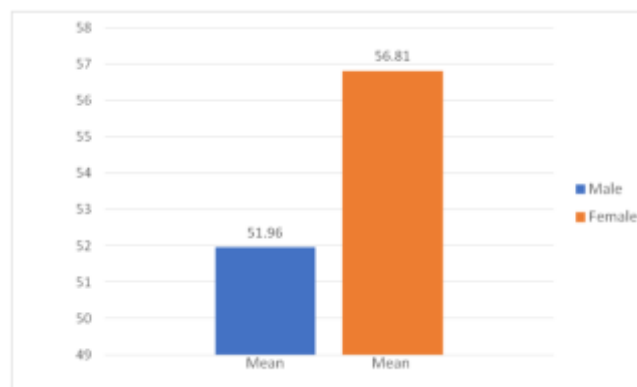
Significant at 0.01 level (2.61) df=148

Table 6 provides Mean, SD, and t-ratio of male and female on everyday memory failure. The obtained mean values 51.96 and 56.81 of male and female respectively. The difference between the mean values for male and female is 4.85. This indicates that females get influenced more easily than male. The standard deviations of male and female scores are 9.498 and 9.732 respectively which are very less compared to their corresponding means. This implies that there is less variation in responses given by the respondents, so the responses are dependable.

The critical difference between the mean of male and female is 3.089 ($df=148$), which is significant at 0.01 level of significance. The obtained results show that there is significant difference among male and female in emotional contagion. Therefore, hypothesis 6 has been proved.

Ghosh et al (2020) also found that there is a significant difference between male and females with respect to Emotional Contagion. Doherty (2006) also predicted that women in a variety of occupations secured higher total Emotional Contagion scores than did men.

Graphical representation of emotional contagion between male and female college students is given in Graph 6 below:



Conclusion:

On the basis of the results of the present study, following conclusions have been drawn:

1. Significant positive correlation was not found between social networking usage and everyday memory failure among college students. ($r=0.022$, $p>0.05$)
2. A significant positive correlation was found between social networking usage and emotional contagion among college students. ($r=0.431$, $p<0.01$)
3. No significant positive correlation was found between everyday memory failures and emotional contagion among college students. ($r=0.092$, $p>0.05$)
4. The difference in social networking usage between male and female college students was found significant at 0.01 level. ($t=2.66$, $p<0.01$). Females are found to be higher in social networking usage.
5. The difference in everyday memory failure between male and female college students was not found significant even at 0.05 level. ($t=1.49$, $p>0.05$)
6. The difference in emotional contagion between male and female college students was found significant at 0.01 level. ($t=3.089$, $p<0.01$). Females were found to be higher in emotional contagion compared to male college students.

Implications: The findings of the present study will be useful in achieving understanding of the cognitive effects of high social media usage among college students. The findings can help investigate how social networking usage might affect the academic and general lives of college students and thus further develop management techniques to combat the negative effects of social networking usage like memory failure and unhealthy emotional contagion.

The present study will further provide literature for the future researchers and inspire them to investigate further and more extensively on the variables of memory, emotions and social media.

The data collected in the present research can be useful to derive conclusions about the statistics related to social media usage, everyday memory failures and emotional contagion.

Mental health professionals could ameliorate from the present findings in assessing the factors behind everyday memory failure, emotional contagion, social media usage and their inter-relation in their practice of management and enhancement of mental health of clients.

Limitations: There are certain limitations of the present study,

The data was collected from a few cities and is limited in the sense that it has ruled out other areas. Many demographic variables were not analysed in the present study like socioeconomic status, birth order, age and race. Data was gathered through incidental sampling technique. Random sampling would have given much dependable results.

The study was conducted on a small sample for reliability it would be done on a large and diverse sample size. Proper interaction and good rapport were important for the research. Students need a proper time for competence because they already have a workload, maybe their exams or other extra-curricular.

Suggestions: To make statistics powerful and to ensure a high probability of correctly rejecting the null hypothesis, it would be better to perform power analysis.

Further researchers can study different populations for the same variables to diversify the

knowledge of the chosen variables in other populations, they may also look at a different set of variables to help shed more light on the topic.

Since the present study investigates the correlational relationship between the chosen variables, some experimental studies might also be done to establish the cause and effect relationships between the variables.

Most of the existing studies including the present one, use quantitative data for analysis, more qualitative research should also be done to reconcile the discrepant findings.

Since in present study data was gathered through incidental sampling technique further researchers can use random sampling for more dependable results.

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