A STUDY ON THE IMPACT OF MOBILE PHONE USAGE ON THE COGNITIVE STYLE AMONG COLLEGE STUDENTS

Dr. K. Sudhakar

Principal
Vadaranyam College of Education, Tiruvallur, Tamil Nadu

Dr. S. Boopalan

Professor
TVM College of Education, Tiruvallur, Tamil Nadu

Abstract

Mobile phones are a part of the daily culture of almost every student and teacher. They introduce new types of communication styles that remove spatial and temporal complexities. Research on mobile phone usage can give an abundance of new open doors as it permits us to comprehend the effect of settings on users' behaviour and also to review individual disparities, for example, to study the personality profile of mobile users. Cognition is considered "an umbrella term for the processes of perception, discovery, recovery, recognition, imagining, judging, memorizing, learning and thinking through which the individual obtains knowledge and conceptual understanding or explanation. This study aims to understand and assess the relationship between the Impact of Mobile phone usage and the Cognitive style of College students. To assess the mobile phone usage of students, the inventory standardized and constructed by Datta and Ray (2011) was utilized and Cognitive style was measured using the Cognitive Style Inventory (CSI), developed and validated by Praveen Kumar Jha (2001). The study was conducted on a sample of 301 college students in different colleges of Thiruvallur District. The investigator applied a Stratified random sampling technique to ensure the adequacy of the sample in each level of the independent variables selected for the analysis of collected data. The result showed that the Impact of Mobile phone usage and the Cognitive style of College students are positively correlated with the total sample and the Sub-samples (Gender and Locale). The cognitive style of College students highly depends on their Mobile phone usage. Thus the current research opens the door to stimulating opportunities for investigation in social sciences. With the technological advancements in the mobile phone world with every passing day mental health problems are increasing which need to be taken care of Selfie obsession and disasters reported when using mobile phones need extensive focus by all the stakeholders.
Keywords: *Mobile Phone Usage and Cognitive Style, College Students*

Introduction

Mobile phones are a part of the daily culture of almost every student and teacher. They introduce new types of communication styles that remove spatial and temporal complexities handheld devices can improve classroom dynamics owing to their computation and communication capabilities, which augment face-to-face interactions and can support

collaborative learning scenarios. Nowadays most of them are negative towards using mobile phones. But mobile devices have a lot of facilities to improve our knowledge and skills. Cognitive style is defined as the mental process by which an individual perceives the world around him, learns about it, commits the terms and names to his memory, and organizes the information he has received. Hence it is a process that leads an individual to relate to his environment through his sensory organs, intellect, mental processes, and emotional appreciation. Thus it is beyond any question that cognitive style determines the lifestyle of a person – "what he is as a person and what he is as a social being". Teachers are the agents of social change in the society. Every teacher knows m- m-learning processing in this period.

Mobile Phone Usage

Mobile phones have progressively turned into an essential portion of our everyday life. In light of the fast development of mobile phones, examining the psychological, social, and monetary ramifications of versatile telephony has picked up an expanded significance. It has been strongly entrenched in almost everybody's lives. It has become a requisite part of an individual's social and work life. Research on mobile phones can give an abundance of new open doors as it permits us to comprehend the effect of settings on users' behaviour and also to review individual disparities, for example, to study the personality profile of mobile users. Thus, this could empower the outline of correspondence components as well as different versatile implications that are customized to the personal needs and inclinations of the mobile user. Then again, personality has been found to impact the behaviour of a person in social collaborations. A few late types of research have explored the association of various personality dimensions with the utilization of networks as well as their types. As mobiles additionally have intruded the societal relationships, the usage of mobiles might mirror the personality of a person. Deciding the personality of cell phone users, other than being imperative exclusively from the psychological perspective, can likewise give an intriguing system to versatile figuring. The capacity to draw associations amongst personality and behavioral angles determined through relevant information gathered by mobiles might prompt outlining as well as implicating mechanisms of learning techniques to sort out the consumers into different personality types. Curiously, "individuals who are low in agreeableness utilize their mobile phones for calling, content informing and recreations (Butt and Phillips, 2008; Ehrenberg, Juckes, White and Walsh, 2008; Phillips, Butt and Blaszezynski, 2006)", recurrently in comparison to individuals who scored more on agreeableness. Those discoveries recommend facilitating that "mobile phone use may help individuals who discover up close and personal communications hard to stay in contact with their family, companions and associates (Reid and Reid, 2007)". In general, the dimension of extraversion specifically is being observed as the main consistent indicator of personality of cell phone behaviour diagonally over past researches. "Individuals who are high in

extraversion will probably invest more energy utilizing their telephone broadly useful calls (Butt and Phillips, 2008) and content informing (Ehrenberg et al 2008), to participate in tricky mobile phone use (Bianchi and Phillips, 2005), and to exhibit addictive propensities for mobile phone use (Ehrenberg et al 2008) than individuals who are low in extraversion".

Cognition Style

The word "cognition" comes from the Latin word Cognocere which means "to apprehend". According to Hilgard, E.R., and Bower, G.H. (1986) cognition is a generic term used to designate all processes involved in knowing. "Cognition refers to all the processes by which the sensory input is transformed, reduced, elaborated, stored, recovered, and used" (Neisser, U.,1967). Cognition is involved in everything a human being might do in that every psychological phenomenon is a cognitive one. Cognition is considered "an umbrella term for the processes of perception, discovery, recovery, recognition, imagining, judging, memorizing, learning and thinking through which the individual obtains knowledge and conceptual understanding or explanation" (Page and Thomas, International Dictionary of Education, 1978). "Human cognition is an active process and cognitive psychology has evolved over the years to include perception, memory, attention, thinking, reasoning, imagery, language functions, problem-solving, and all the mental processes that can be thought of as essential forms of information processing and mind's functioning" (Colman, 1994). The term 'style' has been imbued with different meanings, but its core definition involves "habitual patterns or preferred ways of doing something (thinking, learning, teaching) that are consistent over long periods and across many areas of activity, they remain virtually the same" (Kazdin, 2000 in Encyclopedia of Psychology). Styles have provided, and continue to provide, a much-needed interface for research on cognition and personality. Being easy to describe and quantify, they have lent themselves to operationalization and direct empirical tests; to predict performance over and above individual differences in abilities; and are more flexible and modifiable than abilities to provide information about the ways individuals interact with and adapt to their environment.

Defined as modes of information processing, cognitive styles are not simply habits in the technical sense of learning theory, for they are not directly responsive to the principles of acquisition and extinction. They develop slowly and do not appear to be easily modified by specific training. Research reveals that Cognitive Styles exhibit stability and persuasiveness across diverse spheres of behaviour that, though entail generalized habits of information processing, they are intimately interwoven with affective, temperamental, and motivational structures as a part of one's total personality, a manifestation of one's core personality structures in cognition that are generally known as Cognitive Style.

Objectives of the Study

The present study has the following objectives

- To find out the level of Mobile phone usage in college students for the total sample and Subsamples based on Gender (Boy/Girls) Locale (Rural/ Urban)
- To find out the significant difference in the mean score of Mobile phone usage of the subsamples based on Gender (Boy/Girls) Locale (Rural/ Urban)
- To find out the relationship between Mobile phone usage and the Cognitive style of college students for the total sample and subsamples based on Gender (Boy/Girls) Locale (Rural/ Urban)

Hypotheses of the Study

The hypotheses formulated for the present study are the following:

- The level of Mobile phone usage of College students for the total sample and subsamples based on gender and locale of the college is moderate.
- There is a significant difference in the mean scores of Mobile phone usage of the subsamples based on gender and locale of college.
- There is a significant relationship between Mobile phone usage and the Cognitive style of college students for the total sample and subsamples based on Gender (Boy/Girls) Locale (Rural/ Urban)

Methodology

Sample: The study was conducted on a sample of 301 college students in different colleges of Thiruvallur District. The investigator applied a Stratified random sampling technique to ensure the adequacy of the sample in each level of the independent variables selected for the analysis of collected data.

Tool: The "Mobile phone usage" was constructed by Datta and Ray (2011) to measure the Mobile phone usage of college students. The questionnaire consists of as many as 60 items. The survey method was followed for the present study. Therefore the Cognitive style was measured by the Cognitive Style Inventory (CSI), developed and validated by Praveen Kumar Jha (2001) where the Cognitive Style Inventory (CSI) is a self-report that measures the ways of thinking, judging, remembering, storing information, decision-making making, and believing in interpersonal relationship.

Statistical Techniques Used

- Basic Descriptive Statistics
- Percentage Analysis
- 't' test
- Product moment coefficient of correlation.

Analysis and Interpretation

To Find out the Level of Mobile Phone usage of College Students for the Total Sample and Subsamples Based on Gender and Locale of the College

An objective of the study was to find out the level of Mobile phone usage of College students for the total sample and subsamples based on gender and locale of the college.

Percentage Analysis: Simple Percentage analysis calculation was used to assess the level of Mobile phone usage for the total sample and the subsample based on gender and locale of the college. The total samples are classified into three different levels (high, Moderate, and Low) based on the scores of Mobile phone usage. This is based on the conventional procedure of sigma distance from the mean. Students having a score of M+ sigma and above in Mobile phone usage level were treated as having high Mobile phone usage, those with a score of M- sigma and below were treated as having low Mobile phone usage and those having a score in between M+ sigma and M-sigma were treated as moderate Mobile phone usage. A simple percentage calculation is used to determine the number of students in each group. The percentage of Mobile phone usage by students is presented in Table 1.

Table 1 Data and Result of Percentage Analysis of
Mobile Phone usage of College Students

Sample	Mean	Total	SD	High		Moderate		Low	
				N	%	N	%	N	%
Total	169.56	301	14.78	45	14.95	205	68.00	51	16.94
Boys	168.56	145	13.50	30	20.68	101	69.65	14	09.65
Girls	162.90	156	14.56	25	16.02	96	61.53	35	22.43
Rural	167.56	151	15.96	18	11.92	107	70.86	26	16.55
Urban	161.90	150	11.56	25	16.66	90	60.00	35	23.33

Table 1 indicates that among the total sample of college students, 14.95 % belong to a high Mobile phone usage level, 68.00% belong to moderate Mobile phone usage and 16.94% belong to a low Mobile phone usage level. So for the total sample, the majority of the college students have having moderate level of Mobile phone usage.

Among the Boys sample, 20.68% belong to high Mobile phone usage, 69.65% belong to moderate Mobile phone usage level and 09.65 belong to low Mobile phone usage level. Among the girls' sample, 16.02% belong to a high Mobile phone usage level, 61.53% belong to a moderate Mobile phone usage level and 22.43% belong to a low Mobile phone usage level.

Among rural students, 18% belong to a high Mobile phone usage level, 70.86% belong to a moderate Mobile phone usage level and 16.55% belongs to a low Mobile phone usage

level. Among urban students, 16.66% belong to a high Mobile phone usage level, 60% belong to a moderate Mobile phone usage level and 23.33 % belong to a low Mobile phone usage level.

To Find Out the Significant Difference in the Mean Scores of Mobile Phone Usage of the Subsamples Based on Gender and Locale of the College

In this section, the arithmetic Mean and standard deviation of the subgroups Based on Gender and locale of the college were found. Two-tailed test of significance of the difference between the mean scores of Mobile phone usage for the subsamples based on gender and locale of the college. The details are given below.

Test of Significance of the Difference between the Mean Scores of Mobile Phone usage for the Subsamples based on Gender

The values obtained for the mean scores of Mobile phone usage of college students based on Gender are given in Table 2.

Table 2 Data and Result of the Test of Significance of Difference Between the Mean Scores of Mobile Phone Usage based on Gender

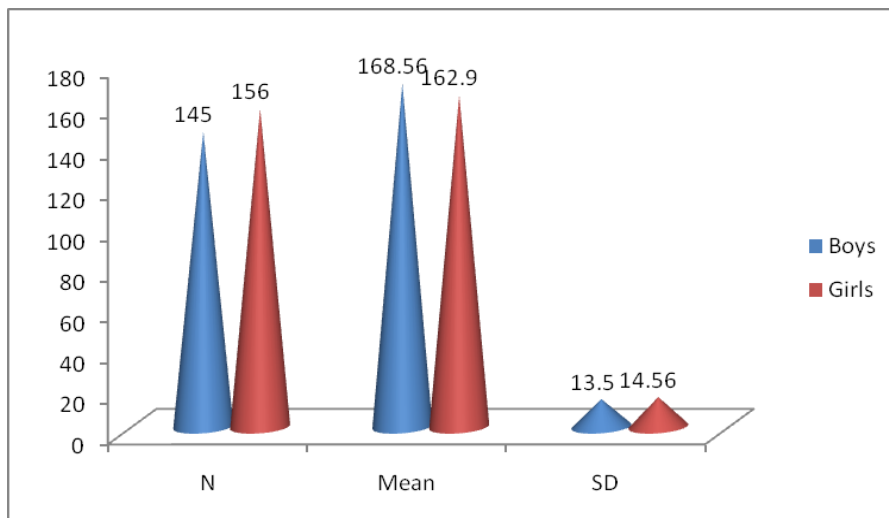| S. No	Sample	N	Mean	SD	t value
1	Boys	145	168.56	13.50	3.49
2	Girls	156	162.90	14.56	

Figure 1 Shows the Test of Significance of Difference Between the Mean Scores of Mobile Phone usage based on Gender

The t value calculated, 3.49 was found to be greater than the table value of 1.96 at 0.05 level of significance. This reveals that there is a significant difference in the mean

scores of Mobile phone usage of College Students based on gender at a 0.05 level of significance. Hence it can be interpreted as college girls and boys students differ in their level of Mobile phone usage. The girls' students were found to have more Mobile phone usage than boys' students.

Test the Significance of the Difference between the Mean Scores of Mobile Phone usage for the subsamples based on the Locale of the College

The value obtained for the mean scores of Mobile phone usage of college students based on the Locale of the college are given in Table 3.

Table 3 Data and Result of the Test Significance of Difference between the Mean Scores of Mobile Phone Usage based on Locale of the College

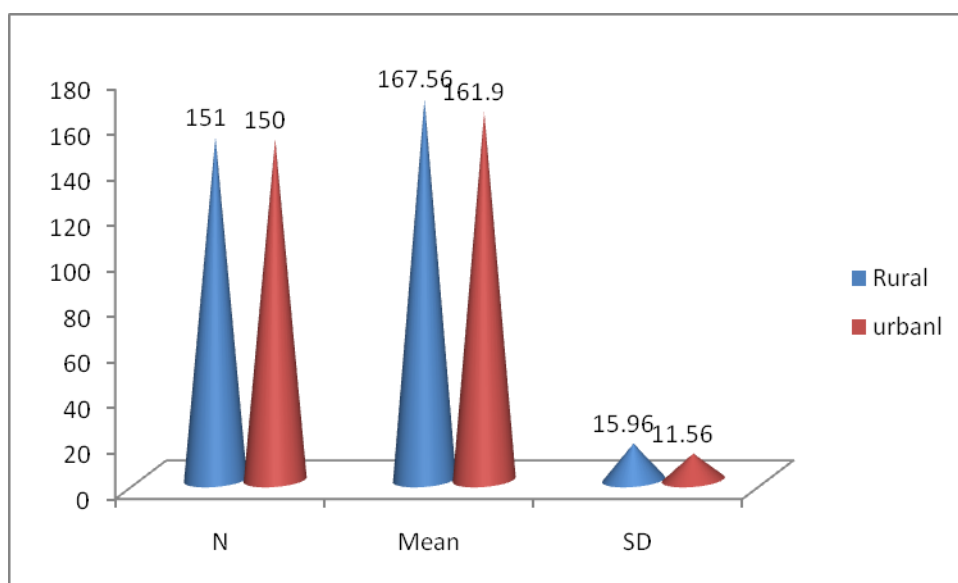| S. No	Sample	N	Mean	SD	t Value
1	Rural	151	167.56	15.96	4.08
2	Urban	150	161.90	11.56	

Figure 2 Shows the Test Significance of the Difference Between the Mean Scores of Mobile phone usage based on the Locale of the College

The t value calculated, 4.08 was found to be greater than the table value 2.58 at 0.01 level of significance. This reveals that there is a significant difference in the mean scores of Mobile phone usage of college students from colleges located in rural and urban areas at 0.01 level of significance. Hence it can be interpreted that urban college students were found to have more Mobile phone usage than rural college students.

Estimation of the Relationship between Mobile Phone usage and Cognitive Style of College Students for the Total Sample

The values obtained for the relationship between Mobile phone usage and the Cognitive style of College students for the Total sample are given in Table 4.

Table 4 Data and Result of the Relationship between Mobile Phone Usage and Cognitive Style of College Students for the Total Sample

SI. No	Sample	r	Significance
1	301	0 .885	0.01 level

The correlation coefficient between Mobile phone usage and Cognitive style of college students for the total sample is 0.885. The relation can be interpreted as a medium positive correlation between these variables. It shows that the positive correlation is significant at 0.01 level of significance.

Major Findings

- The level of Mobile phone usage of college students for the total sample is moderate.
- The level of Mobile phone usage of college students for the subsamples based on gender and locale is moderate.
- There is a significant difference in the mean scores of Mobile phone usage based on gender and locale.

Conclusion

Media technology has reached out to the younger generation via text messaging. The mobile phone service providers due to competition attract the young audience by introducing new features like ringtones, video calling, WhatsApp, YouTube, Instagram, Facebook, Snapchat, etc. The present study provides insight for the research community which is interested in investigating the direction of predicting some other complementary variables as these days the young population uses their mobile phone as an umbilical cord which serves as a connection between them and their near and dear ones. There is an emergent need for extensive research to ponder upon more psychosocial factors associated with mobile phone usage. The current research opens the door to some stimulating opportunities for investigation in social sciences. With the technological advancements in the mobile phone world with every passing day mental health problems are increasing which need to be taken care of Selfie obsession and disasters reported when using mobile phones need extensive focus by all the stakeholders. It is also interesting to search whether access to other media enhances or reduces the extent of mobile phone usage or not. Cognitive styles can be most directly defined as individual variations in modes of perceiving, remembering,

and thinking, or as distinctive ways of apprehending, storing, transforming, and utilizing information. The study on Mobile phone usage of college students is almost moderate. Results of the study indicated that Mobile phone usage and Cognitive style are correlated positively in the sense when the level of Mobile phone usage arises, Cognitive style also will arise. Steps must be taken the increase Mobile phone usage, like participation in college programmes, academic progress, Co-curricular activities, decision-making, etc.

References

1. Balakrishnan, V., & Raj, R. G. (2012). Exploring the relationship between urbanized Malaysian youth and their mobile phones: a quantitative approach. *Journal of Telematics and Informatics, 29,* 3, 263-272. Doi: 10.1016/j.tele.2011.11.001

2. Baron, N. S., & Campbell, E. M. (2012). Gender and mobile phones in cross-national context. *Language Sciences, 34,* 13-27.

3. Bianchi, A., & Phillips, J. G. (2005). Psychological predictors of problem mobile phone use. *Cyber Psychology & Behavior*, *8,* 39-51.

4. Butt, S., & Phillips, J. G. (2008). Personality and reported mobile phone use. *Computers in Human Behaviour, 24*, 346-360.

5. Caronia, L., & Caron, A. H. (2004). Constructing a specific culture: Young people's use of the mobile phone as a social performance. *Convergence: The International Journal of Research into New Media Technologies, 10*(2), 28-61.

6. Carroll, J., Howard, S., Peck, J., & Murphy, J. (2002). A Field study of perceptions and use of mobile telephones by 16-22-year-olds. *Journal of Information Technology Theory and Practice, 4,* 49-61.

7. Conner, T. S., & Reid, K. A. (2012). Effect of intensive mobile happiness reporting in daily life. *Social Psychological and Personality Sciences, 3*(3), 315-323. DOI: 10. 1177/1948550611419677.

8. Economides, A. A., & Grousopoulou, A. (2008). Use of mobile phones by male and female Greek students. *International Journal of Mobile Communications, 6*(6), 729-749.

9. James, D., & Drennan, J. (2005). *Exploring addictive consumption of mobile phone technology.* Paper presented at the Australian and New Zealand Marketing Academy conference, 87-96. Perth, Australia.

10. Katz, J. E., & Sugiyama, S. (2005). Mobile phones as fashion statements: The co-creation of mobile communication's public meaning. In R. Ling & P. Pederson (Eds.), *Mobile Communications: Re-Negotiation of the Social Spher*e, 63-81. Surrey, UK: Springer.

11. Kelly, T. (2009). *Mobile 2.0 beyond voice? Research Agenda.* Keynote address at International Communication Association preconference, Chicago, IL.

12. Lane, W., & Manner, C. (2012). The influence of personality traits on mobile phone application preferences. *Journal of Economics and Behavioral Studies, 4*(5), 252- 260.

13. Laramie, D. J. (2007). *Emotional and behavioral aspects of mobile phone use.* Unpublished Thesis submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in the Department of Clinical Psychology, Alliant International University, Los Angeles.

14. Ling, R. (2004a). The adoption, use, and social consequences of mobile telephony. *Telektronikk, 3,* 1-12.

15. Neilsen, A. C. (2004). *Hold the phone - poor mobile manners pushing all the wrong buttons!* Melbourne: A C Neilsen.

16. Net Safe (2005). *The text generation: Mobile phones and New Zeeland youth.* A report of results from the internet safety groups survey of teenage mobile phone use. Retrieve 4/2/2010 Net safe

17. North, D., Johnston, K., & Ophoff, J. (2014). The use of mobile phones by South African university students. *Issues in Informing Sciences and Information Technology,* 11, 115-138.

18. Tutt, D. (2005). Mobile performances of a teenager: A study of situated mobile phone activity in the living room. Convergence. Retrieved February 28, 2008, from http://con. sagepub.com/cgi/content/abstract/11/2/58.