# HAS HUMAN MOMENT LOST ITS POPULARITY AMONG DIGITAL NATIVES: EVIDENCE FROM INDIA

**Reeta Raina, Fore School of Management**
**Małgorzata Marchewkab, Krakow University of Economics**

## ABSTRACT

*Technology came to dominate every facets of human life, including human communication, so much that the communication is mediated largely through technology now. Today, people rely heavily on the convenience of emails, text messages and social media. The Y-generation prefers to communicate through e-mail and text messaging rather than face-to-face contact. This trend impacts face-to-face communication, which is an important medium of oral communication. The aim of this study is to identify consequences of digital revolution in communication for human moment. Findings of the empirical study conducted in India suggest that majority of young adults possess and carry mobile devices and majority of them use it mostly for about four hours a day. Although they have the understanding of negative effects of using mobile devices during face-to face-communication and they dislike it when someone uses it while communicating with them, ironically majority of respondents use it themselves during face-to-face communication.*

**Keywords:** Human Moment, Face-To-Face Interaction, Millennial, Media Naturalness Theory, Compensatory Adoption Model.

## INTRODUCTION

### Face-to-Face Communication & Technology

Evolutionary and historically, face to face communication used to be the predominant mode of communication among people and was central to the organization and development of various groups and structures composed of these individuals (Kendon, Harris & Key, 1975). Gradually, technology came to dominate every facets of human life, including human communication, so much so that now the communication is mediated largely through technology. For many people mobile devices have become ubiquitous utility (Foth, 2006), especially that it is seldom that a cell phone has no internet capabilities to shop, play, calculate, read, communicate, etc. (Lengacher, 2015). Thus, as Mesquita & Tsai (2015) emphasize it, along with rapid progress of technology, human-computer interaction is quickly becoming a topic of interest.

Madrigal (2013) reported that 90% of American adults have a cell phone of some kind and for people under the age of 44; the number was closer to 97%. The drastic increase in technology usage is especially noticeable in younger generations (Lenhart, 2012). Millennial are the quickest demographic group to adapt to new technologies like smartphones. Thus these individuals can be referred to as digital natives (Ictech, 2014; Prensky, 2001).One research study found that people in the age group of 8 to 18 spent more time on media than on any other activity-at an average of 7.5 hours a day (Rideout, Foehr & Roberts, 2010).

Own research conducted in 2014 in Poland on behalf of Ale heca Foundation during the project promoting safe use of the internet among pupils shows that even the youngest generations become very familiar with new communication technologies. According to the survey, 84% of 213 junior high school students use internet every day. They are particularly keen to use social media (70% students use them every day). In the younger group, 56% of 632 pupils (of around 10 year's old students) use internet every day and another 32%-couple of times a week.

Frequent usage of new technologies raises risk of addiction. The study conducted in China show that 11.5% of elementary school students are internet addicts, which was not significantly lower than the percentage of middle school students (11.9%) (Misra, Cheng, Genevie & Yuan, 2014).

Generation Y, which has grown up with technology, is always armed with BlackBerrys, laptops, cellphones and other gadgets remains plugged-in 24 hours a day, 7 days a week. One can go almost an entire day without actually interacting with people. We see silent tables at the café, quiet train commutes and expressionless faces on walks. There seems to be 'a disconnect with all this connection' (Tuck, 2014). Draves & Coates (2011) write that Millennial have distinctly different behaviors, values and attitudes from previous generations as a response to the technology.

According to Cabral (2010), this generation has made social media their top priority as it meets their interpersonal need of inclusion. Subrahmanyam & Greenfield (2008) reported that adolescents primarily use the internet as a communication tool to reinforce relationships. The changes in relationships are exceptionally visible among teens that use instant messaging as a substitute of face-to-face conversation with friends. College students are exposed to a higher risk of internet addiction because of their vulnerability, in particular that they are adjusting to massive amounts of developmental and life changes. Since India is seen as the young nation having 75% of its population under the age of 35 years, it becomes imperative to study how technology mediates communication-especially the mobile phones-impact the communication behavior of the digital natives in India.

## Mobile Technology: It's Effect on Face-to-Face Communication and Interpersonal Interaction

### Negative Impact of Technology on Human Communication

Since the rise of cellphone and social media usage in the late 2000s, many studies have been conducted regarding the effect of technology on social interactions and face-to-face communication. However, researchers and scholars have different opinions on the impact of technology on face-to-face communication. Some advocate strongly that technology has created a magnificent new world, bursting with opportunities. It has opened up a global, knowledge-based economy and unchained people from their desks According to the opposite approach, man cannot move forward successfully without preserving the human moment (Hallowell, 1999).

Howsoever, technology may have made strong inroads in the human communication space, but it has its own shortcomings and limitations. According to some studies technological communication harms interpersonal skills, however other studies indicate no strong evidence for such a decrease (May, 2011; Schnell, 2005). Bonnie & Whittaker (2002) pointed that face-to-face communication continues to take the precedence over the mediated technologies based on many theorists, particularly in the context of the media richness theory where face-to-face communication is described as the most efficient and informational one (Rice, 1993; Allen &

Griffeth, 1997), because face-to-face communication engages more human senses than mediated communication (Lengel & Deft, 1997). Firstly, the issue with digital forms of communication is that they tend to be impersonal and albeit one may try to make digital communications seem more friendly or personalized-runs the risk of being misinterpreted or perceived as unprofessional. Research indicates that miscommunication, which is seen as one of the major causes of inefficiency and work-place conflicts, could be attributed to digital communications as it is open to multiple interpretations. Face-to-face communication has certain advantages that cannot be substituted by the mediated communication. Eye contact, facial expressions, gestures or voice tone create the context of communication and facilitates understanding of what the speaker wants or intends to say. More so, face-to-face interactions are also a useful way for people when they want to win over others based on verbal communication (Munoz, 2013). It is observed that face-to-face communication and in-person meetings can boost efficiency and creativity. Adding the 'personal touch' of face-to-face communication is much more important to those dealing with outside clients and stakeholders. A sense of community comes with the ability to interact and socialize. This sets the foundation for trust and ultimately creates a better working relationship as reported by Choi & Thompson (2005): 'the more team members directly interact with each other face-to-face and the more they trust other team members, the more creative and of higher quality the result of their teamwork are.'

Negative impact of technology mediated communication is also seen on familial relationships and personal relationships. Turkle (2012) for instance, reported that children often complained about their parents' obsession with technology. He also discovered that many children believed their parents paid less attention to them than to their smartphones, often, at times neglecting to interact with them face to face until they had finished responding to emails. One study examined the relationship between the presence of mobile devices and the quality of real-life, in-person social interactions and it was reported that the presence of mobile communication devices in social settings interferes with human relationships (Przybylski & Weinstein, 2012). It is suggested that these devices have negative effects on closeness, connection and conversation quality, especially notable when individuals are engaging in personally meaningful topic.

Another research has revealed that conversations in the absence of mobile communication technologies were rated as significantly superior and also, higher levels of empathy were noticed as compared with those in the presence of a mobile device (Misra et al., 2014).

Litchy & Kachour (2016) observed a widening chasm between students and tutors in the culture of internet usage in France. Brignall & Van (2005) who analyzed the effects of technology among 'current cyber-youth' found that due to the pervasive use of the internet in education, communication and entertainment, there has been a significant decrease in face-to-face interactions among youth. This in turn, as they suggest, will have 'significant consequences for their development of social skills and their presentation of self'.

**Positive Impact of Technology on Human Communication**

On the contrary, there are studies supporting the assumption that the application of mobile devices has positive impact on human moment. For example Baym, Zhang & Lin (2004) report that digital communications enhance relationships, whereas Adler (2013) opines that 'the evidence consistently shows that the more you communicate with people using devices, the more likely you are to communicate with those people face to face'. It is proved that the technology

enables billions of people to connect especially in situations where time and geographical distance are an issue (Przybylski & Weinstein, 2012; Bonnie & Whittaker, 2002). Maintaining long-distance friendship, face-to-face communication was only the fourth most common way of maintaining ties, after telephone, email and instant messaging (Wright & Webb, 2011).

Technology mediates communication as it helps young people, especially those with low psychological assets, to draw social support in a positive way by using Social Networking Sites (SNS) to socialize, seek information and self-broadcast. It is reported that students with deaf-blindness were more able to engage in interpersonal communication by using videophone technology and students with autism spectrum disorders were more successful communicating when complex animations accompanied words (Shane, Laubscher, Schlosser, Flynn, Sorce & Abramson, 2012; Emerson & Bishop, 2012). Some other studies indicate that cell phone use in public might make individuals more likely to communicate with strangers. Campbell & Kwak (2011), for instance, found evidence that mobile phone use in public actually facilitated talking with co-present strangers, for those who frequently rely on cell phones to get and exchange information about news. Further, Rouleau, Gagon & Cote (2015) suggested that the dimensions of nursing care if supported, enhanced or constrained by the use of ICTs can provide different kinds of care and service among patients. Not only did some research studies not find the negative effects of technology driven communications significant (Subrahmanyam & Greenfield, 2008; Istifci, Lomidazde & Demiray, 2011), but they also highlight how the technology has generated many advantages for individuals, business and society and has dramatically changed the way they conduct their social and personal lives. As a summary, in Table 1 chosen studies exploring the impact of new technologies on interpersonal communication are presented.

**Table 1**
**EXAMPLES OF STUDIES EXPLORING THE IMPACT OF ICT ON INTERPERSONAL COMMUNICATION**

| Year | Authors | Studied problem | Main findings |
|---|---|---|---|
| 2005 | Choi & Thompson | Effect of face-to-face communication on team performance | Direct communication enhances efficiency and creativity |
| 2005 | Brignall & Van | Effects of ICT on interactions between youth | ICT significantly decreases face-to-face interactions |
| 2009 | Pierce | Teens' use of Socially Interactive Technologies (SITs) | Positive relationship between social anxiety and talking with others online and talking with others via text messaging |
| 2011 | Campbell & Kwak | The effect of usage of cell phones on readiness to communicate with strangers | Usage of new technologies facilitates interpersonal contact with strangers |
| 2012 | Shane et al.; Emerson & Bishop | Impact of communication technologies on the performance of students with deaf-blindness | Technology enhance their performance |
| 2012 | Turkle | Impact of mobile devices on familial relations | ICT deteriorate communication between parents and children |
| 2012 | Przybylski & Weinstein | Relationship between the presence of mobile devices and the quality of real-life | ICT interferes with social relations |
| 2014 | Misra et al. | Influence of mobile communication technologies on the perception of conversations | Conversations in the absence of ICT were rated as significantly superior |

**Table 1**
**EXAMPLES OF STUDIES EXPLORING THE IMPACT OF ICT ON INTERPERSONAL COMMUNICATION**

| 2014 | Lepp, Barkley & Karpinski | Relationships between total cell phone use and texting on students' performance | Cell phone use/texting was negatively related to general academic performance and positively related to anxiety |
| --- | --- | --- | --- |
| 2014 | Gonzales | Influences of text-based and face-to-face communication on self-esteem | Text-based communication was more important for self-esteem than face-to-face or phone communication |
| 2015 | Rouleau et al. | Impact of ICT on nursing care | ICT support communication between nurses and patients |
| 2015 | Lengacher | How increased exposure to communicating pathways may impact communication | Mobile technology can decrease communication and intimacy |
| 2015 | Drago | Analysis of individuals engagement with their cell phones, other technologies and with each other in face-to-face situations | Technology has a negative effect on both the quality and quantity of face-to-face communication |
| 2016 | Litchy & Kachour | Impact of internet usage on relations between tutors and students | ICT deepen distance between tutors and students |

Source: Own study based on indicated literature

# OWN STUDY

## Conceptual Framework

The present study will attempt to shed light on the effects of use of mobile phones by the Millennial in relation to face-to-face communication in India using the Media Naturalness Theory and the compensatory adaptation model by Kock (2001). Many of the existing theories such as the social presence, task-technology fit, adaptive structuration and channel expansion and media richness hypothesize that different media are used at different times, however they have failed to explain why humans prefer certain media. These theories have focused only on the characteristics of the technology and have failed to recognize that the communicators possess characteristics that may explain the use of electronic media (Ictech, 2014).

The Media Naturalness Theory explains why humans show preference for face-to-face communication by focusing on Darwinian evolution. The theory states that the missing element in the existing communication theories is the concept of evolution. According to evolution human beings have over millions of years developed some underlying mechanisms because of which they learnt to use facial expressions, gestures or the tone of their voice while communicating with fellow human beings. Face-to-face communication was predominantly the only format man knew and used for communication purpose since the days of his evolution. Accordingly, he kept on improving and perfecting this art of nonverbal communication be it expressions, gestures or vocalic. However, when the technology provided other formats and choices to human beings for interaction purpose, it was suspected that when communicating through non-natural media, individuals will experience an increase in perceived cognitive effort, an increase in perceived communication ambiguity and a decrease in physiological arousal or excitement. But Kock (2001) reveals that undoubtedly man has an innate preference for face-to-face communication since the evolution times, but at the same time, he says as per the

compensatory adaptation model, man has the ability to adjust and compensate to the non-natural media of communication. Thus the present study will explore the problem whether the millennial have overcome their natural instincts to communicate face to face or has the all-pervading, intrusive technology mediated communication become over some period of time a natural (and not because it is convenient, easy and practical) choice for interaction, thereby substituting the natural media theory.

Albeit, this study is conducted in India, the results are expected to be relevant across cultures as the characteristics that allow us to adapt to non-natural media are evolutionary and do not pertain to cultural differences.

## Hypothesis

Based on the review of literature, the following hypothesis was formed in this study:

$H_1$:      *The majority of young adults does possess, carry and use mobile communication devices.*

$H_2$:      *Young adults use mobile communication devices during face-to-face interaction or for personal communication.*

$H_3$:      *Young adults dislike use of mobile communication devices during face-to-face interactions with them.*

$H_4$:      *Young adults understand negative effect of using mobile devices during face-to-face communication on interpersonal relations.*

## METHODOLOGY

### Research Design

As the objective of the study was to measure the degree of students' preoccupation with their mobile communication devices and their preference of these new technological communication devices to face-to-face communication situations, therefore, first small exploratory study was done to gather the findings which confirmed earlier research findings on the related topic. Thus the research design adopted was a combination of exploratory and confirmatory design.

### Sampling and Data Collection

The study is conducted with the participation of young adults (20-27 years old). The survey was administered to students from a Business school in NCR (India) pursuing their post graduate degree in Management. Students were from first year only. The total 166 no of students were administered the questionnaire through simple random sampling method and 104 responses were received (71 responses from male students and 33 from female students). The average age of respondents was 23.12 years.

### Tool

Drago (2015) had developed an online questionnaire to determine the level of engagement individuals have with their cell phones, other technologies and with each other in

face-to-face situations. The same questionnaire was used for the present study. The questionnaire by Drago (2015) had eleven (11) questions. However, for the present study three questions were deleted from the questionnaire as these were pertaining to the demographic details of the students and not related to perceptions on technology mediated communications. Thus, eight questions were retained from the original questionnaire. However, before submitting the questionnaire for data collection, a pilot study was conducted. The internal consistency of the scale, Coefficient Cronbach's Alpha was calculated for all eight questions and yielded a score of six, which is considered a good reliability score. Further, eight questions were divided into three variables; use, dislike and insight. Below given is the operational definition of the terms used:

1. Use variable includes possession of mobile device, use in hours per day, carrying it in person while out of home, using mobile during personal communication and using mobile for personal communication.
2. Dislike variable includes responses of question disliking when others use mobile device while communication with self.
3. Insight variable includes understanding the ill effects of mobile use on interpersonal relationship and communication.
4. Face-to-face: includes two or more than two people communicating with each or one another physically without any aid of technology.

The value of Coefficients Cronbach's Alpha for the scale was found to be high at 0.66, thus the scale was found to be reliable.

## Data Analysis and Results

In this section results are reported using Chi square, ANOVA and regression successively. Non-parametric test Chi square provides comprehensive findings of the study, in which the eight questions asked were grouped as (1) possession and use of mobile, (2) dislike when others use during personal communication and (3) insight about negative effects of technology on interpersonal communication. Responses are categorized in yes and no mode, equivocal responses are not considered in this calculation.

Two-way ANOVA is used to find out whether variables differ significantly in different age groups and gender and finally regression equations are used to get insight into inter-correlation of variables and their relative weights. It is to be noted that only significant regressions and weights are reported in detail.

According to the findings, 99.04% individuals reported possessing mobile communication devices. It is to be noted that Chi square is not used as difference is very obvious and crossing the 95% limit. Moreover 98.1% individuals reported always carrying mobile communication devices, while only 1.9% individuals reported as doing it sometimes. Similarly Chi square is not used as difference is very obvious and crossing the 95% limit.

Less or equal to four hour user make 51.9% whereas more than six hours user makes 19.2%. This difference is significant ($\chi^2$=51.24, p<0.01). Thus hypothesis is accepted. It is to be noted that 4-6 hours users which are 28.9% of population has not been included in the calculation to understand the dichotomy of percentage of 'high and low' users with clarity.

Self-reports of young adults indicate that though majority possess and carry mobile communication device majority do not use it more than four hours and about a third (28.9%) use it for 4-6 hrs. Only 19.2% use it more than six hours.

> $H_1$:     *The majority of young adults does possess, carry and use mobile communication devices-supported.*

Significantly higher number of individuals (69.2%) use mobile communication devices, such as smart phones and tablets, during personal interactions (ex. spending time with friends or family), while lesser numbers (30.8%) do not. This difference is significant ($\chi^2$=14.75, p<0.01). Thus null hypothesis is rejected. 'Always' and 'Sometimes' responses are added together create user 'category' and 'Rarely' and 'Never' are added to create 'non-user category'.

Individuals are almost equally divided on agreement (35.6%), disagreement (36.5%) and equivocal stand (27.9%) also. Thus null hypothesis is accepted. Outcome of self-report inventory does not support Hypothesis 2 ($\chi^2$=0.01, p>0.05).

*$H_2$:      Young adults use mobile communication devices during face-to-face interactions or for personal communication-not supported.*

Higher number (76.9%) of individuals dislikes use of mobile communication devices during personal interactions with them while 2.9% do not mind it. This difference is significant ($\chi^2$=11.01, p<0.01) .Thus null hypothesis is rejected. Dislike category is calculated adding 'Strong Agree' and 'Agree' categories.

*$H_3$:      Young adults dislike use of mobile communication devices during face-to-face interactions with them-supported.*

Significantly higher number (88.4%, $\chi^2$=98.41, p<0.01) of young adults have understanding of negative effect of mobile devices on face to face communication, while only 1% do not agree. Thus null hypothesis is rejected. Agreement is computed adding 'Strong Agree' and 'Agree' scores while equivocal category is not included in this calculation. Moreover, significantly higher number (58.7%, $\chi^2$=11.28, p<0.01) of young adults have insight about degradation of conversation quality by use of mobile devices during face to face communication, while 1.9% have no insight about it. Thus null hypothesis is rejected. Equivocal category is not included in this calculation. 'Strong Agree' and 'Agree' are added for having insight category while 'Disagree' and 'Strong Disagree' are added to have no-insight category.

*$H_4$:      Young adults understand negative effect of using mobile devices during face-to-face communication on interpersonal relations-supported.*

Findings of frequency analysis with the help of Chi square statistics of lower-end and upper-end category (excluding median responses) that majority of young adults possess and carry mobile devices of communication though majority of them use it mostly for about four to six hours. They have the understanding of negative effects of using mobile devices during face-to-face communication and they dislike it too when someone uses it while communicating with them, but ironically majority of them use it themselves during face-to-face communication.

To explore the reason of these behaviors and to identify age and gender differences in variables under study, further analysis (i.e. two-way ANOVA and regression analysis) was conducted (Tables 2 and 3).

Two-way ANOVAs was used for better understanding of differences in use, dislike and insight etc. in different age groups and gender. Possession of a smart phone or tablets was not subjected to analysis as out of 104 participants only one individual does not possess these devices. The results of two-way ANOVA indicate that there is:

1. No significant difference in age groups or gender pertaining to using (number of hours) mobile device, thus null hypothesis is accepted.

2. No significant difference in age groups or gender pertaining to using (during personal interactions) mobile device.
3. No significant difference in age groups or gender pertaining to using mobile device for personal communications.
4. No significant difference in dislike for using mobile device during personal interactions in age groups or gender, no significant difference in age groups or gender in insight about negative effect of mobile use on interpersonal communication, thus null hypothesis is accepted.
5. No significant difference in age groups or gender in insight about negative effect of mobile use on quality of communication.

The results of regression analysis (Table 2) show that models where hours of daily use, carrying mobile in person, personally use mobile device for communication with friends and family are considered to be dependent variables are not predicted significantly by other enlisted variables under consideration.

**Table 2**
**ANALYSIS OF VARIOUS MODELS OF REGRESSION**

| Dependent variable | Model | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| $X_5$ | Regression | 5.933 | 8 | 0.742 | 2.800 | 0.008 |
| | Residual | 24.902 | 94 | 0.265 | | |
| | Total | 30.835 | 102 | | | |
| $X_6$ | Regression | 10.160 | 8 | 1.270 | 2.553 | 0.015 |
| | Residual | 46.753 | 94 | 0.497 | | |
| | Total | 56.913 | 102 | | | |
| $X_8$ | Regression | 8.545 | 8 | 1.068 | 2.691 | 0.010 |
| | Residual | 37.319 | 94 | 0.397 | | |
| | Total | 45.864 | 102 | | | |
| $X_9$ | Regression | 24.473 | 8 | 3.059 | 3.336 | 0.002 |
| | Residual | 86.206 | 94 | 0.917 | | |
| | Total | 110.680 | 102 | | | |

Source: Own study

Abbreviations:
$X_5$=Using Mobile while spending time with family or friends.
$X_6$=Disliking use of mobile when others use it during communication with self.
$X_8$=Insight about negative effect of mobile use on face-to-face interpersonal communication.
$X_9$=Insight about negative effect of mobile use on quality of communication.
Personally use of mobile device for communication with friends and family is not predicted significantly by variables under consideration (Table 3).
Abbreviations:
$X_1$=Age
$X_2$=Gender
$X_3$=Hours of daily use
$X_4$=Carrying mobile in person
$X_5$=Using Mobile while spending time with family or friends
$X_6$=Disliking use of mobile when others use it during communication with self
$X_7$=Personally using mobile device for communication with friends and family

$X_8$=Insight about negative effect of mobile use on face-to-face interpersonal communication

$X_9$=Insight about negative effect of mobile use on quality of communication, bold $p<0.05$

**Table 3**
**ANALYSIS OF COEFFICIENTS**

| Predictors / Dependent variable | | | Const. | $X_1$ | $X_2$ | $X_3$ | $X_4$ | $X_5$ | $X_6$ | $X_7$ | $X_8$ | $X_9$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $X_5$ | Unstandardized Coefficients | B | 4.339 | -0.058 | -0.062 | -0.122 | -0.134 | | -0.033 | 0.059 | -0.241 | 0.054 |
| | | Std. error | 0.850 | 0.032 | 0.119 | 0.047 | 0.388 | | 0.075 | 0.052 | 0.080 | 0.055 |
| | Standardized Coefficients | Beta | | -0.179 | -0.053 | -0.249 | -0.034 | | -0.045 | 0.110 | -0.294 | 0.103 |
| | | t | 5.106 | -1.809 | -0.523 | -2.589 | -0.345 | | -0.436 | 1.128 | -2.996 | 0.986 |
| $X_6$ | Unstandardized Coefficients | B | 0.333 | 0.033 | 0.136 | 0.026 | 0.260 | -0.062 | | -0.069 | 0.146 | 0.216 |
| | | Std. error | 1.315 | 0.045 | 0.163 | 0.067 | 0.531 | 0.141 | | 0.072 | 0.114 | 0.073 |
| | Standardized Coefficients | Beta | | 0.074 | 0.086 | 0.039 | 0.048 | -0.045 | | -0.094 | 0.131 | 0.302 |
| | | t | 0.253 | 0.734 | 0.836 | 0.389 | 0.489 | -0.436 | | -0.958 | 1.277 | 2.978 |
| $X_8$ | Unstandardized Coefficients | B | 2.780 | -0.040 | -0.100 | -0.050 | 0.172 | -0.361 | 0.117 | 0.067 | | 0.159 |
| | | Std. error | 1.140 | 0.040 | 0.146 | 0.059 | 0.475 | 0.121 | 0.091 | 0.064 | | 0.066 |
| | Standardized Coefficients | Beta | | -0.100 | -0.070 | -0.084 | 0.036 | -0.296 | 0.130 | 0.102 | | 0.247 |
| | | t | 2.438 | -0.997 | -0.683 | -0.843 | 0.363 | -2.996 | 1.277 | 1.045 | | 2.413 |
| $X_9$ | Unstandardized Coefficients | B | 0.552 | -0.015 | 0.113 | 0.181 | -0.065 | 0.188 | 0.399 | -0.081 | 0.367 | |
| | | Std. error | 1.786 | 0.061 | 0.222 | 0.088 | 0.722 | 0.191 | 0.134 | 0.097 | 0.152 | |
| | Standardized Coefficients | Beta | | -0.024 | 0.051 | 0.195 | -0.009 | 0.099 | 0.286 | -0.080 | 0.236 | |
| | | t | 0.309 | -0.246 | 0.508 | 2.043 | -0.091 | 0.986 | 2.978 | -0.831 | 2.413 | |

Significant predictors of $X_5$ are as follows:

$$X_5 = 4.339 - 0.122X_3 - 0.241X_8 + c \qquad (1)$$

This implies individuals who use smart phone while spending time with family and friends use mobile less number of hours per day (negative correlation with $X_3$) and they have less insight about the negative effects of mobile on face-to-face communication (negative correlation with $X_8$).

Significant predictor of $X_6$ is as follows:

$$X_6 = 0.333 + 0.216X_9 + c \quad (2)$$

This implies individuals who disliking use of mobile when others use it during communication with them ($X_6$) have insight about negative effect of mobile use on quality of communication.

Significant predictors of $X_8$ are as follows:

$$X_8 = 2.78 - 0.361X_5 + 0.159X_9 + c \qquad (3)$$

This implies individuals who have insight about negative effect of mobile use on face-to-face interpersonal communication use smart phone less while spending time with family and friends ay (negative correlation with $X_5$) and they have insight about the negative effects of mobile on quality of communication (positive correlation with $X_9$).

Significant predictors of $X_9$ are as follows:

$$X_9 = 0.552 + 0.181X_3 + 0.399X_6 + 0.367X_8 + c \qquad (4)$$

This implies individuals who have insight about negative effect of mobile use on quality of communication use smart phone more daily (positive correlation with $X_3$), they dislike when others use mobile during personal communication with them (positive correlation with $X_6$) and have insight about the negative effects of mobile on interpersonal communication (positive correlation with $X_8$).

Individuals who use smart phone while spending time with family and friends generally use it fewer hours per day and they lack insight about the negative effect of it on face-to-face communication. Individuals who dislike using smart phone by others while communicating with them have insight of its negative effect on interpersonal communication and its quality. No significant contribution of gender or age is found on use of mobile, dislike of use of mobile during personal communication and insight about negative effect of mobile device on interpersonal communication and its quality.

## LIMITATIONS

This study has its own set of limitations as the survey used was a convenience sample and therefore, cannot be generalized to a greater population. Additionally, the survey used a volunteer sample of self-selected subjects to participate in the study, potentially bringing about biases. Another potential bias is possible because only individuals in their first year of MBA programme participated and the millennial from different background were not approached. There was not an even participation of the boys and girls.

## DISCUSSION AND CONCLUSIONS

Self-reports of young adults indicate that 99.04% of the sample taken possess and carry mobile communication device. Majority of young adults use smart phone during face to face communication and about a third choose to communicate with family and friends with mobile devices. Besides, they are mindful of negative effects of using mobile devices during face to face communication and they dislike it too when someone uses it while communicating with them, but ironically majority of them use it themselves during face-to-face communication. Findings of the study also suggest that majority of them use it mostly for about four hours. Only 19.2% use it more than six hours. Thus the results further substantiate the media naturalness theory that face-to-face communication remains the prime and primal need of human beings. Nevertheless, many forms of new media technology such as computers, Internet, cell phones, smart phones, web camera chat, texting, social networks, blogging, android tablets and IPod's have taken a new hold in the paradigm of communication, but it has not been able to repress or inhibit certain basic human tendencies toward emotionally infused, physically present social interaction. The results

endorse that millennial in India still prefer to socialize and interact with people physically. They need to experience 'the human moment: an authentic psychological encounter that can happen only when two people share the same physical space (…) as well as have the emotional and intellectual attention' (Hallowell, 1999). Albeit, as they are swarmed by the new technological communication devices which, they cannot ignore or avoid using them as that is the demand of the time they live in. But at the same time they are conscious of the fact that too much dependence on these gadgets has a detrimental effect on their interpersonal relations. Smartphones can disrupt the symmetrical social rule of focused attention associated with encounters. That is why they expressed their displeasure when people use mobile phone during one to one interaction though they themselves have this habit of using phones while talking to people. The study further lends credence to Koch's (2001) evolutionary theory that the human mind is designed in such a way (since the times of evolution) that it is familiar to face-to-face form of communication which is characterized by a behavioral synchrony via facial expressions, gestures and oral speech (Boaz & Almquist, 1997). Thus, people, including the millennial are drawn instinctively and naturally to this format of communication and are at ease using this format. Albeit, today, however, other communication modes, such as telephone and e-mail, smart phones etc. increasingly may have dominated the daily lives of many people, but these forms of communication are too recent and unlikely to have posed evolutionary pressures that could have shaped our brain in their direction. Thereby, it can be assumed when the man uses non-natural communication media, it may pose some cognitive obstacles to communication (RoAne, 2008; Bordia, 1997; Flaherty, Pearce & Rubin, 1998; Kock, 2002). But according to Kock (2005) there is an interesting behavioral phenomenon, called compensatory adaptation which is characterized by voluntary and involuntary attempts by the individuals involved in a communicative act to compensate for the obstacles posed by an unnatural communication medium. This explains why the millennial that are flooded with new communication devices have made adjustments and have simultaneously adapted to these new technological inventions. They find these digitized communications faster and convenient and in tune with the times. Thus, it can be inferred from the results that it may take some years for the human mind to get naturally used to technology mediated communication, but presently, it is used merely as a compensatory way. Sharma (2016) thus explains that seeing someone's face on a computer while talking to them is much more satisfying and interactive than texting or talking over Facebook, which is why programmes like Skype and Face-Time have become so popular.

Further, from the Indian perspective, it can be also interpreted that the millennial prefer physical proximity, face-to-face communication to digitized communication because the Indians are culturally collectivistic society where joint family system continues to prevail. Their identity is defined by group or family and they remain relationship focused. Personal interaction takes precedence over task and timelines in order to maintain close relationships. Families often live with three or four generations in the same household. Consequently, having this close physical proximity at home inevitably gravitates them to share the human moment.

It is evident from the findings of the study that both formats of communication have its benefits. Jasimuddin (2014) for instance proposes an integrated approach where an organization can use both F-2-F and computer-mediated mechanisms simultaneously in a balanced manner. While it is impossible to deny the importance of these platforms as provided by technology and the way that they have revolutionized communication, it is important to balance these digitized interactions with face-to-face communication or human moment. True, distance face-to-face communication is not always an option due to distance or conflicting schedules, it is important

that one does not forget about it completely as people need human contact in order to survive. Whenever possible, it is important to take the time to interact with people (who matter to us) face-to-face and enjoy the benefits. Thus, a proper balance in the use of technology and the personal human interaction is required to make the relationships meaningful and maintain our mental acuity and emotional wellbeing.

## REFERENCES

Adler, I. (2013). How our digital devices are affecting our personal relationships. Applying technology to visually support language and communication in individuals. *WBUR*. Retrieved from http://legacy.wbur.org/2013/01/17/digital-lives-i

Allen, D.G. & Griffeth, R.W. (1997). Vertical and lateral information processing: The effects of gender, employee classification level and media richness on communication and work outcomes. *Human Relations*, *50*(10), 191-120.

Baym, N.K., Zhang, Y.B. & Lin, M. (2004). Social interactions across media. *New Media & Society*, *6*(3), 299-318.

Boaz, N.T. & Almquist, A.J. (1997). *Biological anthropology: A synthetic approach to human evolution*. Upper Saddle River, NJ: Prentice Hall.

Bonnie, A.N. & Whittaker, S. (2002). The place of face-to-face communication in distributed work. In J. Pamela Hinds & B. Sara Kiesler (Eds.), *Distributed Work*. Retrieved from https://mitpress.mit.edu/books/distributed-work

Bordia, P. (1997). Face-to-face versus computer-mediated communication: A synthesis of the experimental literature. *Journal of Business Communication*, *34*(1), 34-99.

Brignall, T.W. & Van, V.T. (2005). The impact of internet communications on social interaction. *Sociological Spectrum*, *25*(3), 335-348.

Cabral, J. (2010). Is generation Y addicted to social media? *The Elon Journal of Undergraduate Research in Communication*, *2*(1), 5-13.

Campbell, S.W. & Kwak, N. (2011). Mobile communication and civil society: Linking patterns and places of use to engagement with others in public. *Human Communication Research*, *37*, 207-222.

Choi, H.S. & Thompson, L. (2005). Old wine in a new bottle: Impact of membership change on group creativity. *Organizational Behavior and Human Decision Processes*, *98*(2), 121-132.

Drago, E. (2015). The effect of technology on face-to-face communication. *The Elon Journal of Undergraduate Research in Communications*, *6*(1), 13-19.

Draves, W.A. & Coates, J. (2011). Nine shift: Work, life and education in the 21st century. Retrieved from http://www.nineshift.com/firstChapter.htm

Emerson, J. & Bishop, J. (2012). Videophone technology and students with deaf-blindness: An English language teaching by using Meta communication actors. *Turkish Online Journal of Distance Education*, *12*(4), 201-211.

Flaherty, L.M., Pearce, K.J. & Rubin, R.B. (1998). Internet and face-to-face communication: Not functional alternatives. *Communication Quarterly*, *46*, 250-268.

Foth, M. (2006). Facilitating social networking in inner-city neighborhoods. *IEEE Computer*, *39*(9), 44-50.

Gonzales, A.L. (2014). Text-based communication influences self-esteem more than face-to-face or cellphone communication. *Computers in Human Behavior*, *39*, 197-203.

Hallowell, E.M. (1999). *The human moment at work*. HBR, January-February.

Ictech II, O.B. (2014). *Smartphone and face-to-face interactions: Extending Goffman to 21st century conversations dissertation*. University of New Orleans Theses and Dissertations.

Istifci, I., Lomidazde, T. & Demiray, U. (2011). An effective role of e-learning technology for English language teaching by using Meta communication actors. *Turkish Online Journal of Distance Education*, *12*(4).

Jasimuddin, S.M. (2014). Face-to-face interface in software development: Empirical evidence from a geographically dispersed high-tech laboratory. *International Journal of Technology and Human Interaction*, *10*(1).

Kendon, A., Harris, R.M. & Key, M.R. (1975). *Organization of behavior in face-to-face interaction*. Walter de Gruyter.

Kock, N. (2001). The ape that used email: Understanding e-communication behavior through evolution theory. *Communications of AIS*, *5*(3), 1-29.

Kock, N. (2002). Evolution and media naturalness: A look at e-communication through a Darwinian theoretical lens. *Proceedings of the 23rd International Conference on Information Systems*, 373-382.

Kock, N. (2005). Media richness or media naturalness? The evolution of our biological communication apparatus and its influence on our behavior toward e-communication tools. *IEEE Transactions on Professional Communication*, *48*(2), 117-130.

Lengacher, L. (2006). Mobile technology: Its effects on face-to-face communication and interpersonal interaction. *Undergraduate Research Journal for the Human Sciences*, *14*.

Lengacher, L. (2015). Mobile technology: Its effect on face-to-face communication and interpersonal interaction. *Undergraduate Research Journal for the Human Sciences*, *14*.

Lengel, R.H. & Daft, R.L. (1989). The selection of communication media as an executive skill. *Academy of Management*, *2*(3), 225-232.

Lenhart, A. (2012). Teens, smartphones & texting. Retrieved from http://www.pewinternet.org/2012/03/19/teens-smart phone texting

Lepp, A., Barkley, J.E. & Karpinski, A.C. (2014). The relationship between cell phone use, academic performance, anxiety and satisfaction with life in college students. *Computers in Human Behavior*, *31*, 343-350.

Litchy, J. & Kachour, M. (2014). Understanding the culture of young internet users in a rapidly changing society. *International Journal of Technology and Human Interaction*, *10*(4).

Litchy, J. & Kachour, M. (2016). Understanding how students interact with technology for knowledge-sharing: The emergence of a new 'social' divide in France. *International Journal of Technology and Human Interaction*, *12*(1).

Madrigal, A.C. (2013). More than 90% of adult Americans have cell phones. Retrieved from http://www.theatlantic.com/technology/archive/2013/06/more-than-90-of-adult-americans-have-cell-phones/276615/

May, A.C. (2011). *Influences of technology on interpersonal skills of youth*. Available from University of Wisconsin-Stout.

Mesquita, A. & Tsai, C. (2015). *Human behavior, psychology and social interaction in the digital era*. Hershey, P.A.: IGI Global.

Misra, S., Cheng, L., Genevie, J. & Yuan, M. (2014). The IPhone effect: The quality of in-person social interactions in the presence of mobile device. *Environment & Behavior*, 1-24.

Munoz, M. (2013). *Preference for online communication and its effect on perceived social skills and academic performance (Master's thesis)*. Available from Online Computer Library Center.

Pierce, T. (2009). Social anxiety and technology face-to-face communication versus technological communication among teens. *Computers in Human Behavior*, *25*, 1367-1372.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5), 1-10.

Przybylski, A.K. & Weinstein, N. (2012). Can you connect with me now? How the presence of mobile communication technology influences face-to-face conversation quality. *Journal of Social and Personal Relationships*, 1-10.

Rice, R. (1993). Media appropriateness: Using social presence theory to compare traditional and new organizational media. *Human Communication Research*, *19*(4), 451-484.

Rideout, V.J., Foeher, U.G. & Roberts, D.F. (2010). Generation M2: Media in the lives of 8-to-18 year olds. *Kaiser Family Foundation*, 1-85.

RoAne, S. (2008). *Face to face: How to reclaim the personal touch in a digital world*. New York: Fireside.

Rouleau, G., Gagnon, M.P. & Cote, J. (2015). *Impacts of information and communication technologies on nursing care: An overview of systematic reviews (protocol)*. Systematic Reviews.

Schnell, J. (2005). *The impact of new communication technologies and channels on historically basic channels of communication*. Online Submission.

Shane, H.C., Laubscher, E.H., Schlosser, R.W., Flynn, S., Sorce, J.F. & Abramson, J. (2012). Applying technology to visually support language and communication in individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *42*(6), 1228-1235.

Sharma, A. (2016). True purpose of HR. Retrieved from http://www.hrkatha.com/news/805-the-true-purpose-of-hr-lest-we-forget

Subrahmanyam, K. & Greenfield, P. (2008). Online communication and adolescent relationships. *Future of Children*, *18*(1), 119-146.

Tuck, G. (2014). Look up [Video file]. Retrieved from http://www.youtube.com/watch?v=Z7dLU6fk9QY

Turkle, S. (2012). *Alone together: Why we expect more from technology and less from each other*. New York, NY: Basic Books.

Wright, K.B. & Webb, L.M. (2011). *Computer-mediated communication in personal relationships*. Peter Lang.