

**Use of Information & Communication Technologies and its Effects on Family  
Communication: From Adoption to Acceptance**

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**Abstract**

The digital era has revolutionized human communication where the face-to-face communication is increasingly taken over by the technology-mediated interactions and such relations have a profound impact on family communication and relationships with others. The research paper deals with the most common applications of Information and Communication Technologies (ICTs) including the impact on family communication among University students. A quantitative survey research methodology was used to collect data of 388 students (117 girls and 271 boys) at NUST University Islamabad through stratified random sampling and analysed with the aid of questionnaire in the SPSS. Results indicate that communication via the ICTs has considerably a positive influence on the communication between family members. However, on the other hand, unlike what people believe, family communication could be facilitated by innovations and learning through ICTs to an extent as well as entertainment. Nonetheless, the issue of overuse brings about the importance of implementing means of balancing online based and real-life communications. The solution proposed to the above issue is to introduce so-called "tech-free" dinner or a meeting time to the family to establish closer connections with each other and use digital technologies to connect emotionally, especially with the family members who must be in a different location.

**Keywords:** Digital Technologies, Information and Communication Technologies, Family Communication, Technology usage, Communication patterns.

**Introduction**

Information and communication technologies have a significant impact on the life of almost every family nowadays, and it is difficult to imagine the everyday life without multiple devices of modern technologies. The significance of ICTs should not be overemphasized in this case, such as instant messaging applications, such as WhatsApp, as well as social media platforms, such as Facebook, X (previously Twitter), and Threads etc. With the advent of the digital age which is marked by interaction between the machines and human beings, there have been significant alterations in the way humans communicate. Technical affordance has been the driver behind the use of human-machine communication as the main mode of communicating where in-person interpersonal contact is no longer the leading mode of interaction. About two decades ago, families were majorly FtF communicating (Stafford & Hillyer, 2012). Digital communication in families is taking the place of face to face communication and interaction and such a shift is forming a virtual culture in information technology communication. Besides, being considerate to others includes not wanting to bother them (Mailin, Dalimunthe, & Zein 2023). Due to the popularization of Information & communication

technologies in the contemporary culture, people have altered human interactions, most of which can be found within the bounds of families. The invention of an internet technological platform has brought about a new age in communication since people are now able to converse with each other irrespective of their respective geographical locations. These developments have very badly affected families. The family environment asserts that technology is indeed part of the family and the use of new technologies has an influence on the family system (Mesch & Frenkel, 2011) and, on the other, it states that the multi-purpose capabilities of technology are altering how families go about their business (Gora, 2009). So far, several researches on the utilization of ICTs have paid attention to the utilization of such tools inside of the family, asserting that they are exploited in communication, sharing of the experience, support of emotions, safety, and fulfilling family obligations (Rudi, Dworkin, Walker, & Doty, 2015).

Communication is key to the functionality of any given family and the general wellbeing as well as mental health of the individuals (Oltean, Perlman, Meyer, & Ferro, 2020). It has taken some time before a considerable number of families have opted to use different digital tools to communicate with each other, including social media and other technology assets (Blinn-Pike, 2009; Hughes Jr & Hans, 2001). In a survey conducted by Chen and Katz, the presence of a cell phone in the households is a must in order to communicate with the family (Chen & Katz, 2009). Family communication, verbal or nonverbal, is needed to maintain family ties and enhance the well-being of a family (Olson, 2000). Nevertheless, the question of how the Information & communication technologies impact the attitudes and behaviours of families remains to be unanswered (Aponte, 2009).

ICT has changed the way families communicate across the world via social media tools such as WhatsApp, Zoom and other social media platforms that families now use to maintain the closeness they have with one another, something that may otherwise have been made up by physical distance caused by urban migration or transnational household structures. As an example, families in areas like South Asia and Africa have been better communicating using mobile applications to keep communication between members who may live in various cities or countries where technology access has even been enhanced in the past 10 years (Prasanti, 2016; Carvalho et al., 2016). This change is ambivalently perceived as the two-edge-sword that allows strengthening relationships even though these people are physically separate yet has the additional side-effect of weakening face-to-face communication in the reconciled household. ICTs have gained firm roots in the everyday life of the developed countries. Even though parents may coexist with their children in the same household, they communicate through text messages or video calls. Research by Barrie et al. (2019) found out that this type of communication enabled by technology is an assistant to convenience and, occasionally, the quality of interpersonal relationships is undermined because digital technologies can substitute personal communications.

### **Problem Statement**

Besides establishing additional ways in which family members can interact, the technologies have also given rise to a new culture of communication that scholars have coined in a loose manner as dig culture. (Creeber & Martin, 2008). Although studies that focus on the impact of the fast technological growth and its ubiquitous character in everyday life have achieved their popularity, nothing is understood about the influence of the technological progress on family processes (Aponte, 2009; Coyne, Bushman, & Nathanson, 2012; Senyurkul & Detzner, 2009; Stafford & Hillyer, 2012; Williams & Merten, 2011). On one hand, Information & communication technologies provide families with the opportunity to communicate, but on the other hand, it is capable of replacing face-to-face communication, which can even be a cause of the decline in the functioning of families (Blinn-Pike, 2009; Hoyos Cillero & Jago, 2011). It also happens that with the normalization of a technology dependent lifestyle it has become unclear whether ICTs are a mixed, positive or negative influence despite the existence of numerous studies.

## **Significance of the Research**

The study is very relevant because it explores the revolutionary impact of Information & communication technologies on the communication aspect of social life, which is a basic pillar on the family life. As the fundamental social institution, family is essential in terms of defining the identities of individuals, socialization, and cultural continuity which is very important in researching changes taking place in the society in the name of the digital era. One of the significant gaps in existing studies comes in the fact that no previous studies specifically and separately dealt with the effects of ICTs on family communication since most of the previous work has tended to overgeneralize the effects of technology on social relationships or have merely mentioned family communication fleetingly. Moreover, it is extremely useful to examine this phenomenon in the context of sociology of the media, a field where such an analysis has not been done before, thus offering valuable insight into the comparably limited studies that have investigated the influence of technological innovation on families and how technology has become an important element of our lives and how it has changed into an essential part of communication (Tadpatrikar, Sharma, & Viswanath, 2021). On the basis of literature review, the majority of the literature revolved around parents and adolescents' ICTs and their interpersonal relationship. Hence, a gap on the use of electronic gadgets among students studying in university and who are in the early ages of adulthood and its impact on communication in families can be said to exist.

## **Objectives of the Study:**

1. To find out the frequency of information & communication technologies used by university students.
2. To investigate the factors contributing to the excessive use of information & communication technologies.
3. To investigate the effects of information & communication technologies usage on family communication.

## **Literature Review**

Information and Communication Technologies (ICTs) have revolutionized communication where the dimensions of communication have been extended to include email, instant messaging, and social media (e.g., Facebook, Instagram, X) in addition to the traditional communication forms in terms of phone conversations and in-person contacts. Both channels have their unique benefits as face-to-face communication implies nonverbal messages and instant replies whereas phones allow communication in real-time but not visual information. Communication through instant messaging and emails enables synchronous interaction, social media involves sharing through multimedia, thus transforming the family communication structure (Wang et al., 2015). Through ICTs, time and space are no longer a barrier and communication is efficient and accessible, which helps to tightly bind the family as well as have concerns over lack of quality time and social alienation due to being addicted to devices. Further, the prevailing nature of family communication has changed and the approach is now necessitated by the need to have digital literacy as the family adopt new ways of communication (Dunu & Uzochukwu, 2015). Smartphones, computers, and internet services are currently part of family, educational, and work life (Ben Youssef, Dahmani, & Ragni, 2022). In conjunction with these developments, digital divide based on access and skills still exists; causing a global virtual divide (Tezci, 2011; Adel et al., 2022).

ICT also promotes the communication between distances and time zones, such as the platform in use like WhatsApp, Facebook, Instagram and Twitter (Daramola, 2012; Ramanujam, 2008). Current technologies make communication possible without being there, which helps in enhancing relations within a given family (Grant, 2009; Green, 2002; Kennedy & Wellman, 2007). Being an early adopter, ICTs are heavily used by college students to communicate with relatives and extended family members, and mobile devices ensure the control over the interactions (Jones, 2002; Jacobsen &

Forste, 2011; Chen & Katz, 2009; Madell & Muncer, 2007). More technology usage is related to better academic performance and enhanced interpersonal relationship (Suhail & Bargees, 2006), but excessive technology use has been correlated with emotional disturbances, declining levels of self-esteem and wellbeing (Niemz et al., 2005; Kim & Davis, 2009; Schifffrin et al., 2010). Digital communication does not only help adapt to a new environment but allows the international student to keep the family ties, although the former also provokes stress and health hazards (Baron, 2011; Gordon et al., 2007). Communication among the family members is crucial to both family functioning and wellbeing (Olson & Barnes, 2004) brings some satisfaction and cohesion (Barnes & Olson, 1985) and positive outcomes in terms of mental health (Mallinger et al., 2006). In the diminishing nuclear family set-ups (Cowan & Cowan, 2019), communication using mobile phones and social media with the assistance of technology has not only been of paramount importance but also instrumental (Blinn-Pike, 2009; Hughes & Hans, 2001; Chen & Katz, 2009). The co-playing activity helps in strengthening family communication particularly the one having initially weak patterns of communication (Aarsand, 2007) due to cooperative activities in video games that help in building intimacy than competitive games (Sherry et al., 2006). Therefore, despite the potential of the digital technologies to improve communication in a family, its control becomes a crucial aspect of the perspective of the beneficial results enhancement and reduction of undesirable outcomes.

## Theoretical framework

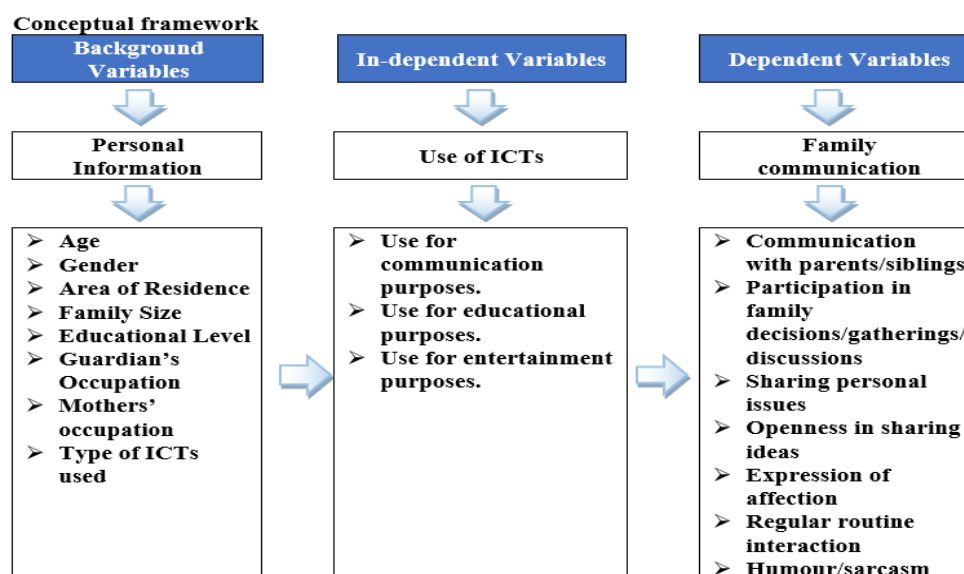
### Social Capital Theory

The Theory of Social Capital, especially a relational social capital element, was referred to in the current research to analyse the influence of digital technology use on family communication. Gooderham (2007) states that relationship qualities of interpersonal links are a subcategory of social capital and include friendship, trust, obligations, and respect as some of the focuses of social capital. Specifically, the relational element of social capital, the nature, and quality of the relationship which are established as a result of interaction that occur with time is clearly defined by Lefebvre et al. (Lefebvre and others, 2016).

**Dimensions of Social Capital Theory**

<b>Structural</b>	<b>Cognitive</b>	<b>Relational</b>
Social organization	Common understandings	Relationships' nature and quality
<ul style="list-style-type: none"> <li>• Roles, regulations, precedents, and processes</li> <li>• Network connections and setup</li> </ul>	<ul style="list-style-type: none"> <li>• Common tales, codes, and language</li> <li>• Similar attitudes, ideals, and convictions</li> </ul>	<ul style="list-style-type: none"> <li>• Credibility, reliability Standards &amp; penalties.</li> <li>• Expectations &amp; requirements.</li> </ul>

Interpreting the family communication process as social capital that can be produced after incitement amidst family members (a small-scale social unit) could offer a holistic useful framework of insight with the regards to the complexities in the familial ties. The present research follows the social capital theory approach when examining the changes in interaction patterns that become possible as the result of utilizing Information & communication technologies within a family. How does it impact the family communication as relational social capital in this case? The paper examined the relationship between how variation in technology of one of the relatives affects the relationship and functions of the other household members.



## Research Methodology

The research design of the current study is quantitative. The type of research was a non-experimental research design where cross-sectional research design has been adopted by the research where the researcher observed a sample or total population at a moment in time and analysis of the traits of the population at a moment in time. The community or target group of the proposed study were the Islamabad students (university) of higher education. The population comprises undergraduate students, post-graduate students, aged between 18-35 who are studying at an Islamabad based university NUST which had a population of approximately 13000 students (girls 3900, boys 9100). Presently, stratified random sampling is used to select the sample. In the study the sample size has been considered to be 388 with male (271) and female (117). Data collection instrument used in the research study was questionnaire which was closed ended. The study used social survey method and survey designed by structured observation in a social context and the one which aided in elucidating the requirements of individuals on particular topics. Quantitative information about the items of a population is obtained using surveys. The researcher completed face to face questions, in the sample that she selected to research on, as Islamabad is the current research population. The statistical results have analysed, discussed and presented the values of the study attributes. It carried out frequency distribution and hypothesis testing. The frequency and the presence of relationships among the variables were computed using Univariate, bi-variate analysis, correlation. More so in interpretation of data, researchers used coding, tabulation/graph and statistical analysis. Correlation coefficient measures the level and the direction of the relationship between two variables. Pearson correlation is used in the present research.

## Reliability Statistics

Variable	No. of items	Cronbach's alpha
Use of digital technologies	24	.708
Family communication	16	.933

The table above gives the reliability analysis of the independent and dependent variables measured in terms of Cronbach alpha. This is a statistical test of measuring how well a scale measures the same

thing internally, in other words, how consistently the items in each variable measure what they are designed to measure. The Use of Digital Technologies variable consisted of 24 items, and the Cronbach alpha of this research was 0.708 and it shows a good degree of reliability. It is greater than the widely used 0.7 required value, but the value implies moderate correlated internal consistency. This means that the digital technology use items are somehow correlated, but there is a possibility of making further improvement in this scale to increase its reliability. On the contrary, the Family Communication variable, comprising 16 items, also had a Cronbach alpha of 0.933 indicating an excellent internal consistency. A value of reliability coefficient greater than 0.9 indicates a high level of inter-item correlations, which implies validity and consistency of the scale to measure the construct of family communication.

## Hypothesis Testing

**Hypothesis I - There is an association between digital technologies used for communication purposes and family communication**

Correlations			
		Communication purposes	Family communication
Use of digital technologies for communication purposes	Pearson Correlation	1	.511**
	Sig. (2-tailed)		.000
	N	388	388
Family communication	Pearson Correlation	.511**	1
	Sig. (2-tailed)	.000	
	N	388	388
**. Correlation is significant at the 0.01 level (2-tailed).			

The table analysis has an expert interpretation of the correlation between the family communication and digital technologies with the help of the research results. Digital technologies and the family communication relationship have a Pearson correlation coefficient of 0.511. The value reflects a moderate positive relationship between the two variables. That is to say that the more the digital technologies are used, the more the communication is facilitated within families, and vice versa. The value of the p-value (Sig. 2-tailed) is less than the standard alpha figure of 0.01, 0.000. The p-value is significant at the 0.01 so we can conclude that the correlation is statistically significant. It can be expected that the correlation pattern between digital technologies and family communication will not be as a result of random chance. The size of the sample (N) is 388 which presents a rather large sample that lends more credence to the statistical significance of the results. In such a way, the research hypothesis concerning the existence of a connection between the digital technologies' usage in communication and family communication is answered in the affirmative, and there exists such a significant connection between the digital technologies use in communication and family communication.

Research conducted by Coyne et al. has revealed that different modes of media are used in the lives of couples, but most of them use mobile phones as a common avenue of expressing their affection easily through phone chats or text messaging (Coyne, Padilla-Walker, & Howard, 2013). Moreover, although relationship satisfaction does not seem to correlate with media consumption per se; it forecasts usage by media of; several reasons (e.g., ability to engage with many individuals in a conversation; ability to involve in serious discussions). It seems that cell phone use changed the family dynamics and the way people interact in general to healthier levels (Devitt & Roker, 2009). This technology has now become viewed by many as a must have tools that families use to stay

connected (e.g. to coordinate plans during the day) or protect their children (e.g. to communicate in the event of an emergency).

The study of transnational couples, as an example, has proved that cell phone communication contributes to a sort of virtual intimacy, which although it cannot substitute real-life intimacy, serves as a stabilizing factor to sustain long distance relationships (Aguila 2009). According to a survey by Chen and Katz of 40 households, a cell phone is a must in order to communicate with your family (Chen & Katz, 2009).

As far as cell phone usage goes, where parents like chatting (and listening to the voice of their kids), the latter like to text messages, particularly on difficult issues. Unlike a landline, the pattern of personal usage is observed in this equipment, and this allows the family to synchronize their day to day activities in real time (Lanigan, 2009). It is noted by this author that, though this type of technology has been associated with enhancing family communication, it may affect it negatively, possibly reducing context or content of communication (such as by disregarding nonverbal communications over the phone voice conversation).

The first mention of the digital technologies in the works related to the professional reality has been said, but as they become part of everyday life, it offers the family a great array of opportunities in terms of collaboration, communication, and spending time together (Grant, 2009). Moreover, since family members can meet and communicate across long distances at reasonably affordable rates with the help of digital technologies, it was also associated in another study to the maintenance of relationships, reliance on resources, and carrying out the role of a family (Green, 2002; Kennedy and Wellman, 2007). Even as a great number of researchers focus on various aspects, a number of scholars have hypothesized that the incorporation of the digital technology to contact family members also enhances the increase in frequency of communications between employees (Morgan, Morgan, & Hall, 2000).

**Hypothesis II - There is an association between digital technologies use for educational purposes and family communication**

<b>Correlations</b>			
		<b>Educational purposes</b>	<b>Family communication</b>
<b>Use of digital technologies for education purposes</b>	<b>Pearson Correlation</b>	<b>1</b>	<b>.274**</b>
	<b>Sig. (2-tailed)</b>		<b>.000</b>
	<b>N</b>	<b>388</b>	<b>388</b>
<b>Family communication</b>	<b>Pearson Correlation</b>	<b>.274**</b>	<b>1</b>
	<b>Sig. (2-tailed)</b>	<b>.000</b>	
	<b>N</b>	<b>388</b>	<b>388</b>
<b>**.</b> Correlation is significant at the 0.01 level (2-tailed).			

The findings of the above table which calls the correlation of digital technologies to be used in education with communication with family. Digital technologies as applied to education and family communication are Pearson correlated with a coefficient of 0.274. It is also a moderate and weak positive correlation between the two variables. It implies that the more the digital technologies are used to conduct educational activities, the better family communication will take place and vice versa. The value of p-value (Sig. 2-tailed) is 0.000 which is much less than 0.01. The p-value is statistically significant at level 0.01 and therefore the correlation is also significant. It implies that the digital technologies used in education context and family messages have not formed a connection due to a simple coincidence. The number of participants (N) is 388 which is a firm sample size, hence we have an assurance of the results reliability. Therefore, the research hypothesis that, digital

technologies used in education are associated with the communication between members of families is confirmed and the correlation between digital technologies used in education and the communication of the members of families is strong.

Other researchers have also associated overuse of internet with behavioural, educational, interpersonal, physical as well as psychological issues (Niemz, Griffiths, & Banyard, 2005; Suhail & Bargees, 2006), self-esteem slack (Kim & Davis, 2009) and poor wellbeing (Schiffrin, Edelman, Falkenstern, & Stewart, 2010). Despite the fact that new technologies help students stay connected to their families all the time (Gentzler, Oberhauser, Westerman, & Nadorff, 2011), their communication with their parents leaves its mark on the communication patterns adopted by students (Smith et al. 2012). New technologies appear to ease the introduction of foreign students into a new nation (Kline & Liu, 2005), as well as to introduce persistence of the connection to the native land and support of the family (Gordon, Whelan-Berry, & Hamilton, 2007). In a survey that targeted undergraduate students, it was revealed that internet-based communication enhanced family cohesion (Cemalcilar, Falbo, & Stapleton, 2005).

Among the key reasons why students use mobile phones and the internet, which they can use asynchronously, is the fact that technology helps them to have control of their social interactions (Madell & Muncer, 2007). College students who use new media more-often, e.g., social networking sites, cell phone communication and the internet- have been reported to be achieving greater academic success and experiencing greater face-to-face contact (Suhail & Bargees, 2006).

**Hypothesis III - There is an association between digital technologies use for entertainment purposes and family communication**

<b>Correlations</b>			
		<b>Entertainment purposes</b>	<b>Family communication</b>
<b>Use of digital technologies for entertainment purposes</b>	<b>Pearson Correlation</b>	<b>1</b>	<b>.238**</b>
	<b>Sig. (2-tailed)</b>		<b>.000</b>
	<b>N</b>	<b>388</b>	<b>388</b>
<b>Family communication</b>	<b>Pearson Correlation</b>	<b>.238**</b>	<b>1</b>
	<b>Sig. (2-tailed)</b>	<b>.000</b>	
	<b>N</b>	<b>388</b>	<b>388</b>
<b>** . Correlation is significant at the 0.01 level (2-tailed).</b>			

Pearson correlation coefficient of digital technologies that serve the purpose of entertainment and family communication is 0.238. This implies that there is moderate positive relationship between the two variables. It implies that the more digital technologies are used in entertainment, the more a family has an opportunity to communicate with others, with the result of the moderately increasing communication, or the other way round. Its result p-value (Sig. 2-tailed) is 0.000, which is quite smaller than the standard significance (0.01). Because p-value is greater than 0.01, we can say that correlation is statistically significant. So, the cause between the digital technologies used for the purpose of entertainment and family communication should not be random chance. This allows the statistical significance of these results to have an added reliability of 388 sample size (N).

The research hypothesis which states that between digital technologies use in entertainment cases



and family communication there is a relationship is accepted and there is a significant relationship between digital technologies use in the case of entertainment and family communication. Although the relationship is moderate, the vital result may show that digital technologies, as a form of entertainment, may affect the nature of communication in family circles. Nonetheless, this correlation is not very strong, and it might be necessary to delve deeper into determining the forces behind the relationship. This implies that greater involvement in the use of digital technologies as a means of entertainment could be linked to a minor rise in the level of family communication.

### **Research findings & Discussion**

According to Chen and Katz, it seems as though mobile phones and other information and communication technologies (ICTs) are useful in staying in touch with family members and requesting their emotional and physical support (Chen & Katz, 2009). The ability to have control over the social contacts is one of the primary reasons that students have to use the mobile phones and the internet, which can be used asynchronously (Madell & Muncer, 2007). Frequent university students who turn to new media more often, which include social networking sites, communication with the phone and the internet have been attributed to academic achievements and greater face to face social connections (Suhail & Bargees, 2006). Nevertheless, excessive use of the internet has been associated with behavioural, educational, interpersonal, physical and psychological issues (Niemz, Griffiths, & Banyard, 2005; Suhail & Bargees, 2006), falling self-esteem (Kim & Davis, 2009), and an erosion of wellbeing (Schiffirin, Edelman, Falkenstern, & Stewart, 2010).

The results of the research explain important information about the impact of the Information and communication technologies in the communication patterns of families especially among the students at the University. As more and more people embrace the digital technology into their lives, the process of familial relations is influenced by it in such a way that the influence is so complex and deep. The fact that the urban residents who formed the majority of the respondents (96.40%), are educated, and belong to the age group 17 to 23 years (70.60%) indicates that the respondents are a generation of people who are well accustomed to and dependent upon digital technologies. The high availability of devices and the internet connection throughout urban dwellers is a common correlation of urban life provided by the use of digital devices nearly universally (96.4%). This availability enables people to stay in touch with family members and peers in the face of hectic schedules and geographical locations. Information & communication technologies are likely to be very important in individual communication in the nuclear family settings where majority of the respondents live (77.1%). There is a high possibility that the smaller family size has made the digital interactions more personal and direct than in extended families.

Analysis of the data demonstrates that ICT is mostly utilized to communicate frequently, although not in length with family ones (1-3 times a day, according to 54.4 percent of the respondents). This trend speaks to the fact that digital tools can be used to update one efficiently or make a short check-in which is a good match to the active pace of life of younger adults. On top of family communication, Information & communication technologies have multiple functions as outlined by the study in day-to-day life. Many of the respondents employed the assistance of these tools as a means of education (36.1 percent used the tools 4-6 times per day) and amusement (30.9 percent used 4-6 times per day). Information via communication technologies offer convenient forms of communication, however, the majority of respondents (57.5%) spend less one hour per day using the Information tools to communicate with the family, leading to a doubt, in the depth and quality of communication.

The advantages of using digital technologies were generalized widely among the respondents especially in improving communication. Such features as instant messaging and video calling were valued because it made possible genuine interactions (50.0%) and clarity of a message (53.9%). Respondents value the practicality of digital tools with the percentage of 49.2 as they can easily adapt to everyday use. Another substantial percentage of the respondents (50.5 percent) also said that they communicate with parents daily, though the willingness to express themselves openly (47.2 percent)

and to talk about personal matters (45.1 percent) were also common attributes. Nevertheless, touching gestures of love including hugs and pats are still widespread (46.6%), which leads to the conclusion that in-person interactions acquire particular significance. Family support capacity (49.2%) proves the usefulness of the traditional family interactions and digital communication.

Besides these advantages, difficulties do not disappear. More than half of the respondents (51.3%) confessed that they tend to miss family news or events occasionally being distracted by digital entertaining. Although convenient, digital technologies can encourage the superficiality of interactions and minimize the possibilities of having deeper face-to-face conversations. The statistical correlation was a positive correlation with the value of  $r = 0.511$  which indicated a moderate association between digital communication and family interaction which means that digital resources can supplement the communication but do not replicate the richness of face-to-face interactions. The use of information & communication technologies in educational purposes was also weakly, but noticeably, related, ( $r = 0.274$ ), and the entertainment-related usage was the weakest correlated ( $r = 0.238$ ). Such results indicate that direct and purposeful utilization of digital tools has more potential to make family bonds than incidental or passive utilization.

Looked through the prism of social capital theory, specifically its relational aspect, the findings highlight the fact that the best way to leverage Information & communication technologies in improving the state of family communication is to ensure that they facilitate meaningful and direct engagements. Social networking sites like messaging applications and video conferencing are direct determinants of the accumulation of relational social capital in terms of the personal communication. Conversely, those digital tools that are mostly utilized in the educational process or entertainment do not play a very important role in the quality of interactions within the family. In sum, Information & communication technologies do have significant potential in terms of promoting family communication; still, the utility is heightened when their insights and use are thoughtful and conscious and balanced with the offline communications.

## Conclusion

The research confirms why the effects of Information & communication technologies on communication in the family is enormous, showing the potential of the transformative nature as well as difficulties. The results underscore the fact that, whereas the technologies provide unequalled connection, education, and entertainment capabilities, they too require considerate incorporation in order to ensure the goodness of the old ways of familial interactions. In the present era, the use of ICTs within the family set up is the new reality. As opposed to the past, where the effects of their usage might be perceived with scepticism, ICTs have become tools that either favourably impact family life or have no significant impact, given the fact they are not used too frequently. There is a positive relationship drawn between the use of Information & communication technologies (communication, education, and entertainment) and family communication. The study proves that with the advent of digital platforms, family members communicate more often and more freely. The technologies allow the families to communicate, bond at the emotional level, and overcome distance. On the same note, ICTs in education can be understood as efficiency and convenience booster devices so that one can move freely without neglecting educational and family commitments. Whereas their direct contribution is on the level of individual productivity, their indirect effects are the establishment of shared knowledge or collaborative activity. Finally, in regard to issues that revolve around ICTs as forms of entertainment, this paper reveals that ICTs do not necessarily have negative influences on family life unless they are over-utilized. Entertainment platforms can also be used to strengthen the relationships within the family unit as long as they are aligned to family values and routines, the entertainment platforms aim at creating shared experiences between the members of a family which make them get close to each other. In recent days, the casualization of the use of ICTs in families illustrates the major cultural change. Policymakers, educators, and families have to work on methods that can maximize beneficial properties of ICTs and manage any negative outcomes that

can arise due to overexposure to it. Additionally, research on the long-term implications of using ICTs on family dynamics may also consider different cultural and demographic settings to give a flavour of how the tools are used to influence family life.

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