USE OF TECHNOLOGY AND ITS IMPACT ON CHILDREN, YOUTH AND YOUNG ADULTS: AN EMPIRICAL STUDY

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ABSTRACT

The multifaceted impact of technology on children, youth, and young adults has restructured the way we live, work and interact with each other. The term "Gen Tech" fits the modern youth very well. Technology is ubiquitous in current times hence the desire to stay up to date with the newest devices and trends, is an idiosyncrasy of today's generation. Technology enhances educational engagement through interactive learning tools, promotes creativity via digital platforms, and fosters community building through social media and online collaborations. Despite having greatly improved the functionality, connectivity and ease of living around the world, impact of technology continues to have criticizers and is not free from the limelight. UNICEF (2017) has expressed concern that world has already been altered by digital technology in its report entitled 'Children in Digital World", and childhood is also being changed as more and more kids use the internet globally. The age group with the greatest connections is youth (ages 15–24) with 71% of people worldwide using the internet, compared to 48% of people overall. It is a staggering fact that around one-third of the people who use the internet are teens under the age of 18. Overall, the impact of technology on society is complex, with both positive and negative effects. While they have the potential to drive progress and improve quality of life, they also present challenges that require careful management and ethical consideration. Technology serves as a vital resource for mental health support and personal development, providing access to information and virtual support networks. By emphasizing these beneficial aspects, the research advocates for the integration of technology in educational and developmental strategies, aiming to maximize its positive effects while ensuring responsible usage. The insights derived from this study offer valuable recommendations for educators, parents, and policymakers in harnessing technology to enrich the lives of younger generations.

Keywords: Science, Technology, Social Media, Youth, Young Adults, Impact, Psychology, Communication

INTRODUCTION

Evolution in science and technology is a boon. The globe has already undergone "digitalization," much like it has with urbanization and globalization. The way we interact through various mediums has enhanced abruptly in recent years, particularly evident in sectors like banking. Traditional banking methods, which relied heavily on in-person transactions, have evolved into a digital-first approach. Online banking apps and platforms now allow users to manage their finances seamlessly from anywhere, offering services such as instant fund transfers, mobile check deposits, and real-time transaction alerts.

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This shift has not only increased convenience but also improved accessibility, enabling individuals in remote areas to engage with financial services easily. Furthermore, advancements in security technologies, such as biometric authentication and encryption, have enhanced trust and safety in online transactions. As a result, customers can engage with their banks anytime and anywhere, fostering a more efficient and user-friendly experience.

In summary, the rapid evolution of banking technology illustrates how our interactions have transformed, making financial management more accessible and efficient than ever before.

Information and communication technology (ICT) is already advancing at an unstoppable rate, influencing almost every aspect of contemporary life, including economies, communities, and cultures, as well as daily living. This evolution has impacted our lives in several ways. In the time of digitalisation, each person is immersed into the latest electronic gadgets, social media platforms, trends and updates. The evolution of science and technology is a boon at times for making our lives easy. However, the way we are being totally immersed into technology is making us less social thus affecting our physical and mental health.

The first is the "social shaping of technology" approach, first put forth by Edge in his paper "The Social Shaping of Technology" and later explored in the work of Mackenzie and Wajcman (1985). These authors are also the editors of IT and Society, a reader recently released by Nick Heap and associates at the Open University. In its simplest form, this perspective argues that the entangled link is influenced by a range of organizational, political, social, and economic factors, as well as by previously established technology arrangements. Technology was described as "the means or activity by which man seeks to change or manipulate his environment" by the middle of the 20th century. It is only recently that technology has been articulated as a concept. Technology has also been linked to a significant impact on society. For instance, one of the foundational definitions is found in Bain's essay. begins, in general, with the following statement about technology: "In producing, integrating, and destroying cultural phenomena, technology is the most important single factor." "All tools, machines, utensils, weapons, instruments, housing, clothing, communicating and transporting devices and the skills by which we produce and use them". Another viewpoint as put forward by Stiegler's succinct description of technology as "organized inorganic matter."

We are a group of high schoolers who took this initiative to explore how technology has engulfed different subsets of the society, and how its implications are visible across nation states.

The research is divided into three distinct sections: children, youth, and young adults:

i. Children's section interprets the internet's different learning platforms, as well as the benefits and life following technology debut.

ii. Youth section has used bi-variate and tri-variate analysis to quantify data and inferred upon the multifaceted impact of technology by correlating different variables.

iii. Young adults' section has construed various demographic distributions and correlations matrix using bi-variate and tri-variate analysis.

LITERATURE REVIEW

Current section discusses various studies that have explored the topic, providing a comprehensive overview of existing research and its findings. It highlights key themes, methodologies, and results from prior investigations, illustrating how they contribute to our understanding of the subject.

By examining these studies, we can identify patterns, discrepancies, and gaps in the literature that inform the current research. This review not only contextualizes the study within the broader academic discourse but also underscores the relevance of the research questions being addressed. Ultimately, this section aims to synthesize knowledge, drawing connections between different works while paving the way for further exploration and discussion.

Numerous studies demonstrate that technology enhances learning experiences for younger generations. For instance, a study by Hattie (2012) emphasizes that the integration of digital tools in classrooms significantly boosts student engagement and achievement. Interactive platforms, such as educational apps and online resources, cater to diverse learning styles, allowing students to learn at their own pace. Sung and Hwang (2013) found that technology-enhanced learning environments improve students' critical thinking and problem-solving skills, preparing them for real-world challenges.

Technology also plays a vital role in fostering social connections among youth. Research by Valkenburg and Peter (2009) indicates that social media platforms facilitate communication and relationship-building, allowing young people to maintain friendships across distances. Furthermore, Ellison et al. (2007) found that these platforms can enhance feelings of belonging and community, particularly for marginalized groups. Such connections are crucial for emotional support and identity development during formative years.

The positive implications of technology extend to mental health as well. Naslund et al. (2016) highlight how mobile health applications provide accessible mental health resources, enabling young individuals to seek support discreetly. These tools can facilitate mindfulness practices, cognitive-behavioural techniques, and peer support networks, contributing to overall well-being. Additionally, Torous et al. (2018**)** emphasize the potential of digital platforms to reduce stigma around mental health issues, making it easier for young people to discuss and address their challenges.

Technology also serves as a medium for creativity and self-expression. Studies by Resnick (2007) illustrate how digital tools empower youth to engage in creative projects, from coding and digital art to multimedia storytelling. These activities not only enhance skills but also provide a sense of accomplishment and identity, fostering confidence and resilience.

Technology permeates every aspect of human existence and is fundamentally polarizing. An important thinker who has put forward her view on the usage of technology is Margaret Weigel (2010) who has critically examined that with an increase in new media and technology, there has also been a substantial decrease in the attention spans and patience of students. She submits that students research is mostly limited to the internet, which also leads them to be less focused on the task at hand. They also overstate their ability to multitask. However, Weigel also says that new technology has allowed students to build their interpersonal relations, as well as cross-check information taught by teachers. An interesting argument by Gustavo S. Mesch (2009) averred how technology has a deep impact on the lifestyles of youth. He says that they grew up in an environment surrounded by digital devices. They use many such domains to increase their interaction amongst each other. He also says that through the years, adolescents have started to accumulate the technology present in their houses, into their rooms. He describes this as having created a “bedroom culture” (Gustavo S. Mesch, 2009), without the screen-time management of parents. Furthermore, Mesch notes that media has played a role in shaping the skills of the youth, by making them think differently from their previous generations. However, a different perspective is put forward by S. Hussain et al. (2021), analyses, by way of experiment, that the youth and the younger generations have portrayed themselves in an idealized fashion on social media. They put up false identities that do not necessarily express who they really are.

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Excepting extravert personalities, all other personality types tend to be directly related to portraying oneself in a manner called "Pseudo self-presentation".

Alice E. Montague et al. (2015), stipulates that many of the youth in recent times have been experiencing mental health issues. Notwithstanding this, it poses to be difficult to engage in mental health therapy. They resist treatment and insist on dropping out of it. To combat this, Montague et al. (2015) suggests that technology and social media be leveraged to prevent relapse. It would not be appropriate to replace face-to-face interactions with technology, but rather use it as a tool to continue treatment even after sessions. It can be used as a complement to offline interactions.

Sonia Solera-Cotanilla et al. (2022), highlighted that most of the youth in recent times have started to be considered "Digital Natives". However, Jesu Kulandairaj (2014), analyses the impact of social media on the lives of the youth in recent times. As per the argument put forward it states that most of the youth do start their day with online networking sites. It was also found that it allowed many users to interact with their existing friends, as well as connect to-be employers. Social media, also allows the youth to showcase their abilities and their talents, to others' entertainment. Another argument put forward by Tim K. Mackey et al. (2013), analyses the usage of illicit drugs or substances, without a proper prescription. He postulates that due to the increasing rate at which technology is growing, the youth are getting access to unregulated social websites, through which they can obtain non-prescription drugs. The use of non-prescription drugs amongst students was staggeringly high, at an alarming 20.7% of the students. Most of these were 12^{th} graders. Similarly, there does not appear to be a positive or negative association or implication between teenage mental health and digital technology, according to Tobias Dienlin and Niklas Johannes (2020). It depends on the usage of the internet. As an example, using it to establish social interconnections fosters well-being, while using it to procrastinate hampers it. In general, technology has led to a heightened sense of interconnectedness amongst the youth, while also isolating them, and inducing anxiety. However, the impacts of technology on the youth are more short-term than long term. Olateju Temitope Akintayo et al. (2024) also posits that harnessing the power of artificial intelligence is an important skill to have for the youth as it becomes more and more prevalent in industries as time goes by.

Now understanding from Kraut et al. (1998) perspective, he examined the inverse relation between the growing internet use and one's engagement and social relationships in community life. This research gave assistance to the authors to relate the fact that increasing time spent online led to a negative impact on quality time with family members as well as the person's social clique which may consequently leads to the feeling of being desolate to increase. Takeuchi et al. (2015) negatively correlated the effects of watching TV with verbal intelligence quotient. This study identifies the pessimistic intellectuality (grey matter) related to the forebrain with the out turn affecting one's verbal language. There was a stability and as being related from watching TV there was no change in the sensorimotor areas as well, since this form of media indulges with less physical activity which in succession triggers changes in the volume of sensorimotor areas with relation to the grey matter. Another cross-sectional surveys of American and German university students, respectively gave the conclusions that adolescents after browsing on social medias start having that feeling of envy from others or anger towards their parents thinking that they are not provided with the same luxuries like the internet user and that the user has more rewarding life that they are absent from. As technology progresses and each child becomes more tech savvy they browse more. The term FOMO-Fear of Missing Out has been defined as "a pervasive apprehension".

Likewise, Rich M et al did a detailed analysis of music videos which raised a lot of concerns on how they influence an adolescent view and normative expectations regarding race, conflict resolution and male-female relationships. These videos often overrepresented blacks and underrepresented whites, attractive female models were made aggressors in 80% of music videos. Such types of videos lead to unnecessary stereotypes in a child's mind from a very young age even the music lyrics have been started to become explicit which reaches to every generation. Alter A. (2017) described that, there is already a rapid uptake and high usage of internet with may be due to several factors like being user friendly or its ubiquity etc.

An interesting fact, stated by Uncapher MR, Wagner AD literature on balance gave a very insightful conclusion on the fact that users who engage in frequent multi-tasking on internet are said to perform worse in cognitive tasks than the ones who do not, maybe due to sustained attention. Green and Bavelier in their recent study highlights that playing action video games for at least an hour at least for 4 days out of the week for half a year's enhances visual attention, over the visual field and even task switching abilities. The fact that technology is a big contributor to learning if it is used properly has been contemplated by DePasquale, R., McNamara, E., & Murphy, K (2003). Further he adds on that technology has so much potential to be used as an effective tool for English learning and even increasing the participation of people with disabilities. Children in elementary schools can taught by adding familiar technology tools in their academic curriculum under the supervision of their teachers. Through teachers' supervision from a young age children can have the positive exposure of technology and how they can be benefitted from it. They can be exposed to more advanced applications which they can make use of independently once they are older. On the other hand, Ewa Gustafsson (2003) expresses that young adults who experience being social and efficient have described unlimited opportunities and advantages regarding IT use, however, there are plenty risks that come with it.

According to Rev Paul (2022) excessive use of internet, games and television are related to intellectual mental health issues, however, it can also help in enabling psychosocial development. Preventing the use of the internet is an important aspect ever since society has been using technologies. Using technology excessively can have several negative impacts, including increased attention deficit symptoms, emotional and social damage to intellect, technology addiction, social isolation, and disturbed sleep. Nonetheless, there are a ton of internet resources, video games, and apps that could improve your mental and physical well-being (Margret R. Hoehe, 2020).

On the other hand, more studies have found the adverse effects of technology making it a centre for discussion.

According to Abderrahman M. Khalaf (2023), it has been actualized that teenagers have a hard time envisioning their future without social media. However, it reflects that there are many concerns emerging in social media, which can be few factors to be taken into consideration. The concerns like cyberbullying, invasion of privacy, and mental health could be linked to the hazards this population faces when using social media. Another perspective put forth by Elia Abi-Jaoude (2020) asserts that there has been a noticeable rise in social media usage. In the United States, 89% of youths between the ages of 13 and 17 own a smartphone, a number that has more than doubled in just six years. Additionally, 70% of teenagers use social media numerous times a day, up from 33% in 2012. Teenagers in Ontario reported using social media for five or more hours a day on average, up from 11% in 2013 to 16% in 2015 to 20% in 2017. Joseph Firth (2019) asseverates that each of these areas of attention can undergo both severe and prolonged changes because of using the internet, changes that may or may not correspond to changes in the brain. But a crucial area for future

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study will be determining how juvenile media consumption affects recognized development, and how this may vary from the observed effects and effects on the brain of older internet users.

Therefore, the above suggests why so many studies have found drawbacks hence making it important to further analyse the impact of technology.

RESEARCH METHODOLOGY

Although previous studies have dissected the use of technology, more research is necessitated to acquaint the factuality. This empirical study investigates the multifacted impacts of technology on children, youth, and young adults, highlighting its role as a catalyst for growth, learning, and social connectivity. This study has been conducted in Delhi NCR because the targeted audience belongs to the upper class. This study has been conducted between the period of 3 months. A pilot study was conducted on 20 students first. The total sample size was 600 from which 500 questionnaires were circulated, out of which 468 responses were received and 93 responses were not completely filled up. Hence, a total sample size of responses that have been used in the study was 375 responses. We wanted to touch 500 people hence, a mixed method approach has been used in this study. There were three categories of participants in the study: children, youth and young adults. The study has used three questionnaires to gather the information and observe the patterns accurately. In children and youth category, the sample size was of one hundred fifty each. In young adults' category, the sample size was of two hundred only.

For the children's category, a survey was conducted through the Google form enclosing 10 questions was generated and circulated amongst select age group of 6-14 years. The chosen sample was targeted because this age group belongs to the most sensitive segment. They are pliable, hence, can be molded the way their vicinity wants to mold them. As a result, the response provided us with a discreet statistical analysis of how these children's lives were impacted, either positively or negatively, by their exposure to technology.

For youth category, a survey was conducted through a Google form enclosing 10 questions were circulated amongst select age group of 15-17 years. The chosen sample was targeted because this age group is the most influential and mimics the behaviors of those in similar age groups. As a result, the response gave us comprehensive information about how teen use of technology affected them.

For young adults' category, a survey was conducted through a Google form enclosing 10 questions were circulated amongst the select age group of 18-60. This division was not only limited to early-stage young adults but included adults from 30s to late 50s and 60. The major response received was from young adults of select age group 18-45 but a few responses were from adults as well. It has further accelerated the data to give an interpretation on how the adults outlook is, as compared to the children and youth.

The data in the study was anatomized using the content analysis approach, and the data were statistically interpreted using SPSS software. This descriptive approach has given a panoramic view of the use of technology amongst children, youth and young adults.

RESULTS AND DISCUSSION

In modern world, everyone's life is greatly impacted by technology. It has emerged to become a crucial part of our lives. This section will now discuss the interpretations made through the collected data. This study examines how the technology has impacted our lives by segregating the study into three different sections namely, children, youth and young adults.

It has performed a deeper analysis so that the policy makers, the parents and children themselves can draw meaningful analysis or recommendations. Each category's survey data and interpretation has been examined and interpreted below:

Children:

Graph 1. highlights the visible differences in each participant's internet usage is presented in graph above, out of the participants, 53.7% picked up internet usage on their own. 11% of respondents learned how to use the internet only from their family, whereas 24.4% of contributors learned how to use it from their siblings or friends.

Graph 1. Children medium for learning (Internet)

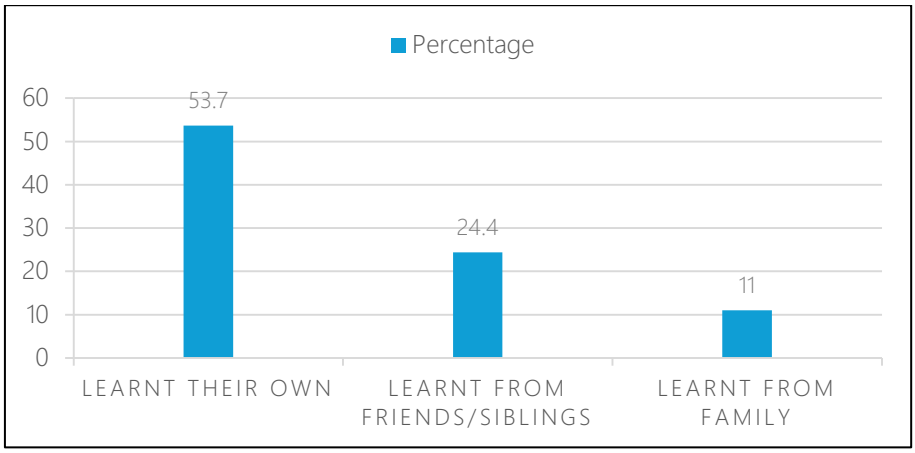

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Table 1. Advantages of Technology

S. No.	Advantages	Percentage
1	Privacy control encryption	30%
2	Games that can increase IQ	23%
3	Use technology to make educational activities more fun	15%
4	Online worksheets	15%
5	Limited screen time	12%
6	Safer environment	5%

Source: Survey Data

Table 1 infers that children care for their privacy and security in online platforms, therefore the feature that is most wanted is "Privacy control encryption" with 30%. This is an indication that youthful internet users are very much concerned with protection of their personal data. Closely after "Games that can increase IQ" we find 23%, that children appreciate educational games, activities, and tasks that help to develop intelligence while playing. Online worksheets and the use of technology for making the educational activities more fun oriented activities have equal percentage, which is 15 percent; this shows that people are in support of fun based activities that assists in the education process. With 'limited screen time' at 12% the respondents are affirming that they understand that the internet has negative effects, and therefore they would benefit from mechanisms to reduce its usage. Notably, Safer environment is the least of concern at 5%: this may mean that most of the users already feel safe while others may not be very much concerned with issues to do with online safety measures. The research antecedents have clearly argued and supported the

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constituent concerns, including preferences for privatization, stimulation of intellectual interest, and effective and interesting education.

Table 2: Life Online and Social interactions

S. No.	Variables associated	Percentage
1	Physical health deteriorates	40%
3	Escape from studies	20%
4	More active online social life	20%
5	Family time reduced	10%
6	Leads to Depression	10%

Source: Survey Data

The evidence presents more than one story of how increased internet use influences kids' social interactions. That is why Table 2. discusses such options as "Family time reduced" "Whole day spent on internet" "More active online social life" "Physical health deteriorates" counts at 40 and 20 percent respectively indicating that the online world drastically reconfigures daily and social existence. Less time spent with family can be interpreted as the focus shift toward the online connections as opposed to the actual physical connections between the individuals, which can have negative effects on the family bonds. Together with it, the whole day in social networks raises a more general trend of digital mobbing, which along with an active social life, leads to social isolation and physical suffering.

Through equal stressing of physical health deterioration due to the effects of pro longed screen time like sedentary behaviour it becomes evident that the general consequences encompass obesity, poor posture, eye strain to name a few. "Escape from studies" and "Leads to Depression" each make up 10%, separately, meaning that a significant proportion of children run to the internet to escape academic pressure or use the internet to cope with stress without knowing that they are putting their lives at risk of developing depression or anxiety disorders for future.

Table 3. Post Tech Life

S.No.	Variables associated	Percentage
1	Exploration easier	50%
2	Made life easier	15%
3	Social Connectivity (Increased)	14%
4	Increased Awareness	11%
5	Addiction	10%

Source: Survey Data

From the data obtained, it is clear that children going through the most meaningful life transition after using the internet, is facilitated exploration, which constitutes 50%. It stands out of all the other variables. From this perspective, it appears that internet has increased children's facilities to search new information, develop new interests and perspectives. Followed by ''Made life easier'' comes next with 15% of the responses noting that through the internet, work and other chores are made easier and solutions are readily available. Furthermore, 14% of children experienced higher levels of social connectivity, underlining to a great extent the role of the internet in expanding and improving the connections experienced by children. The occurrence of "Increased awareness" is detected at 11%, which may be attributed to the internet's ability to widen children's horizon. The least significant

variable is addiction that counts 10% of respondents, which means that the advantages of using the internet are accompanied by a conditioned dependence. On a general note, internet is perceived to be a very useful venture for exploration and making of life easier, but is associated with challenges such as addiction. Technology integration in children's life should be a balanced process and its usage should be in such a way that it has a positive impact on a child where one can use it for both knowledge and entertainment purpose.

Table 4. Drawbacks of Technology

Drawbacks of Technology	Male (In Percent) n=58	Female (In Percent) n=42	Conditional Probability		Relative odds (Female: Male): Likelihood affect
			Male	Female	
Wastage of time	35(60)	25(60)	.60	.59	.41
Connectivity (Chats and Messages)	52(90)	29(70)	.90	.69	
Health Implications	46(80)	21(50)	.88	.50	
Addiction to devices	52(90)	21(50)	.90	.50	
Negative exposure	35(60)	29(70)	.60	.70	

Source: Survey Data

According to the survey results highlights, children's online activities may have an impact on how well they perform, with addiction to devices approximately 90 percent in males, followed by 50 percent in females respectively. Thus, spending too much time online may actually divert attention away from learning. Followed by this, connectivity through chats and messages across both the genders around 90 percent in males and 70 percent in females. This is a real and astonishing fact that excessive usage of technology causes various kinds of physical ailments and thus, reduces the span of attention of children within different age group.

The two impacts that were cited, "Negative Exposure" 60%in males and 70 % in female and Wastage of time which spans 60 percent in both the genders, highlights the possibility of dependence on the application and exposure to content that is prohibited and might affect their mental and emotional states. From the above table, will can infer that the females are less likely to use technology as and when compared to their male counterparts. The relative odds ratio for females stands at .41 if compare them with the males.

Therefore, this section has highlighted that the two most important factors are i) advantages of technology and ii) online life and social interactions. Whereas, the two least important factors are i) Drawbacks of technology and ii) post tech life.

Youth:

The digital future presents both opportunities and difficulties, particularly for the youth. One-fifth of the young people on the planet live in India. In the budget for 2022–2023, the Indian government announced plans to build a digital university, which might democratize and increase access to education. The pandemic caused a spike in the number of start-ups in India, nearly all of which were created and run by youthful, vibrant, tech-savvy business people with the goal of offering cutting-edge solutions to enduring issues, raising people's quality of life overall and advancing society as a whole. The younger generation in India is actually the global and domestic technological leaders of the future. The digital future has great promise for young people, opening up a universe of possibilities. Indian youth's digital future will be protected by teaching them the importance of following the law and how to use technology for good, which will help them grow up to be educated digital citizens in the next information era. The youth can fully realize the promise of the digital future and pave the way for a wealthy and inclusive society if given the correct direction and assistance. This section of the

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paper highlights how technology is affecting youth and its implications for the present generation.

Table 5. Bi variate analysis of age and impact of technology on life

Online life affects social life	Age		
	14-16	17-19	Total
Yes	89.3%	59.1%	76.0%
No	10.7%	40.9%	24.0%

Source: Survey Data

According to the above data, it can be inferred that a large majority of people believe that their life online affects their social life. As a result of the booming IT sector and the escalation in the use of social media by youth, most people have tended to start using more social media and other technologies in their life. However, it can also be seen that there is a discrepancy between the two age groups. As people mature, their life online does not affect their day-to-day interactions as much. As a contrast to this, the younger youth feel that their lives revolve around technology, which can be seen with the statistic marked with a "Yes" that is 89.3%. A very few numbers of youth between 14-16 feel that life online does not affect social life, but this number keeps growing as they begin to become young adults (ages 17-19).

Table 6. Tri-variate analysis of Age, Gender and 21st century skills learned from the internet

Gender/Age		21st Century Skills					
		Problem solving	Socio-psychological Intelligence	Critical thinking	Emotional intelligence	Logical reasoning	Total
Male	14-16	(66.7%)	(63.6%)	(45.5%)	(28.6%)	(40%)	(51%)
	17-19	(33.3%)	(36.4%)	(54.5%)	(71.4%)	(60%)	(49%)
Female	14-16	(83.3%)	(83.3%)	(58.3%)	(40%)	(60%)	(61.2%)
	17-19	(16.7%)	(16.7%)	(41.7%)	(60%)	(40%)	(38.8%)
Total	14-16	(75%)	(61.9%)	(52.2%)	(35.3%)	(46.7%)	(56%)
	17-19	(25%)	(38.1%)	(47.8%)	(64.7%)	(53.3%)	(44%)

Source: Survey Data

The table above, which is based on survey data, shows that between the ages of 14-19, there are 5 main skills youth develop through the internet, namely, problem solving, socio psychological intelligence, critical thinking, emotional intelligence, and logical reasoning. In the case of problem solving, participants in the age category of 14-16 were more likely to develop problem solving skills as well as socio psychological intelligence than others. However, the participants who learnt to use the internet a longer time back seemed to become more emotionally intelligent and more logical. From this, it can be assumed reasonably that people between 14 and 16 years of age learn more practical skills, like solving different difficulties and being more socially aware, through the internet. However, the other age group was more conscious of emotions and logic.

In terms of gender, the empirical information gleaned from the survey suggests that females are more emotionally intelligent than males. On the other hand, males are more logically oriented. The other 3 skills learnt from the internet have very similar results for both males and females. However, the aforementioned result seems to indicate that females care more for other's emotions and are quite sensitive to feelings, while males focus more on thinking objectively and rationally.

Table 7. Bi-variate analysis between cons of the internet (youth) and learning to use

Learnt Internet	Cons of Internet				
	Addiction	Age-inappropriate content	Cyber-bullying	Unwanted violence	Total
Learning things on your own	(74.5%)	(62.5%)	(55%)	(100%)	(70%)
Learning things from siblings or friends	(12.8%)	(29.2%)	(30%)	(0%)	(19%)
Learning things from family	(10.6%)	(0%)	(0%)	(0%)	(5%)
Learning things from school	(2.1%)	(8.3%)	(15%)	(0%)	(6%)

Source: Survey Data

According to the survey data, when the youth learn to use the internet on their own, they are more likely to face problems, and are more likely to dislike the internet in general. Out of all the other 3 options of learning to use the internet, the highest dislike ratio is with learning to use the internet by yourself. When the youth spend time on the internet alone, and traverse the annals of the web by themselves, they tend to encounter more inappropriate content. They get hooked to this and linger on the net more than they should. As a result, they join internet forums and social medias, where they may even get cyberbullied. A similar fate to this is what people face when they explore the internet with the help of their friends or siblings. Generally, addiction is the most prevalent problem, closely followed by unwanted sexual content.

Table 8. Bi variate analysis of youth liking about the internet and affects on their social life

Social Life	Using it to entertain oneself	Using it to increase knowledge base	Using it to exchange ideas, or chat with friends	Using it to play games	Using it to learn things for school
Time consumed online	(47.4%)	(21.1%)	(7.9%)	(15.8%)	(7.9%)
Changes in sleep pattern	(53.3%)	(6.7%)	(13.3%)	(26.7%)	(0%)
Impact on mental health	(40%)	(20%)	(40%)	(0%)	(0%)
Lack in social interaction	(50%)	(16.7%)	(25%)	(8.3%)	(0%)
No impact on social life	(36%)	(28%)	(16%)	(0%)	(20%)
Total	(45%)	(20%)	(16%)	(11%)	(8%)

Source: Survey Data

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The results of the survey conducted by us show how youth's life online affects what they like about the internet. The statistics show that most of the people who spend too much time online use that time to entertain themselves, and not for any important or work-related tasks. They also play games quite a lot and procrastinate their work. People whose sleep pattern has changed due to internet are also in the same boat. As a cause of improper internet usage habits, like using phones right before bed and right after waking up, youth have started to develop unconventional and inappropriate sleeping patterns. For people who spend less time with their loved ones, they seem to talk to other people online more. They exchange ideas and entertain themselves through the internet and make new friends online. In general, it can be seen that only a minority of people use the internet to learn things or to increase their knowledge base. Mostly, it is used to play games, entertain oneself or talk to people online.

Table 9. Bi- variate analysis of communication with offline friends and youth learning to use internet

Learnt Internet from	Communication with offline friends			
	Chatting online	**Voice calls**	**Meeting offline**	**Video Calling**
Learning things on your own	(50%)	(20%)	(28.6%)	(1.4%)
Learning things from siblings or friends	(57.9%)	(5.3%)	(36.8%)	(0%)
Learning things from family	(20%)	(80%)	(0%)	(0%)
Learning things from school	(0%)	(66.7%)	(33.3%)	(0%)
Total	(47%)	(23%)	(29%)	(1%)

Source: Survey Data

From the above table, it can be inferred that in general, the most pervasive form of communication with offline friends is through online methods, like chatting and voice calls. Through the survey data, a conclusion can be drawn that when youth learn to use internet by themselves or through others who have learnt internet by themselves, they prefer to keep their faces and voices hidden. They do not want to reveal their full identities and want to remain secretive. This can be seen through the data of 'learning things on your own' and 'learning things from siblings or friends'. Meanwhile, when the youth learn to use the internet through adults or through schools, they are less secretive, and more 'in the moment', as they prefer doing voice calls and meeting their friends offline.

Thus, the two most crucial elements have been highlighted in this section are i) they learnt to use internet on their own and ii) their social life was not much affected by the use of internet.

Young Adults:

Table 6: Demographic Distribution Age and Sex-Wise

Age	**Male Percent**	**Female Percent**	**Total**	
18-28	56.0%	44.0%	75	100.0%
29-40	53.8%	46.2%	13	100.0%
>40	25.0%	75.0%	12	100.0%
Total	52.0%	48.0%	100	100.0%

Source: Survey Data

The study surveyed around 100 young adults to get the below data out of which, 52 young adults were boys whereas 48 people were girls. As you can see, most young adults who

replied to the questions of our survey had the age of 18-28. 75% of the total people surveyed were in the age group of 18-28. The remaining 25% belonged from ages 29-40 and 40+.

Table7: Bi-variate analysis between age and life online

Age categories	Life online affects your social life?	
	Yes	No
18-28	71.4%	28.6%
29-40	93.8%	6.3%
>40	66.7%	33.3%
Total	74.0%	26.0%

Source: Survey Data

According to the survey data, regardless of age, a lot of people are affected by not just the Internet but also life online. It can be seen that the number of people aged 18-28 are affected by usage of the Internet but not as much as the people of age from 29-40. This is because people aged 18-28 only use technology for educational purposes but not for professional purposes. However, as mentioned before, people aged 29-40 are highly affected by the internet as they tend to use the Internet and technology for professional purposes like conference calls, presentations, research, etc. which requires a lot of usage of technology. Finally, people evolving in their professions are also affected by the Internet but not as much. This may happen due to not having many reasons to use the internet as they may not have many requirements.

Table 8: Bi-variate analysis between age and disadvantages of Internet

Age	Disadvantages of the Internet			
	Unwanted violence	Cyber-bullying	Unsolicited Content	Internet Addiction
18-28	3.2%	17.5%	22.2%	57.1%
29-40	0.0%	18.8%	18.8%	62.5%
>40	4.8%	14.3%	0.0%	81.0%
Total	3.0%	17.0%	17.0%	63.0%

Source: Survey Data

According to the survey data, it can be seen that a high percentage, namely 63% of the people from the survey dislike the fact that they are addicted to the internet and the online platforms. According to the data, it is also proven above that more people get addicted to the internet as they mature. This is because as people grow up, they use more devices and for longer periods of time, maybe for professional purposes, entertainment purposes or even educational purposes for that matter. It is also pointed out that a few percentages of people even dislike the usage of technology and are impacted by unwanted sexual activity. These people may find themselves uncomfortable after seeing nudity in some online advertisements while searching for work related stuff, as well as while using software like YouTube, Twitter, Twitch, etc. There is also a percentage victimized by cyberbullying. In this generation, cyberbullying is quite common, it could be either being rude online to random people, threatening or doxing someone, blackmailing them into giving the other person money, etc.

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Table 9. Tri-variate analysis between age, gender and internet

Gender/Age		Like about the internet				
		Learning things from phone	**Playing games**	**Entertaining self (Movies or YouTube)**	**Increase your knowledge base**	**Exchanging messages and ideas (basically texting)**
Male	18-28	14.3%	21.4%	33.3%	19.0%	11.9%
	29-40	42.9%	14.3%	42.9%	0.0%	0.0%
	>40	0.0%	0.0%	33.3%	66.7%	0.0%
Female	18-28	15.2%	12.1%	30.3%	21.2%	21.2%
	29-40	0.0%	0.0%	66.7%	16.7%	16.7%
	>40	0.0%	0.0%	33.3%	66.7%	0.0%
Total	18-28	14.7%	17.3%	32.0%	20.0%	16.0%
	29-40	23.1%	7.7%	53.8%	7.7%	7.7%
	>40	0.0%	0.0%	33.3%	66.7%	0.0%

Source: Survey Data

According to the survey data, every young adult from the age of 18-28 has been learning and liking something about Technology. This is because it is the age where people graduate school and move into college which is also where the above young adults learn and upgrade their knowledge on how to use technology. Moving deeper into the table, it can be seen that young adults at the age of 18-28 do not learn as many things from phone as males of the age group 29-40. This may occur because children may or may not find themselves interested in learning new things as it might be a source of boredom or a waste of time for them. Eventually, as they mature and reach the age of 40, they stop learning things as either they might know everything which is to be learned or there may not be as much use of learning anything. Again, if we talk about playing video games, we can only see the percentage deteriorating. This may be because as the men may grow up, there may not be as much time for the young adults to spend in video games due to their professional work. 0% gaming when they are above 40 as they may not have either time or energy to play video games. Finally, we can see that as men grow up, they stop using technology more over if it is used it is used for professional work. As for woman, regardless of the age, it is shown that at the age of 18-28, not a high percentage of women play video games, but as they grow up, not a single woman plays video games maybe because of the lack of time. However, the rate of entertainment through technology only increases here as their age increases, this may be because as they grow, women might love to entertain themselves in a regular basis, especially when they are matured enough, as they may not have much to do**.**

According to the survey data in Table 10, men from the age of 18-28 have learned critical thinking as a skill with the help of technology. Technology helps in learning of critical thinking and problem solving as there are a lot of educational and situational videos and games which one can watch or play where the audience must think and figure out the best possible solution of the problem or the situation, however, a high percentage of both males and the females have learned critical thinking as a skill as well as problem solving with the help of technology.

Table10. Tri-variate analysis between age, gender and 21st century skills

Age and Gender		21st century skills				
		Critical Thinking	Logical Reasoning	Problem Solving	Emotional Intelligence	Socio-Psychological Intelligence
18-28	Male	38.1%	19.0%	11.9%	14.3%	16.7%
	Female	6.1%	6.1%	21.2%	18.2%	48.5%
29-40	Male	28.6%	0.0%	28.6%	28.6%	14.3%
	Female	33.3%	16.7%	33.3%	0.0%	16.7%
>40	Male	0.0%	0.0%	0.0%	33.3%	66.7%
	Female	11.1%	33.3%	11.1%	11.1%	33.3%
Total	Male	34.6%	15.4%	13.5%	17.3%	19.2%
	Female	10.4%	12.5%	20.8%	14.6%	41.7%

Source: Survey Data

The data even mentions that almost half the percentage of females from the age of 18-28 have learned socio-psychological intelligence due to technology. This may be a factor as there is a lot of texting apps in the world of technology like WhatsApp, Instagram, Twitter, etc which are quite famous for texting. Texting helps improve your social interaction skills as well as the psychological understanding of a person without looking at their appearance or their facial features. It is also shown that a lot of matured men as well as women have also learned socio-psychological intelligence due to technology.

Table 11. Correlations Matrix (for young adult)

		Age	Usage of Technology
Age	Pearson Correlation	1	.676
	Sig. (2-tailed)		.212
	N	100	100
Usage of Technology	Pearson Correlation	.676	1
	Sig. (2-tailed)	.000**	

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

Source: Survey Data

Table12. Correlations Matrix for Youth

		Age	Usage of Technology
Age	Pearson Correlation	1	.402**
	Sig. (2-tailed)		.004
	N	100	100
Usage of Technology	Pearson Correlation	.402**	1
	Sig. (2-tailed)	.004	

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

Source: Survey Data

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Table 11 and 12 presents correlation matrix between age and usage of technology. The analysis of the correlation matrix indicates that few of the observed relationship were very strong. The strongest relationship was between age and Usage of Technology which indicates age is very much positively corelated when it comes to the apt usage of technology (r = .40). Similarly, for adults there exist a strong correlation and are statistically significantly corelated (r=.67).

Thus, this section has emphasized one essential element that 21st century skills like critical thinking, logical reasoning, problem solving, emotional intelligence and socio-psychological intelligence have improved amongst adults.

CONCLUSION

The research tri attained the objectives by learning. (i) the positive and negative impacts of technology on children, youth and young adults; (ii) the use of technology by the younger generation on day-to-day basis; (iii) the impact of these intertwined values in shaping the society; (iv) the future of technology in the society. To summarize the findings, three facts are worth mentioning here. First, it is evident that the balance is the key towards anything and everything because if we use anything in extreme will definitely be hazardous. Likewise, while using technology it is important to keep in mind that the internet consumption everyday must be limited to avoid negative impact like decline in socializing. Second, different people have different approach towards technology hence it cannot be generalized that internet has only positive impacts or negative impacts. It is evident from the above findings that using internet has not only helped in learning new skills but also made learning a fun activity. At the same time, internet has affected mental health because people have limited themselves to online world and stopped socializing. Third, technology has given the very freedom to youngsters for critically analysing their interests hence introduced a broader mindset at young age which could be beneficial for upcoming generation.

REFERENCES

[1]. Kraut R, Patterson M, Lundmark V. (1998). Internet paradox. A social technology that reduces social involvement and psychological well-being? *The American Psychologist 53*: 1017–1031

[2]. Takeuchi H, Taki Y, Asano K, Asano M, Sassa Y, Yokota S. (2018) . Impact of frequency of internet use on development of brain structures and verbal intelligence: longitudinal analyses. *Hum Brain Mapp.* 39:4471-9. https://doi. org/10.1002/hbm.24286

[3]. Chou H-TG, Edge N. (2012). "They are happier and having better lives than I am": the of using Facebook on perceptions of others' lives. *Cyberpsychol Behav Soc Netw 15*:117-21.

[4]. Krasnova H, Widjaja T, Buxmann P. (2015). Why following friends can hurt you: An exploratory investigation of the effects of envy on social networking sites among college-age users. *Inf Syst Res;26*:585-605. doi: 10.1287/isre.2015.0588

[5]. Rich M, Woods ER, Goodman E, Emans J, DuRant RH (1998). Aggressors or victims: Gender and race in music video violence. *Pediatrics 101*:669-74

[6]. Alter A. (2017). *Irresistible: the rise of addictive technology and the business of keeping us hooked.* London: Penguin,. [Google Scholar]

[7]. Uncapher MR, Wagner AD. (2018). Minds and brains of media multitaskers: current findings and future directions. *Proc Natl Acad Sci 115*:9889-96. [PMC free article] [PubMed] [Google Scholar]

[8]. American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders*. 5thed. Arlington, VA: American Psychiatric Association.

[9]. Green CS, Bavelier D. (2003). Action video game modifies visual selective attention. *Nature 423*(6939):534-537.

[10]. DePasquale, R., McNamara, E., & Murphy, K. (2003). Meaningful connections: Using technology in primary classrooms. Young Children on the Web, Retrieved from *http://journal.naeyc.org/btj/200311/techinprimaryclassrooms.pdf*

[11]. Gustafsson et al (2003). The use of information technology among young adults—experience, attitudes and health beliefs, *Applied Ergonomics, 34*(6), 565-570, https://doi.org/10.1016/S0003-6870(03)00082-6.

[12]. Rev Paul Pediatr (2022). Impacts of technology on children's health: *A Systematic Review*. doi:10.1590/1984-0462/2023/41/2020504

[13]. Fuller C. (2017). Bedtime Use of Technology and Associated Sleep Problems in Children. *Global Pediatric Health*. doi:10.1177/2333794X17736972

[14]. Margret R. Hoehe & Florence Thibaut (2020). Going digital: how technology use may influence human brains and behavior, *Dialogues in Clinical Neuroscience, 22*(2), 93-97,doi:10.31887/DCNS.2020.22.2/mhoehe

[15]. Khalaf AM et al(2023), The Impact of Social Media on the Mental Health of Adolescents and Young Adults: *A Systematic Review, 15*(8):e42990. doi:10.7759/cureus.42990

[16]. Elia Abi-Jaoude (2020). Smart phones, social media use and youth mental health, 192(6) E136-E141; DOI: https://doi.org/10.1503/cmaj.190434

[17]. Firth J. (2019). The "online brain": how the Internet may be changing our cognition. *World Psychiatry.18*(2):119-129. doi:10.1002/wps.20617

[18]. J Pediatr Nurs et al(2016). Adolescent Sleep and the Impact of Technology Use Before Sleep on *Daytime Function 31*(5)498-504 doi: 10.1016/j.pedn.2016.04.004

[19]. JMIR Diabetes (2021). Experiences of Young People and Their Caregivers of Using Technology to Manage Type 1 Diabetes Mellitus*: Systematic Literature Review and Narrative Synthesis; 6*(1): e20973. Doi: 10.2196/20973

[20]. Zachary B Massey (2021). An updated overview of e-cigarette impact on human health. *Respir Res 22*, 151 (2021). doi: https://doi.org/10.1186/s12931-021-01737-5

[21]. Weigel, M., Straughn, C., Gardner, H. (2010). New Digital Media and Their Potential Cognitive Impact on Youth Learning. In: Khine, M., Saleh, I. (eds) New Science of Learning. Springer, New York, NY. *https://doi.org/10.1007/978-1-4419-5716-0_1*

[22]. Mesch, Gustavo S. (2009). "The internet and youth culture." *The Hedgehog Review, 11*(1), spring 2009, pp. 50+. *Gale Academic OneFile*, link.gale.com/apps/doc/A201105960/AONE?u=anon~aefbaedb&sid=googleScholar&xid=c1eae623. Accessed 4 May 2024.

[23]. Hussain, S., Ahmed, M., Aslam, S., & Sohail, R. (2021). Technology and New Generation: Influence of Personality Traits of Youth on Virtual Pseudo Self-

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ISSN: 2186-8492, ISSN: 2186-8484 Print
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Presentation and Social Media Addiction. *Technical Journal*, *26*(3), 53-62. Retrieved from *https://tj.uettaxila.edu.pk/index.php/technical-journal/article/view/1561*

[24]. Montague, A. E., Varcin, K. J., Simmons, M. B., & Parker, A. G. (2015). Putting Technology Into Youth Mental Health Practice: Young People's Perspectives. *Sage Open, 5*(2). *https://doi.org/10.1177/2158244015581019*

[25]. Solera-Cotanilla, S.; Vega-Barbas, M.; Pérez, J.; López, G.; Matanza, J.; Álvarez-Campana, M.(2022). Security and Privacy Analysis of Youth-Oriented Connected Devices**.** *Sensors 22*, 3967. *https://doi.org/10.3390/s22113967*

[26]. Kulandairaj, A. J. (2014). Impact of social media on the lifestyle of youth. *International Journal of Technical Research and Applications*, *2*(8), 22-28.

[27]. Mackey, T. K., Liang, B. A., & Strathdee, S. A. (2013). Digital social media, youth, and nonmedical use of prescription drugs: the need for reform. *Journal of medical Internet research*, *15*(7), e143.

[28]. Dienlin, T., & Johannes, N. (2020). The impact of digital technology use on adolescent well-being . *Dialogues in clinical neuroscience*, *22*(2), 135–142. *https://doi.org/10.31887/DCNS.2020.22.2/tdienlin*

[29]. Akintayo, O. T., Eden, C. A., & Onyebuchi, N. C. (2024). Evaluating the impact of digital technology on youth leadership development in the USA. *GSC Advanced Research and Reviews*, *19*(1), 132-145.

[30]. Singhal, N., Kumar, V., Amity School of Liberal Arts, & Amity University Haryana. (2024). Tweet Talk vs. Textbooks: Distinguishing Social Media Language from Academic Discourse. In *Journal of Emerging Technologies and Innovative Research 11*(5) *https://www.jetir.org*

[31]. United Nations Children's Fund (UNICEF), Keeley, B., Little, C., Imchen, A., Diniz De Oliveira, J., Kardefelt-Winther, D., Tamagni, J., Ledwith, T., Byrne, J., Perellón, C., Reboul-Salze, A., Warpinski, A., Ge, X., Hage, Y., Nayak, B., Leston, N., Moehlmann, K., Rutsch, C., Bain, R., . . . Califra, E. (2017). *The State of the World's Children 2017*. https://files.eric.ed.gov/fulltext/ED590013.pdf

[32]. Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143-1168. https://doi.org/10.1111/j.1083-6101.2007.00367.x

[33]. Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge.

[34]. Naslund, J. A., Aschbrenner, K. A., Marsch, L. A., & Bartels, S. J. (2016). The future of mental health care: Peer-to-peer support and social media. *Epidemiology and Psychiatric Sciences*, *25*(2), 113-122. https://doi.org/10.1017/S2045796015000634

[35]. Resnick, M. (2007). Sowing the seeds for a more creative society. *The 2007 Annual Conference of the American Educational Research Association*.

[36]. Sung, Y. T., & Hwang, G. J. (2013). A collaborative mobile learning approach to improving the learning attitudes and achievements of students. *Computers & Education*, *68*, 50-58. https://doi.org/10.1016/j.compedu.2013.04.008

[37]. Torous, J., Jordan, J., & Adams, J. (2018). The digital mental health revolution: Transforming mental health care through technology. *The Journal of Mental Health Policy and Economics*, *21*(1), 1-5.

[38]. Valkenburg, P. M., & Peter, J. (2009). Social consequences of the internet for adolescents: A decade of research. *Current Directions in Psychological Science*, *18*(1), 1-5. https://doi.org/10.1111/j.1467-8721.2009.01595.x

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