Digital Technology's Application: Using Data Science Access, a Structured Exploration of the Composition for Senior Adults

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ABSTRACT

In the last few years, social media usage has swept the globe, and the number of users has exploded. From arranging neighbourhood meetings to reconnecting with old friends, social media has helped to make the world a smaller place and brought generations together on a common platform. Social media has changed the way we engage with the world around us, and social media sites are now considered as valuable companions for senior citizens (those aged 60 years and above).It's crucial to understand how this age group uses social media, as well as the potential benefits and drawbacks of doing so. This chapter provides a structured overview of social media and its use to senior citizens.

It also focuses on the senior's interests and priorities for using specific social media networks. The use of social media by seniors has increased significantly over the years; formerly, it was primarily used by the younger generation. Those who live alone, in particular, are increasingly adopting social media to better connect with the world around them. The pandemic lockdown time has also put pressure on many seniors to learn how to utilise social media platforms to stay in touch with family and friends.

Keywords-loneliness of Senior, online medical help, social interaction, digital literacy, use of mobile by elders, social networking use, events, health issues, business ,conflict, online shopping , social networking sites, Facebook, WhatsApp, gain of social media, preference of social media, Senior, social media, senior citizens, online marketing.

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INTRODUCTION

The way we engage with the world has altered as a result of social media. It has become an integral part of our daily life. From holding group activities to relinking with previous networks, social networking has changed the world a smaller into one harmony on mutual environment by bringing generations closer together.

According to studies, the number of seniors who sign up for social media platform services is steadily increasing. This new fad is sweeping the globe. The ability to access the internet via mobile devices has undoubtedly expedited this trend. Maintaining social interactions has been identified as a key component of healthy ageing. With a large percentage of seniors living alone, social media provides them with the opportunity to engage in meaningful social communication.

Social Media

Social media is an interactive technology that supports technology to allow the creation and sharing

of information, ideas, and other types of expression via virtual communities and networks via computers and/or mobile phones. In the present study we have considered Facebook, WhatsApp, Twitter, Instagram and LinkedIn as the platforms and tools of social media.

Senior

For this study we have considered the senior as those who are above 60 years of age. The internet has played a critical role in assisting senior citizens who are confined to their homes and are unable to venture out on their own. It is not that they do not like to socialize, but are restricted by the need of support to restricting their personal mobility out of the house. In some cases, they stay alone and in others, their family members are away - working. These situations can make the senior feel lonely. For them, social media has become a boon to stay connected with their loved ones using WhatsApp, Facebook and other such applications mentioned above. These social mmedia platforms have improved their lives as they can easily access information and help regarding any medical issues, transportation, groceries and home delivery facilities. These circles of the senior and their families and friends benefit from use of social media as they can easily stay connected in spite of the physical distance separating them. It is to be noted that credit must also go to the families and friends who have encouraged and taught the senior to use social media platforms.

As a result of these trends, businesses are also taking advantage to expand their networking and branding exclusively aimed at the senior. For instance, the use of smart phones and computers allows the senior better access for treatment and medicine. Businesses can now reach them through social media networks to convey medicine, collect medical samples and even set up consultations with doctors over video calls. This goes a long way to enable them to live healthier and longer. Research shows that the demographic of 60-year-olds and over, has experienced a rapid growth in social media usage. New trends estimate that more than 45% of people in this age group use social media. Moreover, this number is growing and predictions show that by the end of 2020, there will be more than 50 million such users on social media platforms in India.

In this research work, the analysis and evaluation of The Iimpact of Social Media and Networking Sites for the senior (aged 60 years and over) in India has been presented. According to research, seniors who remain socially involved and engaged experience a range of physical and mental health benefits, including increased cognitive function. Social interactions keep them sharp and mentally active, which can assist in the prevention of mental disorders and the preservation of good emotional health. Social nnetworking sites such as Facebook, WhatsApp, Twitter, LinkedIn and Instagram can be used to maintain social connect with friends, colleagues and family, irrespective of geographical distances or physical impairments. This is particularly beneficial for them as it prevents their social exclusion against which they are most vulnerable.

The senior were reluctant to use social media platforms as they appeared on the horizon one after another. Perhaps, it was perceived that it is meant for younger and technically literate younger generation only. The senior did not have the rudimentary computer knowledge as part of their school and college education at a younger age. But after watching the technology revolution in the society and realizing the importance of technology, slowly the senior started experimenting with it. As the technology evolved and became more and more user friendly and started impacting professional and personal lives of people, the senior too learned and adapted to these changes. They proceeded to use and perform several functions using technical equipment like computers, laptops and even smart phones. According to Nirmalya Thakur and Chia Y. Han, 2019, Interactive Virtual assistant serve as a cost effective solution to assist senior people in several ways. They act as means to provide social support, manage loneliness, medium of communication, reminder system and even instill positive methods in their users. Defining age can be difficult and complex due to its muti-dimensionality. Ageing can be conceptualized within the context of a four- dimensional model based on biological, cognitive, social (actions) and psychological functional areas of self [8]. The increase in human life expectancy as a result of advances in health and medicine has sparked a worldwide ageing phenomenon, prompting enthused older inhabitants to question traditional explanations and constraints. Because it is easier to quantify, consecutive age has been used to define the senior in research on ageing and

communication. For the purposes of this study, seniors are considered as persons who are sixty years old or older.

Social Remoteness and Alienation

With senior people there is negative impact on health due to alienation and social isolation, so it's important to pay attention to how technology and social media participation can provide social benefits. By offering multiple platforms to communicate with loved ones, social media participation will help to alleviate isolation. WhatsApp, Facebook, and Twitter are all readily available sites. The reasons for using social media differ from individual to person. The lessened social isolation and alienation, as well as a strong desire to participate in family life, are the most compelling reasons for seniors to utilize social media. This part of the paper discusses how social media platforms can be used to improve the quality of life of the elderly, as well as which of the many social media platforms available worldwide is the most popular among the senior defendants in this study.

They use social media to engage in groups, to create new social networks, and to form new relationships online. Spending time on Facebook, Twitter, or Instagram is more significant than talking to friends or sharing images. While younger people are more likely to use social media, the senior are still lagging behind [4]. Lack of social interaction as a result of living alone or having small social networks, according to study, can contribute to social isolation and have a negative effect on senior citizens' health. They can, however, stay socially linked by the use of these media, regardless of geographical distances or most physical impairments caused by old age [5]. It's understandable that an ageing population that's increasingly using and comprehending social media would have a significant impact on their quality of life. As a result, the outlines of social connections are changing, and this is extremely beneficial to society. The target group's responses on social media use and preferred media platforms were collected in Table 1.

Table-1: Feedback On The Use And Choice of Social Media

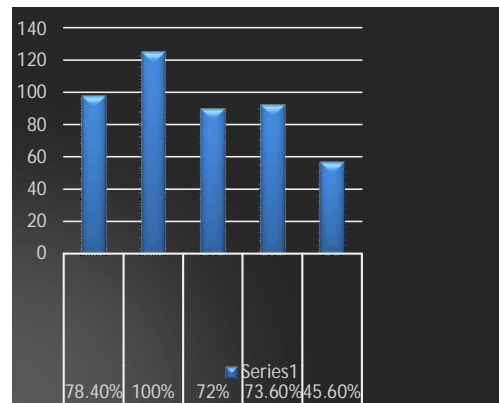| Social MediaType	Responses	Percentage
Facebook(FB)	100	78%
WhatsApp(Wapp)	145	100%
Instagram(Insta)	96	72%
Twitter(Twit.)	98	73%
Linkedin(Lin.)	67	45%

Figure. 1: Depiction of the Graphical representation of use & option of social media

WhatsApp is the most well-known media when compared to Facebook, Twitter, Instagram, and LinkedIn, according to the results. The respondent discovered that WhatsApp is incredibly simple to utilise in order to receive a tailored response.

WhatsApp is favorable, according to the respondents, because of its messaging and video calling capabilities, as well as its free accessibility. With features like group and individual talking, video calling, photo sharing, and keeping up with current happenings across the world, the social network is the most popular among the responders. LinkedIn's user base is less than that of other social media sites because it is primarily utilized by those who are still employed or self-employed. However, there is a connection between sociality and cognitive capacity. Loneliness and social isolation, for example, are predictors of cognitive impairment in people over 65 (James, Wilson, Barnes, & Bennett, 20, Tilvis et al., 2004; Wilson et al., 2007). Social networking is a powerful tool that can help people develop new friendships and become more involved in their communities. In contrast to 12 percent five years ago, 34 percent now use social media.

It was also discovered that the majority of the respondents utilised Facebook to keep socially connected with their friends, families, and society, which made their lives better. According to a different comparable survey, respondents were light Facebook users who only used a few features.

Indian Social Media Landscape

The internet has played a critical role in assisting senior citizens who are confined to their homes and are unable to venture out on their own.

India's active social media users hit 330 million in 2019 and are predicted to reach 448 million by 2023, thanks to the country's easy internet access. Facebook and YouTube are India's most popular social media platforms, but the introduction of WhatsApp to the Indian digital market boosted app usage, which has doubled in rural aspects such as education. As per the data, the messaging service's reach is increasing beyond urban areas.

Indians now download more apps than any other country's inhabitants - in 2019, Indian users downloaded nearly 19 billion apps, up 195 percent from 2016 results.

The average Indian social media user spends 17 hours per week on the platforms, which is more than the average for Chinese and American users. Social networking is popular among Customers in India who use the internet in 2021, India is expected to have over 459 million social network users, a significant rise from the 441 million anticipated in 2019. As of 2019, India has 287 million Facebook members, making it the world's most populous country.

Survey of the Senior

The use of technology has changed the way people live today.

In order to conduct this research, we used a Google Form to collect responses from 130 people aged 60 to 65 who were regular users of social media sites in their personal lives. The goal of this study was to determine how seniors use social media platforms such as WhatsApp, Facebook, and other similar platforms, as well as how these platforms aid seniors in remaining socially, mentally, emotionally, and cognitively engaged and healthy. The observations below indicate all of the respondents to this study using social media at various levels, as seen in Figure 2.
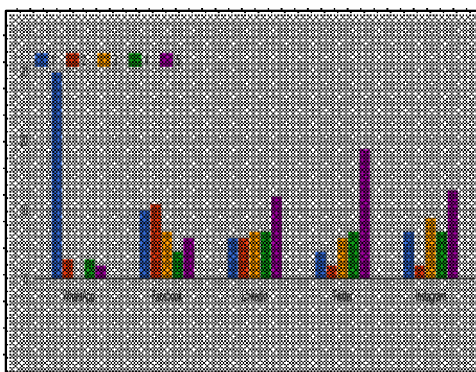

Figure 2: Usage of Social Networking Sites

It has become an essence component for living in an age of information and technology. It has the capability to change people's lives by improving their level of independence, specifically more analysed groups such as the senior ccitizens [1].

The Senior and Social Media Technology

The use of social media by the senior has risen significantly in the recent years. The group of people aged 60 to 74 has become increasingly active consumers. In 2019, 76% of respondents in this age group said they used social media, compared to 40 percent five years earlier. People aged 75 and up also showed an increase in their use of social media. Text messaging, such as via WhatsApp, is especially common among the senior. This is according to new data from Statistics Netherlands' survey on ICT use by households and individuals in 2019. (CBS).The use of social media platforms by respondent is presented below in Figure 3. It shows that all the respondents studied by us use it every day.
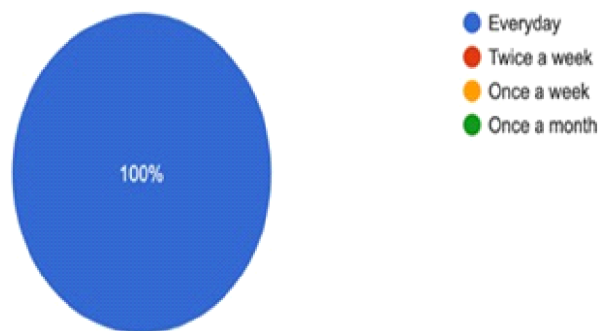

Figure 3: Frequency of visiting the social networking sites

Many senior experience loneliness if they are separated over a long distance from other family members. It is not always possible for them to visit their family members and vice versa and sometimes a phone call, text, or email isn't enough. That's where video chat platforms such as WhatsApp, Skype, Duo or Facetime can provide face to face interactions. Seeing their family member's faces can help maintain a close connection despite being far apart in distance. Figure 4 reveals that 65.8% spend less than 2 hrs, 23.7% spend 2 to 4 hrs & 10.5% spend 4 to 6 hrs every day on the social media.
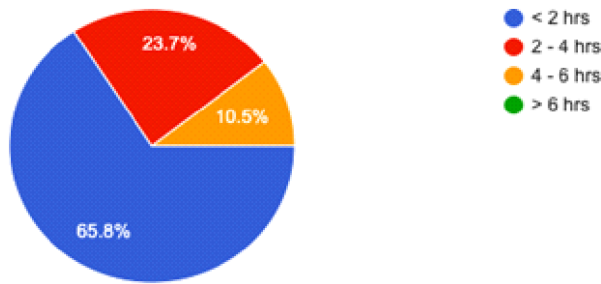
Figure 4: Timing spent on social networking sites

Apart from providing connectivity to people, social media comes with an endless amount of entertainment. The senior can search a new topic they want to on YouTube or Facebook and watch entertaining or interesting videos of their choice.

Social Networking Sites by Elders: Benefits

The benefits of enhanced social connection and help through social media use have been well established. Regardless of geographical distances or physical mobility loss as a result of ageing, the senior are able to retain social connectivity [18]. Feeling socially included without having to leave their homes encourages feelings of security and autonomy [3]. Improved social connectedness makes this group feel less isolation and depression [10] [19]. For example, using Facebook, which necessitates both social and cognitive involvement, leads to changes in both areas. This is especially true for the senior, whose social interactions and involvement have dwindled as a result of their age or retirement and the death of a partner or acquaintance [5] [17].

The increase in intergenerational communication [15] is another primary advantage highlighted by study. Communication between them and their children or grandchildren is often one-sided, with the senior putting in more effort.

Social Media and Loneliness

Loneliness among the senior is a serious issue that affects both them and their families. The death of a partner, divorce, health issues, physical immobility, other family members' busy lives, or being away from family may all contribute to loneliness. Isolation can lead to depression and other health problems so it is important to maintain their emotional and physical involvement.

This dilemma has been solved thanks to social media, with the bulk of the senior now using different social media platforms. Fakayo, O.A., McCorry, N.K., Donnell, M, 2020, Variety of intervention strategies to be tested to reduce loneliness and social isolation among older adults in terms of intervention conceptualization, categorization, and components.

Loneliness may have a major negative effect on the senior's wellbeing. "Loneliness and social isolation are related to higher blood pressure, higher cholesterol levels, depression...a loss in cognitive ability, and the development of Alzheimer's disease," according to the report".

According to Nirmalya Thakur and Chia Y. Han, 2020, lonely senior people can be found, as well as young people who need housing or caregivers for their children, and they can be linked to meet each other's needs. The 73.7% respondents feel social media helps in avoiding loneliness. The figure 5 below shows that.
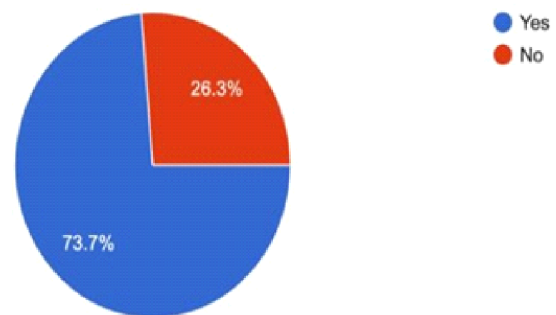

Figure 5: Social media helps to avoid loneliness

Easy to use social media sites are useful in helping them to stay connected with their friends, families and community [15]. In creating awareness and ultimately the use of the technology [18]. The senior are determined by their social peers and members of their family, particularly their children and grandchildren who play the role of change agents.

Sharing Family Events

The most important use of social media is to stay in touch with families and friends. The loved ones might be anywhere across the country or the globe, but the technology has got them very close - a click away from each other. Celebrating family events like birthdays and anniversaries or being part of any event is possible due to social media. The results of Figure 6 reveals that 94.7% respondents feel that social media helps in staying connected with loved ones.
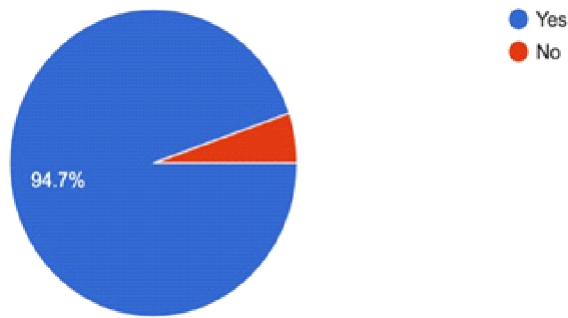
Figure 6: Connectedness with family and friends across the globe

Using video chatting platforms such as WhatsApp, Zoom, Duo, & Skype has made it possible to actually see the loved ones and feel the closeness with them. WhatsApp, Facebook & Instagram platforms are used for sharing pictures. There is an increased number of the senior incorporating the use of social media for their daily communications.

Health Issues and Social Media

Figure 7 depicts the prevalence of senior citizens using social media for health care. Social media allows you to take advantage of important health benefits. It can help with loneliness, isolation, and depressive symptoms. The majority of seniors are having difficulty with flexibility, and are leaving the house to see and spend time with family and other loved ones.
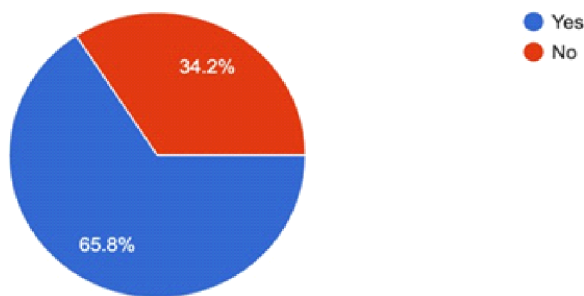

Figure 7: Use of social media for health care

65.8% respondents felt that social media can help in providing health benefits. As various medical awareness programs, yoga & meditation programs are conducted on these platforms. Apart from this a list of doctors, medical stores, health workers, is available online which can help in providing instant medical help. Medical apps have made it possible to consult doctors from home without having to go to a hospital or a clinic. It is also possible today to make an online appointment with diagnostic centres to get medical samples collected from home. Medicines can be ordered online and delivered at home.

Generation Gap

Social media has helped scattered family members to bring generations together by providing several opportunities to participate in activities and events.

Hobbies and Interests

Social media platforms provide opportunities to follow and learn several activities which was not possible earlier and also was quite unaffordable. Today, anyone can learn baking or playing a guitar or an art form by taking online classes or downloading the relevant tutorial apps. In this situation, social media availability tailors your feeds based on your interests and favourite topics, such as travel, health, sports, food, and so on.

News and Knowledge

Figure 8 reveals that 94.7% respondents feel that use of social media helps in Updating knowledge. Besides getting information about what seniors want, social media acts as a great news source. These apps allow one to keep up with global events, a feature that can be very useful for all age groups. Most of the senior feel that use of Twitter helps in updating news and provide required information. An abrupt search is enough to show new trends as well as popular articles. The important issues happening around you and the globe never get past you.
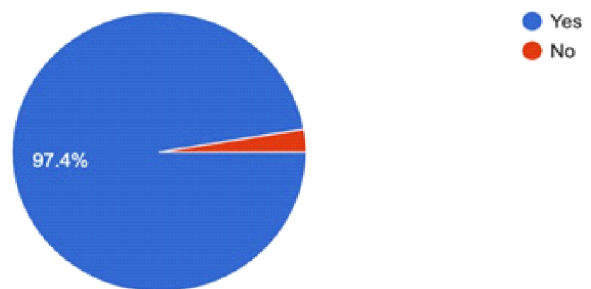

Figure 8 : Updating knowledge using Social Media

The senior can rely on social media to get involved in research or learn about areas that they are interested in. Such activities can lead to the development of new hobbies, business ideas, or the formation of a new social network of people with similar interests. They can also learn about new items, work on family history

projects, and virtually always learn something new while doing so. Another advantage of using social media is the chance to take advantage of educational opportunities.

Business Promotion

The ample population on the social media network can be a market basis, while tools such as Facebook ads and Google can enable to reach target markets. The Senior and retirees also have great business ideas. Someone might like to use the experience and knowledge to start a business or training and mentoring programs.

Entertainment

Technology and social media are also important sources of entertainment. People are getting news via their feeds and keeping up with current events through their inboxes, as well as funny videos and memes. With many old movies and videos returning on social media platforms, it is also a source of nostalgia for seniors. Additionally, there are games to play, articles to read, and jokes to share with friends. Figure 9 explains how humans use social media to have fun.
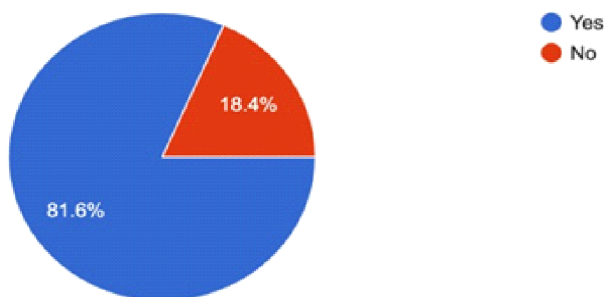

Figure 9: Posting of pictures/ messages on social media

Facebook, WhatsApp and Instagram are used to post pictures and brief write-ups. Old pictures with family and friends help in refreshing and rejuvenating self. 81.8% respondents have revealed that they use social media to post pictures, small write-ups & updates about self.

New Learnings

Learning something new is one of life's greatest pleasures, and social media certainly aids in this endeavour. Almost every topic has a social media site dedicated solely to teaching others. There are many senior now pursuing certifications or degrees in their desired fields of interest today. Figure 10 shows the use of social media for educational pursuits.
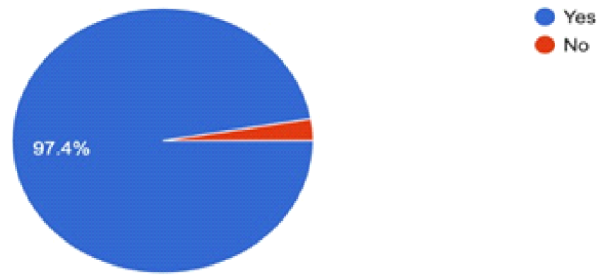

Figure 10: Updating of knowledge using social media

One of life's greatest pleasures is learning something new, and social media surely aids in this endeavour. Almost every subject has a social media site completely dedicated to teaching others. Many are getting involved with releasing podcasts of topics that interest them. A huge number are today engaging in webinars and conferences where they are able to share their wisdom. These activities also help in increasing a feeling of self - worth and satisfaction which are extremely essential for their mental wellbeing and in turn benefits their extended social circle as well.

Reduced Conflicts because of Social Media

Most of the the target group of the senior are retired from their regular jobs and have relatively lesser family responsibilities. Some may be physically less active and staying at home and are likely to have plenty of free time. Figure 11 depicts whether social media interferes with the other tasks of the senior.
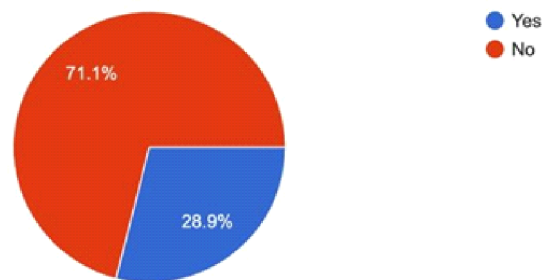

Figure 11: Social media interference with other task

About 71% senior respondents have revealed that the social media has helped them in organising daily activities more systematically. They finish their allotted tasks in time and also get connected for their social engagements on schedule. Majority of younger family members do not like the interference of the senior in the day to day family activities. Social media is therefore one of the best recourse to keep the senior engaged and busy.

Figure 12 reveals that social media helps in reducing family conflicts because the senior are busy and have other means to keep themselves engaged. They also feel that it does not interfere with their daily activities and hence reduces the chances of conflicts within the family.
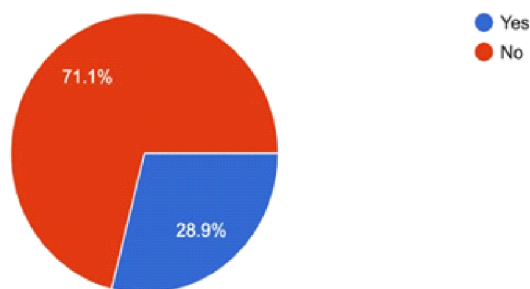

Figure 12: Conflicts because of social media

Online Shopping

For the senior, the opportunity to shop online can be particularly beneficial. For a number of reasons, the senior may not be able to physically access a store or mall. Perhaps they can no longer drive and have reduced mobility, making it impossible for them to go out alone and causing an inconvenience to a family member.

Prescriptions and other medical products, groceries, clothes, shoes, and other household items are all common shopping needs for the senior. Fortunately, all of these things can be ordered online and delivered to your doorstep. Almost every retail store has a website, and if all else fails, home delivery stores will provide almost everything. The opportunity to search virtual shelves and shop from the comfort of their couches, whatever the cause, can be a huge convenience for the senior.

Senior and Social Networking Sites Use: Challenges

Despite the fact that senior folks are increasingly accessing social media, many of them are still unable to do so. Lack of knowledge and assistance, as well as the process of joining online social networks or online communities for the first time, can be a barrier [16]. Sensory damage from old age, such as loss of vision and hearing, can also stymie the process.

Another common stumbling block is application developers' bad interface design. Seniors' physical constraints are frequently overlooked in design elements like text size and colour, as well as material layout. For newcomers, the sheer quantity of apps and websites accessible can be overwhelming. Security and privacy also remain major concerns of the users [13] [14]. Security configurations are frequently complex and difficult to comprehend. They are also afraid of content because they don't know who else will be able to see it [16]. In order to encourage more seniors to use technology and improve their quality of life, a more user-centric approach to technology design should be implemented, taking into account the restrictions they face as a result of their ageing process [3].

CONCLUSION

Changes to your writing are highlighted in orange, and you can make more by clicking on words and substituting synonyms. Give it a shot.

Age should not be a barrier when it comes to technology. It may be difficult for the elderly to keep up with the ever-changing world of technology and social media. Although there are some drawbacks to using social media, the benefits of being active on social media outweigh the drawbacks. According to the findings of the study, there is a significant likelihood of progressive residual: social media engagement can help disseminate health-related awareness about the prevention, diagnosis, and treatment of diseases and illnesses. In terms of crucial social interchange, social media can be used to supply and receive social support, combat isolation, and improve emotional state in order to develop control and self-awareness.

According to the findings, social media sites are user friendly to 100 percent of the target population. 94.7 percent said that using social media helps with knowledge dissemination, and 65.8% thought it was useful for objectives relating to medical and health-care benefits. Only 34.2 percent of respondents thought these channels were ineffective. The results also indicated that social media use can be stimulated through instructional support. It is clear from the results that additional investigation is warranted to understand what role, if any, social media can play in engendering cognitive benefits for these seniors.

FUTURE PERCEPTIONS

Despite the increased use of social media over the previous decade, there is a gap in academic knowledge of the intersection of online social media and the senior [14]. Younger age groups, such as teenagers and university students, are the focus of the majority of study. Despite the fact that seniors are increasingly adopting social media, little is known about the reasons

and incentives for adoption and use in this age group [15] [16] [17].

The authors believe that future research should focus on gaining more experience in the field in order to study and evaluate social media impacts on a larger and more diverse sample size by initiating interdisciplinary research processes that lead to a better understanding of the benefits of social media for Seniors as well as the aspects that make their use of these tools more difficult.

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