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Research Article

Digital Media Literacy and Technology: A Case of Indian Senior Citizens

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Abstract: This paper examines the critical role of digital literacy among senior citizens in India, highlighting challenges, gaps, and opportunities for inclusion in the digital era. Drawing from literature and field research, the study presents findings from the Sach ke Saathi digital literacy program and assesses its impact on media consumption, information verification, and socio-cultural engagement of elderly participants. Policy and academic implications are discussed, emphasizing the need for targeted interventions to bridge the digital divide and protect older adults from misinformation, cyber risks, and social isolation.

Keywords: Digital Literacy, Senior Citizens, India, Digital Divide, Media Literacy, Cybersecurity.

INTRODUCTION

Digital technology has undergone serious advancement in the last decade or so, touching aspects of human life in every way possible. Societies across the globe have benefited from these technological advancements that have improved people's lives in the realm of finance, social interaction, and healthcare. Amidst this digital revolution, senior citizens stand at such a juncture where digital literacy becomes pertinent for them to improve their quality of life and maintain social connectivity. As India experiences rapid digitization, understanding and addressing the ever increasing digital needs of its aging population becomes imperative. In a country like India with a diverse socio-cultural landscape, there are various discrepancies ranging from rural-urban divide, gender divide, and socio-economic disparities. The manifestation of digital divide along these lines can take many forms, thus shaping subjective experiences of the older population across the country. Moreover, in today's digital age, access to information and services have a perpetual online presence, and an inability to access these resources deprives the elderly from remaining connected and informed. Aging population, bounded by physical, economic, and social constructs, fall behind in keeping up with new technological innovations and may require day to day assistance to maneuver through various forms of ICTs. Usually elderly people feel anxious around new technologies and lack awareness of the benefits of digital literacy.

LITERATURE REVIEW

Digital Literacy for Senior Citizens

Digital literacy is as important for Senior Citizens as it is for the younger generations. Senior citizens globally require digital competency in order to have a better life, giving them access to online media, protecting their data, and using digital tools for their own benefits. A survey conducted revealed that senior citizens from the age group of 60-69 have the ability to use smartphones along with feature phones, tablets, and computers, while most senior citizens belonging to the mid and late elder category are hands on with feature phones Study by Srwisathiyakun & Dhamanityakul also propose that chatbot as an intelligent conversation agent is an effective way to increase digital literacy of senior citizens and the 'Senior See Net' as an innovative chatbot box used the data from the study to make the chatbot easily accessible and comprehensible to raise digital literacy of Thai senior citizens. Studies from different parts of the world have attempted to fill the gap in digital literacy research by not only addressing the older population with high education and urban backgrounds, but have also addressed the much-needed research on digital literacy gap amongst the elderly from low socio-economic and rural backgrounds. In a study conducted on low-income African American elderly, it was found that African Americans from a low income and low education background showed less interest in gaining digital literacy, most of it stemming from issues of privacy, security, and feeling confused around technology and the internet .

Further research also indicates that as elderly population grows older their resources such as income, friends or partner, as well as their cognitive abilities decline, which results in lack of ICT accessibility and literacy among senior citizens. Research through digital literacy education programs on rural senior Koreans showcased that such programs not only help narrow the digital gap between generations, but also help elderly in reducing health risks, promote happiness, increase self-efficacy, and protect personal information which ultimately prevents financial frauds. In a study conducted by Castila et al elderly aging between 60-76 were introduced to use social networking sites through linear navigation which revealed that as the participants became more adept at using the system, they

displayed positive emotions. Thus, fostering positive psychological outcomes among older adults. Moreover, senior citizens are more prone to misinformation being spread online Furthermore, research shows that elderly belonging to individualist societies like the U.S rely more on the internet to gain information as opposed to collectivist societies of the east that use the internet to stay connected to family and peers.. Unlike the younger generation, due to lack of digital literacy, Senior citizens are less likely not only to share information online, but are also more vulnerable to fall prey to misinformation. . Jo, Yang and Yan suggest that senior citizens in contrast to the younger population are less keen on checking information for suspicion or fraud which can put them and their peers in a vulnerable position if the misinformation is shared further. Further research reported that merely 4.9% of senior citizens above the age of 85 are consistent internet users, which means that there is a "grey divide" among elderly of different age brackets. The barrier to access digital technology also comes for the people above the age of 85 from loss of hearing or eyesight as well as other financial or mental hurdles. Due to such factors elderly might perceive the internet to be a complicated tool to use. Factors such as difference in level of education and income, and other inequalities among the older population also contribute to the gap between Internet access and digital literacy of the elderly . Castilla et al use Technology Acceptance Model as a framework to understand the perceived ease of use (PEOU) and perceived usefulness (PU) along with self-efficacy for elders to consume and use technology. Social Exchange Theory and the Intrinsic and Extrinsic Motivation Models suggest that social connectivity and awareness of latest happenings in the world motivate people to go online.Study by Vroman, Arthanat and Laysack displayed that senior citizens who are alone are less likely to access ICTs due to low motivation. Whereas ones with partners or family are motivated to adopt and use ICTs. Generally, older adults who see value in the use of ICTs even for only a few uses tend to gravitate towards ICTs as opposed to those who do not see any use of ICTs. Thus, while developing ICT programs, it is of much significance to consider primary interests of the elderly along with resources to train them to adopt ICTs with ease. Similarly Senior citizens usually feel anxious around new technologies which form a barrier in them adopting digital literacy, hence programs that address specific needs such as bringing in instructors who can build connections with the elderly as well as having special classes for the older population to match their pace will also help in bridging the gap. Focus has also been paid to technophobia as a theory that keeps elderly away from the use of technology and digital media .

Digital Literacy for Senior Citizens in India

According to the WHO 2018 report, the statistics from the Government of India, 2017 imply that 36 percent of the population of India come under the category of senior citizens. Elderly in India tend to experience high levels of anxiety and lack of awareness regarding digital platforms. According to research, senior citizens do not wish to be excluded from gaining access to digital platforms but want to keep up with growing technologies. Most senior citizens today are able to navigate through various technologies such as social network, internet surfing, camera, and entertainment that meets their social, economic, and health needs . However, this data seems more applicable to urban elderly than the rural ones. As per Murthy and Gopalkrishnan senior citizens fear financial frauds due to digitization of India's monetary system. Older populations find it hard to handle digital transactions due to fear of losing money, difficulty of passwords, lack of trust, and physical incapabilities. It thus becomes pertinent to include elderly in the system of digital banking through training programs, making access easy for elders with disability, and availing them with facilities such as real time live talk. A study from Telangana shows that while 36.5% of the urban elderly owned smartphones, only 19.5% of the rural population have access to smartphones. Use of social networks for day to day activities is significantly higher in the urban senior citizen populace than it is in the rural areas . Older adults from low education backgrounds vary in internet use and find it difficult to perform advanced tasks on the internet . Thus, even though elderly from urban India are gaining digital literacy, the disparity between rural and urban senior citizens in this area remains wide. A qualitative research study by Mitra et al suggested that there are variations in the way older people perceive ICT. From the framework of Technology Acceptance Model, it was clear that the ease to navigate through technology determines the interest of its use. Some elderly individuals do not believe in using digital platforms at this point in their life. A survey by Chandra in the city of Kolkata reveals that the elderly population are more comfortable accessing the internet through their smartphones rather than laptops or other technical devices due to easy accessibility and affordability. It also further reveals that Indian elderly lean more towards using social media apps such as Facebook and WhatsApp as opposed to online banking or shopping apps . After Covid-19, sectors such as banking have become increasingly digitized, resulting in exclusion of the elderly population from digitized banking systems due to wide digital divide. This becomes especially true for those from rural and low socio-economic backgrounds who are reluctant about cyber security and fear fraud. Thus, enabling digital financing services that cater the needs of rural and urban elderly alike is a very necessary step that the Indian policymakers must make . Bakshi and Bhattacharya remarked in their study that during covid times although some elderly in India were keen on using digital platforms to keep in touch with their family members, others believed the available technology to be complicated, filled with jargons, and apps and devices being too technical for their understanding. However , the pandemic enabled senior citizens to be better equipped with devices such as smartphones for their daily interactions and needs . Study by Rasekba et al indicates that low utilization of communication technologies has a direct link with lower health and digital competency of rural elderly in India. Oftentimes senior citizens develop a feeling of guilt or shame for being dependent on their children for digital tasks. This leads to feelings of low self-esteem and helplessness amongst the digitally illiterate older adults.

Digital Literacy and its impact on media consumption

Digital literacy is directly intertwined with people's media consumption habits which includes activities such as surfing social networking sites, news media, internet surfing for gaining and sharing information and much more. Research on college students revealed a positive correlation between high technological and bit literacy and increased level of information use behavior. Lack of digital literacy reduces the ability to stay connected to media and access relevant information .This is especially true among Senior citizens, who exhibit least amount of participation in social media content. A study from Israel indicated that enhancement in digital literacy among participants expanded their knowledge, fostered easy gaining of information, nourished long lasting friendship and family bonds, and also improved their work and academic conditions. Moreover, there exists a significant disparity in digital media literacy among people of different age demographics across the globe. Even with growing availability of digital platforms such as social media, a vast majority, especially from developing countries do not have access to media literacy. A research by Abbasi et al shows that teenagers in Pakistan who have access to digital platforms cannot spot fake news. This shows the lack of digital media awareness, which can be also implied in the context of older people, who due to lack of technology and media awareness cannot identify the right and wrong available on the internet. Bode and Vraga argue that in the current scenario of spreading misinformation, critical consuming literacy in the context of digital media literacy is very essential. A study found that individuals who are more equipped with using and maneuvering SNSs are critical in consuming new media content. Such critical consuming literacy can help people stay away from misinformation regarding health and diseases. This is especially true for older adults who are more prone to health risks and associated misinformation. . Similarly, in a country like India anxieties and fear of families who are culturally distinct need to be addressed through digital media literacy programs. Older adults are often excluded from social media which results in issues such as isolation, loneliness and various physical and mental health related problems . Training is needed amongst senior citizens to get more comfortable with using social media, not only to engage with friends and family and health related information, but also to participate in wider social debates such as political advocacy . Further research suggests that despite the accessibility of the internet and technology among older adults, they tend to prefer traditional methods. However, those who are equipped with the internet are receptive towards digital news media which is not only cost efficient but also allows them to adjust font sizes. In the context of television, there is a low rate of displacement against digital platforms. Quan- Hase et al 's research show that slowly digital literacy among the older population is growing which results in them adapting SNS culture more easily. However, this seems plausible more in western countries than the ones in the East. In rural developing communities lack of internet access becomes a major barrier for older adults to be a part of social media platforms and stay connected to the globe digitally. A study from Nigeria pointed out that the older community is not anti-social media but they instead feel excluded from wide range of social media platforms. The participants from the study however expressed their preference of using platforms such as facebook and video calling apps that help them stay connected to their loved ones A research by Trentham et al indicates that elderly populations are keen to develop social media literacy in order to be included in various social and political discussions. Moreover, the effective ability to use social media by senior citizens will allow them to participate alongside younger generations in occasions and events which they might be unable to due to physical or geographical constraints .

Digital Media and role of Gender

Despite increased awareness of technological advancement, women are peripheral to technological use and making careers in related fields. Girls Digital Literacy Report (2023) suggests that chances of girls owning smartphones is 1.8 times lower than that of boys, and women are 25 percent less likely to be involved with rudimentary technological activities According to Comunello et al, there are stereotypes attached to women and their ability to use digital technologies. On one hand when women use simple mobile phones, they are viewed as a chatty group of people who require technology to constantly communicate. On another hand, women are usually seen as having low literacy and competency level when it comes to using advanced forms of digital tools. A study by Long et al remarks that digital literacy among women is much lower than men, with women aging between 15-24 having highest digital literacy and women above 55 years have the lowest digital literacy. Thus, not only gender but gender gap combined with older age impacts the digital exposure of women across different age demographics. The gender gaps that exist in digital access might not only result in gender inequalities at an individual level, but will also affect the overall social and economic standing of women within the job market and financial realm. This can mean that women who do not have digital knowledge are at the risk of receiving lower wages than their male contemporaries. The gender gap in digital literacy is more pronounced in under- developed and developing countries, for instance, mobile ownership of men in India is 79% as opposed to only 43% women owning mobile phones. Moreover, in orthodox communities, such as in certain parts of India, girls are prohibited from using mobile phones or have access to any kind of social media Moreover, women who are exposed to education in English are more prone to adapting digital technologies due to online content primarily being in English as opposed to those women whose primary language is not English. Similarly, it was found that aged women are less motivated to use digital media due to lack of skills and awareness to use platforms that are generally set up for younger generations . There are seven key possible advantages of women access and learning of digital media as identified by Cummings and O' Neil , namely, increased self confidence, channelizing self expression, independence, social status, opportunities in public sphere, and new ways of engagement and alternative representation. A research on Indonesian women and their digital accessibility revealed that there were several obstacles in easy availability and gaining of ICT such as

low education, lack of ability, low resource availability, low ICT training programs, and an overall patriarchal societal norm. Two Indonesian organizations; IWITA and FemaleDev have encouraged women to engage in ICT use through their media literacy programs, but broader collaborations are suggested to offset a wider audience of women from different age brackets. Some women participants from a study conducted in India claimed that they had to depend on others for help and support to use digital technology, while others were encouraged to use ICTs in order to stay connected with friends and family. Women have unfortunately been excluded from design of digital technologies tailored to meet their needs, abilities, and predispositions. It has also been revealed that women especially of older cohorts use digital technology for social engagement as opposed to men who use ICT for wider purposes. However, women who are unable to navigate through ICTs might feel more socially excluded for reasons such as physical disabilities or health issues . Research in Uganda revealed that age was a negative factor that impacted use of digital technology by women, with older women showing reluctance in its use. The findings further suggested that social environments where women are accepted to use digital platforms in a wide array of sectors have a positive attitude in adopting new technologies . Initiatives at national and international level are thus important to come up with programs that not only engage women of all ages in digital awareness, but also design technologies that cater to their specific preferences and needs. This is especially true for countries like India where there is a mass of rural illiterate women who are perpetually excluded from digital knowledge and accessibility. In India, Internet Saathi, an initiative by Google and Tata enables rural women to be trained in fundamentals of internet and technology usage, which has helped them in improving health, finances, and work .

Gaps

Although aforementioned studies have touched upon various aspects of digital literacy among senior citizens such as health literacy, digitization of banking sector, information access, and social connectivity, there still persists major gaps that need to be addressed through further research. Firstly, in the context of India, proper data is required to understand the gender disparity. There is a need for research that delves into understanding the barriers faced by elderly male and female population of India, which can further help in building interventions to bridge the digital divide among senior citizens. Secondly, although some studies do touch upon the issues of cyber security and fraud, there is still a lack of research that can address the issue of older adults falling prey to cyber threats. Lastly, there is no comprehensive research work done on developing awareness among older adults to decode misinformation and disinformation and to familiarize them with methods to identify authentic information available online.

Objectives

The objective of this study is to develop digital literacy among senior citizens in India in regards to decoding misinformation and disinformation. A designed programme at MICA called “Sach ke Saathi" will aim to disseminate media literacy for senior citizens in India. The modules for the programme will be designed keeping the age in mind, that is, 60 years and above. Through various modules, aspects such as misinformation and disinformation, media literacy, internet safety, cyber security, and spotting fake news will be covered to train elderly on digital literacy. Following are the outcomes of this study:

- To develop awareness about the larger information ecosystem, personal media diet, and the convergence of the roles of consumers and producers.
- To understand the concepts of misinformation and disinformation
- To create familiarity with tools to identify the authenticity of information and information sources.
- To develop acquaintance with measures for protecting privacy, security, and safety.

MICA also conducted a Training of Trainers(ToT) in Delhi for the Jagran news team. Through this project, MICA will enable senior citizens to help develop skills to understand and critically evaluate information they receive online on an everyday basis.

METHODOLOGY

This research study includes an awareness campaign which maps Senior Citizen’s digital literacy before and after the campaign. To map the digital literacy among senior citizens before the campaign, a survey was designed by considering the demographic and socio-educational status of the participants. The survey design is essentially based upon the available literature and gap in the literature on digital literacy of senior citizens. Select senior citizen respondents were put through a workshop programme called Sach ke Saathi designed by MICA in collaboration with the Jagran team across Northern, Central, and Western cities of India which enabled them to develop skills to decode disinformation and misinformation online and make them comfortable with the use of digital technologies. Total number of samples pre-workshop were at around 1500, and sample post-workshop were numbered at around 500 including males and females. Different gaming tools were introduced to familiarize them with information and misinformation. A survey was then designed to understand the respondent’s digital literacy and awareness after the campaign workshop. Results of the survey will be studied independently and a comparative analysis will be done to map the awareness of Digital Literacy among senior citizens post the workshop and awareness campaign.

Respondent Overview

Data has been collected through the workshop in which there are approximately 1000 male respondents and around 400 female respondents of the age 60 and above to assess the digital literacy among senior citizens in India. The data has been collected from cities across India. Out of all the male respondents 90% of them have had higher education equivalent to a Bachelor’s degree, while around 40% of the female respondents have a Bachelor's degree level of

education. The data collected represents that the large majority of educated respondents belong to the urban background and to the creamy layer of society, which gives them easier access to digital technologies and ability to gain digital literacy.

Pre-Workshop Data Analysis

The workshop trained senior participants to identify sources of information consumption and differentiate between misinformation, disinformation, and information. It further equipped them with the right set of tools to understand the misinformation network so they can protect others from the disinformation brackets.

Access to Technology and Information

The higher education indicates that respondents with more educational levels are open to the digital world and acceptance of new technologies as opposed to the ones with low education levels. 68% of the male respondents and 28% of female respondents respectively have access to smartphones.

In terms of usage of different apps, whatsapp emerges as the most used app, with around 52% males using the device followed by 8.64% males engaging on facebook. While other applications such as Youtube, news outlets, etc. have reduced usage. Female respondents on the other hand stand at 22% use of Whatsapp, with negligible of them using facebook, Youtube, and other apps. This essentially means that Whatsapp is the primary app that enables users to access digital media, gain, and share information. A possible reason for males having greater access to smartphones and using consequent apps as opposed to female respondents is that as an elderly couple, one person having access to a smartphone usually caters to the digital needs of both individuals.

It has been understood from the data that radio remains the most popular device amongst senior citizens, with around 55% males and around 23% females spending at least an hour on it. The popularity of the radio indicates that elderly population of India prefer traditional media platforms for the purpose of entertainment and information. Moreover, radio has become a comfortable means to access information for those elderly who do not have received higher education. This may also suggest a lower digital literacy level among this demographic as they might not be comfortable with new technologies. This is followed by youtube being popular with 47% males using it for an hour. While 20% of the female respondents spend an hour on facebook daily. This reflects that while elderly men find more interest in gaining entertainment and information through platforms such as youtube, elderly females are drawn towards apps such as facebook that allow them social connectivity combined with flow and availability of information on social media platforms.

Information Consumption Pattern and Information Verification

From a closer look at the data it has been observed that both elderly males and females receive a maximum of religious messages followed by political messages for 16% of males and messages related to social issues for 6% of females. As the older population in India is more drawn towards religious activities and prayers, it can be viewed that religious messages are the ones that are most shared by both female and male elderly to their friends and family. Similarly these religious messages remain the most discussed by respondents among their peer groups. This data thus indicates that religious activities play a big role in the use of digital media among the elderly in India, which not only helps them stay connected to one another but also allows them to be digitally abled to access things they like and find peace in. It is interesting to note that since misinformation is a common phenomena amongst all digital platforms, senior citizens due to lack of technological literacy happen to fall prey to false information. However senior citizens who belong to an educated background seem to be more aware of misleading content found online. The study highlights that while 33% of male respondents and 14% of female respondents use their own judgment to verify the veracity of information, only 20% of males and 6% of females choose to cross check it through other media sources.

When it comes to verifying sensational news that floats on social media, 30% elderly males are very likely to check the accuracy before they share it among their peers and family. While, up to 12% of elderly women are somewhat likely to verify the news before sharing it further. Hence, it is safe to assume that low levels of digital literacy among senior citizens, and their inability to verify online information makes them incapable of gauging the difference between information, misinformation and disinformation. Respondents have agreed that social media plays a major role in shaping opinions. This data thus suggests that although social media helps elderly to stay connected to their friends and family and can help them with their day to day entertainment, they are also more vulnerable to misinformation and should be vigilant in trusting opinions and beliefs online.

Post-Workshop Analysis

Select senior citizen respondents were put through a workshop programme called Sach ke Saathi designed by MICA in collaboration with the Jagran team across Northern, Central, and Western Indian cities which enabled them to develop skills to decode disinformation and misinformation online and make them comfortable with use of digital technologies. The workshop trained senior participants to identify sources of information consumption and differentiate between misinformation, disinformation, and information. It further equipped them with the right set of tools to understand the misinformation network so they can protect others from disinformation brackets. Furthermore, different gaming tools were introduced to familiarize them with digital technology as well as online information and misinformation.

Enhanced Digital Literacy

An endline study was thus conducted by the MICA and Jagran team to analyze the impact of the workshop. It is evident that post workshop, the elderly became increasingly aware of the digital environment and became

more vigilant in gaining and sharing information online. It is also clear from the data that a substantial number of respondents became comfortable with using digital technologies and various applications. While applications like whatsapp and facebook were still considerably used by respondents, other miscellaneous apps were deleted by at least 50% of the elderly participants. However, similar to the baseline data, the elderly are more engaged in sharing religious messages to their peers and family, which shows that elderly are more drawn towards information that gives them mental peace and calm instead of information that might negatively affect them such as news on social issues and politics.

Improved Information Verification

The workshop has shown significant increase in confidence of elderly respondents in not only using digital platforms but also in verifying the information. At least 32% of the male respondents feel that they have developed skills to navigate the credibility of material available on digital platforms through their own judgment. While a good number of female respondents still rely on their family to verify the credibility of the source information. Substantial number of respondents found the workshop to be beneficial, making them increasingly inclined towards media literacy. 58% of male and 21% of female respondents agreed that because of the workshop, they have made their peers also aware of the importance of digital literacy with growing age.

The participants were taught to use privacy settings on social media platforms that would help them protect their personal information. Moreover, almost 50% of the respondents, including males and females, conceded that they in some measure feel confident in distinguishing between a truly researched news article and a misleading one. However, 37% of respondents claimed that they do not really feel the need to verify sensational headlines that align with their beliefs before sharing it further. This could mean that if an information reinforces their belief, most elderly think of the information as true and would share with their peers. Similarly, 40% of the respondents are not familiar with the concept of fake news which inadvertently reflects upon their lack of limited experience with digital media. They thus become easy targets for clickbaits, scams, and online frauds.

Shift in Media Consumption

This data reveals that elderly rely heavily on social media apps such as whatsapp more than authentic news apps for accessing and sharing information. After the workshop, it has been observed that the majority of the participants spend most time using Whatsapp not only as means of communication but also for receiving and sharing information. Prior to the workshop around 78% of senior participants spent at least an hour on radio as opposed to other media apps for information gathering.

The workshop ensured that senior citizens can independently decide which news or online information they can rely on and which needs to be doubly verified. Moreover, an improvement in their ability to identify the true nature of an online information helped them safeguard their privacy and protect them from online frauds.

DISCUSSION

This research has effectively mapped the digital literacy awareness among senior citizens in India before and after participating in “Sach ke Saathi” workshop. The workshop trained urban citizens above the age of 60 in India to carefully use digital media platforms while raising awareness about online information and misinformation. The study explores the impact of specific digital literacy training programs on older demographics, understanding their patterns in digital engagement in information verification. Initially, the survey found a substantial gap in the use of digital technologies by the elderly participants. There was also a wide disparity between male and female respondents regarding their access to technology and ability to navigate through online information pools. This gender disparity in digital access and understanding of digital technology can be owed to differences in education background with 90% of male respondents having high education levels(Bachelor degree and above) as opposed to 40% of female respondents with similar education. Pre workshop data highlighted religious messages as most received and shared information messages among male and female elderly, reflecting social needs of this demographic. It is worthy to note that the respondents showcased limited information verifying abilities before the workshop, which in turn increases their vulnerability to misinformation, online frauds, and scams. This lack of digital awareness, especially among the female respondents, calls for enhanced digital literacy educational programs. Post workshop data indicated a significant improvement in general ability of elderly participants to navigate digital platforms. The Sach ke Saathi training program helped seniors become more vigilant about the information they see online. Significant number of male respondents felt that they developed the ability to use their own judgment to verify information and spot misinformation. While the female respondents showcased increased involvement in using digital media. Furthermore, as opposed to the pre workshop survey which reflected senior citizen’s dependency on traditional media platforms such as radio for seeking information, the post workshop analysis recorded greater engagement with social media apps such as Whastapp for not only connecting to people but also receiving and sharing correct information. This shift indicates the workshop's efficiency in encouraging senior citizens to become digitally literate and adopt upcoming technological interventions in digital media. The workshop further enabled senior citizens to effectively use privacy settings which a higher percentage of participants conceded to follow regularly, thus protecting them from internet scams. Moreover, both male and female participants showed notable improvements in their ability to differentiate between information and misinformation and decode real motives behind an article or an advertisement. However, a challenge remains, as a high percentage of respondents claim that they do not need to feel the need to verify information that aligns with their beliefs which they share with their peers, thus creating a cycle of confirmation bias. The data also reveals that senior citizens are more

inclined towards religious and social messages and information rather than political and developmental. This means that senior citizens use digital media specifically for their personal use which in turn can keep them in periphery of using technology for other important aspects such as health and finance. This study highlights the efficiency of targeted programs in improving digital literacy among senior citizens. Ongoing efforts with further interventions are still needed to prepare the elderly to cope with increased digitalization of India and address not only the digital divide among various demographics but also fill the "grey" divide among the older demographics.

Academic Implications

The study shedded light on the gender disparity among senior citizens in India in regards with accessibility and ability to navigate technology, thus pointing the need to have gender-specific interventions in availing technology to older demographics. Moreover, the study specifically focused on cyber security and vulnerability of elderly to online information and misinformation, pushing forward efforts to digitally literate senior citizens. Academics and scholars can explore further measures and build educational programs that research and develop awareness on cybersecurity. Further research can also help in assessing the role of digital media in mental well being and social connectivity of elderly people. This will allow elderly to have an efficient shared space with their peers and academic research can improve ways of social connectivity.

Policy Implications

There is a specific need for government and non-governmental organizations to develop policy interventions targeting specific digital literacy programs for senior citizens in India. Campaigns such as "Sach ke Saathi" should be carried out by policy makers that not only digitally literate the elderly to navigate through digital platforms but also effectively use ICTs to gain various benefits in health, financial, and social aspects of their life. Moreover, as the study highlights gender disparity in usage of digital technology, the government must focus on decreasing this gap by introducing targeted campaigns for elderly women who generally possess lower education than their male counterparts. Awareness campaigns on cyber security along with availability of helpline numbers and volunteer community groups can also allow senior citizens to seek aid when threatened by cyber frauds. Policy makers must also ensure that current and newly introduced digital platforms are not only easily navigable but also safe to use by people of different demographics. Providing additional support and access to technology and various languages can further help in expanding ICT usage among rural elderly who are not familiar with English. These implications at national level can help senior citizens to be well equipped with technology as well as improve their quality of life through digital inclusion.

Limitations

Although the workshop proved useful in enabling senior citizens in India to differentiate between information, misinformation, and disinformation, it could have helped them further in verifying information that aligns with their beliefs before sharing it with their peers. Moreover, the workshop was 1 session of 75 minutes. Senior citizens are slow learners, hence a comprehensive workshop is needed that can go over a length of a few days to critically train them in using digital apps, being aware of online scams, and also familiarize them with upcoming technologies that would help them in other areas of their life such as managing health and finances. Furthermore, since India is getting increasingly digitized, the digital divide between the rural and urban population is bound to widen, thus a beginners workshop would be a vital step to cater to the needs of rural elderly and help them with getting rudimentary understanding of using government related online services, thus avoiding unnecessary commute to urban centers for basic services. Moreover, the data also indicates a substantial gender gap in digital literacy among senior citizens. Further research and innovative workshops can dig deep into understanding this gap and develop ways to bridge it effectively. By addressing these areas through further research and future workshops, a step can be taken to meet the diverse needs of senior citizens in India, ensuring their inclusion and participation in ever increasing digitized society.

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