ACCESS TO TECHNOLOGIES AND MEDIA LITERACY IN OLDER ADULTS IN ECUADOR AND BOLIVIA

ACCESO A TECNOLOGÍAS Y ALFABETIZACIÓN MEDIÁTICA EN ADULTOS MAYORES DE ECUADOR Y BOLIVIA

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	ABSTRACT
Keywords: older adults, Bolivia, Ecuador, media literacy, technologies	Media and information literacy has become one of the most urgent challenges of contemporary society. Therefore, this article allows us to explore the conditions of access to technologies and media literacy in adults aged 65 and older in Ecuador and Bolivia. In the same way, it leads us to establish how these aspects influence the living conditions of the members of this generational group. This article was developed within the framework of the research project "Media and informational competence: a focus on older adults in the Andean Community" In this context, we have used a quantitative methodology and applied surveys in an assisted manner in cities such as La Paz (Bolivia), Quito, Machala and Loja in Ecuador, to older adults aged 65 years and older, the same ones who belong to the social care and retired people were also approached, mainly from the educational sector. Among the most relevant findings, it was determined that the number of adults who access technologies has increased in recent years and, consequently, these have improved their living conditions, considering that media and information literacy is a determining factor in accessing information quality information.
	RESUMEN
Palabras clave: adultos mayores, Bolivia, Ecuador, alfabetización mediática, tecnologías.	La alfabetización mediática e informacional, se ha constituido en uno de los retos más urgentes de la sociedad contemporánea. Por ello, este artículo permite explorar las condiciones de acceso a tecnologías y la alfabetización mediática en adultos mayores de 65 años en adelante en Ecuador y Bolivia. De la misma manera, nos conduce a establecer cómo

influyen estos aspectos en las condiciones de vida de los miembros de este grupo generacional. El presente artículo se desarrolló que el marco del proyecto de investigación "Competencia mediática e informacional: un enfoque en los adultos mayores de la Comunidad Andina". En este contexto, hemos utilizado una metodología cuantitativa y aplicamos encuestas de manera asistida en ciudades como La Paz (Bolivia), Quito, Machala y Loja en Ecuador, a los adultos mayores de 65 años en adelante, los mismos que pertenecen a los programas de atención social y también se abordó a personas jubiladas, principalmente del sector educativo. Entre los hallazgos más relevantes se pudo determinar que el número de personas adultas que accede a tecnologías ha aumentado en los últimos años y, por consiguiente, estas han mejorado sus condiciones de vida, considerando que la alfabetización mediática e informacional es determinante para acceder a la información de calidad.

Introduction

Older adults, who possess invaluable experience as a result of their accumulated years, are an essential component of democratic societies. In addition, they are promoters of nobility, inspire tenderness, keep the family together, give advice to children and transmit serenity in times of danger. Adulthood, implies substantial changes in lifestyles, which is interrelated with new habits and a permanent struggle for social inclusion, while actions are focused on personal growth and human integrity (Konovalova & Maslova, 2022).

This generational group constitutes a growing population, "this fact has been the result of successful health, social and educational policies that have had an impact on improvements in the living conditions of the population" (Bravo-Rondón & Lamus de Rodríguez, 2020, p. 217). On this premise, access to technologies and media literacy capabilities become relevant for older adults, since they use technologies in different ways, but prefer those that are adapted to their needs, where they have particular considerations that involve communicating with their close circle, entertainment, health and, of course, learning.

In the processes of media and information literacy in older adults, there are two important epicenters which are the family and the home "since it is not only there where we are most time connected to them but also because it is also within them that we establish the logical operations of use, appropriation and meaning that shape our biographies and media trajectories" (Franco-Mugues, 2018, p. 174).

In Ecuador and Bolivia, member countries of the Andean Community of Nations, the conditions of access to technologies have improved in recent years; however, the processes of media and information literacy are not registered, despite the existence of a series of research and projects that have been proposed, but have not been taken up by government agencies.

Media literacy initiatives are a tool that keeps older adults active and even slows down the progress of age, so that education systems must attend to the human being throughout the life cycle. In this generational group, technologies are mostly used to interact with family and friends (Loaiza-Lima & Velásquez-Benavides, 2020, p. 34).

Likewise, at a global level, there is a phenomenon that forces societies to restructure themselves, mainly with regard to the implementation of public policies, considering that these must face reality by offering the necessary resources to face technological transformation, improving the deficiencies that arise from the new social dynamics (Sanchez-Carballo, 2008). Above all, because access to technologies is crucial for the promulgation of knowledge, the empowerment of the citizen with respect to technologies and the critical cultivation of reality, always promoting a sustainable development of society. It is also important to emphasize that technology education has the mission of promoting the moral and ethical construction of human beings based on knowledge, which is possible thanks to the digital inclusion of all social groups (Da Silva & De Oliveira, 2022).

In a more particular approach, the participation of older adults in productive processes has been limited for a long time, due to the stigmas generated by the famous social representation, the same that has been conceived supposedly due to the deterioration of their physical capacities, a situation that is aggravated by the so-called digital divide. Thus, media and information literacy contributes to the strengthening of the cognitive reserve and becomes a useful tool to fight against the deterioration of health, since knowledge strengthens the general capabilities of human beings (Peeters et al., 2020).

In this sense, this article seeks to determine that the use of technologies improves the quality of life of people over 65 years of age, considering that access to technologies and knowing how to use them efficiently are not the same thing. It is also important to review the media and information literacy processes that have been developed in Bolivia and Ecuador, as CAN member countries, since they have important similarities in their social and cultural structure.

Theoretical Framework

Access to Technologies and Connectivism
There is a clear difference between accessing the Internet, smartphones, computers, tablets or other devices, and knowing how to extract information that can enrich us from the perspective of knowledge.

Digitalization has been a gradual process, as Muñoz (2017) points out, and in recent years the opportunities for communication in digital environments have expanded significantly, in part thanks to multimedia and transmedia formats, with narratives that combine various channels and languages. This is due to the high degree of penetration of both the Internet and mobile devices, technologies that facilitate constant connectivity through multiple media and formats. Without this connectivity, it would not be possible to develop digital narratives, which include audio, video, images and text, creating communicative pieces where people seek to tell engaging stories, because as Wang and Hao (2018) point out, the penetration of technologies and information, significantly influence people's behavior.

Data and statistics on access to digital technologies reflect this phenomenon, showing how it transforms and breaks paradigms. According to Shrivastava (2018) connectivism is positioned as the theory of learning in the digital age, understanding that any decision can be modified quickly, since information is constantly generated and acquired, in addition to developing the ability to distinguish between relevant and non-relevant information.

The advent of the Internet, and especially Web 2.0, has opened up a wide range of possibilities for new forms of communication and education, as traditional methods of browsing and filtering information become ineffective in these new environments (Goldie, 2016). In this context, global digitalization has undergone rapid changes, with a constant increase in the number of people connected to networks or devices, also driven by the development of new technologies that allow continuous connection. This is reaffirmed by Varnavskii (2024), who argues that digitalization has boosted economic growth, as employment levels have increased worldwide.

Applications developed on the Internet have the potential to improve operational efficiency, reliability and security. However, the challenge is to provide affordable connectivity, both in terms of cost and business model, ensuring that the system enables the convergence of multiple technologies and devices in the same environment at the same time (Haley et al., 2018).

Considering the growth of the connected population and the increase in access to digital systems in recent years, it is evident how the inclusion of digital narratives facilitates direct communication with users. These tools take advantage of the technologies that are part of people's daily routine, making the use of these platforms for interaction more accessible and habitual, ensuring that knowledge spreads through the network and its connections.

Data on Access to Technologies in Ecuador and Bolivia

Latin America is one of the regions where inequalities have been most deeply rooted, since historically the concentration of wealth has been established in certain power groups, which has prevented the consolidation of public policies that promote the care of society as a whole. In spite of this, the levels of access to technologies have grown in our region, particularly in Ecuador and Bolivia.

It is important to bear in mind that the development of this region depends on the possibilities that exist to create adequate conditions for access to information, education and, consequently, the generation of knowledge, as an indispensable element of the common welfare. Similarly, two realities of our region must be considered, which are related to the quality of information we receive and the respect for human rights (Mastromatteo, 20099).

In this context, in Ecuador, the National Institute of Statistics and Census (INEC) (2024) presented its summary 2024, as of June of this year, in which it mentions that 70.2% of Ecuadorians use the Internet. Likewise, 5.4% of citizens are considered digitally illiterate. These data were obtained through the "Employment, Unemployment and Underemployment Survey".

Figure 1
Information and Communication Technologies information generates data on equipment, access and use of computers, internet and cellular phones at home, providing inputs for analysis and formulation of public policies

Indicadores de TIC 2022 – 2024 (Nacional)	jul-22	jul-23	jul-24
Hogares con Acceso a internet (%)	60,4	62,2	66,0
Personas que utilizan internet¹ (%)	69,7	72,7	77,2
Personas que tienen celular activado (%)	58,8	59,6	61,3
Personas que tienen teléfono inteligente² (%)	52,2	55,6	57,7
Analfabetismo digital³ (%)	8,2	7,6	5,4

Notas:
1. Personas que utilizan internet, se refiere a la población de 5 y más años que ha usado internet en los últimos 12 meses, desde cualquier lugar.
2. Porcentaje de teléfono inteligente.- se refiere a la población de 5 y más años con celular activado smartphone con respecto a la población de 5 y más años.
3. Se considera Analfabeta Digital a una persona de 15 a 49 años cuando cumple simultáneamente tres características: 1) No tiene celular activado 2) En los últimos 12 meses no ha utilizado computadora 3) En los últimos 12 meses no ha utilizado internet.
*La información del 2022 corresponde a la Encuesta de Empleo, Desempleo y Subempleo – Enemdu.

Note. National Institute of Statistics and Census. (INEC) (2024).

In the case of Bolivia, 91 percent of the population has access to the Internet, the same as those who connect through a cell phone. Likewise, 56 percent have fixed Internet in their homes, according to data from the Telecommunications and Transport Regulation and Inspection Authority (ATT), as of December 2023. This represents a slight growth of 1% compared to June of the same year (Figuera, 2024).

Figure 2
Internet coverage in Bolivia
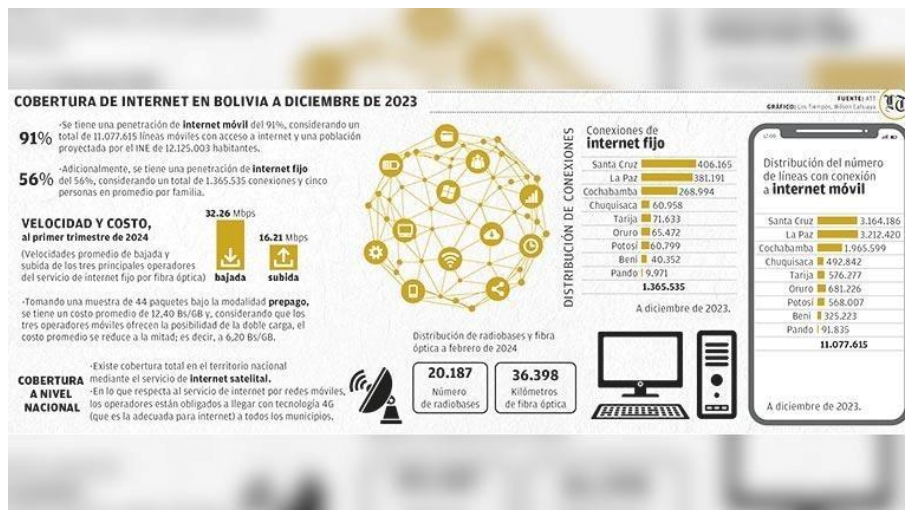
Note. Taken from the newspaper Los Tiempos (2024).

Media Literacy in Ecuador and Bolivia

Media literacy is presented as the ability to access, analyze, evaluate and create content for a variety of media forms. Authors such as Mésquita and Fernández (2023) refer to media literacy as "the set of knowledge, skills and competencies necessary to analyze, evaluate and create messages" (p. 58), considering the current context in which human beings practically evolve amidst a large amount of information.

Likewise, Romero-Romero et al. (2024) point out UNESCO's contribution to media literacy, stating that this corresponds to "the acquisition of knowledge about the media" (p. 73), which are of interest and consumption of society, and therefore the need to have tools that allow digesting, analyzing, arguing and co-creating the information and content they present.

Regarding the approach of López-González et al. (2023) media and information literacy is necessary in today's society, as long as "citizens are able to use information critically" (p. 399), by obtaining skills that allow them not only to passively consume content, but also to analyze it from a reflective and conscious perspective, which implies questioning the sources and evaluating its veracity and relevance.

As can be seen, there are multiple contributions to media literacy, ranging from its recognition as a skill and even as a right, which, according to González et al. (2023) corresponds to the access to information and knowledge that every human being should have and thus contribute to "constitute an independent, free communication where a diversity of opinions converge" (p. 1396). Therefore, it is important to train people with the necessary skills to critically and argumentatively evaluate the content they receive daily from different media.

When referring to a concept of broad contributions, it is necessary to include experiences in the territory, such is the case of the Ecuadorian context, in which Rey et al. (2017) notes that media literacy is "between the wishes of politicians, the reality of schools, and university research on the topic" (p. 192). The report also refers to moments in time that show the country's achievements, considering that in 2005 the first strategies were proposed, in 2006 public policies were specified with the presentation of the White Paper on the information society; later the program "Improving the quality of public education to strengthen learning through ICTs: like father, like son" was launched, which arose with the Millennium Schools Project.

Other contributions, such as that of Loaiza-Lima et al. (2024) specify for Ecuador, a public policy proposal for AM promoted by academia through the UTPL, UNESCO and Fundamedios that needs to be included as a "transversal axis in the digital transformation policy and to be included from the basic training of people" (p. 116). In this way, it is planned to guarantee the participation of the individual in aspects of social transcendence and that imply criteria and knowledge.

The Bolivian context is also considered, where, according to Mateus et al. (2020) media literacy is approached from the insertion of manuals for teachers oriented to the language of the media, in such a way that they can discern and respond to the abundance of content generated by the media and thus achieve greater understanding.

In this country there are also citizen initiatives in favor of media literacy, such as a mobile cart that shares information on the subject in popular markets. This is an initiative of a group of communicators and grassroots activists to inform mothers and provide guidance on the information circulating in social networks. It also recognizes the creation of a network of "AMI Super Agents", whose purpose is community communication, content generation and activism that seek to formulate scenarios of constructive dialogue with a diversity of criteria that break the polarization in which the country lives (Deutsche-Welle, 2024).

Technologies, Older Adults and Quality of Life

Older adults must face a number of challenges, the same ones that can become threats that can affect their quality of life, and adapting to a digital ecosystem can help to better address those challenges (Mois et al., 2019). The use of technologies and their great capacity are key elements in the development of human beings and contribute to the perception of a better life condition. Precisely, living conditions are fundamental in the sustainable development of nations, since it enhances, social, economic and cultural aspects, based on human integration (Nevado et al., 2019).

Therefore, as we move towards the consolidation of the knowledge society, there is no doubt that the correct use of technologies improves people's living conditions. In this sense, young people can adapt more easily to technologies, while older adults as a whole already face barriers to the use of these tools and run the risk of falling even further behind, due to the lack of implementation of public policies. This phenomenon not only reinforces the digital divide, but also limits their ability to learn new skills needed to interact with emerging technologies once access is established. Information and communication technologies drive the self-management of human health and independence, depending on the success it can achieve in the digital society.

Likewise, media and information literacy is a powerful tool for the social reintegration of older adults, since by being trained they can actively participate in social and cultural activities, which has an impact on their emotional well-being and gives them a sense of belonging in terms of technologies (Loaiza-Lima et al., 2024, p. 118).

The influence of technologies on people's quality of life is a complex issue, as it encompasses several connotations, which are related to cultural and socioeconomic aspects. In this study, we will focus on the fact that the correct use of technologies substantially improves people's quality of life, understanding that those older adults who do not have access to the Internet run the risk of being excluded from the digital society, which logically violates their human rights. Therefore, it is necessary for older adults to receive support to cultivate skills to reverse the social perception that there is a generation gap that limits older people from using technologies (Rivoir et al., 2019, p. 309).

Technologies are a link between the elderly and their environment, because, nowadays, those who do not use them are outside society and their daily lives. Therefore, there is no doubt that they have a positive impact on people's lives, but there is always the discussion that they must be assumed with responsibility and also the call for ongoing training of the individual. In this sense, there can be no barriers between the elderly and technologies, since the latest generation tools help to overcome those same barriers that are generated by the passage of time and, of course, by the pre-existing social representation.

Therefore, it is important to mention that, the accelerated technological development has forced the introduction of health and wellness programs for older adults, becoming a great challenge for the world of science, which seeks the success of applications and platforms that serve in this field, therefore, an important volume of research assumes as its own the challenge to generate wellness in older adults from the appropriate use of technologies (Baraković et al., 2020).

Method

This research is based on the scientific method and was adapted with a quantitative approach characterized by data obtained from a survey of older adults aged 65 years and older in Ecuador and Bolivia. As a central objective, we have proposed to determine that media and information literacy improves the quality of life of people over 65 years of age, considering that accessing technologies and knowing how to use them competently is not the same thing.

In the development of this research, surveys were conducted with 200 older adults in the cities of La Paz in Bolivia and Quito, Machala and Loja in Ecuador. Assisted data collection has great potential in terms of the timeliness of results, this is a valuable tool for collecting information on the well-being of older adults, it is done through phone calls, on digital platforms, with pencil and paper, always supervised by the researcher (Weigold et al. 2016). As for the selection of the sample, it corresponds to the analysis of the social characteristics of older adults in the countries where this project is being developed and, above all, to the conditions of access to the respondents to collect the information. The people approached are older adults who belong to the social programs of care for the elderly that exist in the aforementioned countries. Likewise, we have requested the collaboration of retired people, i.e. those who have served in public institutions. It is important to mention that this generational group is considered difficult to access at the time of applying the instrument.

In addition, we have reviewed the media literacy processes developed in Ecuador and the contributions that academia has made in this field.

Results

This research is aimed at the study "Access to technologies and media literacy in older adults in Ecuador and Bolivia", which presents preliminary results of the doctoral thesis entitled "Media and information literacy: a focus on older adults in the Andean Community", by Eduardo Loaiza Lima, doctoral student of the Interuniversity Doctorate Program of the universities of Huelva, Cadiz, Malaga and Seville.

In this context, we present the following results.
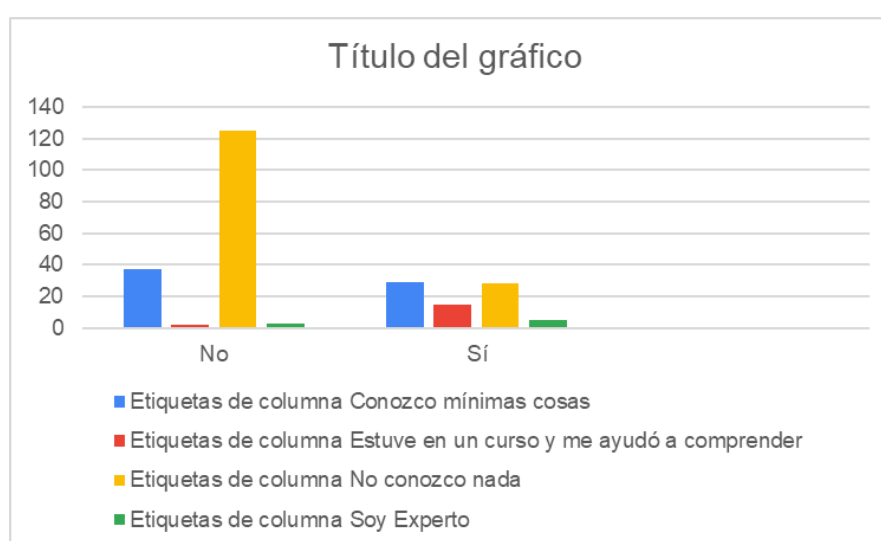
Figure 3
Access to technologies
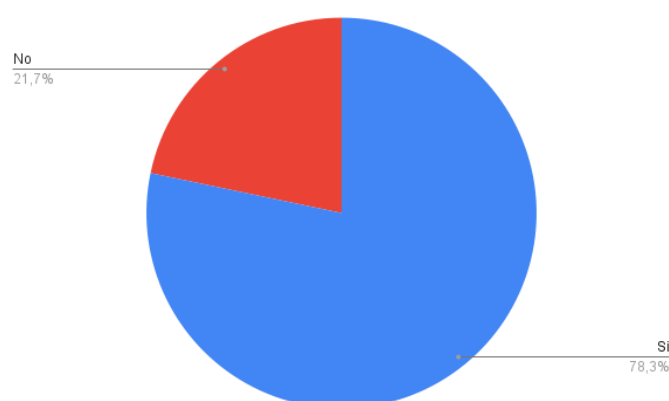
Access to Technologies

Over the years, the participation of older people in the network has increased. 78.3% of respondents indicate that they have access to technologies and that they participate in the digital society. While it is true that the struggle of the social sectors is framed to guarantee a fairer participation of older adults in the different socioeconomic aspects, it must be recognized that important advances have been made, which are reflected in the levels of connectivity presented in this research. It should also be noted that 21% of those surveyed do not have access to technology and this figure is still very significant.

Access to technologies generates countless opportunities, mainly for human development, as they lead to greater efficiency in the labor field and generate resource savings in production (Küsbec, 2023). In the same way, the world is experiencing a social innovation, which calls for a more democratic access to technologies with the aim of reducing gaps and social exclusion (Warnecke, 2017).

Figure 4
Knowledge of media literacy

The graph (Figure 1) presents the results of a survey of older people on their knowledge of media literacy. Here are the results:

1. What do you know about media literacy?

- o No: A significant percentage of older people (represented by the yellow bar) know nothing about media literacy, exceeding 120 responses, indicating a general lack of familiarity with the concept.
- o An also considerable part (blue bar) mentions that they know minimal things, which indicates that some have very basic notions of the subject.
- o A very small number of respondents (green bar) consider themselves experts on the subject, which highlights the low specific preparation in media literacy among seniors.
2. People who do have some knowledge (Yes):
   - o A more positive change is observed here. Although lack of knowledge (yellow bar) continues to predominate, there is a considerable group (blue bar) that claims to have minimal knowledge.
   - o A small but present group (red bar) participated in courses that helped them understand the concept, suggesting that trainings can be an effective tool to improve media literacy in this age group.
   - o The presence of experts (green bar) is minimal in both categories, indicating that few seniors have achieved advanced mastery in this area.

The graph suggests that older people are mostly unaware of or have limited understanding of media literacy. However, attendance at courses improves their understanding, although the number of experts remains low. This suggests a need for more educational programs focused on improving media literacy in this population.

Figure 5
Do you know how to differentiate false information?


Sí
31,6%

No
68,4%
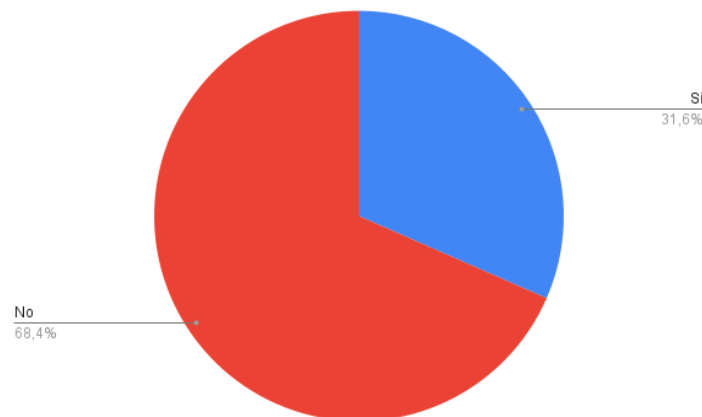
False Information

The appropriate use of the media consists of applying a series of skills and critical awareness to interpret the information received, classify it and assume it as beneficial, which is why media and information literacy strategies are necessary for the health of older adults and digital development (Ligero-Bodi et al., 2024, p. 57). False information, is easily spread through digital platforms, a situation that represents a global risk and this can have unfortunate consequences for society, especially when global events occur, such as those occurred in the Covid-19 pandemic (Zannettou et al., 2018).

Among the older adults participating in the present study, the majority (68.4%) considered that they do not know how to differentiate false information. Likewise, there is a significant percentage that indicates that they are able to distinguish real information from false information.

Figure 6
*Media competencies have improved their quality of life*
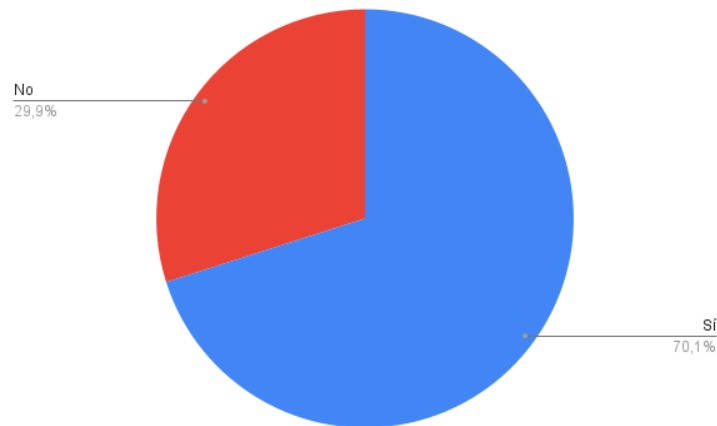
Quality of Life

There is a correlation between media skills and knowledge, which are interrelated to influence the formation of people, and in the case of older adults, it is natural that, from the mastery and strengthening of their critical capacity in the face of technologies, their autonomy and participation in the digital society is improved, substantially influencing their living conditions. In this regard, Cella (1994) argues that quality of life is multidimensional and subjective, since it is measured by physical, emotional and social capabilities, but it is also true that technologies contribute to improving these capabilities.

The vast majority of respondents (70.1%) say that the technologies used in the right way have improved their quality of life. Similarly, 29.9% indicate that technologies are indifferent in their lives.

Figure 7
Technological activities
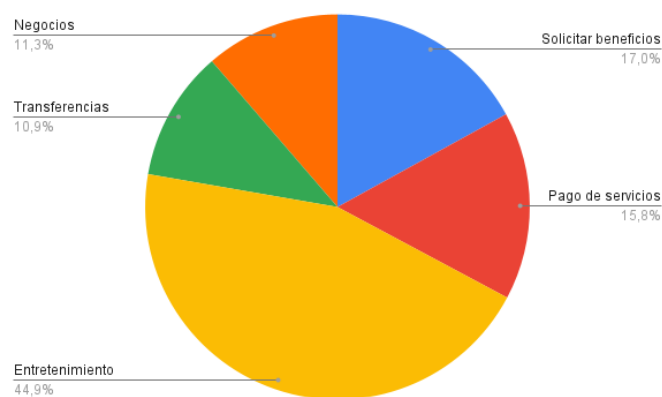
Use of Technologies

In order to know how competent our older adults are in using technology, it was necessary to ask them about their use of technology. In this context, we have verified that the vast majority (44.9%) use them for entertainment. Then, with 17%, they request

health services through technologies, and 15.8% to pay for electricity, drinking water, among others.

According to Choi (2020), research is developed with the aim of taking advantage of the benefits of the use of technologies for the physical and mental well-being of older adults. Undoubtedly, entertainment and the link with the family and social environment are activities that improve people's self-esteem and, consequently, their state of health.

Discussion and Conclusions

Media and information skills play a fundamental role in our times, because they help us to manage information correctly, allowing us autonomy as individuals and solid democracies as a society. In addition, they contribute to the development of human thinking and identity, which gives them the ability to make decisions and foster ethical values (Milenkova et al., 2019).

The purpose of this research was to demonstrate that technologies make people's lives easier, but in order to do so, the responsible use of these technologies must be promoted through educational processes throughout the life cycle. Likewise, it has been detailed that the advantages are multiple and are related to social inclusion and the generation of opportunities for the integration of older adults into the productive apparatus.

Access to technology is a reality that goes beyond the generational stage in which the person is, that is, that today its use is confirmed in children, young people, adults and even older adults; while the latter group must adapt to these new tools that were alien in other stages of their lives. In this way, the use of technology in the elderly is recognized, in addition to identifying that for this sector there is a certain recognition of media literacy (a term that is directly associated with training in the field of information and technological consumption).

The existence and application of media and information literacy is a key factor in improving the quality of life of the elderly, as there is access to technologies, and the need to acquire the skills to use them effectively and safely, especially in a context in which false information is part of everyday life. Adequate literacy not only facilitates their integration into an increasingly present digital environment, but also allows them to actively participate in society and take better advantage of the benefits offered by today's technologies.

Similarly, older adults need access to media and information literacy projects. To this end, it is necessary to recover the social vision of the literacy programs that were previously developed, such as the "Monseñor Leonidas Proaño Literacy Program" in Ecuador, and adapt them to technological tools, with an inclusive vision.

Limitations

The main limitation of this study is that older adults are a population that is difficult to access, and data extraction is subject to the collaboration of several people, since it must be carried out in an assisted and face-to-face manner, which implies the permanent attention of the principal investigator, to avoid generating biases that affect the reliability of the study. The lack of information on the implementation of public policies in literacy is also considered a relevant limitation, as the updating of information is quite restricted.

Future Lines of Research

Studies and research on media and information literacy should be carried out regardless of age, social status and origin, since training and education needs are similar in all age groups. In the same way, it is necessary to establish methods and projects that focus on particular activities and that can be applied with the support of policies that promote the democratic participation of all, considering that education is the main element for full social inclusion.

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