




Behavior, verification of information and creation of content on social networks by Seniors. The case of Segovia (Spain)

Comportamiento, verificación de información y creación de contenido en redes sociales por seniors. El caso de Segovia (España)



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Abstract:

An analysis of the behavior of senior citizens in Segovia on social networks is presented in this research, evaluating their ability to manage information, create content, and perceive security in these environments. Their virtual behavior also affects how content is created and perceived, as well as how they deal with fraud and scams. The exploratory study uses a mixed method for a comprehensive analysis, combining quantitative and qualitative approaches through 318 respondents and 13 interviewees. As the results indicate, social media can either worsen the situation or place seniors at risk, depending on how they interact with them. In Segovia, WhatsApp is the most widely used social media network among seniors, followed by Facebook and Instagram. Among the youngest, daily usage exceeds two hours, with greater media competition within this sector. The level of confidence in information varies by age, and women are more active than men when it comes to creating content, while men excel in older age groups. The study highlights the crucial role of media literacy in promoting lifelong learning and enhancing technical and critical skills, thereby contributing to a more educated and engaged citizenry.

Keywords:

Media literacy; social networks; misinformation; social behavior; aging.

Resumen:

La investigación presentada en este artículo analiza cómo el sector seniors de Segovia se comporta en las redes sociales, evaluando su capacidad para gestionar información, crear contenido y percibir seguridad en estos entornos. Además, se examina su habilidad para manejar estafas y fraudes, y cómo su comportamiento virtual afecta la creación y percepción de contenido. El estudio exploratorio emplea un método mixto para un análisis integral, que combina enfoques cuantitativos y cualitativos a través de 318 personas encuestadas y 13 entrevistadas. Los resultados revelan que las redes sociales pueden empeorar o poner en riesgo al sector senior, según cómo interactúan con ellas. En Segovia, WhatsApp es la red más utilizada por los seniors, seguidas de Facebook e Instagram. Su uso diario supera las dos horas, con mayor competencia mediática, dentro de este sector, en los más jóvenes. La confianza en la información varía según la edad y, a nivel de creación de contenido, las mujeres son más activas que los hombres, aunque destacan ellos en las edades más avanzadas. Se incide en la importancia de la alfabetización mediática en el aprendizaje para toda la vida con el fin de mejorar sus competencias técnicas y críticas, promoviendo una ciudadanía más formada y participativa.

Palabras clave:

Alfabetización mediática; redes sociales; desinformación; comportamiento social; envejecimiento.

1. Introduction

A social network is a set of people and their relationships, with whom they maintain feedback and establish a social context of communication (Santoveña-Casal, 2020). The post-digital society cannot be understood apart from these relational spaces that configure it and that have broken down traditional barriers, establishing new communicative nodes between related profiles or social groups that interact continuously as prosumers without limits of time and space (Gil-Quintana, 2023). Although these social networks are usually associated with youth or adolescence, in Spain, according to data from the INE in 2024, only 20% are under 25 years of age. In contrast, 41% of these people are between 25 and 44 years old, a trend that has been increasing in those over 44, representing 37%.

The utilization of the Internet (Campaña and Ortega, 2021) and specifically social networks, has permeated all stages of human life, including adulthood and, notably, the elderly population aged 60 years and older (Balseca, Carrillo, Merchan, and Moreno, 2019), which constitutes the majority demographic in developed countries (Domènech, 2019). The intensive use of new social spaces by seniors is influenced by personal factors such as behavior combined with the motivation to stay connected, learn and share experiences or knowledge.

This mixed-methods research focuses on analyzing, at a local level, how the senior sector in the province of Segovia (Spain) interacts in social networks, assessing their ability to manage information, create, share content, etc., and their perception of reliability and security in these environments. The study also presents their behavior in contact management, interaction in new media and their ability to recognize and handle threats such as scams and fraud. The aforementioned reports speak of general data for Spain, even detailing some provinces, forgetting the more local and less densely populated territories, such as the province of Segovia. The use of social networks by the senior sector is an action that involves a dynamic cycle of behavior, information verification, and content creation, making its analysis important in provinces with an older population. In this cyclical order of ideas, virtual behavior influences how this population group in the province of Segovia consumes and perceives information. The ability to verify affects the amount of content this sector creates and shares, as well as how the content they have created impacts, to a greater or lesser extent, their virtual and analog communities, in addition to influencing this group's perception of a given information source.

1.1. State of the field

The use of social media in Spain by people over 60 is reflected in the fact that 12% of social media users in Spain are between 55 and 64 years old (55.6% women and 43.4% men) and 8.2% are over 65 years old (57.3 women and 42.7 men) (Una Vida Online, 2024). Platforms such as Facebook, YouTube, Instagram and WhatsApp are widely used (IAB Spain, 2023). Specifically, the senior sector, the focus of our study, use Facebook and YouTube more because of their more user-friendly interfaces and variety of content. Facebook was used by 10% of the over-65s, rising to 11% by 2022 (The Social Media Family, 2021). However, other social networks such as Instagram had 37% of users aged between 40 and 64, but no information on older people was provided in this report. In addition, no data is available for social network X, while LinkedIn has 2% and TikTok has 8% of people over 55.

The senior sector, amid this complex communication landscape, is becoming susceptible to misinformation, highlighting the need for literacy in fact-checking and identifying false news, in addition to the use of social media (Pino and Arréquez Manozzo, 2023; Teruel Rodríguez, 2023; Tejedor, Romero-Rodríguez, and Gracia-Villar, 2024). Regarding the level of trust in Internet use among people aged 65 to 74 in Spain, it is noteworthy that 38% report having little or no trust, 55% say they have a fair amount, and only 6% express a high level of trust. This latest study carried out by the INE in 2024 indicates that, in the 65-74 age group, the following actions have been carried out: 80% have used the Internet in the last 3 months and 24% have made purchases; the use of messaging services such as WhatsApp and making video calls has increased by 76%. which becomes a powerful means of expressing one's own identity, sharing life experiences and contributing to the enrichment of certain virtual communities.

To study media consumption, it is not enough to analyze it solely on the Internet or on social media. Data on media consumption among the elderly indicates that 90% of the population over the age of 74 watched television in 2023, compared to less than 75% among those aged 14 to 24. Among the elderly population, 17% preferred Antena 3, 12.7% Telecinco, 10% La 1, 5% La Sexta, 4% Cuatro, and 4% La 2 (Statista, 2023). This data adds to the general increase in television consumption in Spain compared to 2022, reaching an average of 190 minutes per day. Regarding newspaper reading, 18% of readers are between 55 and 64 years old, 11% between 65 and 74 years old, and 7% are over 74 years old. Another media on the rise

after the COVID-19 pandemic is the cinema, where the over-74s have increased their consumption by more than 2%. These media continue to provide not only information, but also ‘background, consequences, cause-effect relationships, interests involved and various perspectives or points of view’ (Iniesta Alemán, Macho-Iglesia, and Segura-Anaya, 2023, p.54) which construct the social imaginary.

In this media context, the senior sector is vulnerable (Bunbury, Pérez, and Osuna, 2022), as it is an environment where ageist actions are projected (Chulián Horrillo, Valdivia-Salas, and Páez, 2024). For this reason, media literacy is essential, as it provides the necessary tools to improve their quality of life, their health (Vicente, 2022), reduce the digital divide (Arroyo-Menéndez, Gutiérrez-Láiz, Criado-Quesada, 2022) or the dangers of new media (Kosir and Strumbelj, 2024). This is an effective formative process that can help them navigate more confidently and safely in the digital environment, reduce their susceptibility to fake news and improve their engagement (González and Padilla, 2018; Bernal-Bravo and González-Andrío Jiménez, 2024). Media literacy in old age can promote active aging (Havighurst, 1963; Zambrano and Arcentales, 2024), healthy (Gasiorek, Fowley, and Giles, 2018; Wan and Du, 2024) and an improvement in quality of life (Román, Pérez, and Tadeu, 2021). Media education can provide tools for continuous learning and civic engagement in social media (Xie and Jaeger, 2008; Xie, 2021; Monge-Valverde, Chiliquina-Véjar, and Santamaría, 2024), mitigate the effects of aging (Bernhold, 2020), loneliness or isolation (Nguyen et al., 2020), and even promote physical, spiritual, and emotional well-being (Roldan-Ramírez, Díaz-Sánchez, and Andrés-Vargas, 2023). Training should be adapted to the specific needs of the target group, taking into account previous learning experiences with the new media (Xie and Jaeger, 2008). At both national and local levels, there are noteworthy initiatives aimed at developing media competences, with particularly positive evaluations in Spanish provinces where ageing is more pronounced and the concept of ‘Empty Spain’ is especially relevant.

In the province of Segovia (Spain), the context in which the sample of our study is located, it is important to highlight that both public and private institutions are carrying out noteworthy media literacy projects within a setting characterized by a widespread rural population. The University of Valladolid, Segovia Campus, not only leads Media Education and Digital Competence Congresses for all audiences, but also through the Inter-University Experience Programme, where attendees receive interdisciplinary training; also the National University of Distance Education with its UNED-Senior project. The Segovia Provincial Council has created a Centre for Research and Social Innovation (CIIS), a knowledge-sharing community that produces a number of reports and publications, including the latest related to the ‘Guide on responsible and safe use of technology’ (CIIS, 2024) aimed at the residents of rural towns in the province, most of whom are over 60 years old; this center is complemented by other actions of this institution such as ‘Classrooms for Older Adults’ or ‘Senior Classrooms’. Caritas also joins as an NGO to train vulnerable people on internet connectivity, devices and training through the ‘Caritas T-Forma’ programme and the ‘Caritas more digital’ project. In formal educational contexts, the ‘Mentor Classrooms’ of the Adult Education Centers stand out, as well as the conferences and seminars offered in these spaces. Other associations such as Rural Women and Solidarity Action Collectives have developed the ‘Seniors and ICTs’ programme with the aim of improving the quality of life, social relations and independence in the use of social networks.

We cannot overlook other national proposals that have an impact at local level, such as those promoted by Foundations such as la Caixa with its ‘Older Adults’ program, Cibervoluntarios with ‘Connected’, Vodafone with ‘Great digital experts’, Orange with ‘Connect Seniors’, Spai with its ‘Connect Network’; Telefónica Seniors Association with various training

proposals, and other initiatives of the Ministry of Inclusion, Social Security and Migration of the Spanish Government or the National University of Distance Education.

Media and Information Literacy (MIL) can be promoted in formal and non-formal educational contexts through the acquisition of technical, cognitive, social, civic, ethical and creative competences and skills to deal with today's media, to produce content and to understand more critically the information received (UNESCO, 2023). Media literacy and media education is crucial for citizens to acquire the ability to access, analyze, evaluate, create and act using all forms of communication. This process contributes to social well-being and the strengthening of democracy by promoting a more educated and critical citizenry (Mihailidis and Thevenin, 2013), especially at stages of life where vulnerability is most acute.

2. Methodology

This exploratory study has been based on a mixed method, combining both quantitative and qualitative approaches in order to gain a more complete understanding of the phenomenon under study, complementing and reinforcing the findings, as well as taking advantage of the strengths of each approach (Blanco and Pirela, 2022). The idea is to take advantage of the strengths offered by both techniques and their corresponding instruments to address the objectives and hypotheses, and to this end the categories of the analysis of results will incorporate a concurrent design of the data collected. In this type of study, systematic, empirical and critical research approaches are compiled, analysed, integrated and discussed together as a linkage of systematic, empirical and critical research approaches (Acosta Faneite, 2023), pathways to acquiring knowledge in social sciences (Hernández-Sampieri and Mendoza, 2018).

2.1. Objectives and hypotheses

The general objective of this mixed research is to study how seniors interact in social networks, assessing their ability to manage information, their participation in the creation of content and their perception of reliability and security in these virtual scenarios. The specific objectives of the study are as follows:

- Ob1: To study the perception of the reliability of information received through social media among seniors.
- Ob2: To analyze the behavior of seniors regarding contact management and interaction on social media.
- Ob3: To investigate the ability of seniors to recognize and manage threats on social media, such as scams or fraud.
- Obj4: To examine how seniors create and share content on social media.

Based on the general objective and the specific objectives, the following hypotheses are presented:

- H1: Seniors who are more involved are more critical of the reliability of the information consumed.
- H2: There is a positive relationship between seniors' trust in traditional media and their perception of the reliability of the information provided by these, compared to that received through social media.
- H3: Seniors' ability to identify threats, such as scams or frauds, is related to their perception of safety when using those same social networks.

2.2. Sample

Segovia is one of the 209 municipalities of Segovia, in Castilla y León, Spain. According to the last Population Census of 2023 Segovia had 153,803 inhabitants: 77,773 women and 77,773 men. Segovia is the most populated municipality in Segovia. Specifically, as an interesting fact for our study, the number of inhabitants in Segovia over 60 years of age as of 2022 according to the census is 46,584, 24,644 women and 21,940 men. The number of people surveyed was 318 with a confidence level of 95% and a margin of error of 6%. The quantitative results obtained indicate that 52% are women and 48% are men, of whom 62% reside in the capital, while 36% live in the province, and only 2% in urban areas with more than 10,000 inhabitants (capital). Regarding academic background, 58% have university studies at the diploma, bachelor's, or degree level, 10% hold a doctorate, 9% have completed high school, 8% have vocational training, and 15% have only primary or corresponding secondary education. There is a high concentration of people with higher education residing in the capital.

In the qualitative sample of interviewees, 13 people were selected (seven women and six men) from various fields of work related to education, the environment, construction, the service sector, the civil service and national and international business. Recruitment was carried out through purposive and criteria-based sampling, selecting individuals who could provide wealth and variety of experiences in social media use. This group of interviewees did not participate in the quantitative study. Table 1 shows the characteristics of this sample with diverse educational backgrounds and work experience (from teachers to entrepreneurs and civil servants). Most of the people interviewed are retired, with a varied participation in social networks; this quality enables a better analysis of their relationship with new media and active ageing.

Table 1. Profile of participants in the quantitative sample

Code	Age	Nationality	Education	Professional experience	Social media participation	Employment status
ENT 1	70	Spanish	Diploma (Associate Degree)	Public administration	Not too much	Retired
ENT 2	72	Spanish	Bachelor's Degree	Public administration	Not too much	Retired
ENT 3	62	Spanish	Bachelor's Degree	Business executive	Much	Active
ENT 4	62	Spanish	Doctorate	Docente Universitario	Much	Retired
ENT 5	78	Spanish	Diploma (Associate Degree)	Public administration	Limited	Retired
ENT 6	68	Spanish	Bachelor's Degree	Public administration	Little	Retired

ENT 7	62	Spanish	Elementary education	Business executive	Much	Active
ENT 8	74	Spanish	Bachelor's Degree	Business executive	Little	Retired
ENT 9	64	Spanish	Bachelor's Degree	Docente Secundaria	Much	Active
ENT 10	72	Spanish	Bachelor's Degree	Business executive	Much	Retired
ENT 11	78	Spanish	Bachelor's Degree	Employee	Escasa	Retired
ENT 12	62	Spanish	Doctorate	Business executive	Much	Retired
ENT 13	76	Spanish	Engineering	Business executive	Much	Retired

Source: own elaboration

2.3. Techniques and instruments

Regarding quantitative methods and instruments, essential tools for data collection and gaining a deep understanding of the information (Medina Romero et al., 2023), online questionnaires created using Google Forms were employed. These were distributed randomly, based on non-probability snowball sampling, achieving a 100% response rate. The instrument was structured with thirteen Likert-scale questions designed to measure attitudes, behaviors, and perceptions. In addition, two dichotomous (yes/no) questions, seven single-choice questions, and two multiple-choice questions were included.

The qualitative techniques and instruments have been the thirteen semi-structured in-depth interviews with a flexible guide of twelve questions with the aim of obtaining detailed insights referred to the objectives and hypotheses presented above; through this process it is possible to gather information about the perspectives of the participants, their difficulties and involvement in everyday life (Villalobos, 2019). Based on these tools and techniques, using software such as Atlas.ti and SPSS, a triangulation matrix has been applied to combine both quantitative and qualitative data, allowing the objective results of both approaches to be compared, contrasted and correlated.

These instruments were validated by a team of ten experts belonging to the SMEMIU Research Group (UNED) through a tool containing the questions designed for both the questionnaire and the interviews, which presented a Likert scale from 1 to 5, ranging from 'Very little relevant/suitable' to 'Very relevant/suitable', as well as a space for observations. Regarding the questionnaire, all the questions were rated with a score of 4 or 5, leaving some observations that were subsequently taken into account. For the interview questions, the score also ranged between 4 or 5, bearing in mind the suggestions for improvement that had been put forward. Cronbach's alpha for the variables is 0.74, so that the 13 metric variables of the survey consistently assess aspects such as trust, technical knowledge and participation in social networks. The correlation

values are between 0.7 and 0.8, so all variables are correctly aligned with the total score and contribute positively to the internal consistency of the questionnaire. The variable related to blocking or deleting contacts that share fake news or use inappropriate language shows the highest correlation at 0.8, followed by the variable assessing the reliability of information in traditional media, with a correlation of 0.75.

3. Analysis of Results

3.1. Category 1: Use, Time, Satisfaction, and Trust in Social Networks

The quantitative data on the use of social networks (satisfaction with technical knowledge, confidence in using social networks and comfort in writing messages), based on a Likert scale of 1 to 5, where 1 represents 'strongly disagree' and 5 'strongly agree', expressed in Table 1, indicate medium-high satisfaction, with mean values for items 8, 9 and 10, with scores of 3.17, 2.92 and 3.09, respectively. The median and mode, both 3. The standard deviations of 1.12, 1.13 and 1.23, respectively, indicate a moderate dispersion reflecting that not everyone has the same experience or ability. These data reveal that, while the senior sector is reasonably comfortable with social networking, there are still gaps in confidence and expertise at the technical level.

Table 2. Descriptive statistics of the perception regarding social media use

Value	Satisfaction with technical knowledge	Trust in social media use	Comfort writing messages
Mean value	3,17	2,92	3,09
Median	3	3	3
Mode	3	3	3
Standard deviation	1,12	1,13	1,23
Variance	1,25	1,28	1,51
Mínimum	1	1	1
Maximum	5	5	5

Source: own elaboration

Regarding the use of social media, WhatsApp is the most widely used platform across all age groups, with 100% of participants reporting frequent use. WhatsApp is followed by Facebook, with a participation rate of 53%, particularly prominent among older adults, with 68% in the age group close to 60 years, and a lower percentage in the older age sector. Instagram is used by 35% of the sample, being more common among the younger individuals in the group, followed by those aged 70. LinkedIn and X are used by 12% respectively, with usage in the 60+ age group being particularly high. TikTok features in the results, but with 7% overall usage. Telegram is also used by 10% with prominent use in the first age group, along with Pinterest which is mentioned by 6%. Overall, participants aged above 70 tend to use mainly WhatsApp, with a decrease in the use of other social networks as age increases, as presented in Table 2. These data support the finding that, as age increases in this sector, the use of newer social networks decreases. This pattern suggests that the preferred social networks are those that are simpler or focused on direct communication, with accessible and familiar interfaces.

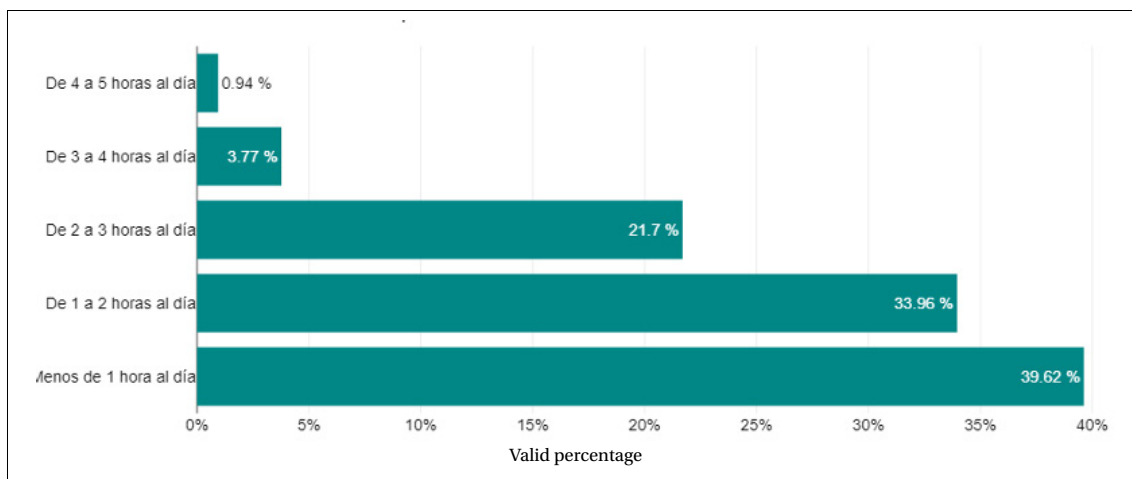
Table 3. Types of social networks used by age group

Social Media	60 to 64 years	65 to 69 years	70 to 74 years	75 to79 years	80 to 84 years
WhatsApp	100%	100%	100%	100%	100%
Facebook	68%	54%	58%	63%	33%
Instagram	48%	27%	35%	27%	17%
LinkedIn	20%	12%	-	-	-
X	20%	8%	-	-	-
Telegram	15%	5%	-	-	-
TikTok	10%	-	8%	3%	17%
Pinterest	8%	-	-	3%	-
Other	7%	10%	8%	-	-

Source: own elaboration

Regarding social media usage, it is worth noting that 73.5% of people report spending up to 2 hours per day on these platforms. Of those, 39.6% spend less than 1 hour per day, while 33.9% spend between 1 and 2 hours. Additionally, 21.7% report spending between 2 and 3 hours per day. Finally, 3.7% say they spend between 3 or 4 hours a day, as shown in Graph 1. This Graph 1 shows a moderate use of social media, reflecting a balance between digital and offline life in the elderly; these spaces are present, but not in everyday life, implying less exposure to misinformation or a more addictive or compulsive use.

Figure 1. Daily time spent on social media

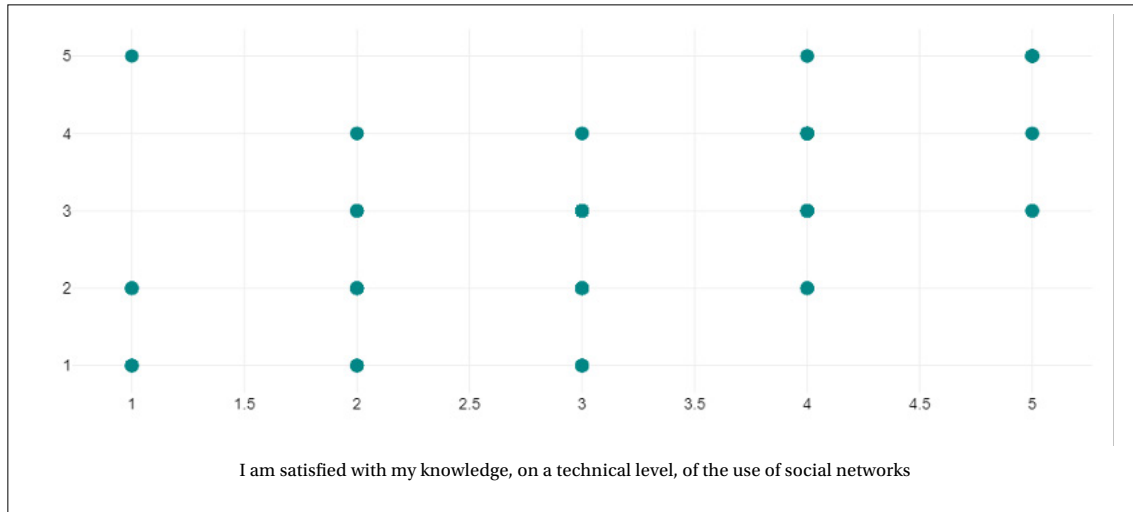


Source: own elaboration

Regarding the correlation between satisfaction with technical knowledge in the use of social media and actual usage, an intrinsic relationship between these variables is evident, as shown in the scatter plot in Figure 2. When analyzing the data, it is observed that 40% of participants aged 60 to 64 report high satisfaction (values 4 and 5) with their technical knowledge, in contrast to only 20% in the 80 to 84 age group, thus indicating a tendency for higher satisfaction among younger age groups.

Similarly, trust in the use of social media exhibits a comparable trend, with 35% of individuals aged 60 to 64 reporting high levels of trust (scores of 4 and 5), whereas only 20% of those aged 80 to 84 report the same level of trust. On the other hand, the amount of time spent on social media does not show a significant correlation with either satisfaction or trust. Among those who use social media for less than one hour per day, 45% exhibit a wide range of levels across both metrics. Lastly, place of residence does not appear to significantly influence these outcomes, as response patterns are similar between urban and provincial areas. Therefore, satisfaction and trust seem to be more closely linked to each other than to age or usage time, indicating an intrinsic connection in social media use.

Figure 2. Scatter plot of social media use and satisfaction with technical knowledge



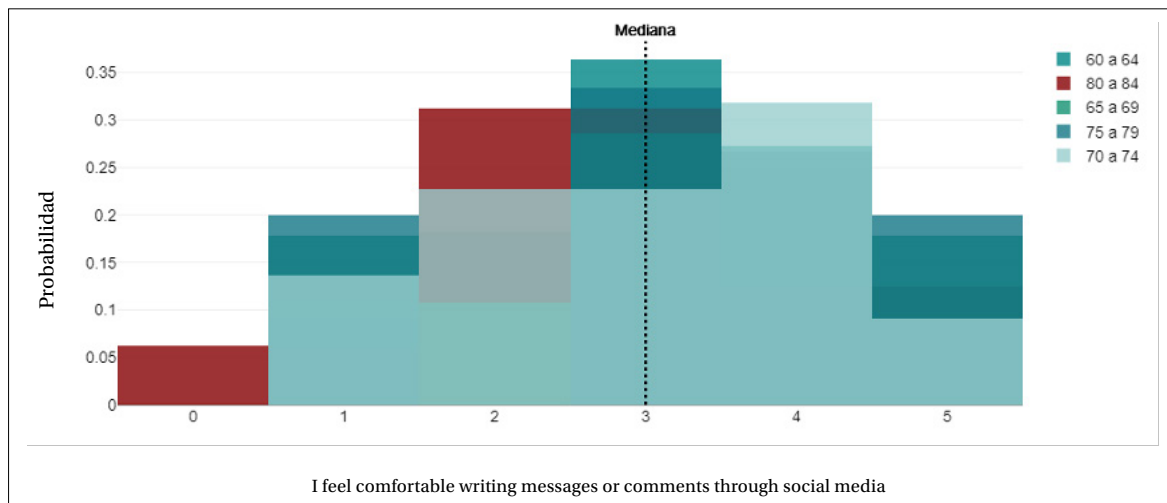
Source: own elaboration

Regarding social media interaction, specifically writing or responding to comments, the results presented in Figure 3 show that 50% of individuals who feel comfortable with this activity report high levels of trust in using social media (scores of 4 or 5). In contrast, just 15% of those who feel less comfortable performing these actions demonstrate a comparable level of trust.

Usage time also influences trust. 45% of users who spend between 2 to 3 hours daily on social media report high satisfaction with their ability to interact, whereas only 25% of those using social media less than one hour per day exhibit comparable levels of satisfaction. Among the survey participants, 35% of those who spend 1 to 2 hours daily on social media report high levels of trust and comfort, compared to 20% of individuals who use these platforms for less than one hour per day. Regarding the age group, 55% of younger individuals who use social media between 2 and 3 hours daily feel highly comfortable and confident, compared to only 30% in the 80 to 84 age group. For those aged 65 to 69, 40% report high levels of comfort and confidence, which decreases to 25% in the 70 to 74 age group. In terms of gender, 55% of women who use social media between 2 and 3 hours daily report high levels of comfort and confidence, compared to 30% of men.

Place of residence shows a minor influence, with similar responses observed in both urban and rural areas. Frequency and duration of social media use are closely linked to greater comfort and confidence in interaction, exhibiting a general upward trend among younger individuals and frequent users of these new media. This effect surpasses the impact of demographic factors such as gender and place of residence.

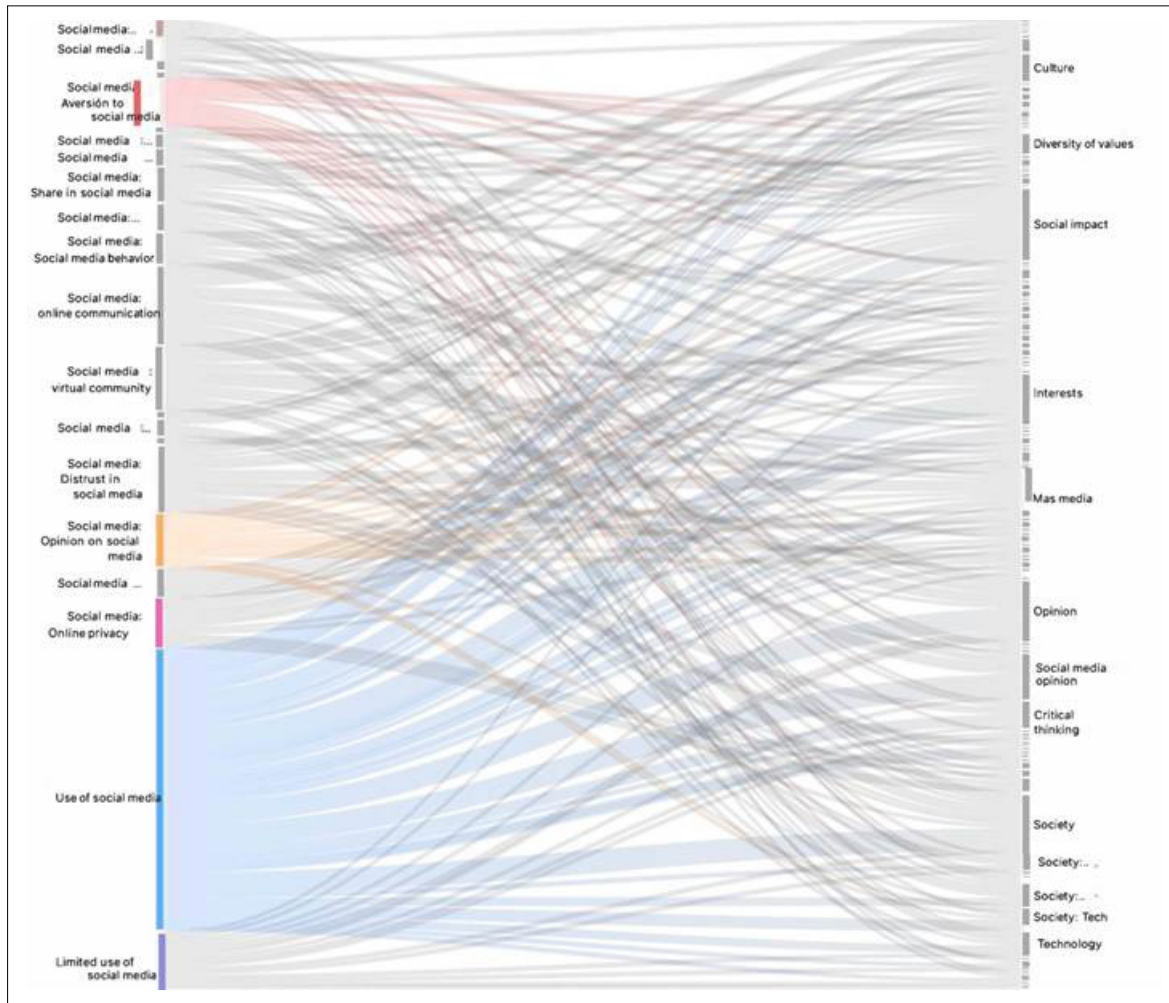
Figure 3. Comfort with receiving messages and comments on social media



Source: own elaboration

The opinion about social media in post-digital society, as reflected in the qualitative study, highlights two main aspects: one positive and one negative within the qualitative sample. On the one hand, “social media facilitate contact with more people and promote a sense of community. On the other hand, they can also cause isolation within the family and close environment by reducing personal interaction” (ENT. 9:2/20). Although the overall results from the interview analysis, shown in the Sankey diagram presented in Figure 4, indicate a clear relationship between social media and various aspects of society. Through flow representation, the connections between social media and dimensions such as culture, diversity of values, public opinion, and technology are shown. This high co-occurrence of codes and their relationships allow us to assert that social media are integrated into society. There is a strong interrelation between “culture” and “diversity of values” with social media, thus they influence cultural norms and individual beliefs, and are shaped by them. The relationship between social media and “social impact” highlights a clear role in shaping public opinion and mobilizing social movements. The presence of concepts such as “distrust in social media” and “online privacy” highlights the concerns and challenges related to the use of these platforms. However, the diagram also shows a significant connection between social media and “critical thinking,” indicating that they are also environments that can foster debate and reflection. Social media interact with various aspects of society, helping us better understand their influence on our daily lives and the challenges posed by their use.

Figure 4. Sankey diagram illustrating the relationship between social media and social aspects



Source: own elaboration

The increasing amount of information on social media has created a challenge in discerning between true and false. This is highlighted in the qualitative data, emphasizing the importance of critical thinking and common sense when navigating these digital environments, beyond mere digital literacy. Thus, “the overabundance of information and the ease with which news spreads, even without institutional backing, make trust in social media increasingly difficult to maintain” (ENT. 4:14/40). On the other hand, although social media are recognized as an additional tool for accessing data, according to the qualitative data, they also enable a way to verify and contrast specific published information, developing “the ability to detect the truthfulness of information becomes a constant challenge, requiring not only technical knowledge but also a critical and reflective evaluation of what is shared and consumed in these spaces” (ENT. 12:13/50).

3.2. Category 2: Interaction and verification of information on social media

The results shown in Table 3 corresponding to the quantitative study, analyze interaction and the ability to discern the truthfulness of information on social media and traditional media, as well as people’s reactions to inappropriate content. Mean values ranging from 1.93 to 3.08 indicate moderate trust when identifying threats and comparing information, and lower trust in the reliability of information received through social media. The medians result in values of 3 or 2, reflecting a tendency towards neutrality or distrust, while a wide variability of responses is observed based on the modes, ranging from 1 to 4. Dispersion is moderate, with standard deviations between 0.98 and 1.47, indicating diversity of opinions. The variety of responses reveals significant individual differences, evidencing a gap in media literacy skills that requires strengthening training and regulating the content offered on social media.

Table 4. Types of social media used by age group

Value	Assessment of info. accuracy	Reliability of social info.	Recognition of digital threats	Reliability of traditional media	Source comparison	Inappropriate content blocking	Trusted influencers
Mean value	2.93	2.31	3.08	2.94	2.58	2.29	1.93
Median	3	2	3	3	3	2	1
Mode	4	2	3	3	1	1	1
Standard deviation	1.12	0.98	1.29	1.05	1.31	1.47	1.25
Variance	1.26	0.96	1.66	1.1	1.71	2.15	1.56

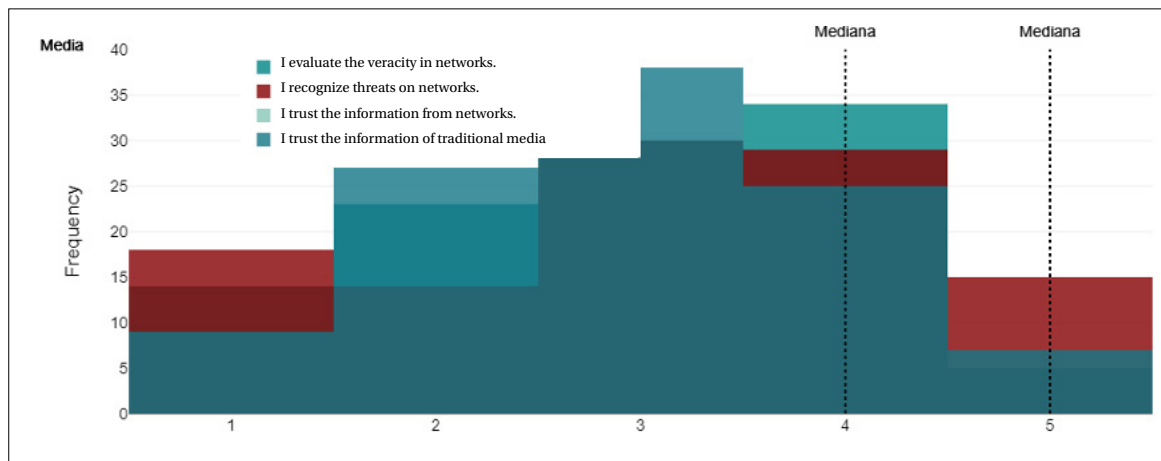
Minimum	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5

Source: own elaboration

A detailed analysis of the results from the covariance analysis highlights the relationships between individuals' perceptions of the reliability of information on social media, their behavior, and their trust in these platforms, revealing significant differences across age groups. Individuals aged 60 to 64 show a covariance of 0.86 between their ability to discern the truthfulness of information on social media and their confidence in detecting threats, implying a strong correlation within this group. 86% trust their ability to identify threats, feeling capable of distinguishing between true and false information on social media. In contrast, in the 80 to 84 age group, this correlation is lower, with a covariance of 0.11, indicating a reduced ability to discern information and lower confidence in detecting threats.

The perception of the reliability of information on social media and its comparison with information received through traditional media shows an overall covariance of 0.28, which varies by age. 28% of individuals aged 65 to 69 consider information on social media to be reliable and also compare it with information from traditional media. L Among individuals aged 60 to 64, 35% make this comparison, while only 20% of those aged 80 to 84 do so. Regarding the action of blocking or removing contacts due to false content, the negative covariance of -0.06 with the ability to discern truthfulness on social media and -0.23 with confidence in detecting threats indicates a moderate inverse relationship: 6% of individuals aged 70 to 74 trust their ability to discern false information and also block fewer contacts, whereas in the 60 to 64 age group, 23% show a lower tendency to block contacts due to their confidence in detecting threats, as shown in Figure 5. These data show that, as age increases, the ability to discern and detect threats decreases. The low tendency to compare information between social media and mass media once again highlights the media literacy gap.

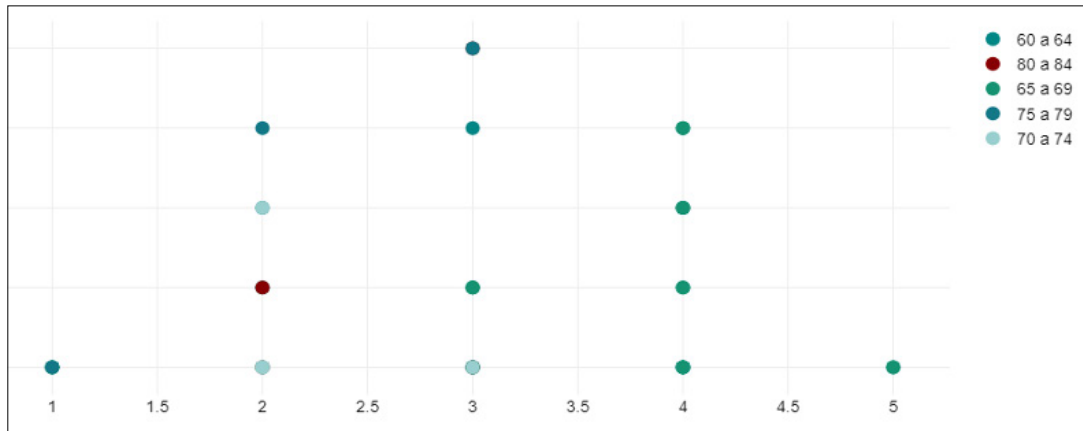
Figure 5. Histogram on truthfulness, threat recognition, and trust in social media



Source: own elaboration

The analysis of the scatter plot regarding trust in the truthfulness of information on social media and the influence of influencers on purchasing decisions shows differences according to age group. The 60 to 64 age group has greater confidence in discerning the truthfulness of information, with a mean value of 3.36 and a standard deviation of 0.96. In this group, there is also a low influence of influencers on purchasing decisions, with a mean value of 1.87 and a standard deviation of 1.13. Regarding individuals aged 65 to 69, they show slightly lower confidence, with a mean value of 3.11 and a standard deviation of 1.17, indicating a similarly low influence, with a mean value of 1.73 and a standard deviation of 1.01. Individuals in the 70 to 74 and 75 to 79 age groups show lower confidence in the truthfulness of information, with mean values of 2.32 and 2.8, respectively, and standard deviations of 1.04 and 1.21. Regarding the influence of influencers, those aged 70 to 74 have the lowest mean value of 1.4 with a standard deviation of 0.89, while the 75 to 79 group shows a higher mean value of 3.25 and a standard deviation of 1.71. Finally, participants aged 80 to 84 have the lowest confidence in the truthfulness of information, with a mean value of 2.5 and a standard deviation of 0.93; this is accompanied by a moderate influence of influencers, with a mean value of 2 and a standard deviation of 1.73. These results indicate a loss of confidence in the truthfulness of information on social media with increasing age, while the influence of influencers shows variability, being more significant in middle-aged groups and less consistent among older groups, as shown in Figure 6. The data reveal that age influences the ability to analyze the truthfulness of information on social media as well as vulnerability to influencers. In the post-digital society, this fact poses challenges for inclusion of the elderly; trust and influence are not always related, being conditioned by factors such as emotion or familiarity with new media.

Figure 6. Scatter plot of influencer impact on purchasing decisions (y) and discernment on social media (x)



Source: own elaboration

Regarding the qualitative analysis of information based on whether it is transmitted truthfully via social media or not, compared to conventional media, it is emphasized that information should always be verified, regardless of whether it comes from social media or traditional media. In this regard, interviewees express skepticism towards information conveyed through traditional media such as television, stating that “not everything said should be accepted as absolute truth or as a dogma of faith” (1:16/54). In their opinion, it is crucial to have one’s own judgment, to rationalize and critically analyze information, and to verify news by comparing different sources to ensure its truthfulness. In contrast, another interviewee emphasized that “although social media has changed information consumption, traditional media such as television, radio, and press remain more reliable due to their rigorous verification processes, professional commitment, and transparency they offer” (ENT 4:19/8). On the other hand, other people observe that any topic of current interest or importance usually appears both in written form in traditional media and on social media, demonstrating the widespread presence of information across all media (ENT 12:14/54).

When analyzing opinions about influencers, a clear stance on social media is observed. It is considered that, by generating opinions on specific topics, they exert great influence over many people, especially when affecting the consumption habits of their followers. For example, “fashion and makeup influencers” can have a significant impact. Thus, in response to the question about whether influencers are followed on social media and whether they are good role models for youth, the overall results confirm this, as shown in the Sankey diagram presented in Figure 7. In this regard, we find opinions such as that of a secondary school teacher, who reflects not only that influencers are present and influence internet users’ opinions but also that they are figures to be emulated by their students. Thus, this fact is confirmed in the sample with statements such as “young people frequently aspire to be influencers, perceiving this career as an easy way to make money”

(ENT/7:20/82); furthermore, it is pointed out that this profession is considered a simple way to earn income, described as “acting foolishly” to obtain a large amount of money.

This growing skepticism towards information in mass media and social media underscores the importance of verifying and cross-checking sources. The elderly sector prefers to verify information before accepting it as true, although they place more trust in traditional media.

Figure 7. Sankey diagram on influencers and their influence on social aspects and consumption



Source: own elaboration

3.3. Category 3: Engagement and Content Creation on Social Media

The analysis of the quantitative results, shown in Table 4, regarding others' posts and personal content creation, reveals average values of 2.6 for contributions to others' posts, 2.0 for content sharing, and 2.3 for creating original posts, indicating a moderately low level of participation. The median and mode are 3 and 1, respectively, indicating low or no participation. The standard deviations, ranging from 1.1 to 1.38, reflect dispersion in the responses, showing a diversity of behaviors. Variance values between 1.22 and 1.91 indicate the range of interaction levels among people across the social networks

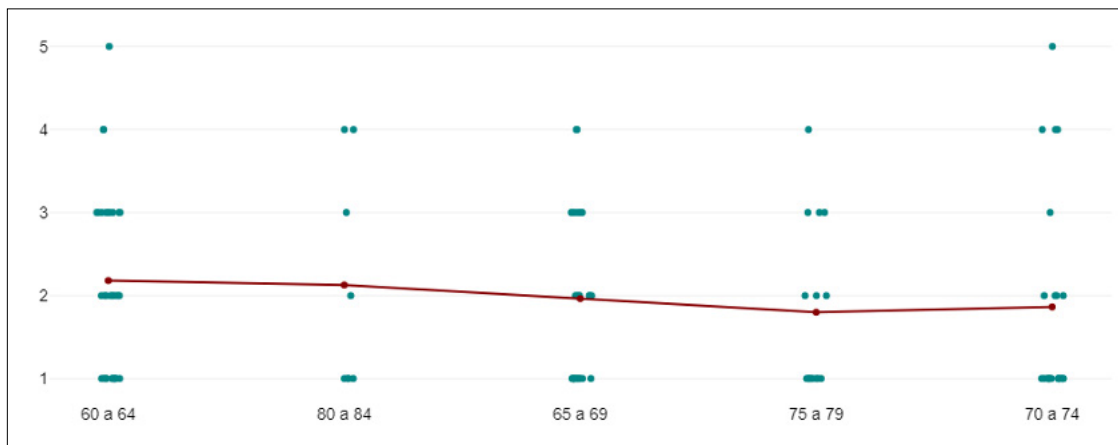
they use. These data demonstrate that, although we live in a postdigital society with generally broad access to social media, not everyone feels motivated or equipped to engage.

Table 5. Statistics on Interaction and Content Creation on Social Media

Value	Participation in posts	Content sharing	Post creation
Mean value	2.61	2	2.36
Median	3	2	2
Mode	1	1	1
Standard deviation	1.38	1.1	1.38
Variance	1.9	1.22	1.91
Minimum	1	1	1
Maximum	5	5	5

Source: own elaboration

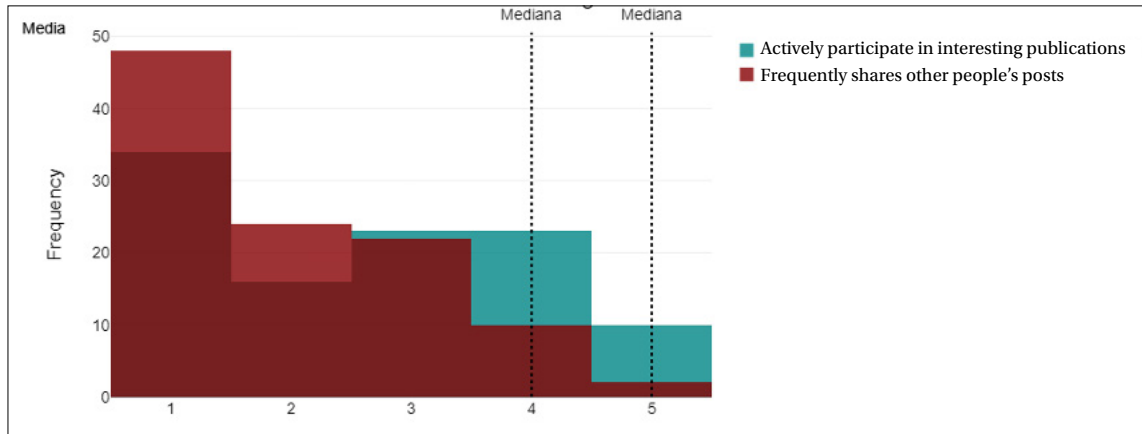
Regarding perceptions of the truthfulness of information on social media and the influence exerted by messages transmitted by influencers on purchasing decisions, according to age groups, the results show that younger people have greater confidence in distinguishing the authenticity of information; this is reflected by a mean value of 3.36 and a standard deviation of 0.96. However, the impact of influencers' messages on this group is low, with a mean value of 1.87. For individuals aged between 65 and 69, confidence slightly decreases to a mean value of 3.11, while the impact of influencers remains low with a mean value of 1.73. The group aged 70 to 74 shows a downward trend both in confidence in information on social media and in the influence of influencers, with mean values of 2.32 and 1.4, respectively. The group aged 75 to 79 indicates moderate confidence in information on social media, with a mean value of 2.8, although their susceptibility to influencers is higher, with a mean value of 3.25. Finally, the oldest individuals show less trust in online information, with a mean value of 2.5; as for influencers, they exert a moderate influence, with a mean value of 2. This is illustrated in the multivariable figure, which shows how trust in the truthfulness of information decreases with age, while the influence of influencers on purchasing decisions varies -reaching its peak in the 75 to 79 age group and showing less consistency among the older age groups, as shown in Figure 8.

Figure 8. Multivariable perception of the truthfulness of information on social media

Source: own elaboration

Additionally, the profile of each respondent on social media is analyzed in terms of the correlation between engagement with posts –through ‘likes’ or comments– and the tendency to share that content on their own profiles. Significant differences emerge based on age group and gender. The younger segment of the senior population shares posts from other profiles at a rate of 68%, while 74% create their own content. Women are more active, representing 37% in sharing and 46% in content creation, compared to men, who account for 31% and 28%, respectively. Among individuals aged 65 to 69, the data shows that 52% share posts from others, while 61% create their own content. In this age group, women share at a rate of 31% and create content at 43%, whereas men contribute 20% in sharing and 18% in content creation. Regarding the 70 to 74 age group, 38% share posts from others and 36% create their own content. Within this group, women share others’ content at a rate of 28% and create their own at 26%, surpassing men, who register only 10% in both activities. Continuing with the older age groups within the senior sector, among those aged 75 to 79, 25% share posts while 43% create their own content. In this group, men are more active, with 14% sharing and 27% creating content, compared to women, who share at 11% and create at 16%. Finally, the oldest individuals share posts from others, while 19% create their own content. Among them, women share content at a rate of 9% and create their own at 13%, compared to men, who contribute 6% in both categories. These data suggest that women aged 60 to 69 are more actively engaged in both sharing and creating content on their social media profiles. Participation in both activities decreases with age, and men surpass women in the older age groups, specifically in content creation, as shown in Figure 9. This analysis reveals that social media engagement varies significantly by age and gender, with younger women in this sector being the most active in sharing and creating content, while men increase their activity in older age.

Figure 9. Histogram of participation in own posts and frequency of sharing others' posts

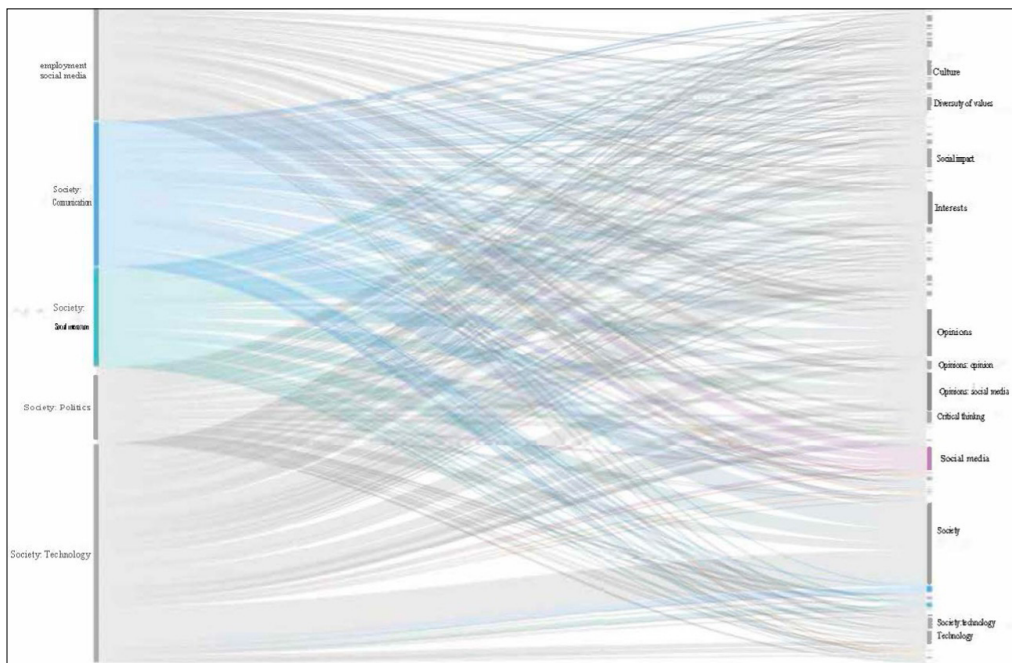


Source: own elaboration

Regarding the qualitative analysis, social media emerges as a diverse and multifaceted environment that adapts to the individual preferences and needs of each person, as reflected in the experiences of the interviewees in the qualitative study. For example, one person uses social media to ‘stay informed about local news and sports, integrating social networks into their daily routine in a functional and practical way’ (ENT. 13:18/59). They also describe how they get involved in content creation and editing, highlighting their enthusiasm for collaboration and the freedom of expression that new media offer, and how their experience with ‘photo editing and participation in thematic groups demonstrates active engagement’ (ENT. 7:4/28; 7:26/112). On the other hand, another interviewee focuses on the use of social media in institutional contexts, promoting its adoption in public administration and addressing concerns about privacy and the influence of artificial intelligence (ENT. 4:31/71; 4:51/100). In contrast, one of the interviewees, a retired teacher, prefers ‘traditional and manual creation methods, valuing the sentimental and authentic aspect of her work over digital tools’ (ENT. 1:2/18).

This is also reflected at a global level, as shown in Figure 10, which displays the co-occurrences between codes, indicating that, ultimately, social media users engage in everyday activities such as posting photos, reading news, watching videos, and interacting, collaborating, and participating with friends or family. It is also noted, regarding the creation of profiles or groups, that the majority have done so with the help of others, with this experience being described as positive. When creating content such as images, texts, or videos, additional editing applications are used, indicating a participatory and creative use of social media. Therefore, these data reflect that social media are used in older adulthood both as a tool to consult daily information and to create content. Despite difficulties, older adults participate in creative and collaborative activities, thus demonstrating the impact of these media on social interaction, reinforcing inclusion and citizen empowerment.

Figure 10. Sankey diagram of co-occurrences



Source: own elaboration

As a result, in the data analysis, these perspectives show how social media can be used in diverse ways. This ranges from integrating personal daily habits to creating collaborative content, with a clear concern for privacy. There is also a noticeable tendency toward a preference for traditional methods. The diversity of approaches demonstrates the adaptability of social media and how each user can shape their experience according to their own interests and values.

4. Discussion

The interconnection presented in this study is fundamental to understanding how the Internet (Campaña and Ortega, 2021), and more specifically social media, can be both a tool that enables empowerment and a potential risk for seniors. This depends on how they project themselves to share, verify, and create content on social media (supporting H1, H2, H3).

At the local level, the senior population of Segovia city and province uses WhatsApp as their preferred social network, being the most used across all age groups. In addition to this platform, they also use Facebook and Instagram. The use of other social networks such as LinkedIn, X, TikTok, Telegram, and Pinterest is notable but to a lesser extent. This usage is not limited to merely having a profile; their engagement affects their daily lives temporally, with at least two hours spent per day. This usage correlates with technical knowledge, with the study highlighting that this competence is higher among the younger seniors, decreasing as age increases. Similarly, the level of trust in new media is higher among younger individuals compared to older ones; no differences are observed in competence or trust related to age or time spent using them. A significant finding from the study concerns interaction, showing that people who engage more actively on social media, spend more time daily on these platforms, and feel more comfortable in these spaces tend to have greater trust in social media—particularly women in this last aspect, thus supporting H1.

Social media also have a significant and multifaceted impact on post-digital society (Balseca, Carrillo, Merchan, and Moreno, 2019). On one hand, for the senior population in Segovia, they facilitate connection and foster a sense of community, but they can also generate not only a digital divide (Arroyo-Menéndez, Gutiérrez-Láiz, Criado-Quesada, 2022) but also isolation within the immediate environment, which increasingly tends toward ageism (Chulián, Valdivia-Salas, and Páez, 2024). These new media are closely integrated into areas such as culture, the diversity of values, public opinion, and digitalization, including social norms as well as personal beliefs, while also feeling shaped by them, supporting H2. Notably, the concept of privacy and distrust, even within public administration spaces (Sánchez, Llorente, and Abad, 2022), increases their vulnerability (Bunbury, Pérez, and Osuna, 2022), while simultaneously promoting inclusion (Tirado-Morueta, Rodríguez-Martín, Álvarez-Arregui, Ortiz-Sobrino, and Agudez-Gómez, 2021), critical thinking, and dialogic action. The study reveals a significant relationship between the perception of the reliability of information circulating on social media, behavior, and trust among the senior sector, with notable differences according to age group, thus supporting H1.

People over 60 have different media skills thanks to training programs offered by public and private institutions (Tirado-Morueta, Rodríguez-Martín, Álvarez-Arregui, Ortiz-Sobrino, and Aguaded-Gómez, 2021). These skills are evident when discerning the truthfulness of information and the confidence in detecting threats, consistent with H3. This aspect affects their behavior, showing an attitude of comparing information with media outlets, verifying it through multiple sources, and blocking contacts when they spread false content (Tejedor, Romero-Rodríguez, and Gracia-Villar, 2024), aligning with H2 and H3. Confidence in the accuracy of information, including in health-related areas and the influence of influencers on consumer behavior, varies with age—being more pronounced in middle age groups and less consistent among older adults. The senior sector shops online (Viñarás-Abad, Pretel-Jiménez, and Quesada-González, 2022) and is aware of the impact influencers have on consumption habits. This perception extends beyond seniors to younger individuals, who see these new public figures as role models and even as references for the future workforce.

Social media participation among the senior sector is based not only on interaction or consumption but also on content creation and even editing using various applications (Fernández-Lores, Márquez, and Villaverde, 2021). Women stand out in this area, with their skills declining with age, while men surpass females in these activities in older age groups. This usage reflects the diversity of approaches and concerns within the senior audience, ranging from integration into daily life to content creation, privacy, and preferences for traditional media versus new social media.

5. Conclusion

This study has highlighted the use of social media by the senior sector in the province of Segovia. WhatsApp stands out as the most used platform by this social group, followed by Facebook and Instagram, with a daily use of at least two hours. Younger seniors in Segovia demonstrate greater technical competence and confidence toward these new spaces, although their time spent on them is similar. A significant finding is that higher levels of interaction correspond to greater trust in social media, with women standing out as feeling more comfortable in these spaces. Information verification is a trend that is especially prominent among educated seniors and those who actively participate. This senior sector not only consumes but also creates and edits content, with younger women and, in this case, older men standing out.

The media analysis presented in this study once again makes it clear that social media impact the daily lives of older adults, their quality of life, and their integration into post-digital society. Why? To conclude this study, we refer to the Latin term 'pietás,' which in ancient Rome represented a sense of duty, devotion, and respect towards the gods, one's homeland, or family. In this media context, we appropriate this concept to conclude and symbolize within it the implications of media literacy and the empowerment of older adults in the use of new media: essential solutions at both local and national levels. To do this, we construct the concepts that conclude this study using the letters that form the word 'pietás'.

- P for Prevention: the duty to protect older adults from misinformation, fake news, fraud, and scams.
- I for Inclusion: including older adults in post-digital society so that no one is left behind, promoting the development of media skills that allow them to stay connected with family and friends, combating loneliness and social isolation; and not only that, but also enabling access to essential services such as healthcare and public administration.
- E for Empowerment: respecting and promoting the autonomy of older adults through new media, managing their own needs (as previously mentioned), and also participating in public debates and accessing information about policies, thereby fostering active citizenship.
- T for Technology: the importance of becoming familiar with the operation of digital devices and social software.
- A for Acquisition: continuous learning and healthy leisure, valuing media education throughout life through formal and informal contexts, online platforms, as well as access to cultural and entertainment content (e-books, movies, music, etc.).
- S for Safety: the use of new media can stimulate the mind and help maintain mental sharpness, and although it can be learned, it also provides access to reliable health information, exercise programs, health monitoring tools, and more.

However, this study acknowledges certain limitations that allow for critical reflection and give rise to new lines of research. It is a study focused on a specific geographical area, which restricts the generalization of the results; its cross-sectional approach prevents establishing causal relationships between variables such as age, media competence, and trust in social networks, as it is based on self-reported perceptions that may be influenced by subjective biases. This fact encourages the scientific community to deepen longitudinal evaluation approaches, analyze the content created by this sector, and explore intergenerational relationships in the use of social networks as a space for the collective construction of knowledge.

We can therefore summarize that media literacy not only protects older adults from potential risks but also provides them with opportunities for a richer, more independent, and connected life. It is truly an essential skill in post-digital society that can significantly enhance their well-being and quality of life.

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7. Specific contributions of each author

	Name and Surname
Conception and design of the work	Javier Gil Quintana and César Bernal Bravo
Methodology	Javier Gil Quintana
Data collection and analysis	Javier Gil Quintana
Discussion and conclusions	Javier Gil Quintana
Drafting, formatting, version review and approval	Javier Gil Quintana and César Bernal Bravo

8. Conflict of Interest

The authors declare that there is no conflict of interest contained in this article.

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