

# Challenges for journalism facing social networks, fake news, and the distrust of Generation Z

Retos del periodismo frente a las redes sociales, las fake news y la desconfianza de la generación Z

**Ana Pérez Escoda.** Antonio de Nebrija University. Spain.

[aperezes@nebrija.es](mailto:aperezes@nebrija.es)

[CV]      

**Luis Miguel Pedrero Esteban.** Antonio de Nebrija University. Spain.

[lpedrero@nebrija.es](mailto:lpedrero@nebrija.es)

[CV]      

*This work is part of the Horizon 2020 Project “Mediatized Discourses on Europeanization and their Representations in Public Perceptions” MEDIATIZAED.EU [N°101004534] (H2020-SC6-Transformations-2020), funded by the European Commission (Start: 01/01/2021 - End: 01/01/2023).*

## How to cite this article / Standard reference

Pérez Escoda, A. and Pedrero Esteban, L.M. (2021). Challenges for journalism facing social networks, fake news, and the distrust of Generation Z. *Revista Latina de Comunicación Social*, 79, 67-85. <https://www.doi.org/10.4185/RLCS-2021-1519>

## ABSTRACT

**Introduction:** Social networks have become in the current crisis scenario not only the channel most consumed by young people, but also an uncontrolled flow of information that tends to polarize opinions, fuel controversies, and sow distrust. The media -and with them journalists- must define new communicative models adapted to these virtual spaces where they can recover their legitimacy and counteract the problematic expansion of disinformation. This paper focuses on the study of trust, consumption, and perception of young Spaniards towards the media and fake news, on the premise that knowledge of audiences will help professionals to recover the essence of journalism. **Methodology:** Based on a descriptive and exploratory quantitative methodology, a questionnaire was applied to a population of 465 young people between 18 and 24 years old. The analysis focuses on two study constructs: 1) use and consumption of media and social networks; and 2) reception, distinction, and perception of fake news. **Results:** The results show an open distrust of Generation Z towards media, networks, politicians, and journalists. The great paradox is that, admitting their distrust towards networks, young people declare their massive consumption. **Discussion and conclusions:** The adequacy between the information that is communicated and reality, as well as the connection with the expectations of those who receive it, stands as a substantial and unpostponable challenge for journalism in the challenge of legitimizing its discourse in social networks.

**KEYWORDS:** social media; journalism; fake news; youth; Z generation; distrust; communication.

## RESUMEN

**Introducción:** Las redes sociales se han erigido en el canal preferente de los jóvenes para conocer la actualidad pese a haberse convertido en un flujo incontrolado de informaciones que tienden a polarizar las opiniones, a alimentar las controversias y a sembrar la desconfianza. Medios y periodistas tratan de definir nuevos modelos comunicativos adaptados a estos espacios virtuales donde puedan defender su legitimidad y contrarrestar el impacto de una desinformación cada vez más extendida. Este trabajo se centra en el estudio de la confianza, el consumo y la percepción de los jóvenes españoles hacia los medios y las *fake news* sobre la premisa de que el conocimiento de tales indicadores contribuirá a recuperar la esencia del periodismo. **Metodología:** A partir de una metodología cuantitativa de carácter descriptivo y exploratorio, se aplica un cuestionario a una población de 465 jóvenes entre 18 y 24 años. El análisis se centra en dos constructos de estudio: 1) uso y consumo de medios y redes sociales; y 2) recepción, distinción y percepción de las *fake news*. **Resultados:** Se evidencia una desconfianza abierta de la generación Z hacia a los medios, las redes, los políticos y los periodistas. La gran paradoja es que, aun admitiendo su recelo hacia las redes sociales, los jóvenes no renuncian a su consumo masivo. **Discusión y conclusiones:** La adecuación entre la información que se comunica y la realidad, así como la conexión con las expectativas de quienes la reciben, se impone como una necesidad sustancial para el periodismo en el reto de legitimar su discurso en las redes sociales.

**PALABRAS CLAVE:** redes sociales; periodismo; *fake news*; jóvenes; generación Z; desconfianza; comunicación.

## CONTENT

1. Introduction. 1.1. Social networks and misinformation: two sides of the same coin. 1.2. Media, social networks, and young people. 2. Objectives. 3. Methodology. 3.1. Sample of study. 4. Results. 4.1. Media and social networks consumption among young people. 4.2. Consumption, reception, and perception of fake news. 5. Discussion and Conclusions. 6. Bibliography 7. Curriculum Vitae

Translation by **Paula González** (Universidad Católica Andrés Bello, Venezuela)

### 1. Introduction

The media, conceived as legitimate social actors to tell and convey current affairs to the general public, have been dethroned in recent decades by the emergence of two determining factors: on the one hand, the emergence of social networks as digital substitutes that have managed to gain ground in speed, quantity, frequency, and presence (Dessart, 2017; Masip et al., 2017; Pérez et al., 2020), besides introducing users as active content creators (Larrondo et al., 2020; Castillo-Abdul et al., 2020); and, on the other, the devastating development of a “post-truth era” (Keyes, 2004) in which the inseparable pairing of politicians and the media has fostered discourses based on emotional appeal to influence opinion, using the tools provided by social networks as a resource (Viner, 2016): clickbaiting, instantaneity, algorithms, bubble filters, personalization of information, etc. The infinite possibilities of impact and reach that social networks showed seemed a solution to the gradual loss of younger audiences, who have naturalized these windows as native interaction and socialization media (Sádaba and Pérez-Escoda, 2020). For years, numerous media have invested in multichannel strategies, presence in networks, specific content, web editions with new uses, etc.; However, this has not been able to stop the progressive loss of young audiences (Larrondo et al., 2020). The current panorama poses serious demands for a journalism that is worn out, discredited, and little consumed by those who, browsing social networks, no longer accept the strategies of a media discourse weighed down by its own weaknesses: post-truth deceived for a time, but is it working as expected in younger generations?

### 1.1. Social networks and misinformation: two sides of the same coin

Both phenomena have evolved in parallel in the first two decades of the 21<sup>st</sup> century. Social networks have imposed the plataformization of information and communication due to their unstoppable penetration in the population: eight out of ten Spaniards between 16 and 65 years old already have at least one profile in one of these virtual spaces, which during 2020 –the year of the confinement due to the coronavirus– gained eight new million users to reach the figure of 37 million (We Are Social, 2021). The arrival of social networks in the first decade of the new millennium marked the beginning of a continuous confluence that authors such as Jenkins called media convergence (Jenkins, 2008). The irruption and progressive normalization of social networks gave rise to a certain controversy regarding their hybrid role as vehicles for audience participation and interaction, but also channels for the distribution of content from traditional media. Faced with the change in the patterns of media consumption progressively mediated by the smartphone, streaming, and the interactions in the virtual scenarios of participation and interaction (Gutiérrez García and Barrios Rubio, 2021), the press, radio, and television not only stopped being the preferred source for information but also shaping the public opinion of citizens. As Casero-Ripollés and García-Gordillo point out, “their authority deteriorates and their social influence is diluted; furthermore, they are losing their centrality in the political conversation on social networks, with the consequent reduction in their ability to influence in that scenario” (2020: 157).

For its part, the so-called 'post-truth era' has been penetrating society and “invisibly transforming the world we experience by controlling what we see and what we do not see” (Pariser, 2011: 88). Disinformation as a persuasion technique has been spreading in a digital environment where it is easier than ever to disseminate information or disinformation in a massive way and with immediate effect. The enormous potential of the effects on social networks of fake news was demonstrated in the US presidential campaign in 2016, which with the use of algorithms marked a before and after for the media and politicians. The result is a complex information mess in which credible and reliable news competes with different kinds of false and misleading material; Disinformation has become one of the most dangerous threats during the crisis caused by the COVID-19 pandemic, especially due to its ease and speed to spread through social networks and because of the reach that it finds in the public that uses them most frequently: young people (Masip et al., 2020).

Disinformation, described by the European Commission (2018) as “false, imprecise, or misleading information, presented and promoted to obtain income or intentionally cause public harm”, is an eloquent threat to the prominence of the media and journalists. The World Health Organization, for its part, had already warned before the pandemic of the dangers of the infodemic, which meaning is equated to the “overabundance of information on a topic, whether rigorous and truthful or false and confusing, that it makes it difficult for people to find reliable sources” (WHO, 2020). As for the term fake news, chosen in 2017 as the word of the year in the Collins and Oxford British dictionaries, it is described as misrepresented information, often sensationalist and disseminated under the guise of news, and -together with social networks- has turned out to be true hemlock for the exercise and purposes of Journalism (Farkas and Schou, 2019; Elías, 2018).

Europe has been working since 2015 to combat misinformation due to the concern posed by the proliferation of fake news and the threat to democratic societies. The Eurobarometer for autumn 2019 (European Commission, 2020) already reflected a greater concern among Spaniards (86%) compared to Europeans (74%); The same report indicates that distrust towards social networks is greater in Spain (73%) than in the rest of the continent (65%). It is in this context of information overabundance and decentralization that so-called fake news is most easily distributed, false

information that, with the appearance of journalistic news, is deliberately disseminated to promote particular interests and misleads readers (Aruguete et al., 2020).

The main sources of fake news production are social networks and websites. According to Banks (2020), its dissemination through these channels is more extensive, effective, and profound than truthful information due to the reactions it arouses and the speed of its reach with the public. If, before the global crisis due to COVID-19, disinformation was a major obstacle to citizens' freedom of information, the pandemic accelerated this problem due to the anxiety generated by confinement. However, the effect of disinformation differs in each society and territory depending on the level of education, democratic culture, trust in institutions, inclusiveness of electoral systems, the importance of money in political processes, and social and economic inequalities (Pérez-Curiel and Velasco Molpeceres, 2020).

## **1.2. Media, social networks, and young people: where three are a crowd**

The proliferation of this news is a problem for all citizens, but it particularly affects the younger audience, the one that most uses social networks as means of connection with the present (Mendiguren, Pérez-Dasilva, and Meso-Ayerdi, 2020). This population niche absorbs in a particularly intense way the technological determinism and connectivity typical of the contemporary digital ecosystem: the advantages of usability, accessibility, multimedia, and hypertext language reach their maximum fullness in social networks (Sádaba and Pérez-Escoda, 2020), where the fact that the news is continuously available joins the possibility that it can be shared immediately, even providing their own assessments.

Analyzing the informational panorama, a change in trend can be seen: the younger generations have not only naturalized the consumption of information in networks, ignoring the traditional media but also their participation in them to give rise to a direct transformation in the process itself: "citizen journalism" (Espiritusanto and Gonzalo Rodríguez, 2011; Paulussen et al., 2008). The media, thus, begin to lose their ability to report because the instantaneous nature of social networks is imposed globally and technological improvements make the news reach the user almost in real-time. The information is in other places and is produced through other channels and in different formats and languages. The young people of Gen Z write the drafts of history, they choose it and transform it; storytelling is no longer optional for the media or journalists: now each user has the floor.

In this context, social media seem to replace traditional media, being increasingly present in more population segments (Gómez Calderón et al., 2020; Pérez-Maíllo et al; Pérez-Escoda et al., 2020). Although the Digital News Report 2019 already discovered that up to 38% of Spaniards between 18 and 24 years old preferred social networks and blogs to obtain information (40% in the 2020 study), with the arrival of the coronavirus crisis and the increase in hoaxes associated with the state of tension, the 2020 edition confirms a decrease in public trust in the media and it barely reaches 36%, the lowest figure in five years.

It is evident that the interaction between communication, technology, and society is conditioning the construction and distribution of discourses in the new millennium (Álvarez-Ramos, Heredia-Ponce, & Romero, 2018); The concept of mass that supported the classic media has come to an end (Jarvis, 2015), and new habits of citizen consumption have emerged based on immediacy, reduction in the length and depth of messages, interaction, and self-assertion of previous beliefs. All of this has resulted in a loss of trust of younger audiences towards journalists and traditional media, and without this legitimacy, the social function of Journalism loses relevance: any social actor can now access digital platforms to circulate content and, thus, become an informative source for others (Paulussen

et al., 2008). It has gone from a vertical model, with a strong hierarchy of the media as managers and gatekeepers, to a horizontal one that is increasingly decentralized, open, and hybrid (Loosen et al., 2020), where -sometimes harmoniously and other conflictive- the old and new professional media, on the one hand, and the amateurs, on the other, coexist. The latter ones reach an echo mainly through social networks, spaces where attention and influence are also exercised, but where the control of truthful information is no longer the responsibility of anyone.

The globality and reach of social networks represent for some time now the opportunity for the media to reach audiences that massively migrate from traditional consumption to virtual environments, posing challenges and opportunities (Romero-Rodríguez et al., 2021), but also risks (Larrondo et al., 2020;). The phenomenon of networks has altered the nature of public and private communication (Van Dijck, 2016), reaching its success pinnacle when the brand becomes a verb (googling, tweeting, etc.). This phenomenon breaks the traditional study of communication, adding to the communicative scenario new agents that, legitimized by the public in general and by the digital context in particular, are forcefully raised by the trust they generate and the impact they achieve by transforming the communicative environment. (Barrios and Pedrero-Esteban, 2021; Pérez et al., 2020).

And thus, despite the questionable and counterproductive capacity of digital media to generate hoaxes and fake news –even more so in times of crisis (Boulianne and Theocharis, 2020)– the overwhelming reaction of followers in social networks that boost a wealth of information-communication is imposed without precedents. The participation of citizens in digital media as equals -mediated by the intervention of technology companies (Galloway, 2018)- and the generation of an interconnected global dialogue, give an unquestionable value to these digital agoras, which displace the communicative discourse and achieve –as in the political sphere– that the participation of young people will be strengthened thanks to their participation in social networks (Castillo-Abdul et al., 2020). Hence the relevance of the study presented here, which tries to identify the dimension and effects of this new “modus operandi” of young people when approaching current news: the sources, the treatment, their credibility, and their critical criterion when assessing the risks of exposure to social networks as references to know what is happening in their immediate environment -in a physical sense but, above all, emotionally- and, based on this knowledge, become aware of and take a stance regarding the people, events, and institutions that surround them.

## 2. Objectives

As already described, the problem posed by the phenomenon of fake news is associated with a change in access to information by young people, who are replacing the media with social networks, areas where they have not yet established a legitimizing discourse. Thus, it is essential to delve into a key sociological aspect in this generation whose cognitive development is inextricably linked to the hyperconnected dynamics of the online ecosystem: the knowledge of their feelings and perceptions, the motivations for their uses and consumption in the controversial environment of disinformation. For this reason, the research carried out in this article is justified, whose main objective is to carry out an exploratory and descriptive approach on the consumption of social networks and media, as well as the perceptions that young Spanish people have about fake news since the beginning of the COVID-19 crisis. To deepen this objective, the following research questions have been established:

- R.Q.1. Is media consumption by young people related to the degree of reliability they give to the media?
- R.Q.2. Do they feel informed with the media consumption that they do? Is this perception related to the time they spend on it?
- R.Q.3. Are they able to distinguish fake news? If so, are they aware of receiving them?



- R.Q.4. Is fact-checking an option against fake news for this generation?  
 R.Q.5. Which media do they associate most with the distribution of fake news?  
 R.Q.6. What content is most associated with fake news?  
 R.Q.7. Do the media and journalists generate trust among this generation?

### 3. Methodology

The methodological approach of the study is quantitative and specifically exploratory; Descriptive statistics are used for this purpose that does not seek to make inferences, but rather a relationship between variables. As a data collection technique, a questionnaire was used, as it is the most suitable in this type of study (Vilches, 2012). For its design, two existing models were taken as models: Media Use in the European Union (European Commission, 2019) and Digital News Report.es 2020 (Negredo et al., 2020), which served to adapt the final instrument of the research. Its elaboration followed two stages: 1) the researchers articulated the items in three blocks according to the typology of study variables: a) sociodemographic, b) related to the use of media and social networks, and c) consumption, reception, and perception of fake news. The last two blocks correspond to the study constructs (Table 1) defined to identify a series of intangible behaviors of the sample, taking as reference the previous works of Couldry et al. (2007) and Pérez-Tornero (2020).

**Table 1.** Definition of study constructs, variables, and number of items

Theoretical definition of constructs	Constructs	Study variables	Items
Acceptance of a model that affects the construction of identity from exposure to information and audiovisual stimuli in a time, place, and through physical devices or media. This implies assuming points of view, reasoning, aesthetics, and values for a cultural construction (Couldry, Livingstone, and Markha, 2007; Pérez-Tornero, 2020).	C1. Consumption of media and social networks	V1: Most consumed media	8
		V2: Reliability perception	8
		V3: Most used social networks	8
		V4: Consumption time	1
		V5: Perception of being informed	1
		V6: Feeling-social networks-Covid-19	1
	C2. Consumption, reception and perception of fake news	V1: Most consumed information since Covid-19	8
		V2: Ability to distinguish fake news	8
		V3: Reception of fake news	1
		V4: Knowledge and use of fact-checkers	1
		V5: Media associated with the distribution of fake news	9
		V6: Contents with more fake news	3
		V7: Feeling of trust with sources	8

**Source:** Self-made

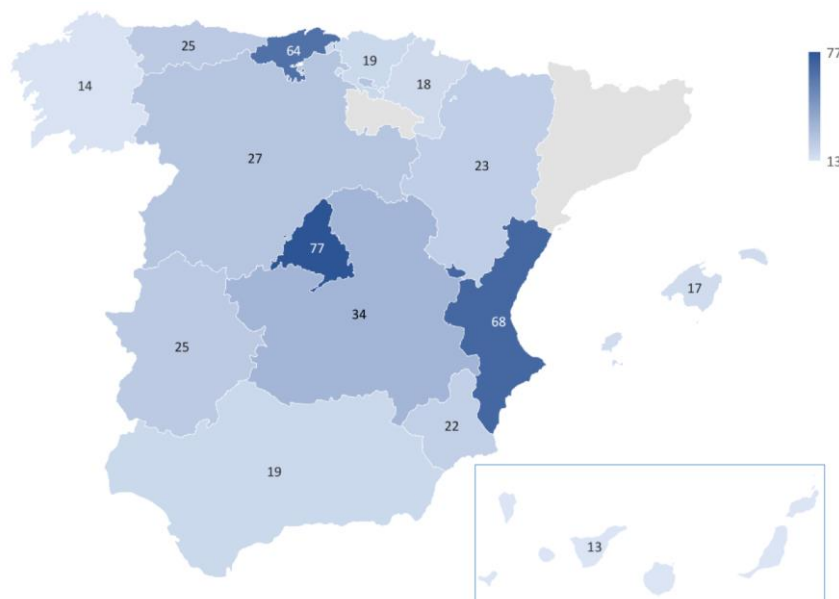
In a second process, the questionnaire was sent to a panel of experts (N=5) who assessed the relevance and clarity of the instrument based on the study constructs and the established variables. The result of this evaluation involved reducing the initial number of items in the questionnaire (from 120 items to 105) due to redundancy or lack of suitability, as well as the reformulation of eight items that were perceived as confusing. Once the instrument design process was finished, the reliability and consistency study was carried out through Cronbach's alpha with results of 0.79 and 0.82, respectively, in the average of the variables of each construct, which implies acceptable values ( $\geq 0.7$ ) in its consistency (Tavakol and Dennick, 2011). The characterization of the study variables focused on the ordinal qualitative categories, for which a Likert-type scale was used with five values in which 1 was equivalent to "nothing or never" and 5 to "a lot or all", and nominal qualitative variables where the assigned numerical values do not present a value scale, but rather numerical coding. For reasons of space, this study presents partial results of the research.

### 3.1. Sample of the study

The sampling technique used in this work was non-probabilistic and non-random, also known as convenience sampling, combined with the “snowball” technique to facilitate data collection at a time when social distances and lack of face-to-face students in university classrooms make it difficult for researchers to collect data. Thus, in the first stage, the questionnaire was shared online, using the Google Forms tool; Taking advantage of the researchers' proximity to the sample under study, the subjects were asked for maximum diffusion between their circles.

The characteristics of the research, which exclusively looked for subjects in a specific age cohort (between 18 and 24 years old), made these techniques suitable since it was a selective sampling. The sample is made up of 465 students in university studies in Communication and Education, all between 18 and 24 years old, that is, belonging to the so-called Generation Z ( $A=21.5$   $SD=0.907$ ;  $Min.=18$ ;  $Max.=25$ ). The distribution by gender was determined as follows: female gender  $N=244$  (52.47%) and male gender  $n=221$  (47.52%). In turn, and due to the type of sampling, data was collected from different Autonomous Communities, as shown in Graph 1.

Before filling in the survey, each subject was informed and gave their consent for the use of the data for exclusively academic and anonymous purposes. After the collection in the Excel program, the coding and the creation of the database for the analysis of the results in the SPSS statistical package was carried out. For the descriptive and exploratory approach, frequencies, averages, standard deviations, and correlations between variables have been used according to the characteristics of the variables.



**Graph 1.** Distribution of the sample by Autonomous Communities.  
**Source:** Self-made based on the sample

## 4. Results

The presentation of the results is carried out in two phases corresponding to the two study constructs: C1. Consumption of media and social networks (with a total of six variables and 27 study items) and

C2. Consumption, reception, and perception of fake news (with a total of seven variables and 38 items).

#### 4.1. Media and social networks consumption among young people

The study of this construct underlies a complex and structured model in which the act of consuming media leads to intangibles –specified in the study variables– and determines an X-ray of consumption habits in a population that, as previously defined, has certain characteristics. In this sense, the first data presented refer to the first variable of media consumption.

**Table 2.** Descriptive statistics for the analysis of the V1 variables

	Average	DT	Never (%)	Little (%)	Occasionally (%)	Frequently (%)	Always (%)	N
V1: Radio (analog)	1.75	0.907	49	32.9	12.5	4.7	0.9	465
V1: Online Radio	1.6	0.848	59.6	25.4	11	3.9	0.2	465
V1: Press	1.83	0.926	44.9	34.4	14.4	5.4	0.9	465
V1: Online television	2.19	1.215	38.3	25.4	21.3	8.8	6.2	465
V1: Digital press	3.44	1.082	4.5	14.2	32	31	18.3	465
V1: Television	3.54	1.125	5.2	13.5	25.4	34.2	21.7	465
V1: Websites	3.67	1.018	3.4	9	26	40.2	21.3	465
V1: Social networks	4.25	0.976	1.9	4.3	13.8	27.3	52.7	465

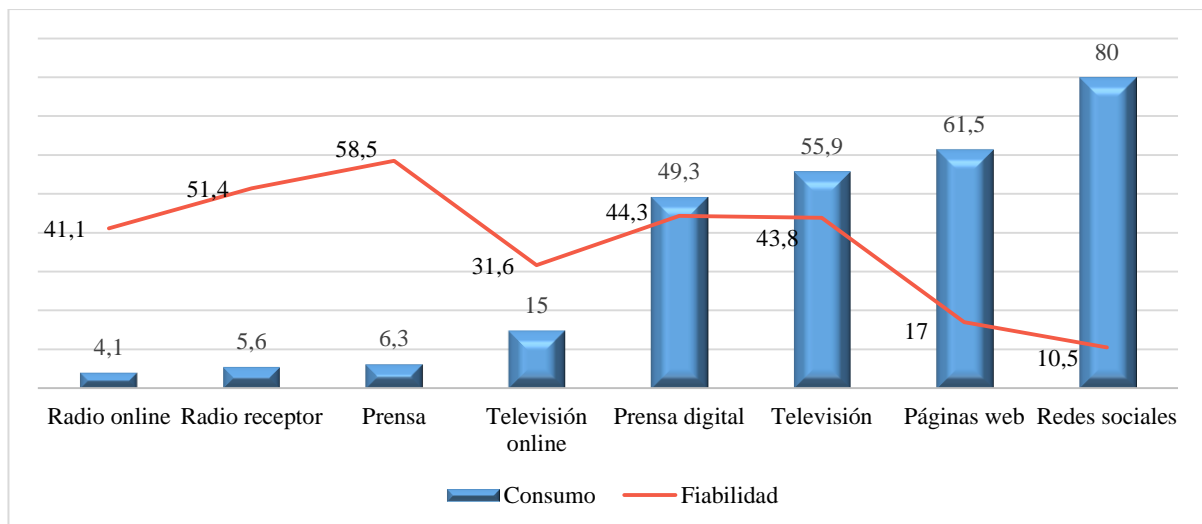
\* V<sub>j</sub>: You usually get informed through...

Source: Self-made

The results of the variable (V<sub>1</sub>) "You usually get informed through..." offer a first impression about the consumption that the study subjects make of the media to get informed. A very marked central tendency is shown in those who answered they "Never" get informed through the radio, with a percentage of 49% (A=1.75; SD=0.907); online radio, with 59.6% (A=1.6; SD=0.848); the press, with 44.9% (A=1.83; SD=0.926); and online television, with 38.3% (A=2.19; SD=1.215). The trend is reversed in the other four analyzed media: if we add the results obtained for the values "Frequently" and "Always", the results are high for the online press, with a percentage of 48.3% (A=3.44; SD=1.082); for television, with 55.9% (A=3.54; SD=1.125); and for websites, with 61.5% (A=3.67; SD=1.018). In the case of social networks, the data is very high, with 79% of the respondents (A=4.25; SD=0.976).

Delving into the results, in the analysis of the second variable (V<sub>2</sub>) "Degree of reliability that the media deserve" we find that the inertia of the responses has an opposite trend, as observed in Graph 2, where both variables are correlated (V<sub>1</sub>-V<sub>2</sub>). If we add the results of the lowest values ("None or little credibility"), we observe that the least reliable media for the study sample are, in order from highest to lowest credibility: online television, with 30.3% (A=3.01; SD=0.934); websites, with 45.1% (A=2.69; SD=0.845); and the medium that obtains the least credibility are social networks with 58.7% (A=2.42; SD=0.86). On the contrary, if we add the highest values of the coding "High and very high credibility", the highest results are, in increasing order: online radio with 41.1% (A=3.25; SD=0.795); TV, with 43.8% (A=3.01; SD=0.934); the digital press, with 44.3% (A=3.34; SD=0.868); analog radio, with 51.4% (A=3.43; SD=0.815); and the press, with 58.5% (A=3.57; SD=0.874).





**Graph 2.** Correlation between the most consumed media and the degree of reliability given to the media

**Source:** Self-made based on the sample

These data represent an evolution in social perceptions: if a few years ago it was shown that the lack of trust in the media had moved towards social networks, consumed massively -as indicated by several studies in European countries such as Newman Fletcher (2017), Nielsen and Graves (2017), or Webster (2014)-, the lack of trust now also floods social networks. Since the users under study clearly show a preference for them to get informed, we analyze the results of variable 3: Most used social networks in Table 3, where we find averages, standard deviations, and frequencies in percentages.

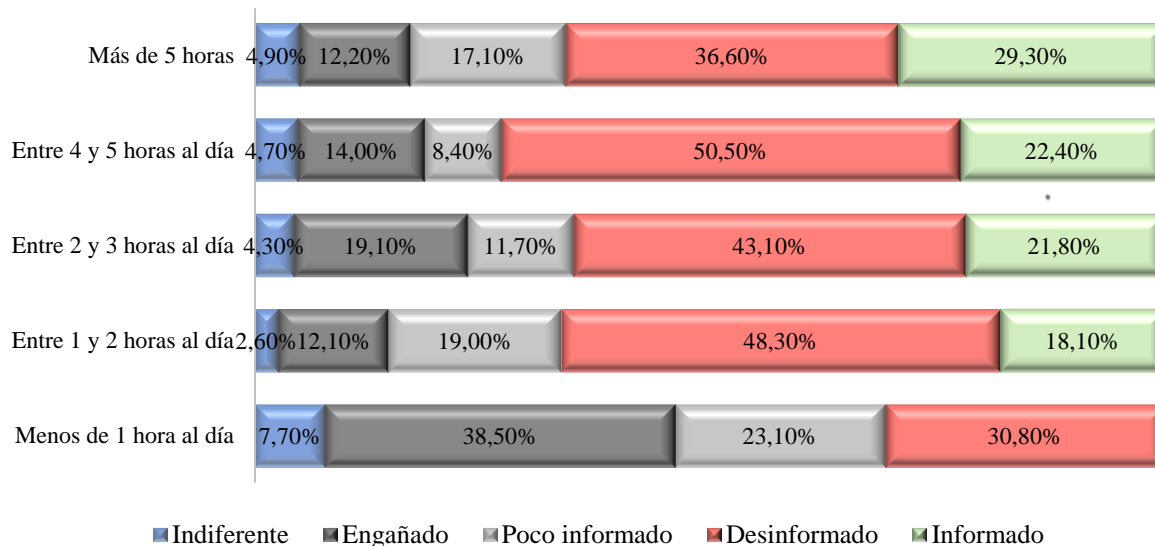
**Table 3.** Descriptive statistics for the analysis of the V3 variables: Most used social networks

Social networks	Average	SD	Never (%)	Little (%)	Occasionally (%)	Frequently (%)	Always (%)	N
Tik Tok	2.16	1.385	48.6	18.3	11.2	12.7	9.2	465
Twitter	2.85	1.479	24.7	23.9	12.9	18.7	19.8	465
WhatsApp	4.34	0.937	0.4	6	11.8	22.2	59.6	465
Twitch	1.45	0.899	73.5	15.3	6	3	2.2	465
YouTube	3.26	1.091	2.6	26.2	20.1	35.2	15.9	465
Facebook	1.63	1.021	63	21.3	8.2	4,3	3.2	465
Instagram	4.07	1.091	3.4	6.9	14.8	29	45.8	465

**Source:** Self-made

The results obtained show a large percentage of users who never use Twitch, with 73% (A=1.45; SD=0.899); 63% did not use Facebook either (A=1.63; SD=1.021), and almost half of the sample (48.6%) did not use Tik Tok either (A=2.16; SD=1.385). Twitter is shown as an intermediate network with widely distributed data: 24.7% (A=2.85; SD=1.479) never use it, although 38.5% do use it “frequently” or “always”. On the opposite side of social network consumption, is YouTube with 51.1% (A=3.26; SD=1.091) if the answers “frequently” and “always” are added; in the case of Instagram, the percentage rises to 74.8% (A=4.07; SD=1.091), and with WhatsApp, the percentage rises to 81.8% (A=4.34; SD=0.937).

For the study of variables 4 (V<sub>4</sub>) "Time spent consuming media" and 5 (V<sub>5</sub>) "Perception of being informed" it was decided to study the correlation of both variables with the non-parametric Spearman's Rho test (Rho), for being the one indicated in two ordinal categorical variables. The results show a Rho value = 0.79, which indicates that there is a positive correlation with moderate strength; however, the degree of significance  $p = .089$  ( $p > 0.05$ ) indicates that the relationship is not significant. Let's visually see this data in Graph 3.

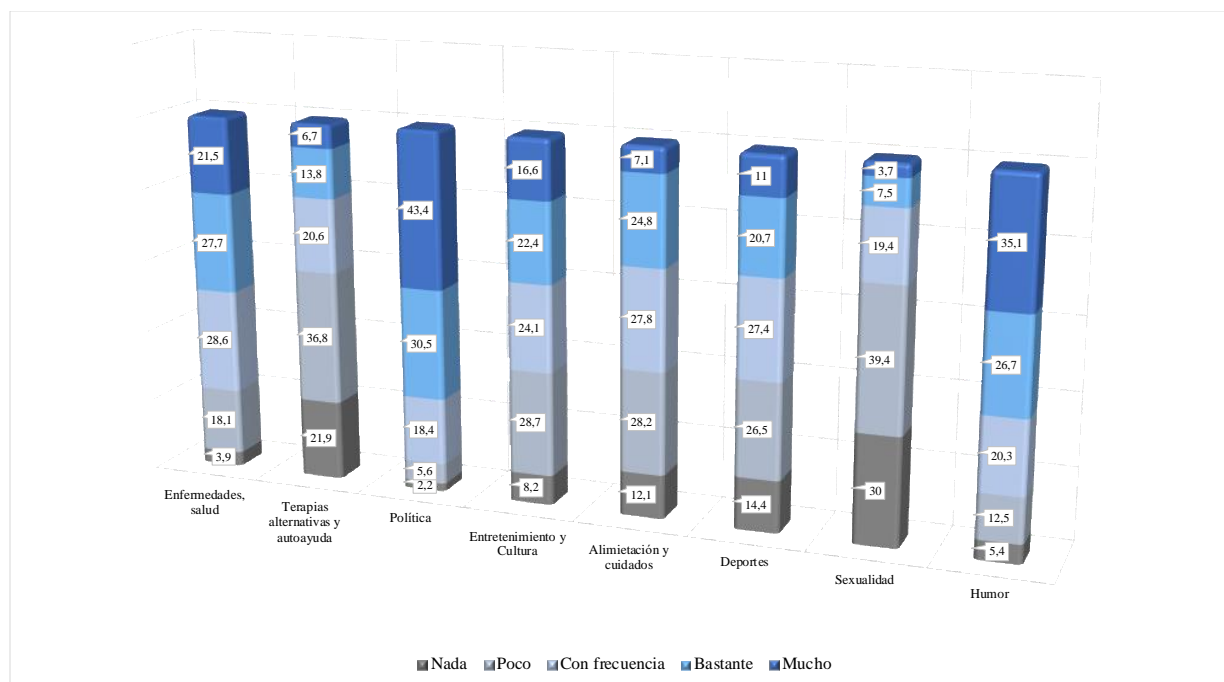


**Graph 3.** Results of correlation "Time of consumption" with "Feeling regarding what you consume"  
**Source:** Self-made based on the sample

Although statistically, a relevant correlation ( $p > 0.05$ ) between the time of use and the user's feeling is not demonstrated, the representation of the data, from a contingency table, does provide revealing results: the feeling of being informed does not obtain high percentages even in the users who spend the most time online, with 29.39% as the maximum value in this category. The most notable results are the percentages obtained in the number of subjects who feel uninformed regardless of the time they are online. It should be said in this regard that 97.8% of the sample spends more than one hour a day online, 72.2% more than two hours, and a third of the sample more than four hours a day.

#### 4.2. Consumption, reception, and perception of fake news

The results on consumption offer an answer to the first two research questions; Let's see the results of the second construct to answer the following (R.Q.3-R.Q.7) The first variable refers to the most consumed information since the COVID-19 crisis. As can be seen in graph 4, the most consulted content corresponds to humor: 61.8% consume it much and a lot; diseases and health are also of interest to 49.2%. The most consulted topic has been politics, with 73.9% of subjects who answered having consumed it a lot and much. In an intermediate line of interest are entertainment and culture, with 39%, or food and care, with 31.9% with high interest in these topics.



**Graph 4.** Information consumption frequencies by topic in percentages  
 Source: Self-made based on the sample

Another important aspect related to the information they consume is whether they can distinguish fake news when they receive it (V2); In this sense, 41.7% declare that they only distinguish it sometimes; 45.8% distinguish it frequently, and only 11.4% declare that they always distinguish it. Since almost 100% of the sample distinguishes fake news, the V3 analyzes how often they receive it. 62.2% declare that they only receive this type of content sometimes, 35.7% affirm that they receive it frequently or always, so it is also explicit that practically the entire sample receives fake news.

Regarding the distinction and reception of fake news is the knowledge of fact-checkers as valid tools for the assessment or recognition of fake news. In this sense, 61.1% of those surveyed declared that they did not know what they were, and only 38.7% claimed to be aware of these mechanisms. Of these, only 10% claim to have ever used *Maldita.es*, 6.7% have used *Newtral*, 1.5% *Efe Verifica*, and 1.2% have used *AFP Factual y Chequeado*. These data coincide with recent studies on the use of news verification in Spain, such as those by López Pan and Rodríguez-Rodríguez (2020), which show that the use of these tools is still in a very incipient phase. Table 4 shows the results of this variable.

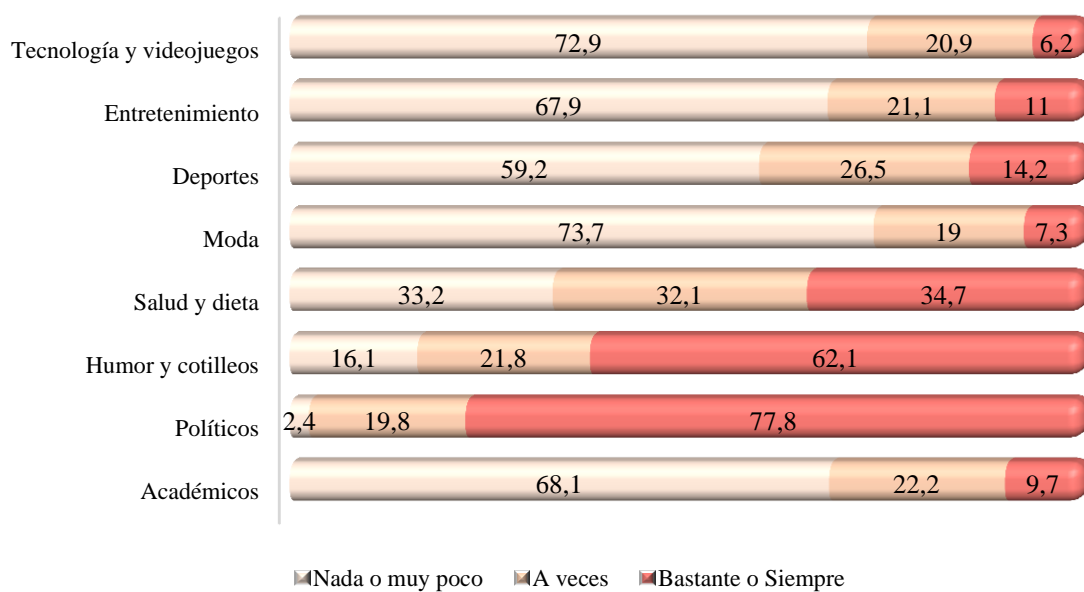
**Table 4.** Descriptive statistics for the analysis of the V4 variables, media that you think spread more fake news

Social networks	Average	DT	Never (%)	Little (%)	Frequently (%)	A lot (%)	Always (%)	N
Traditional media	2.76	1.049	8.2	39.2	27.6	18.8	6.3	465
Websites	3.68	0.819	0.9	6.9	28.4	50.6	13.1	465
Twitter	3.74	0.855	0.2	9.1	24.1	49.4	17.2	465
Instagram	3.64	0.866	0	11	28.9	45.3	14.9	465
Facebook	3.88	0.853	0.2	5.8	24.6	45	24.4	465
Tik Tok	3.31	1.168	8.4	17.2	23.9	35.6	14.9	465
WhatsApp	3.96	0.931	1.1	7.1	17.7	43.3	30.8	465
Word of mouth	4.06	0.902	0.4	6	17	40.1	36.4	465

Source: Self-made

The obtained results indicate a clear relationship with the second variable (V2) of the first construct related to the reliability given to the different media. The data on perception associated with fake news coincides with the media that are least trusted by this generation. If we pay attention to the data for the responses “A lot” and “Always”, we observe that a quarter of the sample, that is, 25% (A=2.76; SD=1.049), perceives that the traditional media spread false news a lot or always. The data for the rest of the items are: websites, 63.7% (A=3.68; SD=0.819), Twitter, 66.6% (M=3.74; SD=0.855), Instagram a 60.2% (M=3.64; SD=0.866), Facebook, 69.4% (A=3.88; SD=0.853), Tik Tok, 50.5% (A=3.31; SD=1.168), and WhatsApp (which was the most used network by this generation), 74.1% (A=3.96; SD=0.931). It is worth mentioning that the medium that they consider most prone to the dissemination of false news is word of mouth with 76.5% (A=4.06; SD=0.902) in the maximum values.

From the previous results, the perception of Generation Z is clear that social networks and web content are the spaces where more fake news is distributed, curiously these being the media that declare to consume massively and in which they deposit the least reliability. Let us analyze in the following variable (V<sub>5</sub>) which content they believe contains the most amount of fake news, which is visually reflected in Graph 5.

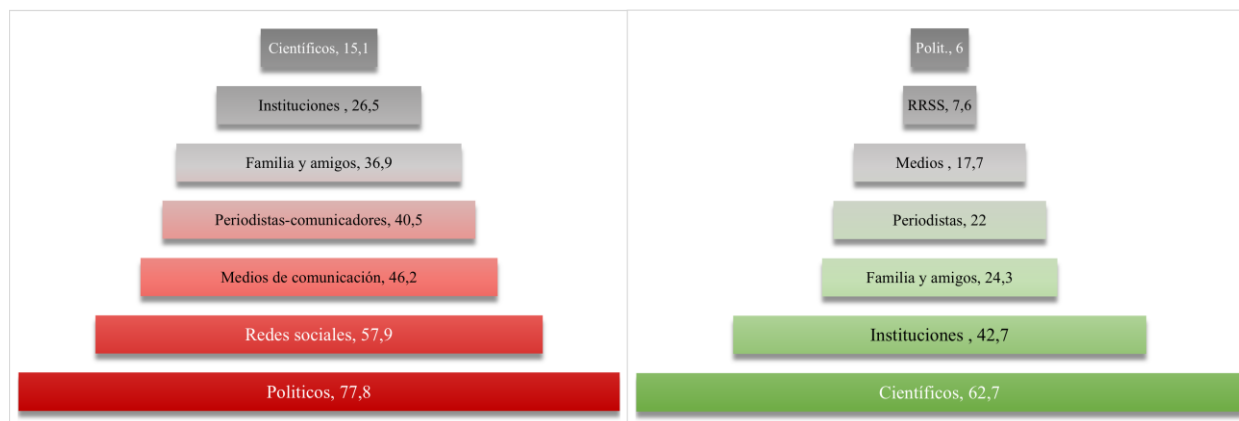


**Graph 5.** Content considered more likely to contain fake news  
 Source: Self-made based on the sample.

The results show a very high percentage of political content, with 77.8% of the sample considering that they are very likely to contain fake news, followed by humor and entertainment with 62.1%, and health content with 34.7%. The rest of the topics obtained lower percentages, but even so, it is striking that all the contents generate the perception of fake news, even if it is to a lesser extent.

To finalize the research, the perceptions related to the sources that generate more or less trust in the sample under study since the COVID-19 crisis broke out were measured. The distrust data are especially significant (Graph 6, red pyramid): 77.8% (A=1.87; SD=0.985) declare that they have little or no trust in politicians; More than half of the sample 57.9% (A=2.4; SD=0.802) did not trust social networks (repeated data), and almost half, 46.2% (A=2.65; SD=0.93) did not trust the media

either. Lack of trust extends to 40.5% (A=2.78; SD=0.919) in the case of journalists or communicators.



**Graph 6.** Representation of the media that offer less and more trust to young people since the outbreak of the Covid-19 crisis (in percentages)

**Source:** Self-made based on the sample.

The data on the right (Graph 6, green pyramid) show the results of trust, 62.7% (A=3.63; SD=1.018) of the subjects trust the scientists, and only half of the sample, 42.7% (A=3.24; SD=1.102) trust institutions. Trust in the media and journalists stands at 17.7% and 22% respectively, indicating that Gen Z's trust is certainly at low levels.

## 5. Discussion and conclusions

The results of the research allow us to conclude that there is a worrying lack of trust of young people towards the main communicative actors: media, journalists or communicators, and social networks. The media and journalists have lost their legitimacy as information gatekeepers in the face of a generation Z that consumes content massively and intensively through social networks (Jarvis, 2015; Pérez-Tornero, 2020). Although one of the important limitations of the study is the lack of representativeness in the sample, relevant evidence is collected both for the universities that train in Communication and for the media and journalists, because this is and will be their audience. In line with the works of Álvarez Ramos et al. (2019), Gutiérrez-García and Barrios-Rubio (2021), Boulianne and Theocharis (2020), Banks et al. (2020), Gómez Calderón et al. (2020), or Pérez-Escoda et al. (2021), recognizing the habits and behaviors of young audiences, as well as their preferences, is the only way for journalism to respond to their demands and re-legitimize itself as a social actor.

Regarding the first study construct, it should be noted that, to feel informed, this generation turns to its native media, the digital one, except in the case of television, which curiously maintains an acceptable level of consumption in half of the sample. The reliability they give to the media is inversely proportional to the consumption they make of it: they state that they hardly consume radio either in an analog receiver or in online devices, nor traditional press, and yet they are the media in which they place the most trust. They do not trust social networks or streaming content, but they do consume them massively; only television and the online press maintain similar levels of consumption and reliability.

The trustworthiness of citizens has been studied in numerous works whose results showed a polarization of opinions and feelings (Aruguete et al., 2020; Banks et al., 2020; Masip et al., 2020);



However, the evidence from this study reveals a different problem: the lack of trust, the discredit that this generation gives to the media it consumes, which underlines the dissonance between what journalists communicate and the expectations of the online audience already verified in the studies of Loosen et al. (2020). Contrary to other recent reports such as that of Negrodo et al. (2020) in *Digital News Report.es 2020*, Facebook is shown as one of the least used networks by this generation, which seems to be found massively on Instagram and WhatsApp. Their time exposure is high -practically three-quarters of the sample are connected for more than two hours a day- and the feeling that overwhelms them the most is that of being uninformed, followed by that of being poorly informed or even deceived.

The second construct generates new conclusions linked to the previous ones. Since the explosion of the crisis due to COVID-19, the topic of most interest is politics: practically three-quarters of the sample show high or very high interest, followed by humor. Regarding fake news, only half of those surveyed declare that they distinguish it, although 97% of them affirm that they receive it. One of the most effective alternatives to this problem, fact-checkers, are unknown to this generation: only 40% declared they knew what they were, and of them, only 19% had used one at one time. In this sense, among the main conclusions of this study, it stands out that fact-checking as a variant of verification of journalism in the digital age cannot yet be considered as a solution to the problem of disinformation due to its low penetration of use and knowledge among users, as shown by other studies (López Pan and Rodríguez-Rodríguez, 2020).

Another striking paradox is that, since politics and humor are the contents that interest them the most, they are at the same time considered the most likely to contain fake news. The most alarming conclusion is the overwhelming distrust of the media and journalists, which takes on an alarming tone in the case of politicians and social media. This underlines the underlying warning of a bankrupt system and a deep crisis for democratic countries based on freedom of expression and thought: a population that mistrusts the media and politicians is a polarized population, easily manipulated, and incapable of making free and informed decisions (Aruguete et al., 2020).

Taking into account the basis on which this study is articulated, in which the acceptance of a consumption model affects the construction of identity based on exposure to information and audiovisual stimuli in a time, a place, and through certain devices or physical media, the results confer significant relevance to the challenges of today's journalism. This implies assuming points of view, reasoning, aesthetics, and values for a cultural construction (Couldry et al., 2007; Pérez-Tornero, 2020). We can educate young people (García-Ruiz and Pérez-Escoda, 2021) and give them fact-checking tools, but if later they do not trust, if they do not give credit to the sources, if they do not find legitimacy in the media discourses, these measures will not be effective. If we add these reflections to the already argued conclusions, it is irrefutable that journalism needs to know its audience better, understand it, identify its demands, and take advantage of the Internet to counteract its dangers. The adequacy between the information that is communicated and reality, as well as the connection with the expectations of those who consume it, is imposed as a substantive and urgent need for journalism in the challenge of legitimizing its discourse on social networks.

## 6. References

- Álvarez Ramos, E., Heredia Ponce, H. y Romero Olive, M. (2019). La Generación Z y las Redes Sociales. Una visión desde los adolescentes en España. *Revista Espacios*, 40(20), 1-13. <https://www.revistaespacios.com/a19v40n20/a19v40n20p09.pdf>

- Aruguete, N. Calvo, E. y Ventura, T. (2020), News Sharing, Gatekeeping, and Polarization: A Study of the #Bolsonaro Election. *Digital Journalism*, 9(1), 1-23. <https://doi.org/10.1080/21670811.2020.1852094>
- Banks, A., Calvo, E., Karol, D. y Telhami, S. (2020). #PolarizedFeeds: Three Experiments on Polarization, Framing, and Social Media. *The International Journal of Press/Politics*. <https://doi.org/10.1177/1940161220940964>
- Barrios-Rubio, A. y Pedrero-Esteban, L.M. (2021). The transformation of the Colombian Media industry in the Smartphone Era. *Journal of Creative Communications*, 16(1), 45-60. <https://doi.org/10.1177/0973258620981347>
- Boulianne, S. y Theocharis, Y. (2020). Young people, digital media, and *engagement*: A meta-analysis of research. *Social Science Computer Review*, 38(2), pp. 111-127. <https://doi.org/10.1177/0894439318814190>
- Casero-Ripollés, A. y García-Gordillo, M. (2020). La influencia del Periodismo en el ecosistema digital. L.M. Pedrero-Esteban y A. Pérez-Escoda, *Cartografía de la comunicación postdigital: Medios y audiencias en la Sociedad de la COVID-19*. Navarra, España: Aranzadi-Thomson Reuters, pp. 157-176.
- Castillo-Abdul, B., Romero-Rodríguez, L.M. y Larrea-Ayala, A. (2020). Kid influencers in Spain: understanding the themes they address and preteens' engagement with their YouTube channels. *Heliyon*, 6(9), 1-10. <https://doi.org/10.1016/j.heliyon.2020.e05056>
- Comisión Europea (2018). *Comunicación de la Comisión al Parlamento Europeo, al Consejo, al Comité Económico y Social Europeo y al Comité de las Regiones, sobre La lucha de la desinformación en línea: un enfoque europeo*. COM/2018/236 final.
- Couldry, N., Livingstone, S. y Markham, T. (2007). *Media consumption and Public engagement*. Palgrave MacMillan.
- Dessart, L. (2017). Social media engagement: a model of antecedents and relational outcomes. *Journal of Marketing Management*, 33, 375-399. <https://doi.org/10.1080/0267257X.2017.1302975>
- Elías, C. (2018). Fakenews, poder y periodismo en la era de la posverdad y 'hechos alternativos'. *Revista Ámbitos*, 40. <https://institucionales.us.es/ambitos/fakenews-poder-y-periodismo-en-la-era-de-la-posverdad-y-hechos-alternativos/>
- Espiritusanto, O. y Gonzalo Rodríguez, P. (2011). Periodismo ciudadano. Evolución positiva de la comunicación. Ariel y Fundación Telefónica.
- European Commission (2019). Media Use in the European Union. Report. Fieldwork Autumn 2019. <https://op.europa.eu/en/publication-detail/-/publication/c2fb9fad-db78-11ea-adf7-01aa75ed71a1/language-en>
- European Commission (2020). Standard Eurobarometer 93. Summer 2020. Report. Public Opinion in the European Union.

<https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/ResultDoc/download/DocumentKey/91061>

- Farkas, J. y Schou, J. (2020). *Post-truth, fake news and democracy*. New York, Routledge.
- Galloway, S. (2018). *Four. El ADN secreto de Amazon, Apple, Facebook y Google*. Madrid: Conecta.
- García-Ruiz, R. y Pérez-Escoda, A. (2021). La competencia digital docente como clave para fortalecer el uso responsable de Internet. *Campus Virtuales*, 10(1), 59-71. <http://www.uajournals.com/ojs/index.php/campusvirtuales/article/view/781Com>
- Gómez Calderón, B., Córdoba-Cabús, A. y Méndez Nieto, A. (2020). Jóvenes y fake news. Un análisis sociodemográfico aplicado al caso andaluz. *Revista Científica de Información y Comunicación*, 17, 481-501. Disponible en: <https://tinyurl.com/3nj4tu38>
- Gutiérrez-García, M. y Barrios-Rubio, A. (2021). Prácticas juveniles de consumo sonoro, entre grandes plataformas y el ecosistema radiofónico: caso Colombia-España. *Comunicación y Sociedad*, 18, 1-24. <https://doi.org/10.32870/cys.v2021.7820>
- Jarvis, J. (2015). *El fin de los medios de comunicación de masas: ¿Cómo serán las noticias del futuro?* Barcelona: Grupo Planeta.
- Jenkins, H. (2008). *Convergence Culture. La cultura de la convergencia de los medios de comunicación*. Barcelona: Paidós Comunicación.
- Keyes, R. (2004). *The post-truth era: Dishonesty and deception in contemporary life*. New York: St. Martin's Press. ISBN: 978 0 312306489
- Larrondo-Ureta, A., Peña-Fernández, S. y Agirreazkuenaga-Onaindia, I. (2020). Hacia una mayor participación de la audiencia: experiencias transmedia para jóvenes. *Estudios sobre el mensaje periodístico*, 26(4), 1445-1454. <https://doi.org/10.5209/esmp.71375>
- Loosen, W., Reimer, J. y Hölig, S. (2020). What journalists want and what they ought to do (in)congruences between journalists' role conceptions and audiences' expectations. *Journalism studies*, 21(12), 1744-1774. <https://doi.org/10.1080/1461670X.2020.1790026>
- López Pan, F. y Rodríguez Rodríguez, J. (2020). El Fact Checking en España. Plataformas, prácticas y rasgos distintivos. *Estudios Sobre El Mensaje Periodístico*, 26(3), 1045-1065. <https://doi.org/10.5209/esmp.65246>
- Masip, P., Suau J. y Ruiz-Caballero, C. (2020). Perceptions on media and disinformation: Ideology and polarization in the Spanish media system. *Profesional de la Información*, 29(5), 1-13. <https://doi.org/10.3145/epi.2020.sep.27>
- Masip, P., Suau, J. y Ruiz-Caballero, C. (2017). Questioning the selective exposure to news: Understanding the impact of social networks on political news consumption. *American behavioral scientist*, 62(3), 300-319. <https://doi.org/10.1177/0002764217708586>

- Mendiguren, T., Pérez Dasilva, J. y Meso Ayerdi, K. (2020). Actitud ante las Fake News: Estudio del caso de los estudiantes de la Universidad del País Vasco. *Revista de Comunicación*, 19(1), 171-184. <https://doi.org/10.26441/RC19.1-2020-A10>
- Negredo, S., Amoedo, A., Vara Miguel, A., Moreno, E. y Kaufmann, J. (2020). Digital News Report.es 2020. <https://www.digitalnewsreport.es/2020/gobiernos-politicos-y-redes-sociales-principales-responsables-del-auge-de-los-bulos/>
- Newman, N. y Fletcher, R. (2017). *Bias, Bullshit and Lies: Audience Perspectives on Low Trust in the Media*. Reuters Institute and University of Oxford. <https://doi.org/10.2139/ssrn.3173579>
- Newman, Ni., Fletcher, R., Schulz, A. Andi, S., Nielsen, R. (2020). *Digital news report 2020*. Reuters Institute. [https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-06/DNR\\_2020\\_FINAL.pdf](https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-06/DNR_2020_FINAL.pdf)
- Nielsen, R. K. y Graves, L. (2017). *News You Don't Believe: Audience Perspectives on Fake News*. Oxford: Reuters Institute for the Study of Journalism. [https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-10/Nielsen%26Graves\\_factsheet\\_1710v3\\_FINAL\\_download.pdf](https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-10/Nielsen%26Graves_factsheet_1710v3_FINAL_download.pdf)
- Pariser, E. (2011). *The filter bubble. How the new personalized web is changing what we read and how we think*. London: Penguin Books.
- Paulussen S., Domingo D., Heinonen A., Singer J., Quandt T. y Vujnovic M. (2008). Citizen participation in online news media. An overview of current developments in four European countries and the United States. In: Quandt T., Schweiger W. (eds) *Journalismus online - Partizipation oder Profession? VS Verlag für Sozialwissenschaften*. [https://doi.org/10.1007/978-3-531-91094-9\\_18](https://doi.org/10.1007/978-3-531-91094-9_18)
- Pérez-Curiel, C. y Velasco Molpeceres, A. M. (2020). Impacto del discurso político en la difusión de bulos sobre Covid-19. Influencia de la desinformación en públicos y medios. *Revista Latina*, 78, 65–97. <https://doi.org/10.4185/rlcs-2020-1469>
- Pérez-Escoda, A., Pedrero-Esteban, L.M., Rubio-Romero, J. y Jiménez-Narros, C. (2021). Fake News Reaching Young People on Social Networks: Distrust Challenging Media Literacy. *Publications* 2021, 9(2) 24. <https://doi.org/10.3390/publications9020024>
- Pérez-Escoda, A., Jiménez-Narros, C., Perlado-Lamo-De-Espinosa, M. y Pedrero-Esteban, L.M. (2020). Social Networks' Engagement During the COVID-19 Pandemic in Spain: Health Media vs. Healthcare Professionals. *International Journal of Environmental Research and Public Health*, 17, 5261, <https://doi.org/10.3390/ijerph17145261>
- Pérez-Maíllo, A.; Sánchez-Serrano, C.; y Pedrero-Esteban, L.M. (2018). Viaje al Centro de la Radio. Diseño de una experiencia de alfabetización transmedia para promover la cultura radiofónica entre los jóvenes. *Comunicación y Sociedad*, nº 33, 171-20. <https://doi.org/10.32870/cys.v0i33.7031>
- Pérez-Tornero, J.M. (2020). *La gran mediatización. El tsunami que expropia nuestras vidas*. Barcelona: UOC.

- Romero-Rodríguez, L. M., Tejedor, S. y Castillo-Abdul, B. (2021). From the Immediacy of the Cybermedia to the Need for Slow Journalism: Experiences from Ibero-America. *Journalism Practice*, 1-19. <https://doi.org/10.1080/17512786.2020.1870530>
- Sádaba-Chalezquer, C. y Pérez-Escoda, A. (2020). La generación 'streaming' y el nuevo paradigma de la comunicación digital. L.M. Pedrero-Esteban y A. Pérez-Escoda, *Cartografía de la comunicación postdigital: Medios y audiencias en la Sociedad de la COVID-19*. Navarra: Aranzadi-Thomson Reuters, pp. 97-114.
- Tavakol, M., and Dennick, R. (2011). Making sense of cronbach's alpha. *International Journal of Medical Education*, 2, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Van Dijk, J. (2013). *The culture of Connectivity. A critical History of Social Media*. Oxford: Oxford University Press.
- Vilches, L. (2011). *La Investigación en Comunicación. Métodos y Técnicas en la era Digital*. Barcelona: GEDISA.
- We Are Social (2021). *Digital Report 2021. El informe de las tendencias digitales*. <https://wearesocial.com/es/blog/2021/01/digital-report-2021-el-informe-sobre-las-tendencias-digitales-redes-sociales-y-mobile>
- Webster, J. G. (2014). *The Marketplace of Attention: How Audiences Take Shape in the Digital Age*. Cambridge, MA: The MIT Press.
- WHO (2020). *Managing the COVID-19 Infodemic: Promoting Healthy Behaviours and Mitigating the Harm from Misinformation and Disinformation*. <https://www.who.int/news/item/23-09-2020>

## AUTHORS:

### Ana Pérez-Escoda

Professor and researcher in the Innovation in Communication and Media group (Nebrija Innomedia) at the Faculty of Communication and Arts of the Antonio de Nebrija University. She is a member of different national and European R&D projects, her lines of research focus on digital literacy, digital skills, and digital communication, with special attention to social networks. She is the author of the book *Alfabetización mediática, TIC y competencias digitales* (UOC) and co-editor of *Cartografía de la Comunicación postdigital. Medios y audiencias en la sociedad de la COVID-19* (Aranzadi), as well as numerous research articles in national and international journals. She has been a Postgraduate coordinator and the coordinator of teaching innovation at UPSA (2017-2020), and associate editor of the journal *Comunicar* JCR Q1 (2017-2020).

[aperez@nebrija.es](mailto:aperez@nebrija.es)

**H Index:** 15

**Orcid ID:** <http://orcid.org/0000-0002-4895-0043>

**Google Scholar:** <https://scholar.google.com/citations?user=vo89GUMAAAAJ&hl=es>

**ResearchGate:** [https://www.researchgate.net/profile/Ana\\_Perez\\_escoda](https://www.researchgate.net/profile/Ana_Perez_escoda)

**Scopus ID:** <https://www.scopus.com/authid/detail.uri?authorId=57191505785>

**Academia.edu:** <https://www.nebrija.com/medios/innomedia/equipo/>



**Luis Miguel Pedrero Esteban**

Professor and main researcher of the Innovation in Communication and Media group at the Faculty of Communication and Arts of the Antonio de Nebrija University. He has been a news editor for Cadena SER, a scriptwriter for musical shows at Los 40; collaborator in COPE and Onda Cero; and consultant for Radio Blanca. He is the author of the books *La radio musical en España: historia y análisis*; *La industria audiovisual y publicitaria en Castilla y León* (with Ángel Badillo and Marta Fuertes) and *La televisión y los niños* (with Javier Muñoz). He is co-editor of *La transformación digital de la radio* (with José M<sup>a</sup> García-Lastra) and of *Cartografía de la Comunicación postdigital. Medios y audiencias en la sociedad de la COVID-19* (with Ana Pérez Escoda). Editor of the digital weekly ‘*Pantallas, Ondas, Frames y Bits*’. He is a member of the Board of Directors of the Spanish Society of Journalism.

[lpedrero@nebrija.es](mailto:lpedrero@nebrija.es)

**H Index:** 14

**Orcid ID:** <https://orcid.org/0000-0003-4949-2360>

**Google Scholar:** <https://scholar.google.com/citations?user=Q8UU05MAAAAJ&hl=es>

**ResearchGate:** [https://www.researchgate.net/profile/Luis\\_Pedrero\\_Esteban](https://www.researchgate.net/profile/Luis_Pedrero_Esteban)

**Scopus ID:** <https://www.scopus.com/authid/detail.uri?authorId=56925350600>

**Academia.edu:** <https://nebrija.academia.edu/LuisMiguelPedreroEsteban>