Disinformation among older adults: analyzing the impact of fact-checking on news credibility

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Introduction

As it has been demonstrated during episodes of heightened importance such as general elections, geopolitical conflicts, and the COVID-19 pandemic, the rise of disinformation has become a central threat that compromises the public sphere (Calvo et al., 2022) while posing "vexing problems on democratic decision-making" (Hameleers and van der Meer, 2020, p. 230). Myriad factors account for such rise, including the increasing polarization of media and society, citizens' distrust towards institutions, and the psychological biases and social rewards that drive individuals to share disinformation (García-Marín, 2020; Moreno-Gil et al., 2021).

As Singer (2023) argues, information disorders are persistent, global, and responsive. Disinformation "has increased in scale and severity in recent years, as false information can quickly spread from platform to platform, evading moderation" (Cotter et al., 2022, p. 2). In particular, the multiplication of digital platforms has facilitated the expansion of 'disinformation tactics' (Karyotakis, 2023) that particularly target vulnerable segments of the population that are less equipped to assess the credibility of information, such as older adults.

Bearing this context in mind, this paper expands the relevant literature on factchecking and credibility to (1) analyze how older adults in Spain evaluate the credibility of online news; and to (2) examine the effect of fact-checking in this evaluation.

Fact-checking as a counteroffensive to disinformation

In a time characterized by pressing challenges, fact-checking "has become a significant journalistic weapon in the fight against disinformation" (Kyriakidou et al., 2022, p. 1). Over the last few years, fact-checking platforms have served as critical interventions in the fight against the expansion of false and/or misleading news that threaten democratic wellbeing (Moreno-Gil et al., 2021). As part of a global movement, these entities identify and scrutinize the claims of public representatives and alert citizens to online disinformation. In the process, they attempt to "revitalize the 'truth seeking' tradition in journalism" (Graves, 2016, p. 6). Fact-checking organizations also play an increasingly important role in combatting social and political polarization. As Hameleers and van der Meer (2020, p. 247) highlight, "fact-checkers have the potential to overcome partisan

identities, which makes them an important journalistic instrument in countering the negative consequences of the current era of postfactual relativism". Overall, fact-checking is perceived, both by professionals and audiences, as an instrumental tool in "ensuring a well-informed public" (Cotter et al., 2022, 3).

According to the latest data provided by The Reporters' Lab at the Sanford School of Public Policy at Duke University, there are currently 378 active fact-checking sites in 105 countries (Stencel et al., 2022). Despite their differences in terms of organizational models and structures (Graves and Cherubini, 2016), fact-checkers operate within a community of practice that fosters national and international alliances (Brookes and Waller, 2022; Martínez-García and Ferrer, 2023) while sharing important characteristics. An essential trait of fact-checking is the embodiment of scientific objectivity to overcome the 'he-said/she-said' reporting style that has pervaded contemporary journalism practice. The systematic fact-checking process involves the following steps: (1) selecting statements of public interest, (2) identifying evidence and context to scrutinize the accuracy of those claims, and (3) writing and publicizing assessments (UNESCO, 2018). Fact-checking embraces core practices such as transparency, accuracy, accountability, independence, and completeness (Kim and Buzzelli, 2022; Singer, 2021). Fact-checkers also perceive their task is "not only a complement but also a corrective for mainstream media", especially in territories where media are "relatively weak", "servile" and "strong on spreading fake news and spin" (Singer, 2021, p. 1937).

Disinformation and older adults

As Seo et al. (2021, p. 2025) point out, "as more citizens rely on digital media for news and information, it is important that broader segments of the society be better equipped to assess credibility of information online". However, vulnerable groups – including older adults – face pressing challenges when being confronted with information circulating across digital platforms.

Previous work has demonstrated that due to cognitive declines and lower levels of digital literacy, older people have more difficulties in discriminating between true facts and false news and therefore, are more prone to share disinformation (Brenes Peralta et al., 2022; Guess et al., 2019). As Brashier and Schacter (2020, p. 320) highlight, "older adults are relative newcomers to the Internet, creating a *gray digital divide*." As the authors expand, "older adults struggle to detect deception" [...] analytic thinking likely

offsets older adults' motivated reasoning but may not protect them from misleading content on social media, such as manipulated photos and native advertisements" (Brashier and Schacter, 2020, p. 319-320).

As Valera-Ordaz et al. (2022, p. 30) emphasize, older people "are more likely to be affected by disinformation that comes from close sources". In addition, older adults are more inclined to disseminate false and misleading news than younger citizens. Guess et al. (2019) linked an online survey to behavioral data on respondents' Facebook sharing history during the 2016 United States presidential campaign and revealed that "the oldest Americans, especially those over 65, were more likely to share fake news to their Facebook friends" (Guess et al., 2019, p. 1). As the authors note, "being in the oldest age group was associated with sharing nearly seven times as many articles from fake news domains on Facebook as those in the youngest age group, or about 2.3 times as many as those in the next-oldest age group" (Guess et al., 2019, p. 2).

Arguably, fact-checking platforms should play a critical role in bridging this digital divide and help older publics "navigate through disinformation circulating in high-choice media environments" (Kyriakidou et al. 2022, 1).

News credibility

The extensive academic and industrial research into news credibility concur in stating that news credibility can be addressed on three different levels: source credibility, medium or media credibility and content or message credibility (Kiousis, 2001; Bucy, 2003; Chung et al., 2012; Blach-Ørsten and Burkal, 2014). By examining how four news stories produce different perceptions of credibility among elderly users, this paper focuses on content news credibility and the impact of verification processes on this assessment.

News credibility is a rather ambiguous term that most researchers split in different sub-dimensions that will be assessed by respondents, thus establishing a variety of credibility indexes. However, as Sundar (1999) and Blach-Ørsten and Burkal (2014) suggest, these sub-dimensions are often synonyms that end up being somewhat as ambiguous and generic as the notion of credibility itself. One of the most renowned indexes, though, is the credibility scale proposed by Appleman and Sundar (2016), which establishes three main dimensions for assessing message credibility: perceived accuracy, authenticity, and believability. This scale has been widely used by other studies of message credibility (see, for example, Mena, Barbe, and Chan Olmsted (2020) on

message credibility in Instagram; or Link, Henke, and Möhring (2021) on how data visualization affects message credibility). Since the way credibility is measured has an impact on results (Flanagin and Metzger, 2000), this research opted for using the validated Appleman and Sundar's scale in order to avoid possible biases in credibility ratings.

The use and consumption of news practices affect the credibility levels assigned to news (Roses and Gómez-Calderón, 2015). For example, relying on certain news sources increases the perception of credibility (Johnson and Kaye, 2014). The tendency to discuss news in interpersonal communication is an important factor when assigning low credibility to television news (Kiousis, 2001) or when assigning more or less credibility to liberal and conservative media outlets, depending on the kind of interpersonal discussion at stake (Hmielowski et al., 2022). Online comments in the news also affect the assessment of its credibility (Pjesivac et al., 2018).

As a subjective perception, credibility may also be shaped by sociodemographic variables such as gender or age. In this sense, authors such as Soh, Reid, and King (2007) found that "gender and age exhibited no direct or indirect associations with trust in specific advertising media" (p. 465). However, other studies found that age was indeed correlated with credibility, both positively (Besalú and Pont-Sorribes, 2021; Besalú, Pont-Sorribes and Martí, 2021; Choi and Kim, 2017) and negatively (Johnson and Kaye, 2014; Roses and Gómez-Calderón, 2015). By focusing specifically on older adults in Spain, this paper may contribute to better understand the nuances of credibility perceptions among seniors and reflect on their ability to detect disinformation in the digital environment.

Methodology

This research examines the relationship between older adults with disinformation and fact-checking platforms considering the following research questions:

RQ1. How do older adults evaluate the credibility of information in online press? RQ2. What is the impact of fact-checking platforms in the credibility that older adults give to news?

The study is informed by an experimental online survey conducted in October 2022 by YouGov Spain that drew on N=1,203 participants of +60 years. Respondents were divided into three symmetrical groups considering key quota variables (gender and territorial distribution according to Nielsen areas). Each of the groups was exposed to four news items about current events (COVID-19, Ukraine war, immigration, and retirement):

- Immigration: 'Seis pateras procedentes de Argelia con más de 100 personas llegan a Baleares en menos de un día' ['Six boats from Algeria with more than 100 people arrive to the Balearic Islands in less than a day']
- **Retirement:** 'El Gobierno alargará la edad de jubilación hasta los 67 años' ['The government will extend the retirement age to 67 years'].
- **COVID-19:** 'Un laboratorio farmacéutico británico descubre una vacuna que permite la inmunización total al virus de la Covid-19' [''A British pharmaceutical laboratory discovers a vaccine that allows full immunization to the Covid-19 virus']
- Ukraine war: 'La OTAN prevé introducir tropas en terreno ucraniano antes del fin de 2022' ['NATO plans to introduce troops on Ukrainian territory before the end of 2022'].

The content of the first two news items (immigration and retirement) was true and drew on information published by real media outlets (*El Mundo* and *OndaCero.es*). In contrast, the news items about the COVID-19 vaccine and the Ukraine war were false and were written *ad hoc* by the research team. To avoid any bias, all items were presented as content published by a fictitious news outlet called 'El Independiente Digital'.

Following the approach by Appleman and Sundar (2016), each of the experimental groups was asked to evaluate two factors for each piece –credibility and shareability– using a Likert scale (1-5). While group 1 received these items without any verification marks (see Figure 1), groups 2 and 3 were respectively exposed to news that were correctly and incorrectly verified by a fictitious fact-checking platform called 'Verificamos' (see Figure 2).



Figure 1. Example of material received by group 1. / Figure 2. Examples of materials received by experimental groups 2 and 3. Source: Authors' own elaboration.

Results

Older adults' ability to identify disinformation

Findings from the study reveal that older adults demonstrate a good ability to identify disinformative content, as they attribute a higher level of credibility to true content and a lower level of credibility to false content (see Figure 3). Across the three experimental groups, the news items that obtained higher levels of credibility were those focusing on retirement (M=3.50) and immigration (M=3.27), both of true nature. In contrast, news items on the COVID-19 vaccination and the Ukraine war – both of false nature – obtained lower levels of credibility (2.71 and 2.38 respectively) and thus, did not meet the passing threshold in the Likert scale (situated in the "3" value).



Figure 3. Credibility index according to topics. Source: Authors' own elaboration.

Impact of fact-checking on older adults' assessment

The study reveals that fact-checking has a relevant impact on older adults' assessment of credibility. When respondents were presented with news items that were verified and labelled as 'false', their assessment of these items' credibility was greatly diminished (Figure 4). In these circumstances, older adults showed greater precautions to believe and share such information. In other words, when senior citizens see a warning label, they become more conscious that a news piece cannot be trusted.



Figure 4. Credibility index considering if news items were presented without verification or were verified as true or false. Source: Authors' own elaboration.

Sources employed to verify news

To evaluate the level of knowledge about fact-checking platforms among older adults, the experimental group 1 was asked the following question regarding sources to verify information: "We show you a list of sources that can be used to check the authenticity of information. Of all of them, which ones would you turn to verify the news you've read before? Select a maximum of 3".

Among the different options, participants highlighted official databases (51.09%) and fact-checking platforms (47.57%) as the main sources they would use to verify news, followed by other media outlets (41.09%). In contrast, friends / relatives and social media – spaces more prone to the dissemination of disinformation – were generally not considered as valuable options to verify news (Figure 5).

The participants that did not respond 'fact-checking platforms' (n=205) were faced with this second question: "For what reasons would you not use a fact-checking platform to verify the authenticity of the news you have previously read? Select 2 maximum". As we can see in Figure 6, part of the sample was not aware about the existence of these platforms (47%), did not trust them (36%) or considered them unnecessary (17%). Thus, we can see that the two main reasons among older adults to avoid using fact-checking platforms are their lack of knowledge or their unwillingness to employ them.



Figure 5. Sources older adults from experimental group 1 (n=400) would use to verify news / Figure 6. Reasons why participants that did not respond 'fact-checking platforms' (n=205) do not use those platforms. Source: Authors' own elaboration.

Credibility gender gap

The gender divergences in credibility are one of the most relevant results of the study (Figure 7). In all cases, *Men* show much lower numbers in the Credibility Indicator than *Women. Men* fail to grant credibility in all topics, while *Women* approve all the news. For *Men* (n=662) the news item with the least credibility is the one related to the Ukrainian war with 1.73 points. *Women* (n=541) also consider that the news of the Ukrainian war is the least credible, but with the difference that they score it with 3.18 points. The lowest evaluation of a topic by *Women* in the survey is above the highest of *Men*. This data proves to us the wide difference between the evaluation by gender.



Figure 7. Average credibility according to gender and topics. Source: Authors' own elaboration.

In the total credibility average, *Men* obtain 2.35 and *Women* 3.71. The topic in which *Men* and *Women* show the greatest distance is retirement (1.51 points of difference), followed by the Ukrainian war (1.46 points of difference). Across different experimental groups, *Men* fail to grant credibility to all the news items as shown in Table 1. A relevant factor in this table is to observe how the verification effect is greater in *Women*. Specifically, verifications in *Men* have an average credibility change effect of 0.30 points, while in *Women* it is 0.37.

		Men		Women			
	Group 1: news without verification (n=220)	Group 2: correct verification (n=222)	Group 3: wrong verification (n=220)	Group 1: news without verificatio n (n=180)	Group 2: correct verification (n=180)	Group 3: wrong verification (n=181)	
Covid-19	2.27	1.89	2.39	3.49	2.99	3.58	
vaccine	(SD=0.93)	(SD=0.98)	(SD=1.02)	(SD=1.45)	(SD=1.47)	(SD=1.32)	
Ukrainian	1.81	1.55	1.82	3.27	2.98	3.29	
war	(SD=0.92)	(SD=0.88)	(SD=0.98)	(SD=1.41)	(SD=1.40)	(SD=1.37)	
Immigration	2.69	2.83	2.51	4.05	4.08	3.82	
	(SD=1.02)	(SD=1.06)	(SD=1.03)	(SD=1.59)	(SD=1.41)	(SD=1.45)	
Retirement	2.82	2.93	2.71	4.44	4.4	4.16	
Kethement	(SD=1.02)	(SD=1.07)	(SD=1.10)	(SD=1.49)	(SD=1.38)	(SD=1.44)	

Table 1. Average credibility according to gender and topics, classified by experimental group. Source: Authors' own elaboration.

Credibility depending on political values

In this survey, it was possible to collect the vote for the last general elections in Spain held on November 10, 2019. Respondents were asked if they remembered having voted in these elections and, if so, for which political party. In order to find out if there was any relationship between the vote of a political formation and the credibility granted, a crosssection of variables has been carried out. Concretely, these variables were the main political parties and the political affiliation that appeared in the recording vote:

- PSOE: center-left
- PP: center-right
- Ciudadanos: liberal
- UP: radical left
- Vox: radical right
- ERC: Catalan independentist / center-right
- Junts: Catalan independentist / liberal

First, the average of the Credibility Indicator is analyzed based on the party voted for. It is considered that the voters of PP are the ones with the highest average credibility (3.08), closely followed by those of PSOE (2.98) and Ciudadanos (2.93). Above these options are all those who did not vote, who are the individuals with a higher average

(3.16). Vox shows lower levels of credibility (2.83). Finally, UP (2.67), ERC (2.67) and Junts (2.59) are the ones that show the least credibility towards the news. Table 2 shows how they evaluate the credibility of the news based on the topic.

What party or coalition did you vote				
for in these general elections on	Covid-19 vaccine	Ukrainian War	Immigration	Retirement
November 10, 2019?				
PSOE (n=263)	2.78 (SD=1.39)	2.39 (SD=1.42)	3.16 (SD=1.48)	3.57 (SD=1.48)
PP (n=175)	2.76 (SD=1.48)	2.36 (SD=1.43)	3.50 (SD=1.40)	3.70 (SD=1.43)
VOX (n=124)	2.29 (SD=1.27)	2.14(SD=1.28)	3.51 (SD=1.29)	3.38 (SD=1.36)
UP (n=86)	2.56 (SD=1.26)	2.26 (SD=1.31)	2.84 (SD=1.38)	3.04 (SD=1.60)
Ciudadanos (n=57)	2.84 (SD=1.32)	2.38(SD=1.27)	3.19(SD=1.07)	3.33(SD=1.35)
ERC (n=51)	2.57 (SD=1.30)	2.23(SD=1.29)	2.71(SD=1.18)	3.17(SD=1.29)
Junts (n=37)	2.49(SD=1.19)	2.08(SD=1.01)	2.87(SD=1.23)	2.92(SD=1.42)

Table 2. Political party voted in 2019 elections crossed with Credibility Indicator, by topic. Source: Authors' own elaboration.

The voters of PP and Vox are the ones who give more credibility to the news on immigration with 3.50 and 3.51 respectively. In contrast, UP and ERC voters give low credibility to immigration news, with 2.84 and 2.71. News dealing with the subject of retirement has high credibility, especially among PP voters (3.70), closely followed by PSOE voters (3.57). Finally, the voters of Vox (2.14), ERC (2.23) and UP (2.26) give little credibility to the news about Ukraine. Lastly, credibility is analyzed based on the vote and the experimental group in Table 3.

	Experimental group	Experimental group	Experimental group	
		2: correct	3: incorrect verification	
	1: no verification	verification		
PSOE	3.02 (SD=1.15)	3.013 (SD=1.12)	2.89 (SD=1.08)	
РР	3.07 (SD=1.10)	3.07 (SD=1.10)	3.1 (SD=1.14)	
VOX	2.97 (SD=0.95)	2.65 (SD=0.90)	2.92 (SD=0.82)	
UP	2.67 (SD=1.23)	2.59 (SD=1.04)	2.73 (SD=0.88)	
Ciudadanos	2.86 (SD=0.83)	2.87 (SD=0.90)	3.05 (SD=1.04)	
ERC	3.33 (SD=0.96)	1.93 (SD=0.73)	2.47 (SD=0.77)	
Junts	2.92 (SD=1.12)	2.46 (SD=0.71)	2.46 (SD=0.86)	

Table 3. Political party voted in 2019 elections crossed with Credibility Indicator, by experimental group. Source: Authors' own elaboration.

The most volatile electorate is from ERC, which shows the highest levels of credibility in the case of the digital press without verification (3.33) and the lowest in the verified cases. Instead, PP voters are the only one that show high levels of credibility in all cases.

To better observe how the vote affects the credibility of each case, the topic and news format variables are crossed with the vote. The result can be observed in Table 6 (Annex). The lowest case is that of ERC voters towards the war in Ukraine on the fact-checking platform when it is found to be untrue, with an average of 1.51 points. The highest is made by PP voters also in the case of correct verification when it is found that the news about retirement is true, with 3.97.

Credibility depending on education level

Putting the focus on the academic background, the variable *Education level* exposes us to a negative relationship with credibility and willingness to share the news. The higher the level of studies, the less the news is believed to be true and the less it is shared, as shown in table 4.

Education level	Credibility	Sharing		
Low	3.14 <i>(SD=1.07)</i>	2.38 (SD=0.94)		
Medium	3.01 <i>(SD=1.14)</i>	2.39(SD=1.01)		
High	2.84 <i>(SD=1.02)</i>	2.17 (SD=0.93)		

Table 4. Credibility Indicator and Sharing according to education level. Source: Authors' own elaboration.

If the cases segmented by news topics and educational level are observed, the relationship is further confirmed. In each of the topics, the levels of credibility are reduced as the educational level increases. Table 5 shows the results considering the experimental group. This allows us to know the effect of the verification platforms by educational level, since the level of credibility change between the written digital press (group 1) and the fact-checking platform (groups 2 and 3) is calculated. The average variation of credibility at the low level of studies is 0.26, at the medium levels of studies it is 0.23, and at the high level it is 0.20.

		Covid-19 vaccine	Ukrainian war	Immigration	Retirement
		3.00	2.77	3.38	4.00
Low Education Level	No verification	(SD=1.39)	(SD=1.56)	(SD=1.55)	(SD=1.44)
	Correct	2.47	2.29	3.56	3.80
	verification	(SD=1,32)	(SD=1.29)	(SD=1.29)	(SD=1.55)
	Incorrect	3.00	2.47	3.38	3.56
	verification	(SD=1.37)	(SD=1.18)	(SD=1.18)	(SD=1.56)
	No varification	2.97	2.52	3.44	3.57
	No vermeation	(SD=1.39)	(SD=1.33)	(SD=1.47)	(SD=1.46)
Madium Education Laval	Correct	2.47	2.35	3.41	3.57
Medium Education Level	verification	(SD=1.45)	(SD=1.41)	(SD=1.45)	(SD=1.51)
	Incorrect	2.84	2.52	2.52	3.45
	verification	(SD=1.30)	(SD=.143)	(SD=1.41)	(SD=1.44)
	No verification	2.63	2.29	3.17	3.35
	No vermeation	(SD=1.25)	(SD=1.29)	(SD=1.43)	(SD=1.50)
High Education Loval	Correct	2.26	2.00	3.30	3.51
High Education Level	verification	(SD=1.25)	(SD=1.27)	(SD=1.33)	(SD=1.44)
	Incorrect	2.94	2.44	3.06	3.21
	verification	(SD=1.30)	(SD=1.34)	(SD=1.37)	(SD=1.46)

Table 5. Credibility Indicator according to education level and topic, by experimental group. Source: Authors' own elaboration.

Concluding remarks

This on-going research endeavours to better understand relationship between older adults with disinformation and fact-checking. Up to this point, we can draw six relevant conclusions from the analysis:

 According to our findings, older adults demonstrate a good ability to identify disinformation. Older adults still remain a vulnerable segment of the population in terms of accessing and managing information (Brashier and Schacter, 2020; Brenes Peralta et al.,2022; Guess et al., 2019), but they are indeed capable of distinguishing true from false and misleading news. As it has been pointed out, participants in our study attributed higher levels of credibility to true content and lower levels of credibility to false content.

- 2. The importance of warning labels should not be underscored. In previous research, Koch et al. (2022, p. 1) highlighted that warning labels "lowered the (self-reported) likelihood to amplify fake news". In the same vein, our research shows that 'false' warning labels play an crucial role in alerting older adults to disinformation and preventing them from believing and sharing such news items. Bearing this in mind, fact-checking organizations should delve into the use of warning labels as a countermeasure to the spread of disinformation that threatens democratic wellbeing (Moreno-Gil et al., 2021).
- 3. Across the board, several participants would avoid using fact-checking platforms because they are not aware of them, do not trust them or think they are unnecessary. Considering these findings, fact-checking organizations should encourage media literacy activities aimed train citizens so that they can make informed decisions about the content they consume and the sources they require to verify information. These activities should also help raise the awareness of the existence of fact-checking operations and their usefulness among the general public.
- 4. In the assessment of the credibility of the population over 60 years, it is women who rate with higher levels of credibility. This indicates a more credulous attitude on the part of the female respondents. Men suspend the credibility of all topics, while women approve of all of them. In our previous studies (Besalú, Pont-Sorribes and Martí-Danés, 2020), these pronounced differences between men and women were not found.
- 5. Previous research signalled the relationship between people's political positions, the reception of information, and the effectiveness of fact-checking (Hameleers and van der Meer 2020; Koch et al., 2022; Robertson et al., 2020). The present research also concludes that political ideology is a key factor in the credibility assessment. Depending on the political party that voted in the last general election, respondents evaluate in one way or another the topics of the news items presented to them.
- 6. Finally, our work highlights that education level is an important sociodemographic variable to be considered when exploring the relationship between older adults, disinformation and fact-checking. As it has been highlighted, the higher the level of studies, the less the news is belived to be true and the less it is shared.

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References

- Appelman, A., & Sundar, S. S. (2016). Measuring message credibility: Construction and validation of an exclusive scale. *Journalism and Mass Communication Quarterly*, 93(1), 59–79. <u>https://doi.org/10.1177/1077699015606057</u>
- Besalú, R., & Pont-Sorribes, C. (2021). Credibility of digital political news in Spain: Comparison between traditional media and social media. *Social Sciences*, 10(5), 170. <u>https://doi.org/10.3390/socsci10050170</u>
- Besalú, R., Pont-Sorribes, C., & Martí, A. (2021). Perceived credibility of tweets by opinion leaders during the Covid-19 pandemic in Spain. *International Journal of Communication*, 15, 5158-5185.
- Blach-Ørsten, M., & Burkal, R. (2014). Credibility and the media as a political institution. *Nordicom Review*, 35(s1), 67–80. <u>https://doi.org/10.2478/nor-2014-0104</u>
- Brashier, N. M., & Schacter, D. L. (2020). Aging in an Era of Fake News. Current Directions in Psychological Science, 29(3), 316–323. https://doi.org/10.1177/0963721420915872
- Brenes Peralta, C., Pérez Sánchez, R., & Siles González, I (2022). Individual Evaluation vs Fact-checking in the Recognition and Willingness to Share Fake News About Covid-19 via Whatsapp. *Journalism Studies*, 23(1), 1–24. <u>https://doi.org/10.1080/1461670X.2021.1994446</u>
- Brookes, S., & Waller, L. (2022). Communities of practice in the production and resourcing of fact-checking. *Journalism* (Online First). <u>https://doi.org/10.1177/14648849221078465</u>

- Bucy, E. P. (2003). Media credibility reconsidered: Synergy effects between on-air and online news. *Journalism and Mass Communication Quarterly*, 80(2), 247–264. https://doi.org/10.1177/107769900308000202
- Calvo, D., Valera-Ordaz, L., Requena i Mora, M., & Llorca-Abad, G. (2022). Factchecking in Spain: Perception and trust. *Catalan Journal of Communication & Cultural Studies*, 14(2), 287–305. <u>https://doi.org/10.1386/cjcs_00073_1</u>
- Choi, S., & Kim, J. (2017). Online news flow: Temporal/spatial exploitation and credibility. *Journalism*, 18(9), 1184–1205. https://doi.org/10.1177/1464884916648096
- Chung, C. J., Nam, Y., & Stefanone, M. A. (2012). Exploring online news credibility: The relative influence of traditional and technological factors. *Journal of Computer-Mediated Communication*, 17(2), 171–186. https://doi.org/10.1111/j.1083-6101.2011.01565.x
- Cotter, K., DeCook, J. R., & Kanthawala, S. (2022). Fact-Checking the Crisis: COVID-19, Infodemics, and the Platformization of Truth. *Social Media* + *Society*, 8(1). <u>https://doi.org/10.1177/20563051211069048</u>
- Flanagin, A. J., & Metzger, M. J. (2000). Perceptions of Internet information credibility. Journalism & Mass Communication Quarterly, 77(3), 515–540. <u>https://doi.org/10.1177/107769900007700304</u>
- García-Marín, D. (2020). Infodemia global. Desórdenes informativos, narrativas fake y fact-checking en la crisis de la Covid-19. *El Profesional de la Información*, 29(4), e290411. <u>https://doi.org/10.3145/epi.2020.jul.11</u>
- Graves, L. (2016). Deciding What's True: The Rise of Political Fact-Checking in American Journalism. New York: Columbia University Press.
- Graves L., & Cherubini F. (2016). The Rise of Fact-Checking Sites in Europe. Oxford: Reuters Institute for the Study of Journalism. Retrieved from: <u>https://reutersinstitute.politics.ox.ac.uk/sites/default/files/research/files/The%2520</u> <u>Rise%2520of%2520Fact-Checking%2520Sites%2520in%2520Europe.pdf</u>
- Guess, A., Nagler, J., & Tucker, J. (2019). Less than you think: Prevalence and predictors of fake news dissemination on Facebook. Sci. Adv.5, eaau4586. <u>https://doi.org/10.1126/sciadv.aau4586</u>

- Hameleers, M., & van der Meer, T. G. L. A. (2020). Misinformation and Polarization in a High-Choice Media Environment: How Effective Are Political Fact-Checkers? *Communication Research*, 47(2), 227–250. <u>https://doi.org/10.1177/0093650218819671</u>
- Hmielowski, J. D., Staggs, S., Hutchens, M. J., & Beam, M. A. (2022). Talking Politics: The Relationship Between Supportive and Opposing Discussion With Partisan Media Credibility and Use. *Communication Research*, 49(2), 221–244. <u>https://doi.org/10.1177/0093650220915041</u>
- Johnson, T. J., & Kaye, B. K. (2014). Credibility of social network sites for political information among politically interested Internet users. *Journal of Computer-Mediated Communication*, 19(4), 957–974. <u>https://doi.org/10.1111/jcc4.12084</u>
- Karyotakis, M.-A. (2023). Disinformation and weaponized communication: The spread of ideological hate about the Macedonian name in Greece. *Journalism* (Online First). <u>https://doi.org/10.1177/14648849231152362</u>
- Kim, B., & Buzzelli, N.R. (2022). The Logics of Fact-Checking Website Operations. Digital Journalism (Online First). <u>https://doi.org/10.1080/21670811.2022.2089707</u>
- Kiousis, S. (2001). Public trust or mistrust? Perceptions of media credibility in the information age. *Mass Communication & Society*, 4(4), 381–403. <u>https://doi.org/10.1207/S15327825MCS0404_4</u>
- Koch, T. K., Frischlich, L., & Lermer, E. (2023). Effects of fact-checking warning labels and social endorsement cues on climate change fake news credibility and engagement on social media. *Journal of Applied Social Psychology*, 1– 13. <u>https://doi.org/10.1111/jasp.12959</u>
- Kyriakidou, M., Cushion, S., Hughes, C., & Morani, M. (2022). Questioning Fact-Checking in the Fight Against Disinformation: An Audience Perspective. *Journalism Practice* (Online First). https://doi.org/10.1080/17512786.2022.2097118
- Link, E., Henke, J., & Möhring, W. (2021). Credibility and enjoyment through data? Effects of statistical information and data visualizations on message credibility and reading experience. *Journalism Studies*, 22(5), 575–594. <u>https://doi.org/10.1080/1461670X.2021.1889398</u>
- Martínez-García, L., & Ferrer, I. (2023). Fact-Checking Journalism: A Palliative Against the COVID-19 Infodemic in Ibero-America. *Journalism & Mass Communication Quarterly*, 100(2), 264–285. <u>https://doi.org/10.1177/10776990231164168</u>

- Mena, P., Barbe, D., & Chan-Olmsted, S. (2020). Misinformation on Instagram: The impact of trusted endorsements on message credibility. *Social Media* + *Society*, 6(2). <u>https://doi.org/10.1177/2056305120935102</u>
- Moreno-Gil, V., Ramon, X., & Rodríguez-Martínez, R. (2021). Fact-Checking Interventions as Counteroffensives to Disinformation Growth: Standards, Values, and Practices in Latin America and Spain. *Media and Communication*, 9(1), 251-263. <u>https://doi.org/10.17645/mac.v9i1.3443</u>
- Pjesivac, I., Geidner, N., & Cameron, J. (2018). Social credibility online: The role of online comments in assessing news article credibility. *Newspaper Research Journal*, 39(1), 18–31. <u>https://doi.org/10.1177/0739532918761065</u>
- Robertson, C. T., Mourão, R. R., & Thorson, E. (2020). Who Uses Fact-Checking Sites? The Impact of Demographics, Political Antecedents, and Media Use on Fact-Checking Site Awareness, Attitudes, and Behavior. *The International Journal of Press/Politics*, 25(2), 217–237. <u>https://doi.org/10.1177/1940161219898055</u>
- Roses, S., & Gómez-Calderón, B. (2015). Credibility of the media in Spain: Divergences of perception and characterization of skeptics. *El Profesional de la Información*, 24(4), 432–439. <u>https://doi.org/10.3145/epi.2015.jul.10</u>
- Seo, H., Blomberg, M., Altschwager, D., & Vu, H. T. (2021). Vulnerable populations and misinformation: A mixed-methods approach to underserved older adults' online information assessment. *New Media & Society*, 23(7), 2012–2033. <u>https://doi.org/10.1177/1461444820925041</u>
- Singer, J. B. (2021). Border patrol: The rise and role of fact-checkers and their challenge to journalists' normative boundaries. *Journalism*, 22(8), 1929–1946. <u>https://doi.org/10.1177/1464884920933137</u>
- Singer, J. B. (2023). Closing the Barn Door? Fact-Checkers as Retroactive Gatekeepers of the COVID-19 "Infodemic." *Journalism & Mass Communication Quarterly*, 100(2), 332–353. https://doi.org/10.1177/10776990231168599
- Soh, H., Reid, L. N., & King, K. W. (2007). Trust in different advertising media. Journalism & Mass Communication Quarterly, 84(3), 455–476. https://doi.org/10.1177/107769900708400304
- Stencel, M., Ryan, E., & Luther, J. (2022). Fact-checkers extend their global reach with 391 outlets, but growth has slowed. Duke Reporters' Lab. Retrieved from: <u>https://reporterslab.org/fact-checkers-extend-their-global-reach-with-391-outletsbut-growth-has-slowed/</u>

- Sundar, S. S. (1999). Exploring receivers' criteria for perception of print and online news. Journalism & Mass Communication Quarterly, 76(2), 373–386. <u>https://doi.org/10.1177/107769909907600213</u>
- UNESCO (2018). Journalism, fake news & disinformation: Handbook for journalism education and training. Paris: United Nations Educational, Scientific and Cultural Organization. Retrieved from: https://unesdoc.unesco.org/ark:/48223/pf0000265552
- Valera-Ordaz, L., Requena-i-Mora, M., Calvo, D., & López-García, G. (2022). Unraveling disinformation: Notions and discourses from the Spanish population. *Comunicar*, 72, 21-32. <u>https://doi.org/10.3916/C72-2022-02</u>

Annex

Table 6. Political party voted in 2019 elections crossed with Credibility Indicator, by experimental group and topic

	Covid-19 vaccine		l	U <mark>krainian wa</mark> r		Immigration			Retirement			
	No verification	Correct verification	Incorrect verification	No verification	Correct verification	Incorrect verification	No verification	Correct verification	Incorrect verification	No verification	Correct verification	Incorrect verification
	2.95	2.57	2.83	2.34	2.37	2.46	3.13	3.44	2.89	3.68	3.67	3.36
PSOE	(SD=1.48)	(SD=1.33)	(SD=1.34)	(SD=1.42)	(SD=1.40)	(SD=1.41)	(SD=1.43)	(SD=1.48)	(SD=1.50)	(SD=1.48)	(SD=1.50)	(SD=1.54)
	2.89	2.39	2.97	2.3	2.38	2.39	3.49	3.51	3.5	3.6	3.97	3.36
РР	(SD=1.56)	(SD=1.43)	(SD=1.38)	(SD=1.29)	(SD=1.52)	(SD=1.51)	(SD=1.49)	(SD=1.37)	(SD=1.37)	(SD=1.41)	(SD=1.46)	(SD=1.51)
	2.33	1.9	2.74	2.48	1.75	2.29	3.51	3.55	3.47	3.55	3.41	3.19
Vox	(SD=1.01)	(SD=1.15)	(SD=1.40)	(SD=1.28)	(SD=1.15)	(SD=1.34)	(SD=1.30)	(SD=1.27)	(SD=1.35)	(SD=1.56)	(SD=1.18)	(SD=1.39)
	2.58	2.19	2.8	2.24	1.98	2.48	2.85	3.21	2.54	3.01	3	3.08
UP	(SD=1.26)	(SD=1.17)	(SD=1.30)	(SD=1.29)	(SD=1.47)	(SD=1.24)	(SD=1.58)	(SD=1.27)	(SD=1.13)	(SD=1.55)	(SD=1.54)	(SD=1.77)
	2.75	2.8	2.94	2.49	1.85	2.82	2.94	3.41	3.15	3.26	3.43	3.26
Ciudadanos	(SD=1.42)	(SD=1.32)	(SD=1.29)	(SD=1.00)	(SD=1.12)	(SD=1.43)	(SD=1.21)	(SD=0.88)	(SD=1.33)	(SD=1.37)	(SD=1.09)	(SD=1.54)
	3.28	1.63	3.07	3.03	1.51	2.31	3.28	2.33	2.61	3.74	2.27	3.75
ERC	(SD=1.16)	(SD=0.85)	(SD=1.23)	(SD=1.41)	(SD=0.87)	(SD=1.17)	(SD=1.37)	(SD=0.95)	(SD=1.07)	(SD=1.17)	(SD=1.07)	(SD=0.99)
	3	1.92	2.56	2.25	1.7	2.24	3.32	2.83	2.61	3.14	3.4	2.45
Junts	(SD=1.28)	(SD=0.86)	(SD=1.22)	(SD=1.07)	(SD=0.76)	(SD=1.10)	(SD=1.46)	(SD=1.22)	(SD=1.08)	(SD=1.68)	(SD=1.26)	(SD=1.30)