

Article

Young Spanish Adults and Disinformation: Do they identify and spread fake news and are they literate in it?

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Abstract: The infodiet of young Spanish adults aged 18 to 25 was analysed to determine their attitude towards fake news. The objectives were: to establish whether they have received any training in fake news; to determine whether they know how to identify fake information; and to investigate whether they spread it. The study employed a descriptive quantitative method consisting of a survey of 500 representative interviews of the Spanish population aged between 18 and 25 through a structured questionnaire. The results indicate that they are aware of the importance of training, although generally they do not know of any course and when they do, they do not tend to enrol on one either due to lack of interest or time. These young adults feel that they know how to identify fake content and, moreover, that they know how to do so very well. However, they do not use the best tools. While they do not always verify information, they mainly suspect the credibility of information when it is meaningless. However, they do not tend to spread fake information. We conclude that media information literacy training (MILT) is necessary in educational centres that focuses on the main issues identified.

Keywords: fake news; young adults; Spain

1. Introduction

In the era of fake news, information consumption patterns require media literacy to empower citizens and help them acquire the media skills necessary to access, understand, analyse, evaluate, produce content and distinguish between real and fake news [1].

In addition to the problem of the immediacy with which it is generated and spread, various studies warn that it is also widely believed in society. If the report “Fake news, filter bubbles, post-truth and trust” [2] revealed that Spanish people were the most likely in Europe to believe fake news, forecasts do not indicate any improvements in the future because in 2022, according to the Gartner report [3], more fake information will be consumed than true. Thus, it is extremely important to determine whether young adults are equipped to deal with misinformation.

This study analyses young adults because they are the age group who most consume information in the digital environment [4, 5] and are “those who feel most vulnerable to fakes news [...]. Indeed, almost half of the people who believe they receive fake news are very often aged between 18 and 34 years old” [6] (para. 8).

In this study we analyse the infodiet of young Spanish adults between the ages of 18 and 25 to determine the filters they apply to the information they consume in order to avoid fake content. We analysed whether they spread fake content because the circulation of fake information is one of the complex problems that must be addressed. In this regard, the World Economic Forum warns that

“the spread of disinformation online is one of the 10 global risks of the future” [7] (p. 407). We examine whether they have received any kind of training to deal with fake news as it has damaging consequences for the political, social, and economic future and for daily decision-making, among many other things.

To mitigate it, mechanisms have been created in various spheres, including social networks, the European Union, and UNESCO. Media organizations have introduced fact-checking. These measures are of interest to the scientific community, with studies documenting the verification initiatives implemented at both the international level [8] and the national level, such as B de Buló [9] or Maldita.es [10]. The similarities and discrepancies between academic and professional discourse around fact-checking have also been analysed [11], as has the role journalistic deontology plays as a tool in the fight against fake information [12]. Such tools help define what some researchers are beginning to refer to as the future of journalism in post-truth times [13] or the new global media ecosystem suffused with fake information [14].

However, along with these initiatives it is also necessary to provide a solid education in fake news due to the amount of non-journalistic content disseminated on the Internet and consumed daily. And for this, it is necessary to determine the skills young adults possess and the reading behaviours they adopt regarding fake news. This data needs to be accurate in order to create effective curricular programs that allow adaptation from a rapid consumption to a consumption that uses criteria to verify the credibility of information and address informational issues in order to contribute to a reliable, responsible and transparent information ecosystem.

1.1 Literature Review

1.1.1 Concept: fakes news and disinformation

The Ethical Journalism Network (EJN) defines fake news as “information deliberately fabricated and published with the intention to deceive and mislead others into believing falsehoods or doubting verifiable facts” [15] (para.7). Such information, which according to the Cambridge Dictionary [16] is characterized by presenting itself as news, is “generally created to influence political opinions or as a joke”. Amorós also considers that it poses as news “with the aim of spreading a hoax or deliberate misinformation to obtain a political or financial end” [17] (p. 171).

Fake news is a concept that young Spanish people are well aware of. Mendiguren, Dasilva and Meso [18] reveal that young university adults understand fake news as: fake information that is intended to influence people’s opinions; fake information usually spread through social networks in order to manipulate public opinion in the interests of those who spread it; news with fake information; or news with fake information that becomes so well known that many end up accepting it as true without even corroborating it.

After conducting a review on how academic studies defined and put into practice the term fake news, Tandoc, Wei Lim, and Ling drew up a classification consisting of six types of fake news: “news satire, news parody, fabricated, manipulated, publicity and propaganda” [19] (p. 141).

However, Martens, Aguar, Gómez and Mueller-Langer [20] highlight that there is no consensus regarding this term. Indeed, there are some who argue against using the term fake news, as it has an impact on the credibility of journalism because associating fake information with the news is a breach of the essence of journalism, which is to tell the truth about what happened. Therefore, it should be noted that “even if fake news has the appearance of journalistic news (headline, journalistic structure and appearing to have a reliable interface), fake news can never be considered journalistic content because it contravenes the journalistic essence” [21] (p. 245), which is why an open debate on how to designate this type of information is considered necessary. Indeed, Rodríguez-Pérez proposed that it is better to use the term disinformation than fake news to address hoaxes, or misleading or malicious content for four reasons:

“Firstly, we highlight the simplification of the concept with regard to the complexity of disinformation; secondly, the oxymoron of the term fake news; thirdly, the discursive appropriation

of the term by political leaders to discredit the media and journalists; and, fourthly, the intrinsic economic and ideological motivations associated with the generation of fake news" [22] (p. 72).

The European Commission's Communication on tackling online disinformation [23] defines disinformation as "verifiably false or misleading information created, presented and disseminated for economic gain or to intentionally deceive the public" (para. 1), noting how "misinformation and fake news intervene in democratic processes such as elections and create a public opinion based on lies and false information that many people believe to be true" (para. 3).

Regardless of the term used, it is considered a danger to democratic life and a geopolitical threat [24]. The rise of fake news and disinformation is therefore one of the main issues to be addressed internationally.

1.1.2 Young Adults and Fake Information

Studies focused on young adults and fake news have mainly addressed one sector: university students. At the international level, the habits of Portuguese university students with regard to fake news have been investigated, including the criteria they adopt before sharing information and the perception they have of fake information [25, 26]. Studies have also examined how Salvadoran students from the Monica Herrera School of Communication and the José Simeón Cañas Central American University inform themselves, process news and verify facts [27]. Similarly, the effectiveness of the courses taught on verification to students at the University of Florence has also been analysed [28].

However, academic interest in the university environment has not focused exclusively on young students but also on other sectors of the university community. For example, the study by Pineda et al. [29] examined the habits of consulting, comparing and verifying of news by students, teachers and administrative staff of the Tecnológico de Antioquia in Colombia, while Malaquías, Lizbeth, Pérez Rivera, Ramos and Villegas [30] compared young Mexicans aged between 18 and 30 years old with university education and those with only a basic education in order to establish whether people who do not study at university consume and share more fakes news.

In Spain –the subject of our study–, the level of credibility that young university students studying a degree in Communication and Education at the Loyola Andalusia University give information has been investigated, revealing differences both in terms of gender and level of studies [7]. This field of study was expanded by Mendiguren, Dasilva, and Meso [18], who studied whether university students who study journalism at the University of the Basque Country knew how to identify fake news, if they believed they had the criteria to distinguish it, and how they verify information when they suspect that it lacks rigor, as well as the credibility they give mainstream media and the dissemination of news they trusted least.

The study by Catalina, Sousa and Cristina Silva [4] is also significant. They compared Spain, Brazil and Portugal in order to determine how future journalists inform themselves in the digital environment, the uses they make both for consulting and disseminating news, the degree to which they consider themselves capable of identifying fake information, where they believe most fake news is located, the reasons for its spread; and the degree of credibility they give to various media organizations.

In addition to these studies are various prominent research projects such as the one carried out by the University of Huelva, Granada and Vigo titled "Conspiracy Theories and Disinformation in Andalusia" [31], which analyses whether the current panorama, characterized by the proliferation of disinformation, paves the way for the creation and rapid dissemination of conspiracy theories among young Andalusian residents aged 18 and over.

The study presented here aims to provide data on the identification and dissemination of fake information by young Spanish adults and whether they have received any training in it. The results will be useful in helping to create effective curricular designs that provide them media information

literacy training (MILT) that allows them to gain skills and attitudes to address fake news and disinformation.

2. Materials and Methods

2.1. Study design

In order to determine the habits of Spanish Young adults when faced with the reception of fake news, its dissemination, their level of literacy and the importance they give to being trained to detect fake news, we used primary data, namely data collected the first time and specifically to cover particular information objectives [32]. The data was gathered through a descriptive quantitative research design [33]. Specifically, a survey was carried out in which a structured questionnaire was sent to the entire Spanish population aged between 18 and 25 years, with a sample of 501¹ panel interviews being conducted online between July 23 and August 14, 2020.

The study followed a quality control procedure in each of the processes. To guarantee the quality of the questionnaire design and its correct understanding, prior supervision was requested from three social science research professionals. To guarantee the quality of the fieldwork, we collaborated with the company Netquest, which has at its disposal a community of individuals who participate at single invitation only, thereby reducing the risk of self-selection and duplications and providing exclusive information. Moreover, this company holds an ISO 26362 certificate. Prior to carrying out all the field work, the questionnaire was piloted to check its suitability.

2.2 Sample design

For the design of the sample [34], the weight of each sociodemographic segment in the Spanish population was sought according to the National Institute of Statistics, applying the same proportions to the scheduled 500 interviews. As the fieldwork was carried out, compliance with study quotas was verified. Therefore, the large sample size and the chosen sampling system allowed us to extrapolate results from the entire Spanish population between 18 to 25 years old, with a sample error of $\pm 4.47\%$ and a confidence level of 95% (Table 1).

¹ One more interview in addition to the scheduled sample were carried out and were included.

Table 1. Sample distribution.

	Spanish population distribution (%)	Number of predicted interviews	% Final distribution
Sex			
Male	51%	255	255
Female	49%	245	246
Age			
18	11%	53	51
19	11%	55	54
20	11%	57	58
21	12%	60	60
22	13%	63	64
23	13%	67	67
24	14%	69	72
25	15%	75	75
Region			
Northeast / Catalonia and Balearic Islands	10	50	50
Levante	15	75	75
South / Andalusia	21	105	106
Central	10	50	50
Northwest	8	40	39
North central	7	35	36
Canary Islands	2	10	10
MAB (Metropolitan area of Barcelona)	11	55	55
MAM (Metropolitan area of Madrid)	16	80	80
Social class			
A1. High-high	16	80	80
A2. High	22	110	109
B. Medium-high	16	80	81
C. Medium-medium	23	115	120
D. Medium low	7	35	35
E1. Low	13	65	65
E2. Low low	2	10	11

Source: Authors.

2.3 Questionnaire Design

The first part of the questionnaire collected information on sociodemographic data such as sex, age, province, habitat, area, social class and educational level. Next, the central questions of the questionnaire were broken down into why fake news is generated, the ability to detect fake news, why a news story is considered fake, to what extent the news is checked and how this information is verified, how often fake news is disseminated and why, finishing with the importance and level of training in the verification of fake news.

2.4 Statistical Methods

The collected data was cross-referenced with sociodemographic variables to observe whether there were statistically significant differences between the various segments analysed. These segments were: sex, age, level of education (first grade, second grade, third grade)², size of habitat (less than 50,000, more than 50,000 inhabitants), social class (high-high, high, medium-high, medium-medium, medium-low, low and low-low) and geographical area (Northeast/Catalonia and Balearic Islands, Levante, South/Andalusia, Central, Northwest, North central, Canary Islands, Metropolitan area of Barcelona, Metropolitan area of Madrid) of the respondents³.

To determine the existence of statistically significant differences in the information obtained, a t-test of proportions was carried out, which allows for the comparison of cell by cell data of a table with category variables of independent samples [35]. This test compares the values between two cells of the same row with the columns of the table. For each column, the t-test was used on the hypothesis that the population proportion of case A and case B can be considered equal versus the hypothesis that they are significantly different (either much higher or much lower) at a 95% confidence level. In the tables, significant statistical differences are represented with capital letters, which coincide with the column whose proportion is considered higher.

3. Results

3.1 Literacy of young Spanish adults regarding fake news

76.8% of young Spanish adults aged between 18 and 25 attach great importance to media literacy to prevent disinformation (very important 33.1%, quite important 43.7%). In particular, those who attach greatest importance to training in the verification of information and detection of hoaxes are young people over the age of 20 and those with a higher education. No statistically significant differences were observed in the rest of the segments analysed (Table 2).

² First grade: No studies (incomplete primary studies); Primary school.

Second grade: Secondary school up to 18 years (qualifications include the equivalent of UK GCSEs, A levels, BTECs).

Third grade: Equivalent to Technical Engineer 3 years, University Schools, Technical Architects, Teaching, ATS, University Graduates 3-year course, Social Graduates, Social Workers, Bachelor, Master's, Doctorate.

³ The article presents the total data by age and by educational level since they showed the greatest differences, although all the aforementioned segments were analysed and the most relevant data will be indicated where necessary.

Table 2. Q. 15: How important is it to be trained in the detection of fake news?

	TOT AL	AGE			EDUCATION		
		18 to 19 years old (A)	20 to 22 years old (B)	23 to 25 years old (C)	No studies / First grade (D*) ⁴	Second grade (E)	Third grade (F)
Total individuals	501	105	182	214	6	290	205
	%	%	%	%	%	%	%
Very important (5)	33.1	28.6	34.6	34.1	16.7	30.0	38.0
Quite important (4)	43.7	40.0	44.5	44.9	66.7	43.1	43.9
Somewhat important (3)	17.8	24.8	15.9	15.9	0	21.4	13.2
Not very important (2)	4.2	4.8	3.8	4.2	16.7	4.1	3.9
Not important (1)	1.2	1.9	1.1	0.9	0	1.4	1.0
T2B	76.8	68.6	79.1 A	79.0 A	83.3	73.1	82.0 E
B2B	5.4	6.7	4.9	5.1	16.7	5.5	4.9
Average	4.03	3.89	4.08	4.07	3.83	3.96	4.14 E

Average according to a scale with maximum value 5 and minimum 1.

Source: Authors.

However, 76.2% of those interviewed were unaware of any literacy program, while 23.8% state that they knew of one, either as a result of their own initiative (11.4%) or because they had been offered one (12.4%). Young people with third grade studies were most familiar with this type of course. No significant differences were observed in the rest of the segments studied (Table 3).

⁴ (*) Insufficient sample base for calculating statistical differences.

Table 3. Q. 16: Which of these statements best fits your situation regarding your training in fake news?

	Total	AGE			EDUCATION		
		18 to 19 years old (A)	20 to 22 years old (B)	23 to 25 years old (C)	No studies / First grade (D*)	Second grade (E)	Third grade (F)
Total individuals	501	105	182	214	6	290	205
	%	%	%	%	%	%	%
I know of a program or course on how to check news because I have looked for one myself	11.4	6.7	11.0	14.0	16.7	9.7	13.7
I know of a program or course on how to check news because I have been offered one	12.4	15.2	13.2	10.3	16.7	10.7	14.6
I don't know of any program or course	76.2	78.1	75.8	75.7	66.7	79.7 F	71.7

Source: Authors.

Regarding participation in a course or receiving training on how to detect fake news, among those young adults who were aware of any, 76.5% did not take part in any compared to 23.5% who received such training (Table 4). The courses undertaken were carried out mainly at university (46.4%) (Table 5) and were mainly free (64.3%) (Table 6).

Table 4. Q. 17. Have you taken any course or had any training on how to detect fake news?

	Total
Individuals aware of a course	119
	%
Have taken a course	23.5
Have not taken a course	76.5

Table 5. Q. 18. Where did you do it?

	Total
Individuals who have taken a course	28
	%
University	46.4
Institute	10.7
Other answers	25.0
DK/DA	17.9

Table 6. Q. 19. What was this course like?

	Total
	28
	%
Free	64.3
Paid by student, family, friends	21.4
Grant	3.6
A college or degree course subject	10.7

Source: Authors.

The reasons why young people who, although aware of a course on how to detect fake news, did not take part in any, were basically because they were not interested (35.2%), lacked time (14.3%), especially those aged 20 to 22 (20.6%), and because they believed that they already knew how to detect fake news (14.3%) (Table 7).

Table 7. Q. 20 Why have you not taken any course or training on how to detect fake news? (Do not suggest).

	Total	AGE			EDUCATION		
		18 to 19 years old (A*)	20 to 22 years old (B)	23 to 25 years old (C)	No studies / First grade (D*)	Second grade (E)	Third grade (F)
Individuals who know of courses but have not taken any	91	17	34	40	2	49	40
	%	%	%	%	%	%	%
I'm not interested	35.2	35.3	47.1	25.0	50.0	42.9	25.0
I don't have time	14.3	23.5	20.6 C	5.0	0	16.3	12.5
I already know how to/I have a program	14.3	5.9	14.7	17.5	0	14.3	15.0
I don't have any money	1.1	0	0	2.5	0	0	2.5
There are other faster and easier ways to verify the information	8.8	0	5.9	15.0	0	4.1	15.0
The moment has not arisen	9.9	11.8	2.9	15.0	50.0	8.2	10.0
I haven't been offered a course	2.2	0	0	5.0	0	2.0	2.5
I haven't found one	3.3	0	2.9	5.0	0	4.1	2.5
It wasn't online	1.1	5.9	0	0	0	2.0	0
Other answers/I do not attend courses	1.1	0	2.9	0	0	2.0	0
DK/DA	5.5	11.8	2.9	5.0	0	6.1	5.0

Source: Authors.

Finally, young people believe that the main reasons that fake news is generated include the following: to gain audiences or more visits, followers or clicks (17%); due to readers' lack of training, who do not know how to inform themselves, corroborate the information or be critical of the information received (13.8%); to attract attention or through interest and convenience (11.8% respectively); to earn money and manipulate and influence society (both reasons, 10.8%). None of the other reasons cited exceeded 10% of mentions (Table 8).

Table 8. Q.3. Why do you think fake news, that is, rumours, hoaxes, lies, is generated in the media, e.g. TV, social networks, press etc?

(Do not suggest)

	Total
Total individuals	501
	%
To gain audience/more visits/more clicks/more followers	17.0
Not knowing how to inform oneself/ not knowing how to be critical of the information received / reader's fault / not knowing how to compare	13.8
To earn money	10.8
To draw attention/gain fame	11.8
Manipulate/Influence society	10.8
Benefits, interests and convenience	11.8
Social alarm/to frighten/ fear	6.6
Malign intentions/people are bad/jealousy	4.0
Boredom	3.0
Errors or intent of the journalist or the information publisher	4.2
To do harm/to cause damage	3.8
To deceive/cheat/lie	3.6
Internet	2.4
To obscure other news	2.0
To generate controversy	4.8
Morbidity	2.0
Hatred	1.4
To discredit	1.4
For fun	1.2
The reader spreads the information	0.6
The reader wants to believe the information	0.8
Other answers	4.8
DNK/DNA	5.2

Source: Authors

3.2. Identification of fake news

To achieve the second aim of this study, namely to determine whether young Spanish adults know how to verify the content they consume, we first analysed the extent to which young people believe they know how to identify fake news. The results indicate that 6 out of 10 young people think they know how to identify fake news very well or quite well (59.5%), a perception that increases among men (3.69), with age (3.68 from 23 to 25 years) and with the level of studies (third grade, 3.76) (Table 9).

Table 9. Q.4. When you read a news item, either because you looked for it on the Internet or it was sent to you through any medium, such as WhatsApp, Instagram, Tik Tok, email, etc., how well do you think you know how to identify whether it is fake news, a rumour, a hoax, a lie?

	Total	AGE			EDUCATION		
		18 to 19 years old (A)	20 to 22 years old (B)	23 to 25 years old (C)	No studies / First grade (*D)	Second grade (E)	Third grade (F)
Total	501	105	182	214	6	290	205
	%	%	%	%	%	%	%
Very well (5)	12.8	8.6	14.3	13.6	0	11.0	15.6
Quite well (4)	46.7	41.9	46.2	49.5	0	42.8	53.7 E
Somewhat well (3)	32.3	40.0	31.3	29.4	100.0	36.9	23.9
Not very well (2)	5.6	5.7	4.9	6.1	0	6.2	4.9
Not at all well (1)	2.6	3.8	3.3	1.4	0	3.1	2.0
T2B	59.5	50.5	60.5	63.1	0	53.8	69.3
B2B	8.2	9.5	8.2	7.5	0	9.3	6.8
Average	3.61	3.46	3.63	3.68 A	3.00	3.52	3.76 E

Source: Authors.

Foremost among a range of reasons presented to the interviewees as to why they think a news item is fake, is the incongruity or meaninglessness of the news item, an aspect most mentioned among women (87%), the population aged 18-19 years (89.5%) and among the upper and upper-middle social class (86.7%). Another notable reason is whether the news comes from social networks such as WhatsApp (58.5%) and, to a lesser extent, if it generates social alarm (43.7%), has a very attractive headline (33.1%) or contains shocking information (28.9%) (Table 10).

Table 10. Q.5. What makes you think that a news item is fake? You can mark multiple answers. (Show list with all items together) (Rotate order of items).

	Total	AGE			EDUCATION		
		18 to 19 years old (A)	20 to 22 years old (B)	23 to 25 years old (C)	No studies / First grade (D*)	Second grade (E)	Third grade (F)
Total individuals	501	105	182	214	6	290	205
	%	%	%	%	%	%	%
If it generates social alarm	43.7	37.1	44.0	46.7	16.7	40.7	48.8
If it comes from social networks like WhatsApp	58.5	51.4	61.5	59.3	33.3	54.5	64.9 E
If it has an eye-catching headline	33.1	19.0	38.5 a	35.5 A	16.7	31.4	36.1
If the information is shocking	28.9	22.9	26.9	33.6 A	16.7	24.8	35.1 E
If it's incongruous, meaningless	82.0	89.5 B	78.0	81.8	66.7	81.0	83.9
Other answers	8.2	4.8	9.3	8.9	16.7	7.9	8.3

Source: Authors.

4 out of 10 young people (39.5%) are in the habit of always checking whether the news they read is true or fake compared to 55.7% who check it occasionally, while 4.8% never verifies it (Table 11).

Table 11. Q.6. Do you check whether the news you read is true or fake?

	Total	AGE			EDUCATION		
		18 to 19 years old (A)	20 to 22 years old (B)	23 to 25 years old (C)	No studies / First grade (D*)	Second grade (E)	Third grade (F)
Total individuals	501	105	182	214	6	290	205
	%	%	%	%	%	%	%
Always	39.5	36.2	39.0	41.6	16.7	39.7	40.0
Sometimes	55.7	59.0	56.6	53.3	83.3	54.5	56.6
Never	4.8	4.8	4.4	5.1	0	5.9	3.4

Source: Authors.

Regarding the mechanisms that young Spanish adults use to verify information, 49.9% do so through friends and family (primarily women, 54.5%; young people aged 18-19 years, 60%; and those with a lower level of studies, second grade studies, 55.3%), while 40.7% check it through specialized websites (StopBulos, maldita.es), especially young adults between 23 and 25 years old (44.8%). Other ways of verifying information, cited to a lesser extent and grouped in “Other answers”, include consulting other media outlets such as the press, radio or television (13.8%) and investigating the information and sources (7.8%), with other methods reaching much lower percentages (Table 12).

Table 12. Q.7. (Complete if you answer “Always” or “Sometimes” on p. 6) How do you verify whether the information you have searched for or have been sent is true? You can mark multiple answers. (Show list with all items).

	Total	AGE			EDUCATION		
		18 to 19 years old (A)	20 to 22 years old (B)	23 to 25 years old (C)	No studies / First grade (D*)	Second grade (E)	Third grade (F)
Individuals who always or sometimes check the news	477	100	174	203	6	273	198
	%	%	%	%	%	%	%
I check it with family or friends	49.7	60.0 C	48.9	45.3	50.0	55.3 F	41.9
I verify it on StopBulos, maldita.es or similar websites	40.7	31.0	41.4	44.8 A	16.7	39.2	43.4
Other answers	35.4	28.0	35.1	39.4	33.3	30.8	41.9E
DK/DA	0.8	0	1.1	1.0	0	0.7	1.0

Source: Authors.

When asked about the degree of importance they attach to the actions of organizations to verify the information, the results indicate that the reputation of the media organization is the most important factor in determining whether the news is true or fake (4.02), a view held primarily by young people between 23 and 25 years of age (4.18) and those with third grade studies (4.14). In contrast, the least relevant factor is the author of the news item (2.88) (Table 13).

Table 13. Q.8. Think of the moment when you are reading a news item that you have searched for or have been sent. How much importance do you attach to each of the following in order to know whether the news item is true or fake? (Rotate items and show scale).

	FACTORS				
	The reputation of the media organization (A)	The name of the author of the news item (B)	The person or entity that sent the news item (C)	The sources cited in the news item (D)	The date of publication (E)
Total	501	501	501	501	501
	%	%	%	%	%
A lot (5)	35.9 BCE	7.8	21.6 B	31.9 BCE	19.4 B
Quite a lot (4)	39.3 B	21.8	37.1 B	34.3 B	35.7 B
Some (3)	18.8	33.9 AD	29.7 AD	23.4	30.9 AD
Not very much (2)	3.2	23.6 ACDE	8.0 A	6.0 A	9.6 AD
None (1)	2.8	13.0 ACDE	3.6	4.4	4.4
T2B	75.2 BCDE	29.5	58.7 B	66.3 BCE	55.1 B
B2B	6.0	36.5 ACDE	11.6 A	10.4 A	14.0 A
Average	4.02 BCDE	2.88	3.65 B	3.83 BCE	3.56 B

Source: Authors.

4. Discussion and conclusions

Young Spanish adults are aware of the importance of training in order to know how to determine the veracity of information. This degree of awareness is probably, as the Digital News Report Spain [36] indicated, a result of the fact that young people between 18 and 24 believe that most news cannot be trusted, a finding we corroborated when we asked them about the causes of disinformation; young Spanish adults indicated that it is a result of a lack of critical knowledge when consuming information, this reason being ranked second among the reasons provided.

However, it is highly significant that, although they attach great importance to media literacy, 8 out of 10 young people do not know of any training program, which implies that they have not attended one either. These results allow us to conclude that there are problems surrounding the publicity of the programs offered because, despite being abundant, young adults between 18 and 25 years old remain unaware of them. This calls for measures to be taken in order to improve their impact on this age group.

However, being aware of courses does not mean that they are going to undertake one either, since only 2 out of 10 young people who are aware of a fake news learning program end up taking one. Those who have mainly did so in universities and institutes for free, allowing us to conclude that only those who have studied in educational centres providing such teaching programs have taken one. This theory is strengthened by the observation that young adults do not take the initiative to find these courses and that the main reasons they fail to enrol include not being interested in the course, a lack of time, or because they believe that they already know how to discern real news from fake. Thus, we believe that educational centres of all levels should be the

main places to carry out such training since they eliminate the problem of time and students' refusal to do one in favour of acquiring critical knowledge of information. In this regard, UNESCO stresses that this training must be undertaken in the academic sector.

Similarly, due to the lack of training in this age group, we can confirm, regardless of gender or level of studies, the presence of a "media literacy crisis" and the urgent need for "transmedia literacy" Scolari [37] or of a media and informational educommunication. Such training is necessary because young people between 18 and 25 years of age believe that, despite not being aware of or having taken a course, they know how to identify the fakes news, with 6 out of 10 believing they know how to do so very well or quite well. However, when asked how they identify fake news, for 5 out of 10 young people the most representative answer is asking family and friends. The study "The conditioning factors of disinformation and proposed solutions against its impact based on the degrees of vulnerability of the groups analysed" [38] carried out by the Centro de Estudios de San Pablo Ceu revealed the trust they usually have in their relatives, friends and closest personal references, believing the information that comes through them to be reliable and credible.

Thus, young Spanish adults believe they know how to identify fake news but do not use the optimal tools for its verification. These results are corroborated by those provided by the "Study on the impact of fake news in Spain" [39] which revealed that more than fifty percent of young people believed they knew how to identify fake news but that only 4% actually knew how to, and by those of Herrero, Conde, Tapia and Varona [7], who concluded that young adults have difficulties in differentiating the veracity of sources.

Young Spanish adults represent an age group that does not always verify information. They primarily suspect the credibility of those news stories that are incongruous or nonsensical, or that reach them through WhatsApp. In second place are those news stories that have an eye-catching headline, that generate social alarm or that are shocking; the students did not, however, indicate any actions various organizations stress as being necessary to perform, such as investigating the reputation of the media outlet, the sources or the date of publication. However, when asked about these actions, they indicated the reputation of the media organization and the sources as being very important. Therefore, while these verification actions are not ranked, young Spanish adults do understand their degree of importance. Therefore, the regular application of these actions vis-à-vis critical information consumption must be encouraged in training programs.

However, it is significant that although they receive a lot of fake news, as the study by Panda Security [6] also revealed, young Spanish people do not tend to spread it, possibly because, as we have verified, they know the dangers of disinformation. These findings are corroborated by those of Carballo and Marroquín [27], who observed that three quarters of the young adults analysed reported that they do not spread fake information, an observation also confirmed internationally by Guess, Nagler and Tucker [40], who found that during the Trump elections "users over 65 years old shared seven times more articles from fake news domains than the youngest age group" (p. 1).

Thus, although there is a certain tendency to criticize the younger generations, this has more to do with fear than a real analysis of these younger generations. They are attacked for being connected to the Internet all day sharing any type of information. And not only do they tend not to spread it, they also delete it from their social networks, an observation also made in the study by Carballo and Marroquín (2020) [27].

Therefore, in agreement with Buckingham [41], we conclude that an implementation of news literacy and coherent and rigorous “educational” programs is needed. Reports indicate that in 2022 fake information will be habitually consumed and that although young adults are aware of the dangers of fake news, they are not trained in verifying information or undertaking critical consumption.

It is important that such training be undertaken in educational centres and should focus mainly on teaching students how to identify fakes news. Moreover, young adults need to be taught the importance of not spreading it. In addition, it should be stressed to them that although spreading fake news is not a deficiency in this age group, believing so without having training or mastering effective techniques is. Nonetheless, these curricular programs should also teach young people that they should not get carried away with spreading it simply for the fun of it, as this is one of the main reasons that leads them to sharing fake information on the few occasions they do. Similarly, they must be trained to be critical of information, checking the veracity of the information in each news item by e.g. checking the source and the date (among other actions recommended by various organizations), and not just when they believe it to be of doubtful origin.

Ranieri, Si Stasio and Bruni (2018) [28] confirm that young adults who take training courses increase their skills. They analysed the results obtained in workshops on fakes news provided to students at the University of Florence (2017-2018) and concluded that they are useful because they allow optimal information literacy.

Future studies should examine the reasons preventing young Spanish adults between 18 and 25 years old from knowing about training courses on fake news, aggregate the programs being undertaken in educational centres in Spain, and carry out comparative studies in across Europe.

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Annex 1. Questionnaire

Filter.2. Are you...

- Female 1
- Male..... 2

Filter 3. How old are you?

Filter.1. Do you or anyone in your family work in any of the following sectors?

- | | | |
|---|---|----------|
| Marketing/ market research agency | 1 | End |
| Advertising agency | 2 | |
| Journalism/public relations..... | 3 | |
| None of these | 4 | Continue |

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1. Do you ever look for current information on the Internet, whether on your mobile, computer, tablet, etc?

1. Yes
2. No

2. (Complete p. 2 only if you answered “yes” on p. 1) (Show the answers together in the order they appear in the table)

When you find information on the Internet, how often do you carry out the following actions?

	Always	Sometimes	Never
I click on the first links that appear			
I look at who publishes the information			
I look at the publication date			
I look at the sources of information used to write the news story			
I look at who is the author of the news			

3. Why do you think fake news, that is, rumours, hoaxes, lies, is generated in the media, e.g. TV, social networks, press etc? (Do not suggest).

4. When you read a news item, either because you looked for it on the Internet or it was sent to you through any medium, such as WhatsApp, Instagram, Tik Tok, email, etc., how well do you think you know how to identify whether it is fake news, a rumour, a hoax, a lie?

1. Very well
2. Quite well
3. Somewhat well
4. Not very well
5. Not at all well

5. What makes you think that a news item is fake? You can mark multiple answers. (Show list with all items together) (Rotate order of items).

1. If it generates social alarm
 2. If it comes from social networks like WhatsApp
 3. If it has an eye-catching headline
 4. If the information is very shocking
 5. If it's incongruous, meaningless
 96. Other reasons. Which?
-

6. Do you check whether the news you read is true or fake?

1. Always
2. Sometimes

3. Never

7. (Complete if you answer “Always” or “Sometimes” on p. 6) How do you verify whether the information you have searched for or have been sent is true? You can mark multiple answers. (Show list with all items).

1. I check it with family or friends
2. I verify it on StopBulos, maldita.es or similar websites
96. I use other media to verify it. Which one(s)?

8. Think of the moment when you are reading a news item that you have searched for or have been sent. How much importance do you attach to each of the following in order to know whether the news item is true or fake? (Rotate items and show scale).

	A lot	Quite a lot	Some	Not very much	None
The reputation of the media organization					
The name of the author of the news item					
The person or entity that sent me the news item					
The sources cited in the news item					
The date of publication					

9. Now think specifically about what you do when you receive or forward fake news.

Have you ever received, through any medium, fake news?

1. Yes
2. No

10. Have you ever spread a fake news through any medium knowing that it was?

1. Yes
2. No

11. (Complete p. 11 if you answer “Yes” on p. 10) How often do you spread fake news for the following reasons? (Show phrases randomly).

	Always	Sometimes	Never
I enjoy it			
It's an excuse to socialize with people			
I do it only when I'm bored			
To warn that it's fake news			

12. Do you encourage your contacts/friends/family to share information only if they have verified it?

1. Always
2. Sometimes
3. Never

13. When you receive a news item and you realize that it is or may be fake news, do you tell who has sent it to you that it is or may be fake?

1. Always
2. Sometimes
3. Never

14. Do you delete news from your social networks that you know is fake?

1. Always
2. Sometimes
3. Never

15. How important is it to be trained in the detection of fake news? (Show scale)

1. Very important
2. Quite important
3. Somewhat important
4. Not very important
5. Not important

16. Which of these statements best fits your situation regarding your training in fake news? (Only one answer)

1. I know of a program or course on how to check news because I have looked for one myself
2. I know of a program or course on how to check news because I have been offered one
3. I don't know of any program or course

17. (Only if you answer code 1 or 2 on p. 16) Have you taken any course or training on how to detect fake news?

1. Yes
2. No

(If you answer "Yes" on p. 17, complete p. 18 and p. 19 and finish questionnaire)

18. Which centre or institution did you do it in? (Do not suggest)

19. What was this course like? Show options...

1. It was free
2. I/my family/my friends etc. paid for it
3. It was a grant

96. Other(s). Which ones?

20. (If you answer “No” on p. 17) Why have you not done any course or training on how to detect fake news?
(Do not suggest)

References

1. Fernández, N. Fake news: una oportunidad para la alfabetización mediática. 2017. Available on line: <https://nuso.org/articulo/fake-news-una-oportunidad-para-la-alfabetizacion-mediatica/> (accessed on 15 April 2020).
2. Ipsos Public Affairs. Report Fakes news, filter bubbles, post-truth and trust. 2018. Available on line: <https://www.ipsos.com/sites/default/files/ct/news/documents/2018-09/fake-news-filter-bubbles-post-truth-and-trust.pdf> (accessed on 5 August 2020).
3. Gartner. Garther Top Strategic Predictions for 2018 and Beyond. 2017. Available on line: <https://www.gartner.com/smarterwithgartner/gartner-top-strategic-predictions-for-2018-and-beyond/> (accessed on 5 August 2020).
4. Catalina García, B.; García Jiménez, A.; Montes Vozmediano, M. Jóvenes y consumo de noticias a través de Internet y los medios sociales. *Historia y Comunicación Social* **2015**, 2, 601-619. [CrossRef]
5. Digital New Reports. Digital New Report España 2020.2020. Available on line: <https://www.digitalnewsreport.es/category/2020/> (accessed on 5 August 2020).
6. Panda security (2020). La mitad de los españoles recibe “fake news” con frecuencia. 2020. Available on line: <https://www.pandasecurity.com/es/mediacenter/mobile-news/espanoles-fake-news/> (accessed on 10 September 2020).
7. Herrero-Díaz, P.; Conde-Jiménez, J.; Tapia-Frade, A.; Varona-Aramburu, D. The credibility of online news: an evaluation of the information by university students / La credibilidad de las noticias en Internet: una evaluación de la información por estudiantes universitarios. *Culture and Education*, **2019**, 31, 407- 435. [CrossRef]
8. Vázquez-Herrero, J.; Vizoso, A.; López-García, X. Innovación tecnológica y comunicativa para combatir la desinformación: 135 experiencias para un cambio de rumbo. *El profesional de la información* **2019**, 28, 1-12. [CrossRef]
9. Palomo, B.; Sedano, J. WhatsApp como herramienta de verificación de fake news. El caso de B de Buló. *Revista Latina de Comunicación Social* **2018**, 73, 1384- 1397. [CrossRef]
10. Bernal-Triviño, A.; Clares-Gavilán, J. Uso del móvil y las redes sociales como canales de verificación de fake news. El caso de Maldita.es. *El profesional de la información* **2019**, 28, 1-8. [CrossRef]
11. Ufarte-Ruiz, M.J.; Peralta-García, L.; Murcia-Verdú, F.J. Fact checking: un nuevo desafío del periodismo. *El profesional de la información* **2018**, v. 27, 733-741. [CrossRef]
12. Blanco-Herrero, D.; Arcila-Calderón, C. Deontología y noticias falsas: estudio de las percepciones de periodistas españoles. *El profesional de la información*, **2019**, 28, 1-13. [CrossRef]
13. Rubio-Moraga, A.L.; Dáder-García, J.L. El futuro del periodismo en tiempos de posverdad. In *La posverdad. Una cartografía de los medios, las redes y la política*; Aparici, R.; García-Marín, D.; Gedisa; España, Barcelona, 2019.
14. Wagner, M.C.; Boczkowski, P.J. Reception of Fake News: The Interpretations and Practices That Shape the Consumption of Perceived Misinformation. *Digital Journalism* **2019**, 7, 870-885. [CrossRef]
15. White, A. Fake News: It's not bad Journalism, it's the business of Digital Communications, *Ethical Journalism Network*, 2017. Available on line: <https://ethicaljournalismnetwork.org/fake-news-bad-journalism-digital-age> (accessed on 20 August 2020).
16. Dictionary Cambridge. 2020. Available on line: <https://dictionary.cambridge.org/es/diccionario/ingles/fake-news> (accessed on 20 August 2020).
17. Amoros, M. *Fake News: La verdad de las noticias falsas*; Editorial Plataforma: Barcelona, Spain, 2018.
18. Mendiguren, T.; Dasilva, J.; Meso, K. Actitud ante las fake news: Estudio del caso de los estudiantes de la Universidad del País Vasco. *Revista de comunicación* **2020**, 19, 171-184. [CrossRef]
19. Edson C.; Tandoc Jr.; Zheng, L.; Richard, L. Defining “Fake News”, *Digital Journalism* **2018**, 6, 137-153, [CrossRef]

20. Martens, B; Aguiar, L.; Gomez-Herrera, E.; Mueller-Langer, F. *The digital transformation of news media and the rise of disinformation and fake news*; JCR, Join Research Centre: Sevilla, Spain, 2018.
21. Rodríguez, C. Una reflexión sobre la epistemología del fact-checking journalism: retos y dilemas. *Revista de Comunicación* **2020**, *19*, 243-258. [[CrossRef](#)]
22. Rodríguez, C. No diga fake news, di desinformación: una revisión sobre el fenómeno de las noticias falsas y sus implicaciones. *Revista de Comunicación*, **2019**, *40*, 65-74. [[CrossRef](#)]
23. Comisión Europea. Unión Europea vs. Desinformación. 2019. Available on line: https://ec.europa.eu/spain/news/20191105_eu-vs-disinformation_es (accessed on 1 April 2020).
24. Tuñón, J; Bouza, LI; Carral, U. *Comunicación Eurpea. ¿A quién le doy al like para hablar de Europa?*; Editorial Dickinson: Madrid, Spain, 2019.
25. Figueira, J.; Santos, S. Percepción de las noticias falsas en universitarios de Portugal: análisis de su consumo y actitudes. *El profesional de la información*, **2019**, *28*, n. 3, [[CrossRef](#)]
26. Sobral, F.; Salomé, N. Información falsa en la red: la perspectiva de un grupo de estudiantes universitarios de comunicación en Portugal. *Prisma social*, **2020**, *29*, 172- 194.
27. Carballo, W.; Marroquín, A. Alfabetización mediática y consumo noticioso entre jóvenes salvadoreños en tiempos digitales. *ALCANCE Revista Cubana de Información y Comunicación* **2020**, *9*, 144- 155. [[CrossRef](#)]
28. Ranieri, M.; Di Stasio, M.; Bruni, I. Insegnare e apprendere sulle fake news. uno studio esplorativo in contesto universitario. *Media Education* **2018**, *9*, pp. 94-111. [[CrossRef](#)]
29. Pineda, H., et alt. ¿Preparados para las Fake News? Un estudio exploratorio de la comunidad universitaria del Tecnológico de Antioquia. *En-Contexto*, **2019**, *8*.
30. Malaquías, A.; Lizbeth, L.; Pérez Rivera, D.; Rodolfo, O.; Villegas, M. C. Fake news y el impacto en jóvenes universitarios y de educación básica en relación con las redes sociales en Mexicali. 2019. Available on line: https://www.academia.edu/40943073/Universidad_Aut%C3%B3noma_de_Baja_California (accessed on 20 May 2020).
31. Institucional Repository of the University of Huelva. Conspiracy theories and disinformation in andalusia Executive Report 2019. Available on line: http://rabida.uhu.es/dspace/bitstream/handle/10272/16291/Conspiracy%20Theories%20Disinformation%20in%20Andalusia_ExecutiveReport%202019.pdf?sequence=2 (accessed on 1 April 2020).
32. Berganza, M. R.; Ruiz, J. A. *Investigar en comunicación: Guía práctica de métodos y técnicas de investigación social en comunicación*; McGraw Hill: Madrid, Spain, 2005.
33. Hair, J.; Bush R.; Ortinau, D. *Investigación de mercados en un ambiente de información digital*; Mc Graw Hill, México, 2010.
34. Alwin, D. F. *Margins of Error: A Study of Reliability in Survey Measurement*; John Wiley & Sons: EE.UU, 2007.
35. Wimmer, R.; Dominick, J. R. *Mass media research: An introduction*; Wadsworth: Bston, 2011.
36. Digital New Reports. Digital New Report España 2018. 2018. Available on line: <https://www.digitalnewsreport.es/category/2018/> (accessed on 5 August 2020).
37. Scolari, C. Estrategias de aprendizaje informal y competencias mediáticas en la nueva ecología de la comunicación, *Telos* **2016**, pp. 1-9.
38. Gelado-Marcos, R.; Puebla-Martínez, B. Estudio de los factores condicionantes de la desinformación. Propuesta de soluciones contra su impacto en función de los grados de vulnerabilidad de los grupos analizados. 2019. Available on line: <https://laboratoriodeperiodismo.org/estudio-sobre-la-desinformacion/> (accessed on 10 June 2020).
39. I estudio sobre las fakes news en España. 2017. Available on line: <https://d3vjcw65af87t.cloudfront.net/novacdn/EstudioPescanova.pdf> (accessed on 10 June 2020).
40. Guess, A.; Nagler, J.; Tucker, J. Less than you think: Prevalence and predictors of fake news dissemination on Facebook **2019**, *Science Advances*, *5*, [[CrossRef](#)]
41. Buckingham, D. Teaching media in a 'post-truth' age: fake news, media bias and the challenge for media/digital literacy education / La enseñanza mediática en la era de la posverdad: fake news, sesgo mediático y el reto para la educación en materia de alfabetización mediática y digital. *Culture and Education*, **2019**, *31*, 213–231, [[CrossRef](#)]