






## DATA NOTE

**REVISED** A dataset about Spanish young people's digital skills, use of technology and online platforms [version 2; peer review: 2 approved, 1 approved with reservations]

Daniel Aranda , Leila Mohammadi, Mireia Montaña Blasco ,  
Elisenda Estanyó , Pedro Fernández-de-Castro

Media Studies, Universitat Oberta de Catalunya, Barcelona, Catalunya, 08018, Spain

**V2** First published: 09 Jan 2023, 12:26  
<https://doi.org/10.12688/f1000research.128899.1>  
Latest published: 27 Oct 2023, 12:26  
<https://doi.org/10.12688/f1000research.128899.2>

**Abstract**

**Background:** The datafication scenario of the current communicative ecosystem poses a challenge to media and digital literacy, especially in terms of participation and civic and democratic engagement of youth.

**Methods:** For this purpose, through a survey with a representative sample of 600 young people in Spain, between 16 and 18 years old, we observed their level of digital literacy through three variables: technical competencies, informational competencies, and critical knowledge. This dataset also collects information on the reasons why young people use digital technology such as video games, consoles, computers or mobile phones. On the other hand, we also offer information on the types of social networks or applications and the time and types of uses by youngsters of different digital technologies and social media platforms. The survey includes socio-demographic factors such as gender including (male, female, and others).

**Conclusions:** This survey offers researchers relevant data on the digital skills of Spanish youth and on the perceptions of the use of different digital technologies. This paper also reports the main descriptive data that can be expanded by researchers accessing the database.

**Keywords**

Digital literacy competencies, participation, civic engagement, digital technology use, digital skills, ICT in education, youth, technical competencies, informational competencies, critical knowledge.

**Open Peer Review**

Approval Status ? ✓ ✓

	1	2	3
<b>version 2</b> (revision) 27 Oct 2023		✓ view	✓ view
		↑	
<b>version 1</b> 09 Jan 2023	? view	? view	

1. **Mònica Figueras-Maz** , Pompeu Fabra University, Barcelona, Spain
2. **Mitty Arciniega-Caceres** , Pompeu Fabra University, Barcelona, Spain
3. **Kolawole Francis Ogunbodede**, The University of Africa Toru-Orua, Yenagoa, Nigeria

Any reports and responses or comments on the article can be found at the end of the article.

**Corresponding author:** Daniel Aranda ([darandaj@uoc.edu](mailto:darandaj@uoc.edu))

**Author roles:** **Aranda D:** Conceptualization, Funding Acquisition, Methodology, Resources, Writing – Original Draft Preparation, Writing – Review & Editing; **Mohammadi L:** Data Curation, Formal Analysis, Methodology, Writing – Review & Editing; **Blasco MM:** Conceptualization, Methodology; **Estanyol E:** Conceptualization, Methodology; **Fernández-de-Castro P:** Conceptualization, Methodology

**Competing interests:** No competing interests were disclosed.

**Grant information:** R&I project founded in the 2018/2022; Generation of Knowledge by the Spanish Ministry of Science and Innovation. Reference: PGC2018-095123-B-I00.

*The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.*

**Copyright:** © 2023 Aranda D *et al.* This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**How to cite this article:** Aranda D, Mohammadi L, Blasco MM *et al.* **A dataset about Spanish young people's digital skills, use of technology and online platforms [version 2; peer review: 2 approved, 1 approved with reservations]** F1000Research 2023, 12:26 <https://doi.org/10.12688/f1000research.128899.2>

**First published:** 09 Jan 2023, 12:26 <https://doi.org/10.12688/f1000research.128899.1>

**REVISED Amendments from Version 1**

The abstract have been extended using the remaining space available without surpassing the word limit. We have developed the background trying to precise the rationale for this dataset and we have rewritten the method part in a more systematic way adding more details of the procedure. In the Introduction section, we added a paragraph in order to provide a better context of the research and make more explicit the reasons that fostered our approach. In particular, we reference the work of Middaugh & Kane (2013) New media as a tool for civic learning, *Comunicar*, Vol.20, No. 40, pp. 99–107. <https://doi.org/10.3916/C40-2013-02-10> given that for us is one of the most notable works in our line of research, that is, the civic potential of digital media specifically for young people.

**Any further responses from the reviewers can be found at the end of the article**

**Introduction**

The datafication scenario of the current communicative ecosystem poses a challenge to media and digital literacy, especially in terms of participation and civic and democratic engagement of youth. According to [Middaugh and Kahne \(2013\)](#), in a world that is increasingly saturated with new media and with many young people expressing themselves publicly, it is essential to support their ability to act efficiently and responsibly in these contexts. Young people often feel the need and desire to receive support with how to use digital platforms in an effective way, which allows them to participate in productive exchanges, especially exchanges where they can clash with other points of view and generate conflicts. This need should result in greater efforts to integrate digital media in the youth practices and activities to compensate for the divides that exist between home and school with the aim to help young people to understand technology and the risks and benefits that it can result in.

In this sense, young people need skills and competencies to make the most of the benefits of the internet and digital media. This is especially relevant to bridge the socioeconomic and political and cultural participation gap ([Livingstone et al., 2021](#)). To contribute to the promotion of digital literacy among young people, an insightful knowledge of their current situation related to digital media is needed. Thus, the project in which this dataset frames, explores how certain uses of the internet and social media allow young people to position themselves and stand as political actors or performers involved in social, cultural and economic political life. In this sense, the dataset includes four sections: use of different technological devices, digital literacy competencies, ICT use in formal and informal learning, and the effect of using digital technologies on social life. To include the impact of COVID-19 crisis on digital social education, the project specifies some relevant questions to during and after COVID-19 lockdown.

**Methods****Ethics**

Informed consent was obtained from participants. The questionnaire was sent to a panel of people from 16 to 18 years of age via [Dynata](#) data-platform, that complies with all legal matters in relation to data protection and response protocols. Those aged 16 to 18 answered the children themselves but with the consent of the parents, which were present while they answered as the legislation indicates.

Data and participant security and confidentiality were respected following the UNE EN ISO/IEC 27001 standards and the favorable report issued by the Universitat Oberta de Catalunya (UOC) Ethics Committee under file CE22-PR05.

Research design is quantitative and cross-sectional, involving an online survey intended to measure the self-perceived digital competence of young people aged 16 to 18 living in Spain. This age group was chosen because they need specific skills in order to take full advantage of the benefits of the Internet and social media, especially with regard to reducing the gap in their political and cultural participation ([Theben, 2021](#)). The survey was self-administered, i.e., it was completed by the respondents themselves without the presence of an interviewer, between 23<sup>rd</sup> September and 5<sup>th</sup> October 2021.

The survey is based on studies by [Van Deursen et al. \(2016\)](#) and [Aranda et al. \(2020\)](#), as well as an extension of the Oxford Internet Institute's (OxIS) WIP Britain 2013, combined with a systematic review of the notion of "digital youth work" ([Fernández-de-Castro et al., 2021](#)). It includes a section of socio-demographic factors begins with gender (male/female, also they have been given the open answer option of other if they perceived themselves non-binary), age, place of residence, the population of the city, level of education, etc. Afterwards there are four further sections comprising of 24 questions about the respondents' self-perceived digital competence. Because the survey asked young people about how they perceive their own digital skills and knowledge, their answers may not necessarily match their actual competence level.

Due to the importance of COVID-19 crisis in these recent years, the survey includes questions related to using digital technologies for formal and informal education during and after COVID-19 lockdown. Education was an important sector highly affected by the COVID-19 crisis because of the rapid change of teaching to online form. In May 2020, 56.6 % of the total number of students have been affected worldwide and schools had been forced to close in 130 countries (Donohue & Miller, 2020). Spain lockdown started on 15<sup>th</sup> March 2020 until 21<sup>st</sup> June 2020 and with the start of the new school year in September 2020 most schools reopened.

The first section of the survey, digital technology use and lockdown, begins by asking the participants about use of different technological devices (mobile, tablet, computer, game console and smart watch) and the purposes for which they are used (work, information, training, communication, entertainment and political participation) during and after lockdown. This section continues with three questions about comparing the spending time and its quality on online activities during lockdown (between 15<sup>th</sup> March 2020 and 21<sup>st</sup> June 2020) and after lockdown. The answers were given on a 3-point Likert scale 1: less; 2: the same; 3: more.

The second section is about digital competence and asked about technical skills (nine items), informational skills (ten items), and critical digital knowledge (five items), respectively. Answers were given on a 5-point Likert scale: 1: I don't know what this is or what it means; 2: I know what this is but I don't know how to do it; 3: I would know how to do this with help; 4: I know how to do this by myself; and 5: I know how to do this and could teach others. The third section dealt with critical knowledge of the digital environment and included five items, also measured on a 5-point Likert scale: 1: Nothing at all; 2: A little bit; 3: An average amount; 4: A fair amount; and 5: A lot.

The third section on ICT use in formal and informal learning asked about self-learning (three items) and nine questions of online formal education which included; training in digital technologies and engagement (four items), online classes and teaching initiatives (five items).

The fourth section is about youth perception and digital technologies, asking the young people to rank five social ability items considering the relevance of digital technologies for them. Then they were asked to rank the effect of using digital technologies on ten social life aspects. Answers were given on a 5 point Likert scale from very negatively (1) to very positively (5).

A principal component analysis (PCA) was carried out on the proposed scales to check their validity and Cronbach's alpha was used to measure their reliability. Regarding the first section about uses of digital technologies, the analysis showed an acceptable structure for all items Kaiser–Meyer–Olkin (KMO) test results in a mean of 0.738 and the Bartlett test is significant  $p < 0.001$ . The PCA results offer a structure of a single component that explains 59.5% of the variance. The reliability according to Cronbach's Alpha coefficient is 0.755.

Regarding the section on technical digital skills, the analysis showed an acceptable structure for all nine items (KMO=0.910; Bartlett's test significant with  $p < 0.001$ ). The structure comprised two components explaining 64.8% of the total variance (40.1% for the first component and 24.7% for the second); the Cronbach's alpha coefficient was 0.903 for the first component and 0.773 for the second. For the section on informational digital skills, the analysis showed an acceptable structure for all ten items (KMO=0.955; Bartlett's test significant with  $p < 0.001$ ). A single component explained 59.9% of the total variance and Cronbach's alpha was 0.925. For the section on critical digital knowledge, the analysis showed an acceptable structure for all five items (KMO=0.843; Bartlett's test significant with  $p < 0.001$ ). A single component explained 58% of the total variance and Cronbach's alpha was 0.819.

### Sample of study

Through a simple random sampling strategy, 600 youth completed the questionnaire, with an average duration of 13 minutes per person. The sample response rate was 62.11%, with a margin of error of 4% for the sample set, with a 95% confidence level (1.96 sigmas) and maximum indeterminate  $P=Q=50\%$ . Subsequently, stratification was weighted to fine-tune the weights of the interviewees with the population data from the final study universe. The weight coefficient reference data were calculated and using the variables "Nielsen area", "municipality size", "gender" and "age" from the last wave of the Spanish General Media Study (EGM).

### Results

The results were processed using IBM SPSS Statistics 24®. We first performed a descriptive statistical analysis of the survey's Likert scale variables, including calculating means and standard deviations. In what follows, we highlight key data relating to the respondents' autonomously self-reported skills.

Regarding the purposes that they use different digital technology (Table 1), the results show that the majority of young people (87.5%) use mobile for entertainment, (59.7%) use computer for information and (58.7%) for work, (46.2%) of them use video game console for entertainment but 50% do not use it at all. More than half of them (59.2%) don't use tablets, and smart watches (66%).

With regard to the purposes of using digital platforms, apps or social media, (Table 2), the results show that the majority of young people (86.7%) use WhatsApp for communication, YouTube (89.7%), Instagram (86.5%), and TikTok (75.2%) for entertainment, while the majority of them don't use Telegram (60.2%), LinkedIn (80.7), Facebook (66.2%), Snapchat (64.2%), Twitter (46.2%), Twitch (59.7%), and Discord (56%).

Regarding time, 64.3% of the young people claimed that they spent more time as an internet user since the start of the COVID-19 coronavirus pandemic. In what follows, the respondents specified the tendency of their time spent on different activities using the internet during spring 2020 home lockdown. They also asked to compare the quality of each activity (Table 3). The results demonstrate that the young people spent more or the same amount of time on all the mentioned activities except participating in cultural activities in which (53.8%) of them claimed spending less time during lockdown. In respect of quality, the majority of the activities were declared to be of the same quality or better. According to the respondents, activities such as communication with friends, listening to music and watching series had better quality during lockdown. However, they mentioned less quality for studying which required remote school activities during lockdown.

With regard to technical skills (Table 4), the results show that 73.4% of young people claim to know how to install/uninstall basic programs and applications without help. Most young people report knowing how to browse the internet and use related services for everyday purposes, with 80.7% saying they can do this without help. Fewer young people appear to use content management platforms to produce multimedia publications, with only 26.6% claiming to know how to do this without help. Meanwhile, 58.4% of the respondents say they know how to record, edit and upload video content to the internet without help. As for sharing and distributing digital multimedia content, 69.7% of the young people surveyed say they can do this without help. A total of 66.6% of young people say they know how to work with others using digital collaboration tools without help. Only 27.8% of young people say they know how to set up digital services and use tools to increase online privacy and anonymity without needing help. In terms of knowing how to read and/or write computer code, only 19.2% say they can do this without help. Similarly, few young people claim to know how to repair and/or service devices without help (25.5%).

In terms of informational skills (Table 5), 49.4% of young people say they know how to check the reliability and truthfulness of information without help. Among young people, 54% say they know how to classify and filter information to suit their interests without help. A total of 69.9% of young people 69.9% say they are able to find and save information for use when they need it. With respect to social informational skills, 64.4% of the respondents say they know how to display self-control when interacting with others on social media and digital forums so as not to react impulsively. Regarding spotting so-called "trolls" in online discussions, 58.5% of the young people surveyed claim to have this skill, while 47.3% report knowing how to tell when they are interacting with a bot. According to this sample, 68.8% of young people are able to manage the various profiles that make up their digital identity. Meanwhile, 68.2% say they know how to adapt their behavior according to the standards of each platform. Among the young people surveyed, 56.8% report being able to identify their needs and find tools and platforms to fulfill them without help. Less than half of the young people in our sample (45.5%) say they are able to take part in online deliberation and decision-making processes; 17.6% say they know how to do this and could teach others, while 27.9% say they simply know how to do this alone.

In terms of critical knowledge (Table 6), 22.9% of the respondents say they know a lot or a fair amount about the basic features of digital services. Of the young people surveyed, 33.6% say they know a lot or a fair amount about how technology companies use personal data. Meanwhile, 21.7% of young people say they know a lot or a fair amount about laws dealing with issues related to digital technologies. Only 22.4% say they know a lot or a fair amount about the influence of technology companies on public policy. Finally, 31.9% of young people say they know how the technological devices they use are manufactured.

With regard to ICT use in formal and informal learning, the results show that the first three topics for which the young people use the internet to find information are education 60.5%, digital technology 51.2%, and job-related information 48.9%. Regarding the use of ICT to acquire or improve skills, the first four fields reported by young people are video games 54.6%, sport 51.6%, cooking 43.2% and fashion & beauty 42.4%. In respect of self-directed learning, they have been asked to choose the first three things to find information. The results show that first watching online videos (62.7%), then browsing online resources such as books and article 57.7%), and finally asking a family member, or a friend (54.8%).

**Table 1. Purposes of use of digital technologies.**

	Work	Information	Education	Communication	Entertainment	Activism (participation in movements, especially of a political or social nature)	I don't have one/I don't use one
Mobile	36.2	68	38.2	77.7	87.5	14.8	1.5
Tablet	13.5	15.2	12.7	8.8	28	2.2	59.2
Computer (laptop or desktop)	58.7	59.7	50.7	36.8	53.2	6.7	9.7
Video game console	1.8	2.5	1.8	5.5	46.2	1.7	49.7
Smartwatch	5	19	4.8	10.8	8.2	2.3	66

**Table 2. Purposes of using digital platforms, apps or social media.**

	Work	Information	Education	Communication	Entertainment	Activism (participation in movements, especially of a political or social type)	I don't have/I don't use it
WhatsApp	23	26.3	11.8	86.7	39	5.2	2
Telegram	6.3	12.2	4.7	17.5	17.2	1.8	60.2
LinkedIn	12.5	5.7	2.7	2.8	3	1.2	80.7
YouTube	6.7	46.7	22.7	8.5	89.7	5.2	3.2
Facebook	1.8	11.2	2.8	15.5	20	2.8	66.2
Twitter	1.3	27.5	2.3	22	37.3	6.2	46.2
Instagram	5.8	37.5	6.8	65.8	86.5	9.2	4.7
TikTok	2.8	13.5	2.3	13.3	75.2	4	20.2
Snapchat	0.5	1.7	2	12.7	27	1.5	64.2
Twitch	2.5	3.2	1	3.8	36	0.5	59.7
Discord	4	4.8	2.3	33.3	22.3	1.5	56

**Table 3. Comparing the frequency of time and the quality of online activities during the lockdown.**

Activity	Amount of time			Quality		
	Less	The same	More	It was of worse quality	It was of equal quality	It was of better quality
Checking current news	12.3	30	57.7	17.7	52.8	29.5
Doing family activities	19.2	34.8	46	17.8	49.5	32.7
Communicating online with family	12.2	34	53.8	14.2	51.8	34
Communicating online with friends	8.8	19.8	71.3	15.3	39.2	45.5
Connecting online with new people	18.3	41.5	40.2	16	55.7	28.3
Studying (required remote school activities)	30.5	29.5	40	45.5	33.7	20.8
Performing adapted after-school activities at home (sports, music, foreign language, etc.)	40	31.5	28.5	39.8	41.5	18.7
Self-taught training (attending non-mandatory talks, watching video tutorials, taking online courses, etc.)	26.5	39	34.5	24.3	52.2	23.5
Playing video games on a computer, console or mobile phone (alone)	13	30.7	56.3	9.5	50.5	40
Playing video games on a computer, console or mobile phone (connected with other players)	15.5	28.7	55.8	12.8	46.2	41
Online gambling	40.8	48.7	10.5	34.2	56.2	9.5
Listening to music	7.3	17.2	75.5	5.3	35.3	59.3
Reading	23	40.8	36.2	16.7	52.5	30.8
Watching series on streaming channels (Netflix, HBO, Movistar Plus+, etc.)	6.5	19.2	74.3	7	34.2	58.8
Activism (participating in movements, especially of a political or social nature)	35.8	50.8	13.3	29.7	59.2	11.2
Participating in cultural activities (concerts, museums, etc.)	53.8	36.7	9.5	37.8	51.7	10.5
Exercising (inside the home)	20.5	28.2	51.3	19.8	43.7	36.5

In reference to specific training in digital technologies in secondary school or university 34.6% said that they attended talks about uses (security, cyberbullying, etc.), 26.6% attended specific training sessions at their school or university, while 28.4% did not receive such training. With respect to class participation rating, the majority, 29.6% of young people, claim a fairly engagement during in person classes while the majority of them, 31.4% said they engage somehow during online learning. Regarding the procedures used in online education by schools, 64.4% of respondents reported that the most used initiative that conducts online learning activities is Emailing study materials with supporting tasks and instructions. On the subject of use and assessment of different online teaching initiatives, 92.7% voted for interactive exercises, 90% Online forms (no assessment) and 89.6% for online games. Then they have been asked to assess their experience in online classes. 39.6% of the young people claim their disagreement to the statement “my teachers stimulate my interest during online classes” while 38.6% of them neither agreed nor disagreed. Similar results have been seen about the second statement “my teachers come well prepared and organized for each online class”, 36.8% disagreed and 33.4% assessed it as average.

On the subject of use and assessment of different online teaching initiatives, 92.7% voted for interactive exercises, 90% online forms (no assessment) and 89.6% for online games. Then they were asked to assess their experience in online classes. 39.6% of the young people disagree with the statement “my teachers stimulate my interest during online classes”, while 38.6% of them neither agreed nor disagreed. Similar results have been seen regarding the second statement, “my teachers come well prepared and organized for each online class”, 36.8% disagreed and 33.4% assessed it as average. The answer to their preference towards synchronous online classes (all participants connected at once) rather than asynchronous (via videos, material or educational resources previously provided by the teacher) were similar three grades of

**Table 4. Technical skills of young people.**

	<b>Know how to do it</b>	<b>Need help to do it</b>	<b>Don't know how to do it</b>
Install/uninstall basic programs and applications for my needs	73.4	11.1	8.5
Browse the internet and use related services for everyday purposes	80.7	7.6	6.9
Manage content management platforms to produce multimedia publications	26.6	21.3	31.5
Save, edit and upload audiovisual content to digital platforms	58.4	21.3	12.1
Share and distribute multimedia content on networks/ platforms/email	69.7	11	11.2
Work with other people using digital collaborative tools	66.6	14.5	11.4
Set up digital services and use tools to increase privacy and anonymity online	27.8	24.8	31
Read and/or write computer codes	19.2	23.8	35.1
Repair and/or maintain devices	25.5	26.8	23.4

**Table 5. Informational skills of young people.**

	<b>Know how to do it</b>	<b>Need help to do it</b>	<b>Don't know how to do it</b>
Check the reliability and veracity of the information I consume	49.4	22.6	17.5
Sort and filter information to fit my interests	54	18.6	18.4
Find and save information to use when you need it	69.9	12.2	11.5
Interact with other people in networks and digital forums with self-control so as not to react impulsively	64.4	11.9	15.1
Identify users who act in an explicitly provocative way	58.5	14	16.7
Distinguish interaction with a bot in digital networks and forums	47.3	16.3	22.5
Manage different profiles of my digital identity (network accounts)	68.8	13	11.5
Adapt my behavior according to the rules of each platform	68.2	10.2	12.1
Identify my needs and find tools and platforms that cover them	56.8	16	16.2
Participate in online deliberation and decision-making processes	45.5	21.8	18.7

**Table 6. Digital knowledge of young people.**

	<b>High</b>	<b>Average</b>	<b>Poor</b>
The basic characteristics of the digital services I use	22.9	26.6	41.4
The use that technology companies make of personal data	33.6	29.3	30.7
The laws that deal with issues related to the internet and digital technologies	21.7	28.4	41.5
The influence of technology companies on politics	22.4	26.7	40.2
How the technological devices you use are made	31.9	30.5	28.6



**Table 7. The reception of the impact of the use of digital technologies by young people.**

	Very negatively	Negatively	Neither negative nor positive	Positively	Very positively
Young people's psychological well-being	9.2	25.1	42.7	18.3	4.6
Young people's ability to argue and discuss	4.9	13.6	32.3	39.0	10.2
Socialization among equals	6.2	13.2	26.2	39.7	14.8
Communication with adults	6.1	17.6	42.3	23.7	10.3
Young people's individual identity	7.3	20.6	37.0	25.3	9.8
Young people's ability to express themselves as individuals	5.2	16.9	30.9	34.8	12.1
Group membership	6.0	11.6	36.7	34.3	11.3
Young people's ability to organize themselves into groups	4.7	8.9	37.8	33.0	15.5
Acceptance of established social norms (rules that people in a community must follow to maintain good social harmony)	3.1	16.9	42.2	27.1	10.7
Decision-making and social autonomy (addressing and making decisions on one's own initiative)	4.0	20.0	37.9	27.7	10.3

agreement. Finally, the majority of the young people 62.7% evaluated that the outcome of education during the pandemic (in online format) was worse than before.

In relation to perception of young people about digital technologies, the ranking according to how relevant they think digital technologies are for young people was as following: 26.8% rated first the creating a collective identity (e.g., forming groups to share likes, interests or concerns), participating in activities proposed by institutions 21.9%, achieving common goals (e.g., organizing events or activities) 21.2%, making claims and carrying out actions in-person and non-virtual environments 15.3%, and co-designing the activities in which they participate 14.8%.

With respect to the impact of use of digital technologies on young people (Table 7), the following concepts have been most as ranked neither positive nor negative: psychological well-being (42.7%), Communication with adults (42.3%), individual identity (37%), ability to organize themselves into groups (37.8%), Acceptance of established social norms (42.2%), and decision-making and social autonomy (37.9%). However, the concepts of ability to argue and discuss (39%), socialization among equals (39.7%), and the ability to express themselves as individuals (34.8%), have been most ranked positively.

#### Data availability

Figshare: A data set about digital literacy competencies among youngsters (16-18) in Spain <https://doi.org/10.6084/m9.figshare.21379104.v3> (Mohammadi *et al.*, 2022)

This project contains the following underlying data:

- Dataset.sav
- Questionnaire.pdf

Data are available under the terms of the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/) (CC-BY 4.0).

## References

---

- Aranda D, Sánchez-Navarro J, Mohammadi L: **Perception self-assessment of digital skills and gaming among youth: A dataset from Spain.** *Data Brief.* 2020; **28**: 104957.  
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Donohue JM, Miller E: **COVID-19 and school closures.** *JAMA.* 2020; **324**(9): 845–847.  
[Publisher Full Text](#)
- Fernández-de-Castro P, Aranda D, Moyano S, et al.: **Digital youth work: A systematic review with a proposal.** *Soc. Work. Educ.* 2021; 1–19.  
[Publisher Full Text](#)
- Livingstone S, Mascheroni G, Stoilova M: **The outcomes of gaining digital skills for young people's lives and wellbeing: A systematic evidence review.** *New Media Soc.* 2021; 146144482110431.  
[Publisher Full Text](#)
- Middaugh E, Kahne J: **New media as a tool for civic learning.** *Comunicar.* 2013; **20**(40): 99–107.  
[Publisher Full Text](#)
- Mohammadi L, Aranda D, Montaña Blasco M, et al.: **A data set about digital literacy competencies among youngsters (16-18) in Spain.** Dataset. *figshare.* 2022.  
[Publisher Full Text](#)
- Ratten V, Jones P: **Covid-19 and entrepreneurship education: Implications for advancing research and practice.** *Int. J. Manag. Educ.* 2021; **19**(1): 100432.  
[Publisher Full Text](#)
- Theben A, Juárez DA, Lopez IP, et al.: **Participació i ciutadania activa dels joves a través d'Internet i les xarxes socials.** *BID: textos universitaris de biblioteconomia i documentació.* 2021; (46).  
[Publisher Full Text](#)
- Van Deursen AJAM, Helsper EJ, Eynon R: **Development and validation of the Internet Skills Scale (ISS).** *Inf. Commun. Soc.* 2016; **19**(6): 804–823.  
[Publisher Full Text](#)

# Open Peer Review

Current Peer Review Status: ? ✓ ✓

## Version 2

Reviewer Report 07 February 2024

<https://doi.org/10.5256/f1000research.158037.r234443>

© 2024 Ogunbodede K. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



### Kolawole Francis Ogunbodede

The University of Africa Toru-Orua, Yenagoa, Bayelsa State, Nigeria

Based on the information provided, here is a critical review of the article:

The article presents a dataset on Spanish youth's digital skills, technology use, and online platform use. The strengths of the article include:

- The dataset addresses an important issue - youth digital literacy and technology use. As digital technologies become more integrated into daily life, understanding how youth engage with and utilize these technologies is crucial.
- The sample size is substantial at 600 Spanish youth aged 16-18, allowing for more robust analysis. The sampling also aimed for representation across different regions of Spain.
- The survey instrument covers key aspects of digital literacy including technical skills, information skills, critical knowledge, as well as technology access and use. This provides rich data for analysis.
- The data have been made openly available for other researchers to utilize. This facilitates further scholarship in this area.
- The article is generally well-written and organized, providing a clear overview of the research background, objectives, methodology, results, and conclusions.

However, some limitations should be noted:

- **Literature Review:** While the article touches upon the challenges posed by the datafication scenario and the importance of digital literacy, a more extensive literature review could strengthen the theoretical foundation. Including more references to relevant studies, frameworks, and theories on digital literacy and youth engagement would enhance the scholarly contribution.
- **Discussion Section:** The discussion of results could be more detailed. Providing deeper insights into the implications of the findings, discussing their alignment with existing literature, and suggesting avenues for future research would enrich the discussion section.
- As a self-reported survey, the data reflect youths' perceptions of their skills and technology use rather than objective measures.
- Some survey questions could have been clarified or expanded, for instance questions on activism and social media use for different purposes.

- There is limited discussion of the context of the findings or implications. As a data note this is understandable, but expanded analysis and discussion of implications would make the data more impactful.
- Sampling procedures and representativeness could have been described in more detail. Information on respondent demographics other than age and gender is also lacking.

Overall this data note provides valuable data that can enable further research on youth digital literacy and technology engagement. As digital technologies continue to evolve, updating the data over time could provide important insights into trends. Addressing some of the survey and sampling limitations noted above could also strengthen future iterations. Expanding analysis and discussion of the findings would be beneficial as well.

**Is the rationale for creating the dataset(s) clearly described?**

Yes

**Are the protocols appropriate and is the work technically sound?**

Yes

**Are sufficient details of methods and materials provided to allow replication by others?**

Yes

**Are the datasets clearly presented in a useable and accessible format?**

Yes

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** librarianship, ICT, Information literacy, etc.

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.**

Reviewer Report 10 November 2023

<https://doi.org/10.5256/f1000research.158037.r218884>

© 2023 Reddy P. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



**Pritika Reddy**

Department of Computing Science and Information Systems, Fiji National University, Nasinu, Central Division, Fiji

All good from my side.

**Is the rationale for creating the dataset(s) clearly described?**

Yes

**Are the protocols appropriate and is the work technically sound?**

Yes

**Are sufficient details of methods and materials provided to allow replication by others?**

Yes

**Are the datasets clearly presented in a useable and accessible format?**

Yes

**Competing Interests:** No competing interests were disclosed.

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.**

---

### Version 1

Reviewer Report 20 September 2023

<https://doi.org/10.5256/f1000research.141536.r207955>

© 2023 Reddy P. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



#### Pritika Reddy

Department of Computing Science and Information Systems, Fiji National University, Nasinu, Central Division, Fiji

1. The Abstract can improve. Include more details and keep within the word limit for the abstract.
2. The Introduction is very short and doesn't explain the need for the study. There needs to be description about important aspects on the topic plus the contribution of the study.
3. Literature Review on digital literacy and media literacy is missing. You can refer to the following papers: Reddy *et al.* (2022<sup>1</sup>), Reddy *et al.* (2021<sup>2</sup>), Reddy *et al.* (2019<sup>3</sup>) and Reddy *et al.* (2023<sup>4</sup>).
4. Results and Discussion sections look good.
5. Conclusion and Limitations of the study are missing.

## References

1. Reddy P, Sharma B, Chaudhary K: Digital literacy: a review in the South Pacific. *Journal of Computing in Higher Education*. 2022; **34** (1): 83-108 [Publisher Full Text](#)
2. Reddy P, Chaudhary K, Sharma B, Chand D: Contextualized game-based intervention for digital literacy for the Pacific Islands. *Educ Inf Technol (Dordr)*. 2021; **26** (5): 5535-5562 [PubMed Abstract](#) | [Publisher Full Text](#)
3. Reddy P, Chaudhary K, Sharma B: Predicting Media Literacy Level of Secondary School Students in Fiji. *2019 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE)*. 2019. 1-7 [Publisher Full Text](#) | [Reference Source](#)
4. Reddy P, Chaudhary K, Hussein S: A digital literacy model to narrow the digital literacy skills gap. *Heliyon*. 2023; **9** (4): e14878 [PubMed Abstract](#) | [Publisher Full Text](#)

### Is the rationale for creating the dataset(s) clearly described?

Yes

### Are the protocols appropriate and is the work technically sound?

Partly

### Are sufficient details of methods and materials provided to allow replication by others?

Partly

### Are the datasets clearly presented in a useable and accessible format?

Yes

**Competing Interests:** No competing interests were disclosed.

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.**

Author Response 24 Oct 2023

**Daniel Aranda**

Estemeed reviewer,

First of all, thank you very much for taking the time to read and comment our work.

**1. The Abstract can improve. Include more details and keep within the word limit for the abstract.**

Following your advice, we have extended the abstract using the remaining space available without surpassing the word limit. We have developed the background trying to precise the rationale for this dataset and we have rewritten the method part in a more systematic way adding more details of the procedure.

**2. The Introduction is very short and doesn't explain the need for the study. There**

**needs to be description about important aspects on the topic plus the contribution of the study.**

In this section, taking into account your comment, we added a paragraph in order to provide a better context of the research and make more explicit the reasons that fostered our approach. In particular, we reference the work of Middaugh & Kane (2013) New media as a tool for civic learning, *Comunicar*, Vol.20, No. 40, pp. 99–107.

<https://doi.org/10.3916/C40-2013-02-10> given that for us is one of the most notable works in our line of research, that is, the civic potential of digital media specifically for young people.

**3. Literature Review on digital literacy and media literacy is missing. You can refer to the following papers: Reddy et al. (2022), Reddy et al. (2021), Reddy et al. (2019) and Reddy et al. (2023).**

In this point, we decided not to extend the text in terms of a literature review given that, following the guidelines of the F1000 Research journal for Data Notes, this kind of paper does not need that kind of development, although we agree on the need of a literature review in the case of a regular paper. Anyway, we really appreciate the references provided because they are very insightful in relation to our line of research and we will make use of them in following works.

**4. Results and Discussion sections look good.**

We are thankful for the positive feedback regarding these sections.

**5. Conclusion and Limitations of the study are missing.**

In the same sense that we discuss in point 3, the guidelines of the F1000 Research journal for Data Notes does not indicate the need for a Conclusion an Limitations section. We invite you to check one article derived from this dataset in which we expose that kind of reflections: Estanyol, E., Montaña, M., Fernández-de-Castro, P., Aranda, D., & Mohammadi, L. (2023). Digital competence among young people in Spain: A gender divide analysis. [Competencias digitales de la juventud en España: Un análisis de la brecha de género]. *Comunicar*, 74, 113-123. <https://doi.org/10.3916/C74-2023-09>

Thank you very much again and we are in touch for further communications.

Greetings.

**Competing Interests:** No competing interests were disclosed.

Reviewer Report 27 January 2023

<https://doi.org/10.5256/f1000research.141536.r159561>

© 2023 Figueras-Maz M et al. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



**Mònica Figueras-Maz**

Communication Department, Pompeu Fabra University, Barcelona, Spain

**Mittzy Arciniega-Caceres**

Communication Department, Pompeu Fabra University, Barcelona, Spain

The paper focuses on the exploitation of an interesting big sample and a very relevant target; however, it needs a deep revision to go deeper into the analysis and make evident the contribution of the study, moreover present the data. In addition, more detail is needed in the data and ethic issues.

#### **General comments:**

- In the abstract, the authors use two different concepts: the level of digital literacy and the perceptions of the use of different digital technologies; those are two different approaches. What are the authors exactly measuring?
- The reviewers miss a more solid introduction and a theoretical framework, we suggest reviewing Ferrés and Mateus's studies.
- We also find that the paper lacks conclusions and discussions that go over the exposure of data; it would be interesting to know what is the researchers' position, contribution, and possible recommendations.
- A gender perspective focus could be important, for example, comparing uses and competencies by gender. In addition, other variables could be compared as age, and kind of school (private, public, etc.).

#### **Sample:**

- Important to describe how researchers guarantee the pluralism of the sample (different socio-economic areas, etc.). Especially regarding access to technology.
- In general, we find more information is needed on sampling and how it is distributed by independent variables. How was the questionnaire distributed, etc.
- Include variables of schools ownership (public, private or semi-private schools).

#### **Ethics:**

It would be interesting to get more details about the consent form obtention procedure, as well as general ethics issues. For example, it is said that “those aged 16 to 18 answered the children themselves but with the consent of the parents, which were present while they answered as the legislation indicates”. How could the authors be sure of this statement?

#### **Is the rationale for creating the dataset(s) clearly described?**



Yes

**Are the protocols appropriate and is the work technically sound?**

Partly

**Are sufficient details of methods and materials provided to allow replication by others?**

Partly

**Are the datasets clearly presented in a useable and accessible format?**

Partly

**Competing Interests:** No competing interests were disclosed.

**We confirm that we have read this submission and believe that we have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however we have significant reservations, as outlined above.**

Author Response 03 Mar 2023

**Daniel Aranda**

We appreciate the review, the time spent and the comments.

**Reviewers:**

**The paper focuses on the exploitation of an interesting big sample and a very relevant target; however, it needs a deep revision to go deeper into the analysis and make evident the contribution of the study, moreover present the data. In addition, more detail is needed in the data and ethic issues.**

**Response:**

As stated in the guidelines a Data Notes are brief descriptions of scientific datasets that promote the potential reuse of research data and include details of why and how the data were created; they do not include any analyses or conclusions.

More details on data and also Ethic issues are answered below.

**Reviewers:**

**General comments: In the abstract, the authors use two different concepts: the level of digital literacy and the perceptions of the use of different digital technologies; those are two different approaches. What are the authors exactly measuring?**

**Response:**

In the abstract, we specifically refer to the fact that the survey reflects on the one hand the competences of young people and on the other hand the perceptions of the use of different digital media or digital technology. These two aspects are effectively different as the reviewers point out and each aspect (Perceptions of use and competencies) has distinct

spaces in the questionnaire.

The perception of the use of digital technologies has been studied in several academic disciplines. According to Davis (1989), Technology Acceptance Theory (TAM) is a theoretical model that explains people's adoption and use of technology. TAM maintains that perception of the use of a technology is influenced by perception of utility and ease of use. The more useful and user-friendly a technology is, the more likely it is that a person will adopt and use it regularly.

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 13(3), 319-340.

On the other hand, Digital literacy refers to the ability to use digital technologies, such as computers, smartphones, and the internet, to find, evaluate, create, and communicate information effectively. It encompasses a range of skills, including the ability to use digital tools to access and analyze information, collaborate with others, and solve problems. Van Deursen and van Dijk (2015) found that digital skills were positively associated with social and economic outcomes, such as employment status, income, and civic engagement. The study also found that individuals with lower levels of digital skills were more likely to experience social and economic disadvantages.

- Van Deursen, A. J. A. M., & Van Dijk, J. A. G. M. (2015). The digital divides shifts to differences in usage. *New Media & Society*, 17(7), 1-18.

Thus, the second section of the survey is about digital competence: technical skills (nine items), informational skills (ten items), and critical digital knowledge (five items), respectively.

The fourth section is about youth perception of digital technologies, asking the young people to rank five social ability items considering the relevance of digital technologies for them.

**Reviewers:**

**The reviewers miss a more solid introduction and a theoretical framework, we suggest reviewing Ferrés and Mateus's studies.**

**Response:**

There is no theoretical framework in the data note because it is not required as stated in the guidelines. What reviewers call the theoretical framework makes reference to methodology, a detailed account of the protocol used to generate the dataset.

**Reviewers:**

**We also find that the paper lacks conclusions and discussions that go over the exposure of data; it would be interesting to know what is the researchers' position, contribution, and possible recommendations.**

**Response:**

Data Notes are brief descriptions of scientific datasets that promote the potential reuse of research data. As stated before, this data notes do not include any analyses or conclusions.

**Reviewers:**

**A gender perspective focus could be important, for example, comparing uses and competencies by gender. In addition, other variables could be compared as age, and kind of school (private, public, etc.).**

**Response:**

Although data note do not include any analyses or conclusions, in relation with gender, readers can see Estanyol, E., Montaña, M., Fernández-de-Castro, P., Aranda, D., & Mohammadi, L. (2023). Digital competence among young people in Spain: A gender divide analysis. [Competencias digitales de la juventud en España: Un análisis de la brecha de género]. *Comunicar*, 74, 113-123. <https://doi.org/10.3916/C74-2023-09>

In this paper we use the notion of digital citizenship, in order to study the gender digital divide as it relates to competence (i.e., skills and knowledge) and the possibility of leveraging said competence to promote civic education grounded in gender equality in the digital environment.

**Reviewers:****Sample:**

- **Important to describe how researchers guarantee the pluralism of the sample (different socio-economic areas, etc.). Especially regarding access to technology.**
- **In general, we find more information is needed on sampling and how it is distributed by independent variables. How was the questionnaire distributed, etc.**

**Response:**

As stated in the guidelines of Data Notes: for standard protocols that have been published elsewhere, a brief description and reference is sufficient. The detail of the sampling has been published previously in the article "Digital competence among young people in Spain: A gender divide analysis" in the *Comunicar Journal*.

Estanyol, E., Montaña, M., Fernández-de-Castro, P., Aranda, D., & Mohammadi, L. (2023). Digital competence among young people in Spain: A gender divide analysis. [Competencias digitales de la juventud en España: Un análisis de la brecha de género]. *Comunicar*, 74, 113-123. <https://doi.org/10.3916/C74-2023-09>

The readers could also have all this information in the section Data availability: Figshare: A data set about digital literacy competencies among youngsters (16-18) in Spain <https://doi.org/10.6084/m9.figshare.21379104.v3> (Mohammadi et al., 2022).

**Reviewers:**

**Include variables of schools ownership (public, private or semi-private schools).**

**Response:**

Following the international tradition, we have chosen not to ask for the public or private variable in the survey but as stated by the reviewers this variable could have been interesting to include. Here are some references.

de Lenne, O., Vandenbosch, L., Eggermont, S., Karsay, K., & Trekels, J. (2020). Picture-perfect

lives on social media: A cross-national study on the role of media ideals in adolescent well-being. *Media psychology*, 23(1), 52-78.

Jarman, H. K., Marques, M. D., McLean, S. A., Slater, A., & Paxton, S. J. (2021). Social media, body satisfaction and well-being among adolescents: A mediation model of appearance-ideal internalization and comparison. *Body Image*, 36, 139-148.

Noon, E. J., Schuck, L. A., Guğu, S. M., Şahin, B., Vujović, B., & Aydın, Z. (2021). To compare, or not to compare? Age moderates the relationship between social comparisons on instagram and identity processes during adolescence and emerging adulthood. *Journal of Adolescence*, 93, 134-145.

**Reviewers:**

**Ethics:**

**It would be interesting to get more details about the consent form obtention procedure, as well as general ethics issues. For example, it is said that “those aged 16 to 18 answered the children themselves but with the consent of the parents, which were present while they answered as the legislation indicates”. How could the authors be sure of this statement?**

**Response:**

The panel was contracted to the company ODEC. This company has worked with (Dynata) a software that complies with all legal issues in relation to data protection and response protocols. Those under 16 years of age answered with their parents by their side and those aged 16 to 18 answered by themselves with the consent of their parents present while answering as required by law.

ODEC offers digital solutions specialized in market research, statistics, media and marketing.

**Competing Interests:** No competing interests were disclosed.

The benefits of publishing with F1000Research:

- Your article is published within days, with no editorial bias
- You can publish traditional articles, null/negative results, case reports, data notes and more
- The peer review process is transparent and collaborative
- Your article is indexed in PubMed after passing peer review
- Dedicated customer support at every stage

For pre-submission enquiries, contact [research@f1000.com](mailto:research@f1000.com)

**F1000Research**