Data Article

Survey data on Families' perceptions of ed-tech corporations, educational digital platforms and children's rights

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ABSTRACT

This data article describes the dataset of the project "edDIT: Technological corporations, digital educational platforms and guarantee of children's rights with a gender approach". This study has analysed the impact of the use of corporate digital platforms in public schools in Catalonia. A series of data were collected through an online survey, with a total sample of 2347 parents/caregivers. The description of the data contained in this article is divided into two main parts. The first one is a descriptive analysis of all the items included in the survey and has been carried out using tables and figures. The second one refers to the construction of scales. Three scales were constructed and included in the data set: 'Opinions about Educational Digital Platforms', 'Concerns about the use of the data generated on the utilisation of the digital platform' and 'Parental Engagement'. The scales were created using Confirmatory Factor Analysis (CFA) and Multigroup Confirmatory Analysis (MG-CFA). This dataset will be relevant for researchers in different fields, in particular for those interested in digital inclusion public policies and educational policies.

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Specifications Table

Subject	Social Sciences, Education
Specific subject area	Educative technology
Type of data	Table
How the data were acquired	The data were acquired through an online questionnaire via the Formiste platform. The questionnaire was available for six weeks between May and June 2022. The data were analyzed with the statistical analysis program SPSS version 27 and AMOS software. The questionnaire used was translated into Spanish, Catalan, French and English. The English version can be found in the following link: https://doi.org/10.17632/d2bj5c2p4s.1
Data format	Raw
Description of data collection	The participants had to agree with the following conditions: in first place, with the participation on the investigation and in second place, they have to be in charge of a minor who was studying in a public school in Catalonia in primary or secondary education. The variables used, in addition to the sociodemographic variables, were referred to Knowledge, Opinions and Concern about the use of data generated on the use of the digital platform and Parental Engagment.
Data source location	• Institution: • City/Town/Region: Catalonia • Country: Spain • Latitude and longitude (and GPS coordinates, if possible) for collected samples/data: 41.390205, 2.154007
Data accessibility	All raw data can be found in the following link: Repository name: CORA Data identification number: UNF:6:25jL0sNDBYDs1s3fG4rZ9A Direct URL to data: https://doi.org/10.34810/data231 The English version can be found in the following link: https://doi.org/10.17632/d2bj5c2p4s.1
Related research article	

Value of the Data

- The database provides valuable first-hand information about families' perceptions of ed-tech corporations, educational digital platforms and children's rights, and the parental engagement in the use of technology by 2347 families with children in public schools in Catalonia (Spain).
- The database offers a rich environment for examining how parents and caregivers relate to children's learning in the context of the educational digital platforms.
- The database includes data comparable on primary and secondary or high school families' perceptions.
- The dataset contains scales and information related to knowledge about digital platforms, opinions about the impact of digital platforms in the school, concerns about the use of data generated using digital education platforms and parental support in the use of educational digital platforms.

- The main limitations of this database are that it only collects opinions from families with children in public schools and not in private schools. On the other hand, the database only collects opinions of families in Catalonia and not in the rest of Spain. Another limitation is the online surveys, as it is not always possible to ensure that all respondents have understood the question correctly.

1. Objective

The aim of this database is to provide information on the knowledge, opinions and concerns generated by digital educational platforms in families with daughters and sons studying in Catalan public schools (Spain).

2. Data Description

In this section we will present the database, its different sections and their analysis. A description of the variables in the database is given, as well as the confirmatory factor analysis (CFA) carried out on the different scales. For this purpose, both the tables and the figures related to these CFA are presented.

2.1. Identification variables in the dataset

All Families' perceptions of ed-tech corporations, educational digital platforms and children's rights data files contain many identification variables about some characteristics of the participants that are relevant to the research. However, these variables do not allow the identification of the different participants. The list hereunder specifies the variables used and the description of each one.

Language

This variable indicates the language in which the questionnaire was responded.

Country of origin

This variable indicates in which country did the participant born.

Role

This variable is referred to the following item: What is your relationship with the child or adolescent on which you will base your answer to this questionnaire? The answer options were: mother, father or legal guardian.

Family gender

This variable is referred to the following item: With which gender do you identify yourself? The options to answer this question were: female, male or non-binary.

Level of studies

This variable is referred to the following item: What is the highest level of education you have completed? The options to answer this question were: I have not attended school, Preschool Education, Primary Education or General Basic Education, Secondary Education, Postsecondary Education, Intermediate vocational training, Higher vocational training, University studies, Official postgraduate and/or Doctorate studies, other.

Member of an association

This variable is referred to the following item: Are you a member of the Student's Family Association (AFA) or a similar body (AMPA, AFI, etc.) of the school? The answer options were: no or yes.

Position of responsibility

This variable is referred to the following item: Do you have any position of responsibility? The options to answer this question were: no or yes.

Students gender

This variable is referred to the following item: Gender of the child/adolescent: The options to answer this question were: female, male, non-binary.

Educational stage

This variable is referred to the following item: What stage of education is the child or adolescent currently in? The options to answer this question were: Primary or Secondary.

Q23

This variable is referred to the following item: Could you please indicate approximately the gross income (total wages before taxes and allowances) per year in your household? The options to answer this question were: Less than 20.000 euros, Between 20.000 and 29.999 euros, Between 30.000 and 39.999 euros, Between 40.000 and 49.999 euros, Between 50.000 and 59.000 euros, Between 60.000 and 69.999 euros, Between 70.000 and 80.000 euros, More than 80.000 euros, I prefer not to answer.

In this study, the online survey was conducted with semi-structured questionnaires. Online survey is one of the best ways to reduce the cost when conducting a study, but it is also an effective way to get real data from the online population [1]. A total of 2347 respondents from Catalonia (Spain) answered questionnaires. Table 1 presents some information about respondents participating in this study.

Table 1
Family gender, student gender and educational stage.

		N (%)	Age M (SD)	Student gender			Educational stage	
				Male N (%)	Female N (%)	Non-binary N (%)	Primary N (%)	Secondary N (%)
Family gender	Male	420 (17.9)	46.20 (5.89)	222 (52.6)	198 (47.1)	1 (.2)		
	Female	1913 (81.5)	43.69 (5.11)	981 (51.3)	924 (48.3)	8 (.4)		
	Non-binary	14 (.6)	43.43 (4.03)	6 (42.9)	5 (37.5)	3 (21.4)		
Student gender	Male	1208 (51.5)	10.71 (2.78)				772 (63.9)	436 (36.1)
	Female	1127 (48.0)	10.52 (2.81)				756 (67.1)	371 (32.9)
	Non-binary	12 (.5)	9.83 (3.24)				8 (66.7)	4 (33.3)

The following section provides information about the procedure followed to construct four scales in Survey data on Families' perceptions of ed-tech corporations, educational digital platforms and children's rights.

2.2. Variables

2.2.1. Knowledge about digital education platforms

The scale referred to knowledge about Digital Education Platforms was constructed by the following items: Q11.1, Q11.2, Q11.3.

- Q11.1: Is Google Classroom, Microsoft Teams or AWS Educate (Amazon) used at the school? The options to answer this question were: No, Yes and I don't remember.
- Q11.2: Which one? The options to answer this question were: Google Classroom, Microsoft Teams and AWS Educate (Amazon).
- Q11.3: Are there other Educational Digital Platforms used at the school? The options to answer this question were: No, Yes and I don't remember.

Table 2
Knowledge about educational digital platforms.

		Primary	Secondary	Which one?		Primary	Secondary
Yes	1871 (79.7%)	1220 (79.4%)	651 (80.3%)	*Google Classroom*	1837 (98.2%)	1199 (98.3%)	638 (98%)
				Microsoft Teams	34 (1.8%)	21 (1.7%)	13 (2%)
				AWS Educate (Amazon)	0		
No	232 (9.9%)	162 (10.5%)	70 (8.6%)				
I don't rememeber	244 (10.4%)	154 (10.0%)	90 (11.1%)				

2.2.2. Opinions about Educational Digital Platforms

The Opinions about Educational Digital Platforms scale was constructed using the following questions: Q14.1, Q15.2 and Q15.8 from the data set for negative opinions and Q14.2, Q15.1, Q15.3, Q15.4, Q15.5, Q15.6 and Q15.7 from the data set positive opinions. All the questions were Likert scale from 1 to 6 (1 = strongly disagree; 6 = strongly agree)

- Q14.1 The use of Digital Education Platforms provided by technological corporations (e.g., Google, Microsoft, Amazon, etc.) in schools puts the public management of education at risk.
- Q14.2 Collaboration between the public sector and technological corporations (e.g., Google, Microsoft, Amazon, etc.) is necessary to promote the improvement of education.
- Q15.1 Digital Education Platforms are key to guaranteeing students' right to education.
- Q15.2 Digital Education Platforms compromise the democratic principles of public education.
- Q15.3 Digital Education Platforms have improved the teaching-learning process.
- Q15.4 Digital Education Platforms encourage collaborative work among students.
- Q15.5 Digital Education Platforms benefit my child's enjoyment during their use.
- Q15.6 Digital Education Platforms are very intuitive and this makes it easier for parents or legal guardians to support the learning process.
- Q15.7 Digital Education Platforms facilitate communication between family and school.
- Q15.8 Digital Education Platforms have a design and/or language that reproduces traditional gender roles and stereotypes (e.g., sexist language, colours associated with girls and boys).

Table 3
Opinions about educational digital platforms.

	Mean	SD
Q14.1	3.43	1.675
Q14.2	3.86	1.665
Q15.1	3.20	1.571
Q15.2	3.33	1.557
Q15.3	3.56	1.465
Q15.4	3.80	1.479
Q15.5	3.92	1.373
Q15.6	3.81	1.434
Q15.7	4.00	1.581
Q15.8	2.96	1.486

2.2.3. Concerns about the use of the data generated on the utilisation of the digital platform

The scale referred to concerns about the use of the data generated on the utilisation of the digital platform was constructed by the following items: Q16.1, Q16.2, Q16.3, Q16.4, Q16.5, Q17.1, Q17.2, Q17.3, Q18.1, Q18.2, Q19.1, Q19.2, Q19.3, Q19.4, Q20.1, Q20.2, Q20.3, Q20.4 and Q22 from the data set. The vast majority of questions included in this dimension were answered using a Likert scale with a range of response of 1 to 6. (1 = completely disagree; 6 = completely agree) except for the ones related to Q19 and Q20.

- Q16.1: The use and commercialisation of student's personal data by technological corporations (e.g., Amazon, Google, Microsoft, etc.).
- Q16.2: That users may pay money for their services.
- Q16.3: That they violate the right to privacy of children and/or adolescents.
- Q16.4: That they determinate the preferences, choices and behaviour of children and adolescents.
- Q16.5: The data collected can be used to create user profiles that reproduce gender differences, roles and stereotypes (e.g., boys with the colour blue and girls with the colour pink).
- Q17.1: That Digital Education Platforms are only a source of distraction.
- Q17.2: Reduce face-to-face socialisation of children and/or adolescents.
- Q17.3: That there is insufficient supervised use of the platforms by teaching staff.
- Q18.1: That the data is used for the creation of profiles for commercial uses.
- Q18.2: That the data is used to improve the user experience in the use of digital platforms.
- Q19.1: Have you signed any authorisation to use the Educational Digital Platforms at school? The options to answer this question were: No, Yes and I don't remember.
- Q19.2: Have you considered or would you consider (as the case may be) not doing so? In this case, the options to answer this question was a dichotomous response: No and Yes. The same happens in questions P19_3 and P19_4.
- Q19.3: Have you considered or would you consider (as the case may be) doing so?
- Q19.4: And now, would you consider doing it?
- Q20.1: Have you signed any authorisation to give your child/child under care's data for using the Educational Digital Platforms at school? The options to answer this question were: No, Yes and I don't remember.
- Q20.2: Have you considered or would you consider (as the case may be) not doing so? In this case, the options to answer this question was a dichotomous response: No and Yes. The same happens in questions P20_3 and P20_4.
- Q20.3: Have you considered or would you consider (as the case may be) doing so?
- Q20.4: And now, would you consider doing it?

Table 4
Concerns about the use of the data generated on the utilisation of the digital platform.

	Mean	SD
Q16.1	4.85	1.508
Q16.2	4.15	1.697
Q16.3	4.83	1.532
Q16.4	4.53	1.571
Q16.5	4.32	1.731
Q17.1	3.97	1.618
Q17.2	4.63	1.531
Q17.3	4.53	1.459
Q18.1	2.760	1.978
Q18.2	3.990	1.518

Table 5
Signature on the authorisation to use the educational digital platforms.

		Did you or would you consider not doing so?	
Yes	1006 (47.3%)	Yes	266 (26.4%)
		No	740 (73.6%)
		Have you considered or would you consider doing so?	
No	253 (11.9%)	Yes	131 (51.8%)
		No	122 (48.2%)
		And now, would you consider doing it?	
I don't rememeber	866 (40.8%)	Yes	531 (61.3%)
		No	335 (38.7%)

Table 6
Signature on the release of data generated by the educational digital platforms.

		Did you or would you consider not doing so?	
Yes	650 (30.6%)	Yes	202 (31.1%)
		No	448 (68.9%)
		Have you considered or would you consider doing so?	
No	445 (20.9%)	Yes	198 (44.5%)
		No	247 (55.5%)
		And now, would you consider doing it?	
I don't rememeber	1030 (48.5%)	Yes	657 (63.8%)
		No	373 (36.2%)

2.2.4. Parental engagement

The scale related with parental engagement was inspired by the questions of the International COVID-19 Impact on Parental Engagement Study (ICIPES) [2]. Finally, this dimension was constructed by the following items: Q21.1, Q21.2, Q21.3, Q21.4, Q21.5, Q21.6, Q21.7, Q21.8 and Q21.9 from the data set. All questions included in this dimension were answered using a Likert scale with a range of response of 1 to 5. (1 = completely disagree; 5 = completely agree).

- Q21.1: Check the school's online platforms or portals to obtain information about the homework and performance of the child or adolescent in my care.
- Q21.2: Solve technical problems on the computer of the child or adolescent in my care.
- Q21.3: Help the child or adolescent with his/her homework online.
- Q21.4: Help the child or adolescent to present more attractive digital content.
- Q21.5: Using parental controls on the computer, tablet, or TV.
- Q21.6: Identify useful websites to support the child's or adolescent's learning.
- Q21.7: Learning new things online to support the child's or adolescent's curiosity.
- Q21.8: Download apps and other digital materials to support child or adolescent learning.
- Q21.9: Review websites and applications to improve my knowledge to support child/adolescent learning Table 7.

Table 7

Scores on parental accompaniment.

	Mean	SD
Q21.1	3.86	1.086
Q21.2	3.66	1.192
Q21.3	4.00	1.010
Q21.4	3.84	1.068
Q21.5	3.65	1.215
Q21.6	3.87	1.038
Q21.7	3.94	1.000
Q21.8	3.75	1.118
Q21.9	3.84	1.061

2.3. Factor analysis

The analysis carried out in this section is based on previous research with similar characteristics carried out on databases that also refer to educational technology [2].

Confirmatory factor analysis (CFA)

Confirmatory Factor Analysis (CFA) was used to estimate the model for the three quantitative scales (Opinions about Educational Digital Platforms, Concerns about the use of the data generated on the utilisation of the digital platform, and Parental engagement) using maximum likelihood (ML). Missing data was handled with listwise deletion. Model fit was evaluated using the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) as the goodness of fit statistics, and the root-mean-squared error of approximation (RM- SEA) and the standardized root mean squared residual (SRMR) as residual fit statistics. Acceptable model fit was guided by the cut-offs (CFI > 0.90; TLI > 0.90; RMSEA < 0.10; and SRMR < 0.08) as suggested by [3].

Internal Consistency: After constructing three quantitative scales, in order to evaluate reliability (internal consistency), we used Cronbach's alpha coefficient [4].

2.4. Important information for potential users

The following tables include important information for potential users to be able to interpret the scales correctly.

2.4.1. Opinions about educational digital platforms
Table 8 and Fig. 1.

Table 8

Confirmatory factor analysis model fit for opinions about educational digital platforms.

Fit statistics	Chi-square	df	CFI	TLI	RMSEA	SMR	Reliability
opinions (n = 2347)	373.5	34	.964	.952	.065	.0474	.811

Note. df = degree of freedom; CFI = Comparative Fit index; TLI = Tucker-Lewis index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.
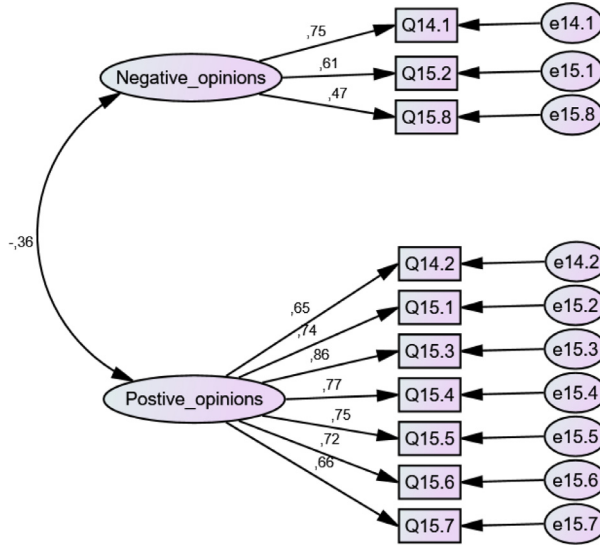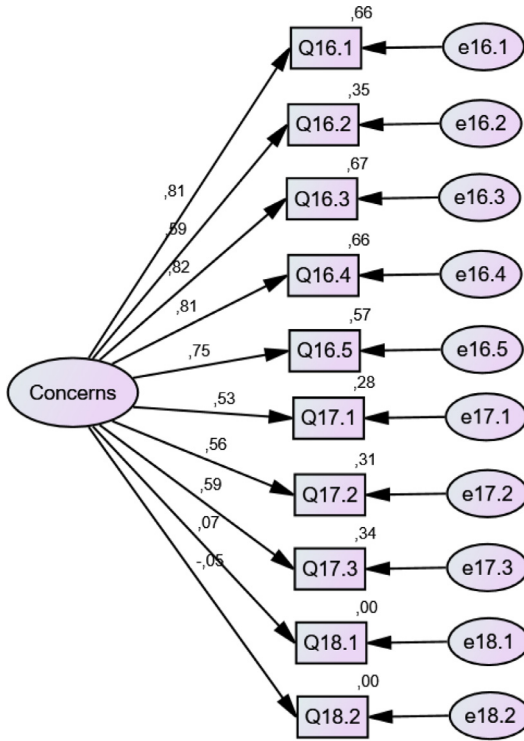
Fig. 1. Measurement model for opinions about educational digital platforms.

2.4.2. Concerns about the use of the data generated on the utilisation of the digital platform

Table 9 and Fig. 2.

Table 9
Confirmatory factor analysis model fit for concerns about the use of the data generated on the utilisation of the digital platform.

Fit statistics	Chi-square	df	CFI	TLI	RMSEA	SMR	Reliability
Concerns (n = 2347)	1702.672	35	.824	.724	.143	.0217	.803

Note. df = degree of freedom; CFI = Comparative Fit index; TLI = Tucker-Lewis index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

Fig. 2. Measurement model for Concerns about the use of the data generated on the utilisation of the digital platform.

2.4.3. Parental engagement

Table 10 and Fig. 3.

Table 10
Confirmatory factor analysis model fit for parental engagement.

Fit statistics	Chi-square	df	CFI	TLI	RMSEA	SMR	Reliability
Engagement (n = 2347)	303.1	27	.981	.974	.066	.0217	.932

Note. df = degree of freedom; CFI = Comparative Fit index; TLI = Tucker-Lewis index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.
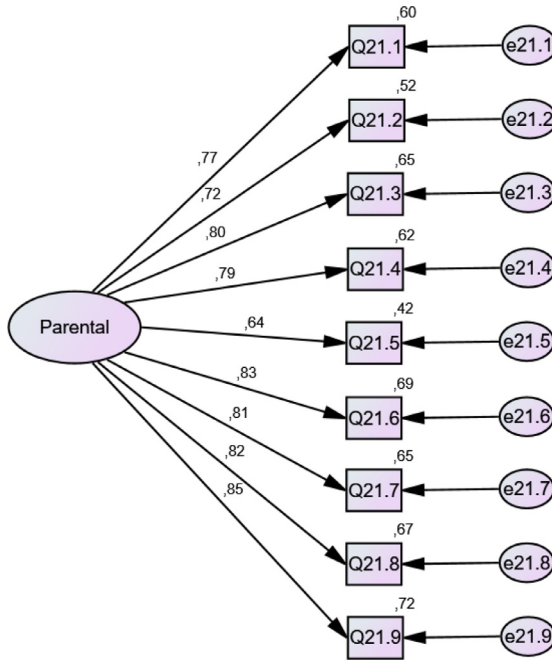
Fig. 3. Measurement model for parental engagement.

3. Experimental Design, Materials and Methods

The researchers used an online survey to collect the data. The survey was answered by 2932 people. However, after sifting through the participation criteria and eliminating incomplete responses, the final sample was 2347 respondents from Catalonia (Spain). The criteria for participation were based exclusively on all participants having at least one son or daughter studying in public schools in Catalonia, both in primary and secondary education. The usual reliability analysis was used to carry out quality checks on the data collected. The design of the survey was based on a review of the literature on the subject and interviews with experts in this field of study. Subsequently, a draft survey was sent to 16 experts in educational technology and quantitative research who reported on the univocity, pertinence and relevance of each item. Finally, the survey was enriched with comments from 10 families that met the characteristics of the sample to be studied. The data were collected between April and June 2022. Data were obtained using a semi structured questionnaire (Appendix). The questionnaire consists of several sections. Section 1 and 2 gathered information about the parents and their child. Section 3 gathered Knowledge about Digital Education Platforms. Section 4 gathered information about Opinions about Educational Digital Platforms. Section 5 gathered information about Concerns about the use of the data generated on the utilisation of the digital platform. Section 6 gathered information about Parental Engagement. The first part is a descriptive analysis of some items included in the survey and was performed using tables (see, descriptive part, Tables 1). The second part refers to the construction of scales (see variables part). Three scales were constructed and included in the dataset: 'Opinions about Educational Digital Platforms', 'Concerns about the use of the data generated on the utilisation of the digital platform' and 'Parental Engagement'. The scales were created using Confirmatory Factor Analysis (CFA). All analyses are executed in the Amos Program (Version 26.0).

In any case, given the nature of the data provided here, it is of interest to analyse the data using the Bayesian Mindsponge Framework (BMF) as it is one of the most up-to-date analytical frameworks for quantitatively studying social data [5,6].

Ethics statements

Informed consent was obtained from all individual participants included in the data collection process.

All data respect the current legislation on protection and confidentiality in the processing of personal data, in accordance with the provisions of Regulation (EU) No. 2016/ 679 of the European Parliament and of the Council of the European Union. 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals about the processing of personal data and the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation, GDPR and the Organic Law 3/2018 of 5 December on the protection of personal data and guarantee of digital rights (LOPDGDD). All data have been processed using identification codes to preserve the anonymity and confidentiality of the participants and the results, within the framework of the Belmont Report and the Code of Good Research Practice of the University of Barcelona.

Ethical approval was not required in accordance with the institutional guidelines of the Universitat de Barcelona for the collection of these data.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

EdDit.tab (Original data) (CORA Repositori de Dades de Recerca).

CRediT Author Statement

Ainara Moreno-González: Conceptualization, Methodology; **Diego Calderón-Garrido:** Data curation, Software; **Lluís Parcerísa:** Writing – original draft; **Pablo Rivera-Vargas:** Writing – review & editing; **Judih Jacovkis:** Supervision.

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Supplementary Materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.dib.2023.109017.

References

[1] V. Toepoel, Online survey design, in: The SAGE Handbook of Online Research Methods, SAGE Publications Ltd, 2017, pp. 184–202, doi:10.4135/9781473957992.

[2] E.M. Osorio-Saez, N. Eryilmaz, A. Sandoval-Hernandez, Y. Lau, E. Barahona, A.A. Bhatti, G.C. Ofoe, L. Castro, A.A. Cortez, R.Á. Espinoza, E. Fonseca, M.M. Isac, K.V. Dhanapala, K.K. Kameshwara, Y.A. Martínez, G.T. Mekonnen, J.F. Mejía, C. Miranda, S.A. Moh'd, R.M. Ulloa, K.K. Morgan, T.L. Morgan, S. Mori, F.E. Nde, S. Panzavolta, L. Parcerisa, C.L. Paz, O. Picardo, C. Piñeros, P. Rivera-Vargas, A. Rosa, L.M. Saldarriaga, A.S. Aberastury, Y.M. Tang, K. Taniguchi, E. Treviño, C.V. Celis, C. Villalobos, D. Zhao, A. Zionts, Survey data on the impact of COVID-19 on parental engagement across 23 countries, Data Brief 35 (2021), doi:10.1016/j.dib.2021.106813.

[3] L.T. Hu, P.M. Bentler, Cutoffcriteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives, Struct. Equat. Model.: Multidiscipl. J. 6 (1) (1999) 1–55, doi:10.1080/10705519909540118.

[4] L.J. Cronbach, Coefficient alpha and the internal structure of tests, Psychometrika 16 (3) (1951) 297–334, doi:10.1007/BF02310555.

[5] M.H. Nguyen, V.P. La, T.T. Le, Q.H. Vuong, Introduction to Bayesian Mindsponge Framework analytics: an innovative method for social and psychological research, MethodsX 9 (2022), doi:10.1016/j.mex.2022.101808.

[6] Q.H. Vuong, M.H. Nguyen, V.P. La Walter de Gruyter, The Mindsponge and BMF Analytics for Innovative Thinking in Social Sciences and Humanities, Sciendo, 2022.