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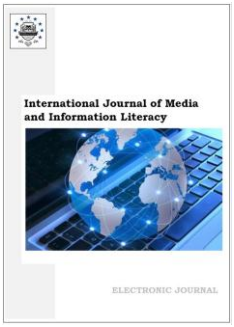

Parents' Role in the Virtual Education of Elementary Education Students During the Covid-19 Pandemic

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Abstract

Parental involvement is an important element in children's education, especially during their first years of schooling. Parents' participation in school activities has a beneficial impact on their children's academic performance, behavior and social skills. The aim of this research is to determine the role that parents played in the virtual teaching process of elementary school students during the Covid-19 health contingency, as classes moved online. This empirical study is based on a non-experimental cross-sectional investigation, in which parents (N = 249) from two elementary level academic institutions participated. A 36-item scale designed by Valdés, Martín and Sánchéz (2009) was used. For data analysis, EFA with polychoric matrices and descriptive statistics were used. The findings show an underlying structure of five factors that explain 69.76 % of the variance, with an acceptable absolute fit, structural fit, and parsimony in all goodness-of-fit statistics. The five factors are communication with the school, communication with the child, knowledge of the school, attendance, and help with tasks. The results imply that parent involvement was crucial during emergency remote teaching, especially in regard to maintaining communication among all stakeholders: parents, students, teachers, and school authorities. Though parents report struggling with school activites during emergency remote teaching, they felt satisfied with the quality of services received. Practical implications would be to open and maintain channels of communications among stakeholders.

Keywords: Covid-19 pandemic, elementary students, online education, parental involvement, virtual learning process.

1. Introduction

The COVID-19 virus threatened the survival of humanity at the end of 2019 and continues to cause severe damage and death, although with the hope of facing it with better results thanks to vaccines. Undoubtedly the Covid-19 pandemic has brought with it a new world order. Lockdown rules around the world meant that many activities were proscribed, and others were moved to online venues. Activities that were affected include banking, sales, tourism, and services among many others. However, education, which is the object of study in this work, is one of the sectors that was most affected, since due to indications from the health sector in the countries, following

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the recommendation of the World Health Organization (WHO), face-to-face classes were no longer an option to continue with the students' education.

A recent UNICEF report (2021) indicates that more than 168 million children enrolled in different schools around the world missed a complete school year due to the Covid-19 health contingency. According to the UNICEF report, about 60 % of school-age students missed their school year due to the contingency. The report states that in two thirds of the countries in the region, schools have closed their doors permanently. LAC schools were closed for 158 days, thus exceeding the threshold of 95 days of closure in other countries. Between March 2020 and February 2021, LAC schools opened their doors on average six days, which is much lower than the world average of 37 days.

In the Mexican context, the agreement to suspend classes throughout the national territory was published in the Official Gazette of the Federation This agreement states:

Starting next Tuesday, March 24, all teaching and administrative staff of public schools, at all levels of education, will participate in "preventive voluntary isolation, in their homes", as part of the provisions to prevent the spread of Covid-19, reported the Secretariat of Public Education (SEP) (DOF, 2020).

Thus, students were forced to learn from home, working with educational programs developed from computer platforms to work in distance education, with students focusing on solving learning tasks. In this scheme, the teacher answers questions, analyzes the tasks sent electronically and provides feedback on the activities reviewed in class. Students have to search the web and present advances in online sessions and pose questions to the teacher to provide feedback on the questions.

Even before the pandemic, in 2019, scholars were highlighting the importance of establishing strategies for parental involvement in academic institutions with the goal of having both contribute to children's educational process (Đurišić, Bunijevac, 2017). Parental involvement is important for educational institutions. Parents are considered a necessary element to guarantee more meaningful and beneficial learning in children, especially in the first levels of elementary school.

Thus, fostering parental support of institutions has a positive impact on the entire educational system. According to these arguments, the following question emerges: What is the role that parents have played in the teaching-learning process of their children, through virtual teaching? Hence, the purpose of this study is to evaluate the role that parents played in the teaching-learning process in the virtual education of their children during Covid lockdown.

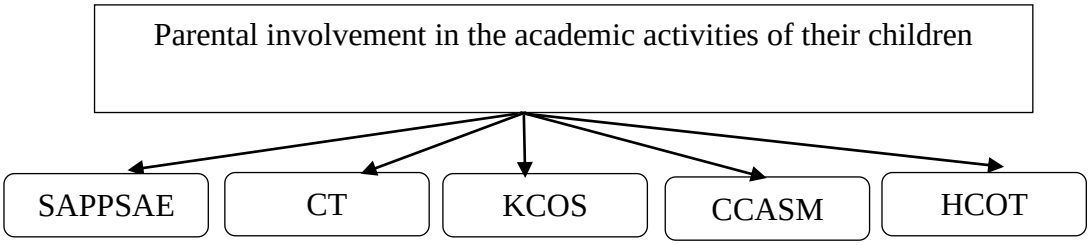

Fig. 1. The conceptual model

Notes: Description of the variables of the conceptual model. SAPPSA: School attendance and parental involvement in school activities. CT: Communication with teachers. KCOS: Knowledge of the curriculum and operation of the school. CCASM: Communication with children about school matters.
HCOT: Help in carrying out tasks.

Literature review

Undoubtedly, parents are an important element in children's education. The Covid-19 pandemic has demonstrated that, in the specific case of the virtual teaching process, involvement of parents is fundamental. Some studies have already commented on this. Llamas and Tuazon (Llamas, Tuazon, 2016), for example, have pointed out that parents feel comfortable when the educational system requires them to be involved in school activities. Collaboration of parents with school authorities leads to an improvement in the physical and academic performance of the school. Parents are encouraged to get involved and contribute to their children's learning, in turn motivating students to persevere in their studies.

The educational system, in order to stay abreast of changes, must be flexible, adaptable, and receptive to constant modifications, as suggested by Hamunyela (Hamunyela, 2008). The author also mentions that parents of higher socioeconomic levels tend to be more involved, and their involvement provides better results. She attributes this to greater cultural capital, though she mentions that parents in lower socioeconomic levels provide other types of support that are also beneficial. In addition, it is important to highlight that family support results in an improvement in academic performance, even modifying student attitudes and behaviors. In addition, it improves reading performance, which translates into quality homework.

More parental involvement also leads to better communication with their student children and improves trust, and this brings about better communication with the teacher. This, in turn, leads to a quality school relationship that benefits everyone involved in the educational process (Bazán et al., 2007). Family involvement in the virtual teaching process of the students, in addition to helping improve performance, also reduces school absenteeism, as Garcia and Thornton (Garcia, Thornton, 2014) state, in addition to restoring confidence, and improving school grades, social skills, and student behavior.

Although the recent event that affected the world population brought with it a series of structural changes throughout the world, the educational sector had to pay special attention to technological transformation, since the confinement derived from Covid-19 required it. Educational institutions around the world found themselves forced to move their classes online; some were better prepared for this than others. Although, in some cases, school institutions were faced with a certain degree of difficulty and confusion (Zapata-Garibay et al, 2021). Garrison (2000) points out that, due to advances in technology, the theoretical proposals of distance education have faced confusion around the phenomenon of virtual education, since the new technologies that have been implemented, as well as the technological tools, the academic programs, the new audiences and providers have posed great challenges to the development of this educational modality.

The concerns Garrison (Garrison, 2000) raised decades ago had already been glimpsed before the confinement derived from the SAR-COV 2 pandemic in 2019 (Covid-19). This suggests that online or virtual education, has faced complications with the passing of time. In this regard, what modern constructivist and connectivist theory exposes is relevant, where it highlights the value of the interaction between both parties for the development of cognitive skills (Anderson, 2008). In any educational model, but especially in the virtual modality, the teacher has as one of their main tasks to stimulate the motivation and active involvement of the students and increase the potential meaning of the academic materials, which implies promoting a series of mechanisms that allow students to assume the role of constructors of their knowledge.

On the other hand, specialists in practice, teachers, and educators, are not prepared, either from a theoretical or a motivational perspective, to carry out any kind of change. Digital learning is causing an educational disruption because it poses a drastic change in supports and methods. This subject has been much debated and the conclusion is that the trend is not exhausted yet. On the contrary, the rupture continues with new technologies, innovations, and disruptive technologies, as well as digital learning (García, 2017).

Parents' involvement in their children's school is a key factor in improving students' school performance. In this regard, Lara and Saracostti (Lara, Saracostti, 2019) carried out a study in Chile whose objective was to analyze the associations between parents and their involvement in school and the academic performance of children. For this purpose, they considered a sample of 498 parents or guardians of children who were in elementary school in 16 public schools. To do this, they established three different involvement profiles: high, average, and low, whether they participate from home or at school, at the invitation of the students themselves, the school, or the teachers. The findings they report suggest the existence of differences in the academic performance of the students between the profiles of parental involvement; students whose parents are very little involved show a lower performance.

The determining moment in which parental involvement was especially required was the recent period of confinement due to the Covid-19 pandemic, on which this work focuses. This pandemic event was a trigger for virtual education, in which students of all educational levels in the world had to migrate to videoconferencing to receive school classes corresponding to their study programs. Technology was an important means for this purpose.

Regarding the technology implemented in virtual education due to lockdown, the work of Exposito and Marsollier (Exposito, Marsollier, 2020) carried out in the Mendoza region in the Republic of Argentina, focused on exploring the strategies, the pedagogical and technological resources that teachers used most frequently in the virtual model implemented in the preventive confinement of educational institutions, prepared in the face of the global health emergency situation by COVID-19. In their study, 777 people participated, mostly teachers from educational institutions of different educational levels. In their findings, they determined that, according to the type of management, the educational level, the socioeconomic situation of the students, the academic performance and the support from the student's family, the results indicate that there are socio-educational inequalities in students (Exposito, Marsollier, 2020).

In Mexico, the move to online learning was complicated by the fact that not all students have easy access to internet, or to internet-capable devices especially in rural areas (Padilla Rodríguez et al, 2021). Zapata-Garibay et al. (2021) mention that less than half the population has access to computers, and only around 56 % of the country has internet at home, but the service is not always reliable.

In sum, though distance or virtual education is not a new phenomenon, the Covid lockdown forced institutions around the world to adopt the modality for all its educational activities. Some institutions were better prepared than others. Additionally, moving classes online proved easier for older students than for younger ones; the move was especially difficult for students at the elementary school level (Padilla Rodríguez, 2021).

This situation forced parents to take on a responsibility with their children in this phase of the teaching process, turning them into determining actors in the process and unconditional support for teachers. On this topic, the work by Garbe et al. (Garbe et al., 2020) is relevant, as it is considered one of the pioneering works on the impact of the pandemic on the educational process. In their study they describe the experiences that parents lived with their children during the closure of schools caused by COVID-19. Through an online survey they obtained information from parents, focusing their questions on how they felt about the closure of schools and what were the struggles or obstacles that they experienced while supporting their children in their school activities at home.

The most relevant results indicate that though practically all the parents who participated in the study agreed with school closures and were satisfied with the support they received from the institution, they still struggled. The parents mentioned difficulties with motivating the children to study, with accessibility to the online materials, and with achieving satisfactory learning outcomes (Garbe et al., 2020; Zapata-Garibay et al., 2021).

With the arguments extracted from the theoretical review, and in order to answer the questions of the study and the achievement of the objectives, the methodological design used for the development of the empirical study is described below.

2. Matherials and methodos

The study design is non-experimental, descriptive, exploratory, correlational, and cross-sectional.

Participants

253 parents (mothers and fathers) of students who attend the first to fourth year of elementary school participated in the study. To apply the test, we had the support of the teachers *María Guadalupe Vega Durán* and *Selmi Jenzuni Amador Gómez* from the "Alejandro Sánchez" primary school in the Port of Veracruz. Parents agreed to answer the survey under the condition that it would not affect their children in any way. They were assured of this; the reason for the survey and its content was explained to them, anonymity was guaranteed, and the survey was applied.

Instrument

In the review of the specialized literature, a scale developed by Valdés et al. (2009) was identified, which originally consists of 36 items on a Likert scale whose range is from 0 = never to 4 = always, as well as questions about the profile of the respondents. The scale is made up of five factors: School attendance and parental involvement in school activities, Communication with teachers, Knowledge of the curriculum and functioning of the school, Communication with children about school matters and help in carrying out of tasks. In the result of their study, Valdés et al. (2000) only obtain a scale made up of 23 items, which integrates only three factors. This reduced scale is used in our study, along with indicators of the participants' profile.

Procedure for data analysis

First, the internal consistency of the test and the normality of the data are assessed, then an exploratory factorial analysis is performed with orthogonal Varimax rotation, if the normality of the data is verified, otherwise, use Polychoric correlation matrices if the univariate distributions of ordinal elements are asymmetric or with excess kurtosis (Muthén, Kaplan, 1985; Ogasawara, 2011; Richaud, 2005; Timmerman, Lorenzo-Seva, 2011). Once the set of observed variables has been obtained, it will be reduced to a factorial structure (Kline, 2005), to empirically obtain the covariance of the scale items (Yela, 1966).

Table 1 shows Cronbach's alpha coefficient, which is > .8 in each group of indicators evaluated, which implies an acceptable internal consistency.

Table 1. Case Processing Summary

Cases	N	%	Cronbach's Alpha	N	Test components
Valid	249	98.4	.845	35	Test with 35 questions
Excluded(a)			.885	26	Scale and variables CE, CH, CON-E
	4	1.6	.875	23	Only scale
Total	253	100.0			

[a] Elimination by list based on all the variables of the procedure.

Table 2 describes the descriptions of each item, and the asymptotic significance with a value of 0.00, which does not exceed the threshold of 0.05, so the data does not follow a normal distribution. Therefore, the analysis of the data matrix is carried out through the use of polychoric matrices.

Table 2. The profile of the study sample

Variables	N	μ	Standard Dev	Z Kolmogorov-Smirnov	Sig. asintót. (bilateral)
Gender	253	1.1621	.36923	8.0735	0.00
Age	253	3.0079	.76632	4.4297	0.00
PerViven	253	2.9012	.32446	8.4100	0.00
Marital-status	253	1.6957	.51008	6.3079	0.00
School parents	253	2.9130	1.00808	2.9434	0.00
Number of children	253	2.0870	.71848	3.8782	0.00
Ocupation-Father	253	3.0435	1.42890	4.0330	0.00
Ocupation-Mother	253	2.9328	1.72500	3.9477	0.00
School children	253	2.5296	1.22317	3.3314	0.00
Item 1	253	3.5099	1.10055	3.6239	0.00
Item 2	253	3.3281	1.37115	2.8812	0.00
Item 3	253	4.6008	.73106	6.7267	0.00
Item 4	253	3.6838	1.27039	3.2710	0.00
Item 5	253	3.4308	1.25679	2.7935	0.00
Item 6	253	3.6522	1.29620	3.5364	0.00
Item 7	250	4.2480	1.09145	5.2270	0.00
Item 8	253	4.6917	.64842	7.4652	0.00
Item 9	253	4.2213	.98320	5.0176	0.00
Item 10	253	4.2964	1.14220	6.3469	0.00
Item 11	253	3.0909	1.30765	3.0485	0.00
Item 12	253	3.8221	1.29865	4.0175	0.00
Item 13	253	4.5613	.74616	6.4503	0.00

Item 14	253	3.0395	1.27492	3.3087	0.00
Item 15	253	4.1937	1.10825	5.0886	0.00
Item 16	253	4.5731	.78148	6.7277	0.00
Item 17	253	4.4350	.8913	6.0647	0.00
Item 18	253	3.8696	1.28591	4.2759	0.00
Item 19	253	4.4071	.94084	6.0439	0.00
Item 20	253	4.2727	1.09505	5.4015	0.00
Item 21	253	4.4941	.95378	6.3895	0.00
Item 22	253	3.7194	1.29571	3.4040	0.00
Item 23	253	4.4625	.89286	6.2736	0.00
CE	253	2.4190	.61589	4.9854	0.00
CH	252	2.8294	.41708	8.0009	0.00
CON_E	253	2.6087	.52803	6.3486	0.00
N valid	249				

The main characteristics of the participants' profile were: 83.8 % who answered the test were fathers, followed by 16.2 % corresponding to mothers, whose ages ranged from 31 to 40 years (52.2 %), followed by 26.1 % in the range of 41 to 51 years, 18.2 % between 20 to 30 years of age. 90.9 % indicate that the family nucleus is made up of 3 or more members, 64.8 % being married and 32.8 % single fathers or mothers. 47.8 % have 2 children, followed by 30.4 % of 3 or more and 21.7 % only have one child.

The education of the parents who participated is: 31:2 % with high school studies, 29.2 % with secondary studies, 28.5 % with university level, 7.5 % with only elementary school and 3.6 % said they have a postgraduate degree. In relation to the occupation of the father of the family, 35.6 % are workers, 24.9 % professionals, 16.2 % merchants, 10.3 % technicians and the remaining 13.0 % do not work, from this last percentage it is inferred that they are attending housework.

Regarding the mother's occupation, 37.9 % do not work, followed by 21.7 % who are merchants, 28.5 % are professionals, 9.5 % workers and 2.4 % technicians. Table 3 and 3b show the profile of the participants, where we can see that the highest percentage of participants corresponds to the male gender with 83.8 %, which means that the father could have been more involved in supporting his children, in virtual classes. 64.8 % correspond to married participants and 32.8 % to single parents (father or mother), with high school (31.2 %), secondary (29.2 %) and university (28.5 %), 47.8 % have 2 children, 35.6 % are workers, 37.9 % of the mothers do not work and the level of schooling of the children is the fourth year with 32.4 %.

Following the methodology proposed by Muthén and Kaplan (Muthén, Kaplan, 1985); Richaud (Richaud, 2005); Ogasawara (Ogasawara, 2011); Timmerman and Lorenzo-Seva (Timmerman, Lorenzo-Seva, 2011), the matrix of polychoric correlations is described below in Table 3.

The values described in Table 3 show an acceptable correlation.

Table 3. Polychoric correlations matrix

Variable	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12
V1	1.00											
V2	0.61	1.00										
V3	0.40	0.27	1.00									
V4	0.62	0.57	0.41	1.00								
V5	0.60	0.50	0.32	0.69	1.00							
V6	0.64	0.62	0.40	0.70	0.72	1.00						
V7	0.47	0.42	0.54	0.45	0.38	0.47	1.00					
V8	0.32	0.24	0.75	0.32	0.30	0.34	0.51	1.00				
V9	0.27	0.17	0.61	0.24	0.24	0.32	0.48	0.67	1.00			
V10	0.33	0.21	0.55	0.33	0.24	0.32	0.48	0.60	0.41	1.00		

V11	0.12	0.10	0.18	0.10	0.11	0.13	0.04	0.26	0.21	0.24	1.00	
V12	0.22	0.26	0.38	0.26	0.19	0.22	0.39	0.38	0.35	0.34	0.08	
V13	1.00											
V14	0.14	1.00										
V15	0.59	0.17	1.00									
V16	0.69	0.20	0.74	1.00								
V17	0.69	0.16	0.69	0.85	1.00							
V18	0.44	0.08	0.35	0.36	0.36	1.00						
V19	0.65	0.17	0.67	0.74	0.75	0.42	1.00					
V20	0.45	0.04	0.32	0.40	0.37	0.59	0.43	1.00				
V21	0.50	0.12	0.34	0.42	0.40	0.55	0.44	0.70	1.00			
V22	0.22	0.14	0.20	0.22	0.22	0.51	0.31	0.35	0.54	1.00		
V23	0.49	0.17	0.54	0.60	0.61	0.32	0.60	0.39	0.45	0.32	1.00	

They also show that the matrix does not constitute an identity matrix, according to the value of the determinant close to zero (0.000001), the goodness of fit 3228.4 with 325 *df* and *p-value* of = 0.000, so the AFE development is feasible (Table 4).

In the same idea, the values shown by the Bartlett test of Sphericity and KMO > 0.8 are good in the terms suggested by Lorenzo-Seva (Lorenzo-Seva, 2003).

Table 4. Bartlett test of Sphericity with Kaiser

Adequacy of the correlation matrix	
Determinant of the matrix	= 0.000001322366843
Bartlett's statistic	= 2772.9 (df = 253; p =0.000010)
Kaiser-Meyer-Olkin (KMO) test	= 0.88659 (good)

Table 5 shows the values of the five components (extracted factors) that explain 69.76 % of the cumulative proportion of variance of the phenomenon under study. These factors report an eigenvalue greater than 1.

Table 5. Explained variance based on eigenvalues

Factor	Eigenvalue	Proportion of Variance	Cumulative proportion of Variance
1	9.86734	0.42901	0.42901
2	2.06755	0.08989	0.51891
3	1.65064	0.07177	0.59068
4	1.56421	0.06801	0.65868
5	0.89513	0.03296	0.69760

Table 6 describes the indicators for each factor that showed loads greater than 0.400; those with loads lower than 0.400 were omitted.

The results described in the rotated matrix show a new integration of the indicators, which is compared with the scale proposed by Valdés et al. (Valdés et al., 2009). In their study, they develop a specification table made up of five factors according to the theory.

Table 6. Rotated loading matrix

	F1	F2	F3	F4	F5
V1	0.719				

V2	0.662				
V3				0.924	
V4	0.787				
V5	0.821				
V6	0.944				
V7					
V8				0.840	
V9				0.720	
V10				0.433	
V11		0.825			
V12					
V13					0.651
V14		0.685			
V15					0.867
V16					0.914
V17					0.955
V18			0.746		
V19					0.911
V20			0.902		
V21			0.756		
V22			0.655		
V23					0.447

In the development of the empirical study, they carry out an orthogonal Varimax rotation, resulting in an underlying structure composed of three factors, where 23 indicators are integrated. In addition, three items are developed regarding the level of parental involvement in children's school activities. Table 7 shows the values obtained from the absolute fit of the model, structural fit and parsimony, which are acceptable according to the theoretical criteria.

Table. 7. Goodness of fit statistics values

GOODNESS OF FIT STATISTICS		
Chi-Square with 205 degrees of freedom	= 331.663 (P=0.000010)	High
Chi-Square for independence model with 325 degrees of freedom	= 3228.357	High
Non-Normed Fit Index (NNFI; Tucker & Lewis)	= 0.93	Acceptable
Comparative Fit Index (CFI)	= 0.96	Acceptable
Goodness of Fit Index (GFI)	= 0.99	Acceptable
Adjusted Goodness of Fit Index (AGFI)	= 0.99	Acceptable
Goodness of Fit Index without diagonal values (GFI)	= 0.99	Acceptable
Adjusted Goodness of Fit Index without diagonal values (AGFI)	= 0.99	Acceptable

Source: own (data obtained with software Factor 10)

Derived from the study carried out by Valdés et al. (2009), they initially proposed a scale comprised of five factors, but in their analysis, they reported the reduction of the scale by three factors (Table 8).

Table 8. Comparison between original scale original and reduced scale

Original scale proposed by Valdés et al. (2009).				
1) School attendance and parental involvement in school activities.	2) Communication with teachers.	3) Knowledge of the curriculum and operation of the school.	4) Communication with children about school matters.	5) Help in completing tasks.
Items 1 to 7	Items 8 to 15	Items 16 to 19	Items 20 to 25	Items 26 to 36
Reduced scale of three factors				
Factor 1 *Communication with the school*		Factor 2 *Communication with the child*		Factor 3 *Knowledge of the school*
Talk with the teacher about your child's learning (.896)		Talk to your child about their classmates (.750)		Know the evaluation system of the school (.743)
Talk with the teacher about any concerns expressed by your child (.869)		Talk with your child about what s/he did at school (.727)		Know the school regulations (.688)
Attend school meetings (.803)		Talk with your child about what s/he did in the different classes (.720)		Know the training and experience of the child's teachers (.639)
Talk with the teacher about how the child does homework and participates in class (.792)		You are aware of the support services provided by the school (.713)		Praise child when s/he completes schoolwork (.589)
Talk with the teacher about your child's homework (.790)		Talk with your child about the relationship s/he has with their teacher (.705)		
Talk with the teacher about your child's performance and behavior (.788)				
You have a good relationship with your child's teacher (.740)				
Attends when required by the school (.724)				
Attend expert talks organized by the school (.686)				
You pick up your child from school (.658)				
You have a different opinion regarding what affects your child's behavior (.626)				
Participate in raffles organized for the improvement of the school (.607)				
Supervise the doing of tasks (.684)				
Different opinion regarding what affects academic performance (.575)				

Source: elaborated with data of Valdés et al. (2009).

In relation to this scale, this study (Table 9) shows the scale resulting from the analysis, which is made up of five factors that represent 69.76 % of the variance of the phenomenon studied.

Table 9. The structure resulting from the empirical study

Factor 1	*Factor 2*	*Factor 3*	*Factor 4*	*Factor 5*
1, 2, 4, 5, 6	11, 14	18, 20, 21, 22	3, 8, 9, 10	13, 15, 16, 17, 19, 23
1. Talk with the teacher about your child's learning (0.719)	11. Have different opinion in relation to what affects your child's behavior (0.825)	18. Know the support services provided by the school (0.746)	3. Attend school meetings (0.924)	13. Supervise the doing of homework (0.651)
2. Talk with the teacher about any concern		20. Know the evaluation system of the	8. Attend when required by the school (0.840)	15. Talk with your child about their classmates (0.867)
			9. Attend the	

expressed by your child (0.662) 4. Talk with the teacher about how child performs tasks and participates in class (0.787) 5. Talk with the teacher about your child's homework (0.821) 6. Talk with the teacher about your child's performance and behavior (0.944)	14. Have different opinion regarding what affects academic performance (0.685)	school (0.902) 21. Know the school regulations (0.756) 22. Know the training and experience of your child's teachers (0.655)	expert talks organized by the school (0.720) 10. Pick up your child from school (0.433)	16. Talk with your child about what s/he did at school (0.914) 17. Talk with your child about what s/he did in the different classes (0.955) 19. Talk with your child about the relationship s/he has with their teacher (0.911) 23. Praise your child when s/he completes schoolwork (0.447)

* Items 7, 12 did not present acceptable loads
(7) Maintain a good relationship with your child's teacher; (12) Participate in raffles organized for the improvement of the school

Source: elaborated with data of Valdés et al. (2009)

Finally, the result of the three indicators that measure communication with the school, communication with the child and knowledge of the school in terms of low, average, and high levels is as follows (Table 10).

Table 10. Level of communication

Communication with the school			
	Frequency	%	∑
Low	17	6.7	6.7
Average	113	44.7	51.4
High	*123*	*48.6*	*100*
Total	253	100	
Communication with the child			
	Frequency	%	∑
Low	4	1.6	1.6
Average	35	13.8	15.4
High	*214*	*84.6*	*100*
Total	253	100	
Knowledge of the school			
	Frequency	%	∑
Low	5	2	2
Average	89	35.2	37.2
High	*159*	*62.8*	*100*
Total	253	100	

Source: own

The results of the three variables show a high level of communication with the school (48.6 %), communication with the children (84.6 %) and knowledge of the school (62.8 %), therefore it can be observed that the role of the parents was decisive in this pandemic event.

3. Discusssion and results

From the analysis of the data, there are elements to be able to discuss the results from different angles. A first measurement allowed validating the data matrix, which shows that it is reliable, but without multivariate normality, which could be corrected with the polychoric matrix procedure. Subsequently, a structure of five factors was obtained, which is explained by 69.76 % of the variance and finally the level of communication with the school, with the child and the knowledge of the school were identified, from three parameters: low, average, and high.

One of the important indicators is related to the involvement of fathers (83.8 %) who were the ones who answered the test. This is contrary to the common belief that it is mothers who have been most involved in their children's education during the pandemic. On the other hand, it was verified that the data matrix is not an identity matrix where the values of the diagonal are (1) and the rest of the data have values (0). However, the normality of the data could not be verified, so it was necessary to use the EFA with polychoric matrices, from which a matrix with acceptable correlations was obtained. In addition, the value of Bartlett's test of Sphericity, is very acceptable (> 0.8). Subsequently, the extraction of components was carried out, where a structure composed of five factors was obtained. The hierarchy of each item and its factor load described in Table 9 explains the following factors:

Communication with teachers about children's issues

One of the components with the greatest weight in the factorial loads and communalities, is the communication of the children's parents with teachers, in matters related to the children. The performance and behavior of the children represents one of the most important drivers of that communication, in addition to the tasks assigned to the children. It is possible that the instructions given by the teachers to the students were not clear, or the student did not understand them correctly. and that is when the parent who intervenes to support their children prefers to clarify possible doubts with the teachers.

Communication among teacher and parents involves the children's learning. In short, this component groups together situations that arise in practice and where parents play a very important role in the performance and development of their children, within the virtual teaching process.

Opinion of parents regarding the performance of their children

In this component composed of two indicators, the opinion of parents seems to digress from that of the teachers and the school, since it differs with respect to what affects their children's academic performance and behavior. It is not unusual to find different opinions, as parents and teachers see the children in different contexts. This does not justify the fact of the difference of opinion.

Knowledge of school procedures

It is important for parents to know what services the school provides to support their child, evaluation criteria and procedures, school regulations, and, very importantly, the training and educational background of the teachers. It is understood that teachers not only help students develop in academic fields, but they also have an impact in promoting the fundamental values of the person and good behavior, to name some functions of teachers and academic authorities.

Attendance and involvement in school matters

Parental involvement also includes meetings organized by the academic authorities of the school, in which they are invited to discuss issues associated with the teaching process and student performance. Similarly, they are invited to talks organized by the school with experts on different topics, which serve as support and guidance for parents. With the appearance of Covid-19 and its subsequent forced confinement, all these types of activities were carried out through videoconferences, which implies an effective parental involvement, both in supporting their children in the virtual teaching process, as in the interaction with educational institutions, with teachers and with parents. Although an indicator was included in this factor that refers to the parents' involvement in retrieving their child from school, during this confinement process it was not applicable, considering that immediately after Covid-19 was declared a pandemic by the Organization World Health, traditional face-to-face classes were suspended, until further notice.

Communication with children

Beyond educational processes, communication between parents and their children is fundamental, because this fosters, in addition to good communication, family integration that over time brings benefits to all members of the family. However, this factor specifically addresses the issue of communication between parents and children, about homework, the relationship of children with teachers and other authorities of the institution with whom they have contact, about peers of class, about the activities they carry out inside and outside the class, since with this information parents, in addition to being aware, have elements to better supervise the academic life of their children. Of course, praise derived from some action such as completing tasks and good performance, helps the student's esteem, since, the recognition by parents towards their children is beneficial (Valdés et al., 2009).

The five factors that constitute the underlying structure that explains the role of parents in the virtual teaching process of children are consistent with the proposals of Llamas and Tuazon (2016) who point out that parents feel comfortable when the educational system requires their involvement in school activities. In addition, as Hamunyela (Hamunyela, 2008) refers, the educational system must be flexible, adaptable and receptive to constant changes.

In the components called "communication with the children" and "communication with the teachers" which had the highest factorial loads, these are consistent with the proposal of Bazán et al. (Bazán et al., 2007), who emphasize the change that the family has had in this educational process, which improves communication and trust with their children, which results in better communication with the teacher. In addition, this argument coincides with what was stated by García and Thornton (2014) who refer that the involvement of the family in the virtual teaching process contributes to improving performance and student behavior, improves grades and social skills, reduces school absenteeism, and restores confidence.

4. Conclusion

Undoubtedly, the progress of technology, and the increase in empirical evidence and theoretical proposals on distance education, have provided fundamental support around the virtual education modality. The new technologies and the providers of technological tools, the study plans in the new academic offer, have posed important challenges to the development of this modality.

Without a doubt, the virtual modality or online education has brought important challenges, but at the same time it has brought complications, long before the appearance of the SAR-COV 2 virus and work has been done on its solution.

The fundamental role that parents carried out in full confinement and that they still carry out today in this educational process, which still continues virtually in several institutions, is clearly a determining role for parents that generates benefits in the performance of students, especially at the basic levels of elementary and secondary education.

Virtual education is here to stay, and educational institutions already integrate both modalities into their academic offer, both face-to-face and virtual, even mixed. Perhaps this action is as a vision for the future in the face of possible pandemic events, or probably to position the academic offer for greater coverage in other contexts, but whatever the main reason for this, what is a fact is that the system educational has changed.

At the academic and scientific level, it will be up to researchers and the academics institutions continue generating empirical evidence regarding this phenomenon, in the search for answers to research questions that arise. Parents whose children attend the educational levels where their involvement is necessary, will then become intervening actors in the training process of their children, and it will be up to the educational institutions and authorities to continue innovating in the academic offer to be at the vanguard of the needs of the population in any event which requires the implementation of decisive actions to face it in the best possible way.

5. Conflict of interest

The authors of the study declare that there is no conflict of interest.

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