



## Research article

# The perceived challenges to online learning during the COVID-19 pandemic: A nationwide study of K-12 parental perspectives (Arab and other parents) in Qatar

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## ABSTRACT

This study aimed to explore self-reported challenges Arab and other parents encountered during the sudden shift to online teaching and learning due to the COVID-19 pandemic. The researchers investigated the likely effect of demographic and contextual factors on the perceived challenges reported by parents. To achieve the study's objectives, the researchers utilized a mixed-method design involving a random sample of students' parents (Arab and other parents) in public and private schools in Qatar. The study's sample consisted of 2781 parents who responded to the online survey and 25 parents who participated in online semi-structured interview. The results derived from this study identified several challenges like lack of social interaction with school-teachers, lack of motivation among children to participate in online classes and complete their homework, and dealing with the technical problems encountered during the online learning experience. The results further disclosed differences between Arab and other parents regarding the technologies and devices used during online teaching and learning. Finally, the results revealed differences between schools that do not organize additional activities in the curriculum compared to those that organize such activities. The study recommends home-school communication in order to empower parents and train them on how to manage effective learning at home and deal with children's learning behaviors. The study proposes developing parents' technical skills for online learning and the provision of material support for parents. Finally, it is important to raise a flag calling for revisiting the current curriculum to enrich children's schooling experiences and strengthen the bonds with their schools.

## 1. Introduction

Across the globe, the COVID-19 pandemic has so far had far-reaching effects on different aspects of civic life including public and private sectors. More specifically, the spread of the pandemic has created an unprecedented situation where education has been hard hit [1]. To curb the spread of the pandemic, national governments have resorted to stringent measures such as quarantining,

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lockdowns, social distancing, and the closing down of educational institutions and so forth [2].

Educational systems have faced massive challenges associated with the near-total physical closure of schools, colleges and universities. Amid the global lockdown, many educational institutions were required to shift to online learning. With the dramatic transformation from face-to-face (physical) to online teaching and the rise of e-learning and instruction carried out both remotely and on digital platforms, children and parents have found themselves compelled to deal with new challenges.

The COVID-19 pandemic caused the disruption of education worldwide, leaving policymakers, school leaders, educators, and parents with the challenge of finding out the best possible means to prepare and support children after this new school experience. Parents in particular found themselves presented with a new challenge of supporting their children's learning throughout the school day, adding to their existing responsibilities. With these demands came myriad challenges. Inside the home, "parents, siblings, and other family members [took] on the new role of learning facilitators, pseudo-teachers, and coaches" [3].

The aim of this study was to investigate parents' perceived challenges that are associated with their child's online learning experience during the COVID-19 pandemic, an area that continues to attract research attention. In doing so, the researchers sought to enhance understanding of parental involvement in their child's online learning [4–6]. Looking at parents' perceived experiences with online learning for their children is particularly important as they played an active role in their children's education during lockdown [7]. Parental views on the challenges linked to their children's online, virtual or distance learning during COVID-19 is a topic that remains under researched. This study has the potential to contribute to the existing scholarship on parental participation in children's online, distance, remote and/or virtual learning.

The rest of the paper is organized as follows: Section two looks at salient characteristics of the education system in Qatar in order to provide context for the present study. Section Three offers an overview of the relevant literature on parental involvement during the COVID-19 pandemic. Section four outlines the methodology employed in this research, including the research design adopted, participants recruited, research instruments employed, and the procedures followed in implementing the study; this also includes a description of the mode of analysis utilized. The results of this study are then presented in Section Five. Finally, Section Six provides a discussion of the findings, concludes the study, and presents relevant recommendations.

## 2. Background

Four types of schools form the Qatari education system: private Arabic schools, government schools, international schools, and community schools. Gender segregation is a prevalent practice in public (government-funded) schools in Qatar, when male and female students attend separate scholas. According to official data published by the Ministry of Development Planning and Statistics, a majority of Qatari parents have a preference for public schools. Specifically, during the academic year 2020/2021, 67 percent of parents enrolled their children in public schools [8]. Additionally, expatriates from Arab countries favor these educational institutions.

In contrast, non-Arabs expatriate parents are more likely to enroll their children in international schools, which follow international curricula, including curricula used in Canada, the UK and the US. Comparably, community schools are funded by the Qatar-based embassies of other foreign countries. These follow the curricula used in those countries and primarily serve the nationals of those countries (for example, French, Indian, Pakistani). Finally, private Arabic schools use the curriculum of a foreign Arab country (Egypt, Tunisia, Sudan, etc.).

In addressing parents' perceptions of the COVID-19 pandemic as a hindrance to their child's online learning experience, this research is important and fitting. By looking at Arab and other parents' experiences with their child's studies during the pandemic, our study sought to see whether parental experiences reported in other studies conducted in other countries outside the Gulf Cooperation Council (GCC) region, especially those carried out in Western countries, may or may not apply in the Gulf State of Qatar and the larger Arab region. The division of parents into Arab and others reflects an evident demographic characteristic of the population in Qatar, which exhibits an acute demographic imbalance, with expatriates predominately outnumbering locals.

In the absence of a sound policy action, the unprecedented situation relating to the COVID-19 pandemic carried significant consequences on and huge implications for education. Globally, policy makers raced to implement diverse solutions, deploying immense efforts to mitigate the effects of the pandemic on the education sector. On March 10th, 2020, the State of Qatar – much like many other countries worldwide – announced a nationwide closure of all public and private educational institutions amid fears of the spread of the corona pandemic. To ensure the safety and well-being of students, teachers and staff members in all public and private institutions of education, Qatar's government adopted a series of measures in order to address the pandemic stemming from the COVID-19 pandemic. For example, social distancing was imposed, and schools, colleges and universities were closed nationwide.

### 2.1. Literature review

While distance or online education is not a new mode of learning, the recent spread of the COVID-19 pandemic has popularized its use and heightened its importance across the globe. Indeed, online learning has become a phenomenon that is increasingly gaining value and prominence in many countries [9].

### 2.2. Parental roles in online learning

With more and more students taking all or most of their courses online, parents had to shoulder greater responsibility in assisting their children with online learning [3,6]. School closures and the subsequent shift to online learning required already occupied parents to juggle multiple responsibilities. Parents had to understand the different types of engagement needed to support their children with

online learning at different levels of schooling [10,11]. The Parczewska (2020) study also revealed that parents viewed the situation as difficult and thought that their homeschooling responsibilities were over their abilities. In general, parents lacked confidence in their ability and the solutions they implemented; they expressed concern for their children's future [12].

Reporting previous research on parental engagement in online learning, Burdette and Greer identified a range of parental roles, including the delivery of instruction, performing administrative tasks (e.g., recording attendance and progress), and motivating their child to study [13]. Borup, who examined teachers' perceptions of parental involvement in their child's online learning at an online charter school through surveys and interviews, identified the following forms of parental support: (a) scheduling and management of students; (b) fostering relationships and interactions among parents; (c) monitoring and motivating student engagement; and (d) providing instruction to students when needed [14].

Other forms of parental engagement in online learning involve encouraging, monitoring and enforcing their child's online attendance [15]. Home-based involvement focused on learning management, time management, and homework assistance [16]. Parents frequently served as learning coaches, providing a safe setting, suitable learning opportunities, and support. Their duties included organizing and managing schedules, encouraging, monitoring, and inspiring participation, and training children when appropriate [17]. Parental involvement in virtual learning environments was crucial for student achievement, as it helped students adapt to distance education, increase student achievement and improve the learning environment [18]. Research shows that parents' mere physical presence in the house when their child learns remotely can help in filling the gap resulting from the teacher's absence [19]. Indeed, research conducted by Jain (2020, cited in Ref. [20]) on parental responses to online learning during COVID-19 indicates a direct positive relationship between parental involvement and student success.

A number of salient challenges associated with online learning have been reported in the research literature. Chief among these is students' lack of motivation and low engagement [6,21,22]. Other challenges include the mismatch between students' learning style preferences and the environment in which online learning takes place, as well as the lack of face-to-face interaction with peers [4,6]. The decreased social interaction with others may result in feelings of isolation and thus drive children to refrain from engaging in collaborative learning, which would negatively impact children's physical and mental health. According to social constructivism, learning occurs in social contexts [23]; online teaching deprived students from the physical social interactions deemed crucial for learning [18].

Additional challenges include the technical/infrastructural issues faced by students and their parents in the home environment, such as access to technological devices and a stable internet connection [24–26]. These issues can exacerbate students' quality of learning and increase the digital divide [27]. Relatedly, access to and availability of learning resources can vary for students [28].

Existing literature also points to an increased reliance on parental involvement in the child online learning given the physical absence of teachers [29,30]. Yet, some parents may lack the digital literacy or knowledge required to monitor and/or support their child's learning, such as knowledge of the language of instruction or subject-specific knowledge. This can affect students' learning progress, particularly for students who have special educational needs and may typically receive more specialized support in the school environment.

### 2.3. Theoretical framework

The present investigation defines online education as the universe of teacher-learner relationships that results from the spatial and temporal separation of instructors and students [31]. The study employed Bourdieu's Theory of Cultural Capital Theory (CCT) and the Theory of Transactional Distance (TTD) as theoretical lenses through which to examine the challenges perceived by parents to stem from online learning during the COVID-19 pandemic [32–34]. The CCT postulates that the cultural background and experiences of a person influence her/his access to available resources and opportunities. As Bourdieu noted, people's cultural capital encompasses the knowledge, skills and resources that they acquire via their upbringing, education, and socialization [32]. Because this capital is not always distributed in an even manner in a given society, people with more cultural capital have the advantage of a better status and social mobility.

Regarding the online learning obstacles highlighted by parents during the COVID-19 pandemic, TTD offers a practical paradigm for comprehending the probable impact of environmental and demographic variables. Within TTD, the term "transactional distance" is defined as a psychological and communicative gap that must be bridged; it signifies a potential chasm of inputs between the learner and the teacher [31]. Communication gaps, which TTD defines as a psychological space including the possibility of misunderstandings between the learners and instructors regarding their behaviors [35], are hypothesized to result from the isolation between students and instructors in distance learning situations.

Underpinning TTD are three factors that must be taken into consideration in teacher-student transactions: dialogue, structure, and learner autonomy [35,36]. First, dialogue (or interaction) refers to the meaningful communication that occurs during the course, including interactions between the teacher and students, students and the course content, and students and fellow students. Second, structure encompasses various elements of course design, including learning activities, assignments, assessments, and course objectives. Third, learner autonomy involves students' ability to decide "what to learn, how to learn, and how much to learn." [37](p. 68). As Dron, Seidel and Litten noted, "Transactional distance is measured on a continuum of structure and dialogue. The more structure, the less dialogue and vice versa" [38](p. 163) and "The more structured the course became, the fewer the opportunities for dialogue arose." [38](p. 169).

Obviously, understanding teaching-learning relationship as perceived by CCT and TTD helps picturing the educational context and, therefore, justifies drawing conclusion and reflections regarding the challenges that parents went through while supporting their children during the abnormal COVID-19 education delivery.

## 2.4. Problem statement and the research questions

The sudden closures of educational institutions and subsequent shift from traditional classroom instruction to at-home online learning left many parents unprepared and struggling to juggle multiple responsibilities. Many found themselves balancing work commitments and child care while also needing to keep a watchful eye on their personal and children's emotional health and well-being [1,39,40]. This placed parents under an increased amount of pressure when navigating ways to support their child with online learning [6,41,42]. While research on online learning during COVID-19 continues to grow, the perspectives of parents in managing their child's online learning experiences and the challenges emanating from these experiences remain an understudied area of research.

The present study was guided by the following research questions:

- a) What are the perceived challenges that Arab and other parents reported when assisting their K-12 children with online learning during the COVID-19 pandemic?
- b) Are there any statistically significant differences ( $p = .05$ ) in the Average Challenge Score of Arab and other parents in light of the independent variable during COVID-19?
- c) In light of their experience during the pandemic, what suggestions do Arab and other parents perceive to enhance future online education?

## 3. Methods

### 3.1. Study design

The research employed a mixed-method design to examine a randomly selected sample of parents of students attending public and private schools in Qatar, including both Arab and other parents. For quantitative data collection, an online self-administered questionnaire was utilized; for qualitative data collection, an online semi-structured interview was applied.

### 3.2. Population and sample

The population chosen for this study included all of students' parents (Arab and other parents) in public and private schools in Qatar for the academic year 2020/2021. The study's sample consisted of 2781 parents who responded to the online survey. At a later stage, the researchers interviewed 25 parents who were randomly selected from those who responded to the online semi-structured survey. The study's population comprised all parents of students enrolled in public and private schools in Qatar during the academic year 2020/2021, encompassing both Arab and non-Arab parents. The online poll was completed by 2781 parents, who comprised the study's sample. Subsequently, 25 parents who had replied to the online semi-structured survey were interviewed by the researchers at random.

### 3.3. Instruments

The survey utilized in this research was divided into two sections: the initial section inquired about sociodemographic attributes, while the subsequent section incorporated a scale devised by the investigators to ascertain the difficulties encountered by parents amidst the COVID-19 pandemic. Furthermore, online semi-structured interviews were employed to gather more comprehensive data for the study. The description of the instrument follows below.

## 4. Attributes of sociodemography

Sociodemographic information, including gender, nationality, employment, education level, grade level, number of children in the family, and the individuals with whom the kid resides, was gathered in the initial section of the self-administered questionnaire. These data also comprise the following: school area, types of online learning devices, way of online learning school delivery, time spent each day participating in and completing online learning schoolwork, internet access, access to online learning devices and extracurricular activities.

### 4.1. Challenges faced during online education

The second part of the questionnaire focused on parents perceived online challenges during the pandemic. The researchers developed the challenges scale in light of the available literature [43–46]. This scale contains 14 specific items that describe potential challenges and seek to elicit parents' opinions concerning their experience with online teaching and learning during the pandemic. Participants were asked to specify their level of agreement with each item on a 5-point Likert scale ranging from (1) Not a challenge to (5) High challenge. The questionnaire was translated by professional Arabic-English translators. To verify the Arabic iteration of the recently produced scale items in comparison to the English version, a word-by-word reverse translation was executed. In accordance, minor adjustments were made.

#### 4.2. Semi-structured interviews

Following the conclusions made from the quantitative analysis, the investigators proceeded with semi-structured interviews (in both Arabic and English) with the purpose of extracting comprehensive narratives from the participants. Spradley's traditional paradigm was strictly followed during the whole process of collecting, analyzing, and designing the interview data [47]. The interview protocol employed two distinct formats, namely the grand tour and the mini tour. In advance, the researchers formulated a set of grand-tour inquiries that were grounded in the research topics of the study. Nevertheless, to prompt the reply to provide more thorough explanations and clarifications, they devised impromptu follow-up inquiries in the form of mini-tours. After the completion of the audio recording process, every interview was transcribed.

#### 4.3. Validity and reliability of the instrument

A group of specialists in Educational Technology and Curriculum and Instruction from the College of Education at Qatar University assessed the challenges scale in both English and Arabic to determine its content validity. The readability, coherence, and interconnectedness of each component with the overall scale were assessed by the professionals. To assess the internal consistency of the instrument, a pilot study was undertaken to evaluate the scale using a subgroup including fifteen Arab parents and thirteen non-Arab parents. In terms of internal consistency, the Pearson Coefficient produced a positive and statistically significant result at the 0.01% level. The Cronbach alpha calculation for reliability yielded a coefficient of 0.854; this implies that the items had a high degree of internal consistency and that the survey can be deemed reliable.

#### 4.4. Data collection

To maximize the participation of parents, the researchers developed a self-managed computerized questionnaire in both Arabic and English, utilizing Microsoft Forms. The researchers solicited the cooperation of the Ministry of Education and Higher Education in order to electronically disseminate the questionnaire to a sample of randomly selected parents from the parent body of Qatari public and private schools. Reminders were issued to participants by the Ministry of Education and Higher Education in an effort to enhance response rates. The participants were provided with the choice to do the survey in the language of their preference; each version required an equivalent amount of time, around 10–15 min. All sessions of the online semi-structured interviews that comprised the qualitative data collection process were recorded for transcription at a later time. The duration of each interview ranged from 15 to 20 min.

Volunteers were duly apprised of the voluntary nature of their involvement in the research and were furnished with an information sheet detailing the objectives and methodologies of the study, as well as guarantees regarding their anonymity, prior to data collection commenced. The participants were provided with the guarantee that their information would remain private, not be disclosed publicly, and be utilized solely for research objectives. An informed consent form was collected from all participants, and this research was authorized by the Qatar University Institutional Review Board (IRB) (QU-IRB 1481-EA/21).

#### 4.5. Statistical analysis

In order to compute the required descriptive statistics, the quantitative data was processed using the statistical package SPSS version (27.0). The challenges scale followed a 5-point Likert scale (1 Not a challenge, 2 Low challenge, 3 Somewhat a challenge, 4 A challenge, 5 A serious challenge) where higher scores indicate higher challenge levels. The average of responses for all challenge items were computed and referred to as "Average Challenge Score", which served as the dependent variable for data analysis purposes. The sociodemographic attributes served as independent variables.

Depending on the category level of the variables, either one-way ANOVA or an independent samples *t*-test was utilized to examine the equality of means across the categories of each independent variable. When the statistical assumptions behind the ANOVA and *t*-test were found to be false, the Kruskal-Wallis non-parametric test was employed in their place. In order to estimate the Average Challenge Score, multiple linear regression analysis was applied to the predictors of the study. Considered statistically significant were tests with P-values less than 0.05. The proportion of agreement was introduced as a novel variable to characterize the specific challenge items. The proportion of respondents that identified "A major challenge" or "challenge" in response to the elements comprising the challenges scale constitutes the percentage of agreement.

#### 4.6. Thematic analysis

For qualitative data, the authors relied on Spradley's thematic analysis and followed three steps: identifying the data, searching for topics, identifying key themes and patterns, based on emerging patterns such as differences, similarities, sequence, or causality, and then performing a taxonomic analysis that involves dividing each domain into subdomains that include common elements [47].

## 5. Results

### 5.1. Characteristics of the sample

Table 1 presents the characteristics of the sample of the study in terms of frequency and percentages per each of the study variables.

**Table 1**  
Characteristics of the sample.

Variables	Classification	Arab		Other parents	
		Frequency	%	Frequency	%
Gender	Male	730	42.6%	571	53.6%
	Female	985	57.4%	495	46.4%
Age	Below 25	40	2.3%	43	4.0%
	25–34	325	19.0%	149	14.0%
	35–44	849	49.5%	563	52.8%
	45–54	412	24.0%	282	26.5%
	55 and above	89	5.2%	29	2.7%
Level of education	High school	424	24.7%	210	19.7%
	Bachelor's	931	54.3%	517	48.5%
	Master's	209	12.2%	225	21.1%
	Ph.D.	43	2.5%	12	1.1%
	Other	108	6.3%	102	9.6%
Primary person responsible for the child's school support	Parents (mother – father – both)	1526	89.0%	972	91.2%
	child self	107	6.2%	53	5.0%
	Private tutoring	22	1.3%	32	3.0%
	Child's siblings	60	3.5%	9	0.8%
Child lives with both parents in the same house	No	91	5.3%	17	1.6%
	Yes	1624	94.7%	1049	98.4%
Parent employment	Both	692	40.3%	271	25.4%
	Father	912	53.2%	752	70.5%
	Mother	111	6.5%	43	4.0%
Type of school	Public	1049	61.2%	222	20.8%
	Private	666	38.8%	844	79.2%
Numbers of household children	1	307	17.9%	106	9.9%
	2	533	31.1%	436	40.9%
	3	399	23.3%	308	28.9%
	4	244	14.2%	132	12.4%
	5	146	8.5%	49	4.6%
	6	51	3.0%	18	1.7%
	More than 6	35	2.0%	17	1.6%
Child's Grade Level	Pre k	33	1.9%	6	0.6%
	K - 2	451	26.3%	144	13.5%
	3–6	716	41.7%	441	41.4%
	Middle school 7-9	341	19.9%	277	26.0%
Device used for online learning	High school 10-12	174	10.1%	198	18.6%
	Personal Laptop	645	37.6%	606	56.8%
	Desktop	67	3.9%	117	11.0%
	iPad or Tablet	567	33.1%	186	17.4%
Internet access	Phone	436	25.4%	157	14.7%
	No	35	2.0%	11	1.0%
	Yes	1470	85.7%	932	87.4%
Access to a device use for online learning	Yes, but it does not work very well	210	12.2%	123	11.5%
	No	229	13.4%	90	8.4%
	Yes	953	55.6%	751	70.5%
	Yes, but it does not work very well	106	6.2%	61	5.7%
	Yes, but another household member has to use it when my child needs it	427	24.9%	164	15.4%
How school delivers online learning	online	1051	61.3%	509	47.7%
	Print materials	20	1.2%	4	0.4%
	Both online and print materials	644	37.6%	553	51.9%
Time spent participating in and completing online learning schoolwork each day	0–2 h	323	18.8%	111	10.4%
	3–5 h	786	45.8%	672	63.0%
	6–7 h	396	23.1%	214	20.1%
	Not sure	93	5.4%	31	2.9%
	More than 7 h	117	6.8%	38	3.6%
School holds extra-curricular activities	No	852	49.7%	382	35.8%
	Yes	863	50.3%	684	64.2%

5.2. Perceived challenges reported by parents when assisting their K-12 children in online learning during the COVID-19 pandemic

Table 2 below presents results for the perceived challenges Arab and other parents reported encountering while assisting their children with online learning during the pandemic.

The Average Challenge Scores for Arab and non-Arab parents were 3.35 and 3.29, respectively, which indicate attitudes ranging from neutral to major challenges for online schooling. The average level of agreement among Arab parents on all topics varied by 29.8 percentage points (from a low of 57 percent to a maximum of 86.8 percent), with a mean of 76.64 percent and a median of 75.4 percent. The agreement rates of other parents for all items varied between 59.1% and 86% (with a range of 26.9%), with a mean of 69% and a median of 67.9%.

Arab parents highly agreed on items 1, 6 and 9: “Lack of social interactions with school teachers” (86.8%), “Motivating my child to complete schoolwork” (86.1%) and “Assisting my child with instructions or assignments” (84.2%), respectively. Meanwhile, the statement “Online instructions include some teaching content that is not suitable for online instructions” received the lowest percentage of agreement (57%). Most other parents (86%) highly agreed on item 1 “Lack of social interactions with schoolteachers”. On the other hand, items 10 and 7 received the lowest percentages of agreement, “Online instructions include some teaching content that is not suitable for online instructions (59.2%) and “Accessing online learning tools such as Microsoft Teams” (59.1%)”.

In regard to the interviews, participants’ responses revealed agreement between Arab and other parents on the challenges they faced during the shift to online learning. Parents’ challenges are represented by three main areas: home as a new learning environment, physical and psychological health concerns, and financial challenges. More detailed sub-areas have branched out from these main areas, which are explained below:

The challenges related to home as a new learning environment have branched into four sub-areas, The pandemic has posed a significant challenge for parents, who are now forced to work from home due to school closures and reduced working hours. This has made it difficult for parents to balance their work schedules with their children’s online learning, while also ensuring a supportive home learning environment that can be challenging to control and ensure. The second was the educational challenge, where parents had to assume the role of teacher and manage their children’s education at home, and this was a special challenge for parents with limited abilities and experience in education, as this required parents to study with their children to obtain a better learning outcome. While some students are independent learners, there are also students who struggle to grasp the basic concepts of the lesson without a teacher. Parents also emphasized their concerns about their ability to help their children understand school subjects, especially math and science, and complete homework. Moreover, both learners and their parents need to adapt to the new learning environment. Third, with regard to achieving educational goals, parents noted the challenges faced by learners in terms of the rapid speed of lessons and many activities in a short period of time, which burdens students with many tasks to accomplish leading to negative results on the level of the child’s skill and mastery of the educational material and the achievement of learning outcomes. Fourthly, the challenges associated with accessing the internet for online learning include power outages, internet malfunctions, and slow connections due to the lack of high-speed networks or multiple devices connecting to the same service provider. In addition, students and their parents may struggle with the download of large files or the need for particular software. Due to restrictions and precautionary measures, it is not possible to seek assistance from specialists, which exacerbates these challenges.

As for physical and psychological health concerns, three sub-areas were identified; the first was the challenge of managing stress and anxiety caused by the stressful environment created by the pandemic, which compelled parents to find solutions that help them manage stress and anxiety while continuing to provide support for their children during these difficult times. The pandemic has led to social isolation, preventing parents from receiving vital support from relatives, friends, and caretakers. Pandemic restrictions have restricted participation in social events, leaving parents and children feeling alienated and lonely. This is especially problematic for youngsters whose growth and skill development depend on social contacts. Many parents also cited concerns about their children’s health because of the length of time they sit in front of computers, manifested in weight gain due to lack of adequate physical activity

**Table 2**  
Percentage of participants who agreed or strongly agreed on the challenges scale.

No.	Items	Arab parents’ Agreement	Other parents’ Agreement
1	Lack of social interactions with schoolteachers	86.8%	86%
2	Motivating my child to complete schoolwork	74.6%	67.8%
3	Balancing my own work and home life while supporting my child in online learning	81.9%	71.2%
4	Assisting my child with instructions or assignments	75.7%	61.9%
5	Online instructions include insufficient student participation	75.4%	74.9%
6	The structure of the school day for my child	86.1%	73.9%
7	Access to technology, issues with Wi-Fi/connectivity	73.5%	59.1%
8	Issues with technological devices	74.8%	62.2%
9	Maintaining connections with teachers	84.2%	66.7%
10	Teaching strategies and teaching methods are suitable for online instructions	57%	59.2%
11	Accessing online learning tools such as Microsoft Teams	81.9%	71.5%
12	Online teaching resources are sufficient for supporting courses	70.8%	71.8%
13	Online instructions include no course assistant or insufficient quantity	74.9%	73.7%
14	Online instructions include some teaching content that is not suitable for online instructions	75.4%	68.1%
Average		76.64%	69%

and eye problems such as dehydration and eye strain.

In the end, the financial challenges are a result of the additional costs caused by the epidemic, particularly those associated with the desire for laptops, tablets, and high-speed internet connections among children. This condition presents a huge barrier for low-income parents and those with many children in school. Moreover, the increase in the number of devices connected to the same service provider has exacerbated the financial strain, as parents are compelled to pay additional fees for monthly subscriptions to guarantee

**Table 3**  
Arab parents' average challenge score by the independent variables.

Factors	Level	Mean	SD	Test statistics <sup>b</sup>	P-value <sup>a</sup>
Age	Below 25	3.18	0.821	1.607	0.170
	25_34	3.28	0.808		
	35_44	3.38	0.770		
	45_54	3.35	0.759		
	55 and more	3.42	0.719		
Gender	Male	3.37	0.722	0.581	0.561
	Female	3.34	0.810		
Level of education	High school	3.23	0.781	6.487	<0.001
	Bachelors	3.40	0.777		
	Master	3.50	0.747		
	PhD	3.27	0.658		
	other	3.20	0.730		
Primary person responsible for school support	Parents (mother – father – Both)	3.36	0.781	0.226	0.878
	child self	3.32	0.660		
	sibling child	3.27	0.783		
	private tutoring	3.31	0.782		
Child lives with both parents in the same house	Yes	3.36	0.762	-1.972	0.051
	No	3.16	0.946		
Employment	Both	3.41	0.808	3.073	0.047
	Father	3.32	0.756		
	Mother	3.27	0.680		
Number of children at home (OR in the house)	1	3.33	0.727	0.973	0.449
	2	3.41	0.767		
	3	3.33	0.778		
	4	3.33	0.777		
	5	3.34	0.871		
	6	3.35	0.716		
	7	3.25	0.700		
	More than 7	3.10	0.944		
Type of school	Public	3.41	0.747	2.182	0.029
	private	3.31	0.812		
	Grade level	Pre k	3.48		
K - 2	3.38	0.768			
3_6	3.34	0.780			
The device your child uses for online learning:	Middle school 7_9	3.33	0.728	1.112	0.343
	High school 10_12	3.34	0.833		
	Personal Laptop	3.39	0.748		
	Desktop	3.26	0.893		
Does your child have internet access?	iPad or Tablet	3.36	0.776	3.31	0.788
	Phone	3.31	0.788		
	NO	3.17	0.727		
Yes	3.38	0.765			
Access to devices	Yes, but it does not work very well	3.22	0.829	0.150	0.930
	NO	3.33	0.782		
	Yes	3.36	0.762		
	Yes, but it does not work very well	3.32	0.805		
Ways schools deliver online learning	Yes, but other household have to use it when my child needs it	3.36	0.790	0.677	0.508
	online	3.37	0.760		
	Print materials	3.38	0.901		
	Both online and print materials	3.33	0.793		
Time spent participating in online learning schoolwork	0–2 h	3.42	0.789	2.170	0.070
	3–5 h	3.36	0.741		
	6–7 h	3.31	0.798		
	Not sure	3.19	0.780		
	More than 7 h	3.42	0.840		
Extracurricular activities	Yes	3.32	0.761	1.620	0.105
	No	3.38	0.786		

<sup>a</sup> P-values based on One-way ANOVA or Kruskal-Wallis tests and independent-samples *t*-test.

<sup>b</sup> Could be either F for ANOVA test or T for *t*-test.



**Table 4**

Non- Arab parents' average challenge score by the independent variables.

	Level	Mean	Std. Deviation	Test statistics <sup>b</sup>	P-value <sup>a</sup>
Age	Below 25	3.16	1.028	7.366 <sup>c</sup>	0.118
	25_34	3.23	0.835		
	35_44	3.25	0.942		
	45_54	3.42	0.807		
	55 and more	3.34	0.745		
Gender	Male	3.34	0.882	2.060	0.040
	Female	3.23	0.905		
level of education	High school	3.35	0.852	1.185	0.316
	Bachelors	3.29	0.866		
	Master	3.24	0.965		
	PhD	3.71	1.097		
	other	3.23	0.930		
Primary person responsible for school support	Parents (mother – father – Both)	3.28	0.891	1.246	0.292
	child self	3.32	0.976		
	sibling child	3.44	0.830		
	private tutoring	3.78	0.972		
Child lives with both parents in the same house	Yes	3.29	0.894	0.289	0.773
	No	3.35	0.915		
Employment	Both	3.26	0.931	0.737	0.479
	Father	3.29	0.882		
	Mother	3.44	0.874		
Number of children at home (OR in the house)	1	3.22	0.931	0.885	0.518
	2	3.28	0.910		
	3	3.27	0.863		
	4	3.37	0.913		
	5	3.34	0.868		
	6	3.31	0.910		
	7	3.19	0.372		
	More than 7	3.89	0.894		
Type of school	Public	3.27	0.875	−0.342	0.732
	private	3.30	0.900		
Grade level	Pre k	4.00	1.049	9.623 <sup>c</sup>	0.017
	K - 2	3.36	0.823		
	3_6	3.22	0.901		
	Middle school 7_9	3.25	0.946		
	High school 10_12	3.43	0.828		
The device your child uses for online learning:	Personal Laptop	3.24	0.947	7.390 <sup>c</sup>	0.060
	Desktop	3.48	0.802		
	iPad or Tablet	3.33	0.817		
	Phone	3.31	0.820		
Does your child have internet access?	NO	3.32	1.102	10.062 <sup>c</sup>	0.007
	Yes	3.26	0.892		
	Yes, but it does not work very well	3.54	0.864		
Access to devices	NO	3.42	0.937	6.237	0.001
	Yes	3.22	0.912		
	Yes, but it does not work very well	3.65	0.744		
	Yes, but other households have to use it when my child needs it	3.40	0.791		
	online	3.37	0.873		
Ways schools deliver online learning	Print materials	3.25	1.041	3.779	0.023
	Both online and print materials	3.22	0.908		
	0–2 h	3.34	0.919		
	3–5 h	3.22	0.892		
Time spent participating in online learning school work	6–7 h	3.36	0.878	5.771	<0.001
	Not sure	3.45	0.860		
	More than 7 h	3.87	0.741		
	Yes	3.20	0.897		
	No	3.45	0.869		

<sup>a</sup> P-values based on One-way ANOVA or Kruskal-Wallis tests and independent-samples *t*-test.<sup>b</sup> Could be either F for ANOVA or Kruskal-Wallis test or T for *t*-test.<sup>c</sup> Variables violated ANOVA assumption.

sufficient bandwidth for all devices.

### 5.3. Factors influencing the challenges parents faced during COVID-19

The results of the independent samples *t*-test and the one-way ANOVA or Kruskal-Wallis test for determining whether the means of the Arab Average Challenge Score are equal are displayed in Table 3. It implies that the means of the following variables' Average Challenge Scores differed statistically significantly:

Level of education, employment, type of school and internet access ( $P = 0.001, 0.047, 0.029$  and  $0.010$ ) respectively. An independent sample *t*-test revealed that Average Challenge Score mean for parents of children in private schools was significantly different from those in public schools ( $P = 0.029$ ). The post hoc analysis results further indicated that Average Challenge Score mean for parents who completed their high school education was significantly different from those with a bachelor's ( $P = 0.037$ ) or master's ( $P = 0.001$ ) degree. For employment, the results revealed that the Average Challenge Score for parents where both Arab and non-Arab parents were economically active was significantly different from those with only the fathers were economically active ( $P = 0.029$ ). For internet access, the results revealed that the Average Challenge Score mean for parents who had access to fast-speed internet was significantly different from parents who faced internet connection issues ( $P = .021$ ). On the other hand, the *t*-test showed no statistically significant differences in the Average challenge Score means for parental gender, age, the numbers of children at home, the child's grade, type of device used for online learning, ways school deliver online learning, daily time spent on participation and homework, child residency, online learning accessibility, and extra-curricular activities (see Table 3).

The results of the one-way ANOVA or Kruskal-Wallis test and the independent samples *t*-test for the equality of means of the average challenge scores of the other parents are presented in Table 4. The means of the following variables exhibited statistically significant disparities: gender ( $P = 0.040$ ), grade ( $P = 0.017$ ), internet access ( $P = 0.005$ ), device access ( $P = 0.001$ ), methods by which educational institutions deliver online learning ( $P = 0.023$ ), daily time devoted to online learning schoolwork completion ( $P = 0.001$ ), and school extracurricular activities ( $P = 0.001$ ).

The independent sample *t*-test revealed that the Average Challenge Score mean for fathers was significantly different from mothers ( $P = 0.040$ ), and the Average Challenge Score mean for schools that did not offer extracurricular activities was significantly different from those that did ( $P = 0.001$ ). The post hoc analysis for grade level yielded significant Average Challenge Score mean ( $P = 0.037$ ) for other children in 3–6 grade but not for those in high school. The post hoc analysis also showed that the Average Challenge Score mean for poor quality internet access was significantly different from those who had high quality internet access ( $P = 0.003$ ). Further, the Average Challenge Score mean for access to poor quality or faulty devices was significantly different from those who had access to well-functioning devices ( $P = 0.002$ ).

In regard to the ways school delivered online learning, the analysis revealed that the Average Challenge Score mean for exclusively online learning was significantly different from both online and printed materials ( $p = .017$ ). Finally, analysis revealed that the Average Challenge Score mean for a child who spends more than 7 h was significantly different from that of a child who spent 0–2 h, 3–5 h and 6–7 h ( $p = .014, <0.001, 0.010$ ) respectively. There were no statistically significant differences in the Average Challenge Score means for parents' age, number of children in home, device used for online learning, parents' level of education, employment, school type, internet access, child lives with both parents in the same house and access to a device for online learning (see Table 4).

The outcomes of the independent sample *t*-test for the means of the Arab and other Parental Challenges Scale items are presented in Table 5. The table indicates that there were statistically significant differences in the difficulties encountered by parents throughout the online learning period with respect to the following factors: access to technology/Wi-Fi/connectivity issues, the structure of the school day, device-related issues, motivation to complete schoolwork, maintaining connections with teachers, and online instructions including insufficient quantity or absence of a course assistant ( $P = 0.001, P = 0.001, P = 0.001, P = 0.001, P = 0.004, \text{ and } P = 0.001$ ),

**Table 5**  
Challenges toward online education of Arab vs other parents.

No.	Items	Arab		Other parents		P-value
		Mean	SD	Mean	SD	
1	Lack of social interactions with schoolteachers	3.64	1.067	3.69	1.097	0.821
2	Access to technology, issues with Wi-Fi/connectivity	3.15	1.086	3.07	1.245	<0.001
3	The structure of the school day for my child	3.36	1.036	3.09	1.188	<0.001
4	Issues with technological devices	3.19	1.055	2.95	1.239	<0.001
5	Balancing my own work and home life while supporting my child with online learning	3.43	1.239	3.42	1.293	0.092
6	Motivating my child to complete schoolwork	3.69	1.054	3.32	1.226	<0.001
7	Accessing online learning tools such as Microsoft Teams, Zoom, etc.	3.24	1.175	2.77	1.218	0.081
8	Maintaining connections with teachers	3.23	1.120	2.90	1.214	0.004
9	Assisting my child with instructions or assignments	3.61	1.083	3.02	1.198	0.156
10	Online instructions include some teaching content that is not suitable for online instructions	2.74	1.213	2.72	1.202	0.913
11	Online instructions include insufficient student participation	3.54	1.110	3.09	1.149	0.070
12	Online teaching resources are sufficient for supporting courses	3.01	1.017	3.01	1.036	0.571
13	Teaching strategies and teaching methods are suitable for online instruction	3.11	1.038	3.06	1.063	0.864
14	Online instructions include no course assistant or insufficient quantity	3.06	0.999	2.89	1.109	<0.001
	Average challenge Score	3.35	0.774	3.29	0.894	<0.001

respectively. No statistically significant differences were observed in the remaining items between Arab and non-Arab parents. Furthermore, it was observed that the average challenge score of the Arab parents differed considerably from that of the other parents ( $P = 0.001$ ).

The findings of the final multiple linear regression model examining the Average Challenge Score for Arabs and other parents are presented in Table 6. The model incorporates the following variables: parental age, gender, employment status, level of education, number of children residing in the household, school type, child grade level, online learning device utilized, methods by which schools deliver online learning, daily time spent participating in and completing online learning schoolwork, child-parent residency, internet access, or online learning. The dependent variable in the study was the Average Challenge Score. The predictors accounted for 1.8% of the variance in the Average Challenge Score of Arabs ( $R^2 = 0.018$ ,  $F = 1.96$ ,  $P = 0.013$ ) and 5.9% of the variance in the Average Challenge Score of other parents ( $R^2 = 0.059$ ,  $F = 4.08$ ,  $P = 0.001$ ). Age and occupation were the factors that significantly impacted the Arab Average Challenge Score ( $P = 0.020$  and  $P = 0.047$ ), respectively. In contrast, internet access ( $P = 0.005$ ), methods of school delivery of online learning ( $P = 0.030$ ), daily time spent participating in and completing online learning schoolwork ( $P = 0.001$ ), and school hosting of extracurricular activities ( $P = 0.001$ ) were significant predictors of the Average Challenge Score of other parents.

5.4. Parents' suggestions to enhance online education in light of their experience during the pandemic

The third question aims to gather suggestions from parents on how to improve future online experiences in light of their personal experiences during the COVID-19 pandemic. Based on the semi-structured interviews, a number of suggestions emerged in four main areas: education, training and readiness, homeschooling, and finance. With regard to the educational aspect, two sub-areas have branched out from it, the first of which is related to the curriculum, as parents believe that the distribution of the school schedule and the distribution of daily materials should take into account the nature of online education.

For example, shortening the content of certain topics should be considered and prioritize basic skills in each topic content. Second, parents have highlighted the need to build more individualized educational plans that meet the needs and circumstances of each child,

**Table 6**  
Multiple linear regression analysis to predict the value of Average challenge Score using the predictors.

Model	Unstandardized Coefficients	t	P-value	df	F	R Square	P-value		
								$\beta$	Std. Error
Arab	1 (Constant)	3.312	0.207	15.986	<0.001	16	1.955	0.018	0.013 <sup>b</sup>
	Age	0.058	0.025	2.331	0.020				
	Gender	0.000	0.042	0.004	0.997				
	Level of education	0.005	0.019	0.249	0.803				
	Primary person responsible for school support	-0.013	0.030	-0.417	0.677				
	Child lives with both parents in the same house	0.162	0.085	1.909	0.056				
	Employment	-0.064	0.032	-1.990	0.047				
	Number of children	-0.014	0.013	-1.036	0.300				
	School area	0.001	0.013	0.067	0.946				
	Type of school	0.075	0.044	1.703	0.089				
	Child's Grade level	-0.028	0.021	-1.319	0.187				
	The device your child uses for online learning:	-0.007	0.016	-0.403	0.687				
	Does your child have internet access?	-0.084	0.052	-1.596	0.111				
	Access to a device	0.014	0.019	0.703	0.482				
	Ways schools deliver online learning	-0.032	0.020	-1.607	0.108				
Time spent participating in online learning schoolwork	0.002	0.002	1.090	0.276					
Other parents	1 (Constant)	3.309	0.431	7.685	<0.001	16	4.077	0.059	<0.001 <sup>c</sup>
	Age	0.071	0.037	1.909	0.057				
	Gender	-0.071	0.058	-1.217	0.224				
	Level of education	-0.037	0.025	-1.481	0.139				
	Primary person responsible for school support	0.065	0.058	1.133	0.257				
	Child lives with both parents in the same house	-0.053	0.221	-0.238	0.812				
	Employment	-0.004	0.056	-0.075	0.940				
	Number of children	0.009	0.023	0.406	0.685				
	School area	-0.049	0.033	-1.499	0.134				
	Type of school	0.107	0.070	1.531	0.126				
	Child's Grade level	-0.024	0.030	-0.807	0.420				
	The device your child uses for online learning:	0.010	0.025	0.417	0.677				
	Does your child have internet access?	0.231	0.082	2.798	0.005				
	Access to device	0.027	0.034	0.808	0.419				
	Ways schools deliver online learning	-0.060	0.028	-2.179	0.030				
Time spent participating in online learning school work	0.014	0.003	4.019	<0.001					
Extra-curriculum activities	-0.198	0.057	-3.473	<0.001					

paying attention to and focusing on strengths and weaknesses and how to deal with them, in addition to students' interests and learning style. The training and readiness area included three sub-areas, the first of which was related to the technological aspect, where parents highlighted the urgent need to improve the technological skills of parents. They pointed out that the lack of understanding how to use modern technologies will negatively affect the results of online education, and this is what prompted parents to emphasize the importance of receiving support and training to be able to use online technologies and platforms, and to enhance the skills of students, teachers and parents in the field of online education and its methods. Second, aspects related to achieving personal and professional growth of the student, parents stressed the importance of enhancing students' self-learning, developing their research and investigation skills, in addition to developing effective communication skills.

Finally, it is related to the parents school partnership, where parents suggested the need to expand the space of partnership and cooperation between parents and the school, through effective and frequent communication between the school at all levels and parents, and to provide the opportunity for parents to volunteer in classroom activities, whether virtual or face-to-face, to enhance the capabilities and experiences of parents in education to help them provide support to their children, and to stand hand in hand with the school in achieving educational and educational goals in emergency circumstances or even in normal circumstances.

Relating to the management of homeschooling, parents make two key suggestions: the scheduling of sessions and the method of instruction. To allow face-to-face instruction for all students, they proposed dividing the school day into morning and evening sessions. This approach would permit parents to actively participate in their children's live classrooms, particularly for younger children who frequently rely on older classmates for comprehension of educational content and navigation of digital programs. Moreover, parents urged for a hybrid approach in middle and high schools, in which children would alternate between attending school in person for scientific and applied studies and participating in online lectures for other topics. However, they underlined the need for elementary children's full attendance in person.

As for the financial aspect, parents called for the provision of electronic devices and tools to students and their parents to ensure equal access to online education for all children. In addition, it is necessary to conclude agreements with telecommunications companies to reduce the monthly subscription fees for parents in such circumstances, and to increase the power and speed of the network without imposing additional fees.

## 6. Discussion

Due to the transition to online learning following the COVID 19 pandemic, new space for interaction and relationship between schools and parents emerged [31,36]. The results of this study confirm that the lack of social interaction with school teachers during the COVID-19 pandemic emerged as the greatest challenge for all parents, Arab and others alike. Obviously, the sudden shift to online learning and the resulting challenges narrowed down the level of interaction that parents needed with teachers. During the pandemic, parents reportedly needed more guidance and support given they suddenly found themselves shouldering new roles and responsibilities, in addition to facilitating their children's schooling [3,6,7]. For example, parents needed to reach teachers and ask for their help in matters related to subject course content and/or online learning platforms.

The shift to online learning left many schools struggling to cope with multiple tasks they were not prepared for. At the forefront of this unprecedented health pandemic, teachers and parents had to bear the brunt of trying to help and support children with their studies and maintain constant interaction and communication. The lack of interaction with school teachers reported by Arab parents specifically may be interpreted as implying potential cultural restrictions that deter teachers from entering chat rooms with children in the absence of parents or guardians—a situation that is likely to occur in government rather than private schools. On this matter, Agaton and Cueto and Lempel and others reported similar findings, calling schools to diversity their communication options to reach out to parents [7,48].

School closures and the transition to online learning compelled parents to adapt to the abrupt change and to juggle multiple responsibilities and their presence at home during pandemic times is crucial in helping compensate for teachers' absences [19]. At different levels of schooling, parents struggled to understand new roles in order to support their children with online learning [10,11]. For working parents, the outbreak of the pandemic engendered the added challenge of balancing work responsibilities and home duties. For those with children who needed special care and assistance with online learning, the situation is even more demanding.

Another challenge accompanying the transition to online learning, which was reported by parents, was children's decreased motivation and reluctance to engage in their studies, participate in online classes, and do their homework [6,21,22]. Our results indicated that Arab parents found motivating their children to do class work a daunting task more than other parents did; they were also less satisfied with their children's performance in their online classes, compared to other parents. A possible reason for this could be that many of the former parents have their children enrolled in public schools, which were criticized for being less proactive and ill-prepared for the pandemic; they were also blamed for communicating less with parents.

Exacerbating the situation for many parents was the structure and delivery of classes during school days. For example, joining classes required children to move from one class to another following the timetable schools were sending them, with children having to log into their online classes. At the end of each class, children often needed to log out of their current class and log into the next class using different passwords and usernames. This was a challenge for Arab parents, especially those with younger children (below grade 4). The case was not the same with children in higher grades, for older children could maneuver around and log in and out themselves.

A more daunting challenge Arab parents faced, as compared to other parents, involves the technical problems encountered during the online learning experience. Admittedly, parents are not expected to be technology savvy to be able to solve technical glitches associated with online learning. Exacerbating the situation is that in Arab culture the responsibility of raising children rests primarily with the mother and, in many cases, this responsibility includes children's schooling. Not surprisingly, therefore, mothers expressed

their inability to deal with unforeseen school-related issues that emerged during COVID-19, including hardware failure, platform complications, and so on. This finding corroborates similar conclusions derived from work by Clark, and Stevens and Borup, which suggest that parents lack the digital literacy or knowledge needed to support their children's learning [29,30]. By the same token, Arab parents expressed the need for school assistance more than other parents did, a point that relates to the challenges mentioned earlier where other parents appeared less stressful in handling their children's online schooling. This flags the importance of empowering parents to increase their children's self-efficacy and enhance their confidence so they can cope with their school work in times of crises.

Concerning the teaching strategies used to deliver online instruction during the pandemic, both Arab and other parents expressed similar concerns. Regardless of who they were, parents expressed disappointment with the way instruction was provided, arguing that teaching should have involved regular and ongoing teacher-parent interaction. Based on past experience under COVID-19, online learning offers a flexible mode of instruction that can be tailored to accommodate the needs of students with different learning styles, as is pointed out by Agaton and Cueto, and Dong and colleagues [7,42].

Parents' views regarding whether the content used in online instruction was suitable disclosed that content was perceived as the least challenging. This may perhaps imply their inability to judge the (un)suitability of course content for delivery online, which seems understandable since the sudden outbreak of the pandemic caught parents by surprise, imposing important changes to the nature and mode of course subject delivery in order to suit the swift shift to online teaching and learning. Parents reported that schools used the same content they had used prior to the pandemic and simply uploaded it online for students to utilize.

Our analysis also noted differences between Arab and other parents regarding the technologies and devices children used during their online learning. Unlike their Arab counterparts, other parents reported that the use or access to technologies and devices was/were the least challenging, confirming they did not find it difficult to remain connected with teachers online, to have access to different technological tools, and/or to try to fix technology-related issues encountered during online classes.

Taking a closer look at the results shows that parents' level of education and employment, internet access, and the type of school the child attends were significant factors for Arab parents. It is not uncommon for parents to complain about the difficulties they face while trying to help children with their studies at home. However, these problems appeared to be more acute during the pandemic. Existing research suggests that parents may not be digitally literate and/or competent in the course subject matter to be able to support their children with their learning [29,30]. In this present study, parental education level emerged as a predictor of problems facing parents trying to support children during online learning, for the results indicated that parents holding high school degrees or lower are more likely to face hardships when attempting to help their children with their school assignments and coursework.

In regard to the type of school, parents with children in public schools reported more challenges than those with children in private schools. This could be accounted for in different ways. Private schools, dissimilar to public school, may have performed better in establishing stronger communication channels with parents, proactively working on their teacher and staff readiness, adjusting and updating their instruction delivery and their teaching methods and strategies, and offering continuous assistance to parents.

For other parents, the delivery of online instruction, access to the internet and technological devices, the time spent on online learning, extracurricular activities, the child's grade level and gender all appeared significant. The schools their children attended continued delivering teaching either via online platforms or a combination of online and print materials. Online teaching posed challenges since parents were not prepared for the COVID-19 pandemic. Logistically, a number of factors could have contributed to creating a better learning environment for children during the pandemic, including the provision of access to proper learning devices at home, managing time to support children and having the skills and knowledge to help and solve problems when needed.

The findings further showed that helping children in earlier grades was more challenging for other parents, and this is understandable because children in these grade levels require more attention, assistance, and guidance. For example, they would need help to log into the system or connect to the internet and parents need to make sure they don't miss classes. For large families, the challenges would have been compounded. Other parents stated they struggled with the time their children spent in front of the screen, commenting they needed to make sure their children spent enough time to fulfill their tasks, especially when the school tasks required longer hours.

Lastly, gender was an important predictor of the challenges reported by other parents, with the results confirming that fathers, more than mothers, faced greater difficulties during the pandemic. By the same token, access to the internet was perceived as a real challenge to other parents, especially those with more than one child at home. Similarly, each child needs to work on his own device since siblings cannot share the same device as all regular classes start at the same time. As was indicated above, raising children in Arab societies is often regarded as the mother's responsibility and this includes children's schooling.

Guided by the CCT, this study's results may be interpreted as meaning that parents' cultural capital determines their experiences with their children's studies during the pandemic and the challenges they encountered. Specifically, CCT helps to explain the differences between Arab and other parents in their child's education. Indeed, our results showed that parent-related factors (age, gender, education, employment) and available resources (type of school, access to the Internet, mode of instruction delivery, extra-curricular activities) emerged as key influences driving parental involvement.

## 7. Conclusion

The COVID-19 pandemic brought about unforeseen challenges to all different sectors of society across the globe. In developing countries, education, in particular, faced tremendous difficulties at different levels following the sudden transition to online education. While studies conducted on the impact of the transition to online learning during COVID-19 focused on teachers and students, this study looked at the challenges faced by parents who found themselves shouldering new roles and responsibilities trying to support their children. In so doing, this study uncovered a wide range of difficulties reported by parents, manifest in their communication and

interaction with teachers as the Theory of Transactional Distance postulates, the delivery of instruction, access to the internet, technology hassles, and children's learning styles and low motivation [36].

An important implication of the perspectives of Arab and other parents on their involvement in the education of their children during and after COVID-19 is the need to take into consideration the potential learning gaps between the children of the former and latter groups, respectively. Children's experience of studying during and following the pandemic provides an ideal opportunity to explore the interaction between parental involvement, the type of school their child attends (public or private) and the mode of instruction (face-to-face and/or online). This will offer useful insights into the likely impact of these factors on the academic performance of children. Looking closely at parents' nationality and their involvement in the context of Qatar is particularly significant because of the unique demographic structure in the country. Equally interesting would be to also examine what it means for Arab and other parents to be involved, both with school and within the home).

The results concluded from this study can help education decision makers and professionals to gain insights into parental perspectives of the challenges faced during online learning. Understanding these challenges from parents' viewpoints can offer stakeholders opportunities to work hand in hand with parents in order to find effective ways of addressing these challenges, to maximize the benefits of online learning in future pandemic situations, and to learn from past experience to develop an adequate educational structure and prepare for such conditions with well-thought-out plans. Parents need guidance and support in pandemic times such as the COVID-19 pandemic. Government officials, schools, educators, and practitioners can take the lead in organizing meetings with parents to listen to their concerns, especially regarding how to manage different online instruction platforms.

Based on the findings of this study, more research is needed to explore the variations in parents' perceptions of different social and cultural backgrounds. Qualitative research has the potential to provide rich and informed in-depth information into the inner feelings and perceptions surrounding key challenges parents encountered during the pandemic. In addition, schools are invited to carefully reassess their performance during the pandemic to overcome such challenges and empower parents so that they can accommodate their children's needs. Future research is required to consider factors like differences between parents in raising children, type of school children enrolled in, nature of curriculum, and teachers' readiness. Moreover, the findings raise a flag calling for revisiting the current curriculum to enrich children's schooling experiences and strengthen the bonds with their schools. Finally, future research is invited to involve random samples, which would help generalize the findings to populations.

## 8. Limitation

One limitation identified in this study lies in its exclusive focus on parental data. This is so because this paper is part of an ongoing research where the perspectives of teachers and students are investigated.

Another methodological limitation consists in the sample involved in our study.

Using a sample based on an accurate representation of the population would have presented more accurate findings.

## Availability of data and materials

The datasets generated and/or analysed during the current study are not publicly available [due to IRB individual privacy regulation] but are available from the corresponding author on reasonable request.

## CRedit authorship contribution statement

**Yousef M. Alshaboul:** Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Manar A. Alazaizeh:** Writing – review & editing, Resources, Methodology, Formal analysis. **Abdel Latif Sellami:** Writing – original draft, Conceptualization. **Abdullah M. Abu-Tineh:** Writing – review & editing, Writing – original draft, Resources, Project administration. **Norma Ghamrawi:** Writing – review & editing, Resources. **Tarek Shal:** Writing – review & editing, Validation.

## 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.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2024.e28578>.

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