



AJMHR

Asian Journal of Medical and Health Research
Journal home page: www.ajmhr.com

Statistical study on the impact of e-learning on Childs in Saudi Arabia

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ABSTRACT

In our research, we presented a statistical study about the impact of e-learning on the child's psychological and physical health, and the importance of the study is to draw attention to the child's psychological and physical health, which is essential in their influence at the academic level of the child on the elementary grades (kindergarten - primary stage), and most of the governments in the world have temporarily closed educational institutions, in an effort to reduce the spread of the Corona pandemic (COVID-19), which led to their decision-making to convert urban classrooms into virtual classes as it had a great impact on children from kindergarten to primary. And the result was that e-learning had a negative impact on the health of the child, whereas, the result and data were obtained through a questionnaire that was answered by the parents.

Keywords: Statistical study, e-learning, Corona pandemic

Received 10 August 2021, Accepted 10 October 2021

Please cite this article as: Badawi AT *et al.*, Statistical study on the impact of e-learning on Childs in Saudi Arabia. Asian Journal of Medical and Health Research 2022.

INTRODUCTION

Some schools and universities have adopted e-learning for an old period. But today, because of the Corona pandemic (COVID-19), e-learning has become the one adopted in most countries for safety and protection of children, and a good alternative to the continuation of its educational process. And with this sudden event occurred with the emergence of the Corona pandemic (COVID-19), which led to their decision-making to convert urban classrooms into virtual classes as it had a great impact on children from kindergarten to primary.

And our aim in this study is to know whether there is an impact on the child in Saudi Arabia from the psychological and physical point of view, especially the child from 5 to 10 years, because at that time he needs a social environment In school with his other friends and communicate directly with teachers, because in this age the child builds his personality and acquires his skills from his social environment, and the presence of child in front of the computer or the phone will make him bored, and he will miss his friends and talking to them, also he will miss the school environment that has a big role in Building his personality. One of the positives, which is the most prominent that it's protect from Corona virus, but there are many obstacles that may face the teacher and the child in dealing with technology, as the fact of the child needs to master the skills of using a computer or tablet to be able to learn from distance, otherwise he will need a direct help from one of his parents who had to stay next to him during the study time, which is very stressful, especially for a working mother, he will also miss the role of a monitor, that makes the child feel responsible and obligated to perform school duties.

Likewise, the absence of an interactive study environment that increases students' response in this type of education, as teaching some educational materials will often depend on the theoretical part of the curriculum in most cases.

Most Governments in the world have temporarily closed educational institutions, in an effort to reduce the spread of the pandemic (COVID-19), which led to their decision-making to convert urban classrooms into virtual classes as it had a great impact on children from kindergarten to primary grades. The importance of the study is to draw attention to the child's psychological and physical health, which is essential in their influence at the academic level of the child. this the sudden reversal occurred with the emergence of the Corona pandemic (COVID-19), this has transformed the classes into virtual classes across different platforms, making significant changes in the way of communication and learning the scientific content.

The study aims were focused on the following questions:

- Is the opinion of parents different with regard to the impact of e-learning on the child's psychological and physical health by gender (male or female), ages, educational qualifications and level of income?
- Is the impact different of e-learning on the child's psychological and physical health varied according to the gender of child, the child's educational phase, the type of school, his or her health status and the number of brothers?
- Is there a difference between a child's academic level before and during (COVID-19) pandemic through the viewpoint of the parents?
- What are the opinions of parents about the impact of e-learning on the child's psychological and physical health?

In this study, a descriptive method was used to collect and classify data, and the analytical method was also used to analyze data with statistical methods. The research community consists of different backgrounds from different segments of society, including males and females, and different age groups, the diversity of educational qualifications and the level of income from different regions in the Kingdom of Saudi Arabia. The study sample was restricted to parents who have children in (Kindergarten - primary stage) the study contains a sample size of 212 people. The data were collected through a questionnaire during 18 Feb until 8 March 2020. We made an online questionnaire as a study tool to collect the data to see the impact of e-learning on the child's psychological and physical health.

The questions included:

1. Demographic questions: questions that describe the respondent of the questionnaire like (gender, age, educational qualification, income level, information about the child).
2. The questionnaire axes questions: questions that revolve around the subject of the study, and have an options answer (agree, neutral, disagree).

This study includes the following sections, SECTION 2: Previous Studies, in this section we mentioned some of the previous studies. SECTION 3: Statistical analysis, in this section we mentioned the statistical methods that were used in the study. We also covered the reliability coefficient. We discussed the analysis of demographic data and axes. Certain hypotheses were tested for some of the questionnaire statements. SECTION 4: Conclusions and Recommendations, in this section we presented the results that were reached, along with recommendations and suggestions.

Previous Studies

Ahmed Abdul latif 2011, has focused in his study on showing the advantages and disadvantages of e-learning so one of the advantages was how its encourage the students for

self-learning and how its save the time and effort and has no time or place restrictions, and in the other hand the disadvantages, were the poor communication between the student and professor and, Also the lack of experience in dealing with modern technology in addition to putting a greater effort and financial cost for the professor, and certainly the problem of frequent blackouts, which is a major obstacle to implementing e-learning in their Iraqi universities, accordingly for that the recommendations were to provide a financial support to enable them to provide e-learning materials and technologies from computers and electronic display devices, And communication networks via the Internet, and databases and virtual libraries with their networks, and rooms and furnishing suitable for this type of education as well as holding training courses for teachers and students on the use of information technology, communications and educational software, and in view of the presence of some electronic devices, and given the presence of some disadvantages in e-learning, he recommended that e-learning not be a substitute for traditional education, but rather a complement. Soha Ali Hosamo 2011, has focused in her study on define the reality of E-learning at Tishreen University from the point of view of faculty members and students. The author prepared two questionnaires; the first one is for faculty members, and the second one for students. The results showed that there was a consensus on views between the faculty members and students that using emails to communicate between students, sending assignments via e-mail, online audio and video classes from anywhere was achieved very poorly. The results also showed that the most positive aspects of e-learning was; enabling students to self-learning, improve their computer experiences and skills, reduces the electronic illiteracy among parents who follow up their children progress electronically. As for the negative aspects of e-learning, both, the faculty members and students assert that long sitting in front of the computer has negative impact on health. As a result, they recommended providing appropriate training opportunities for members teaching staff and students on the use of computers and the Internet in a healthy way, the use of e-learning applications, educational training courses on the field of e-learning and its requirements, new roles that teachers and students should play according to patterns and mechanisms, and activating the E-learning in the field of self-learning. Hussein Jadallah Hamayel 2016, has focused in his research on to study the reality of e-learning in the education in the northern governorates in Palestine. His study included 1,643 principles where he used the analytical and Developmental Survey Approach. The results of the study concluded that e-learning improved the educational environment by providing alternative electronic educational media. E-learning works to refine students 'skills through the use of educational websites and provided new educational alternatives to save time, effort, faster to understand, more

flexibility, and more accurate understanding. The reasons were because it contains various educational media such as sound, image, text, graphic form, maps and other multimedia. In addition, the suspense and attractiveness of the educational content provided through it. Moreover, there is no connection between the ability to use e-learning tools and academic qualifications. Accordingly the study recommended improving the quality of the e-learning environment in Palestinian schools and focusing on developing the role of female teachers in e-learning and enhances their interaction with this type of education as well as working to provide teachers with training courses that are compatible with the existing reality of e-learning in the northern governorates of Palestine. Taghreed Muhammed 2016, has focused in her study on identify the reality of e-learning in the National Success University and its role in achieving interaction between learners From the point of view of the students of the College of Graduate Studies at the College of Education and the members of the faculty and the study population consists of 9 faculty members and 428 students and used the descriptive analytical method through which I concluded that e-learning increases the interaction between the learners themselves and also between them and the teacher as I found that there is Attitudes for students towards e-learning and thus recommended the need to develop the university's infrastructure and work to improve it to support this educational pattern and keep pace with the global educational arena. Batoul Abdel-Baqi 2019, has focused in her study on to define E-learning and its role in promoting the child's growth from a linguistic and cognitive aspect. In her study she used the questionnaire and followed it with the descriptive method. Her sample consisted of 40 students and the results were that e-learning has a role in enhancing the cognitive and linguistic development of the child and it helps kindergarten teachers to be creative and innovative, also saves them time and effort In addition, they faced challenges in applying E-learning to kindergartens in Jazan so her study recommended that they hold courses and workshops for teachers in kindergartens and set up specialized laboratories for e-learning in kindergartens and that they program the curriculum to keep pace with technological development. Claudiu Coman 2020, has focused in his research on identifying the way in which Romanian universities managed to provide knowledge during the Coronavirus pandemic so they made an online survey and the data was collected from 762 students from two of the largest Romanian universities the results of the research revealed that higher education institutions in Romania were not prepared for exclusively online learning Thus, the advantages of online learning identified in other studies seem to diminish in value, while disadvantages become more prominent and the technical issues are the most important, followed by teachers' lack of technical skills and their teaching style improperly adapted to the online environment Also, the lack of interaction with teachers or

poor communication with them, finally the recommendations is to try improving teachers' technical skills, developing training programs meant to help teachers remodel and adapt their teaching style and the way they interact with the students. Di Pietro 2020, has focused in his report on shows to us How COVID-19 crisis have affected students learning and they found out that there was a greater learning loss among younger students compared to older students, also the effect of COVID-19 on students' achievement is likely to vary according to socio-economic status. Students from less advantaged backgrounds are likely to experience a larger decline in learning compared to their more advantaged counterparts. Mark 2020, has focused in his study on the evaluation of readiness for E-learning of higher education students in a less-economically developed country and it's been applied on 880 Filipino students and they found out the majority were actually not ready for the e-learning specially the less advantaged ones who had problems with not having an access to a computer with an Internet connection and adequate software Low readiness scores were observed among learners in low-income class and rural areas. The results refers that it could be inferred that these groups of learners are not yet ready for E-learning ,the financial factors could be one factor that could explain this, also lack of equipment (e.g., computer, speakers) and Internet connection problems in several rural areas might also play a role in their readiness score, he recommended for school officials to my first address the lack of digital skills among students and formulate programs that would capacitate them, and the possible shift for e-learning should be considered also the Internet connectivity issues of learners in the low-income sector and rural areas are addressed so more strategic planning and quality management mechanisms should be directed towards an equitable and inclusive education without undermining quality learning.

Statistical Methods

In this section, we mentioned the statistical methods that were used in the study: Descriptive statistics, Statistical analysis, Hypothesis testing and Likert-Scale Analysis.

Descriptive statistics

Firstly we've published an online questionnaire and the sample size was 213.

Figure (b-1) shows the percentage of parent's gender. We concluded that females have the highest participation by 82.6%, and the percentage of males was 17.4%. Figure (b-2) shows the ages of the parents, we concluded that ages between [25-35] had the highest percentage by 48.4%, followed by ages [36-45] by 28.2%, and then ages [46-55] by 16% and the lowest percentage was age [55 and above] by 7.5% Figure (b-3) shows the educational qualification of parent's, where the bachelor was the highest percentage by 56.3%, followed by secondary by 26.3%, then followed by postgraduate by 9.9%, and the lowest percentage was PhD by

7.5% Figure(b-4) shows the level of income for parents, we concluded that the highest percentage is (5000-1000) with 37.6%, then it followed by (less than 5000) and it was 30.5%, then the (10,000-50,000) was 27.7% and the lowest was (50,000) by 4.2%. Figure (b-5) shows the gender of child's that they answered in the questionnaire, We concluded that males have the highest participation by 51.6%, and the percentage of females was 48.4%

Figure (b-6) shows child's health, we concluded that highest percentage was healthy by 96.6%, followed by health problems at 2.3%, then Handicapped by 0.6%, and the lowest percentage was psychiatric problems by 0.5%. Figure (b-7) shows the number of siblings for the child, where the highest percentage (3 and more brothers) by 50.3%, then it is followed by (2 brothers) with 22.5%, then it is followed by (1 brother) with 16.4% and the lowest answer (0 brother) with 10.8%. Figure (b-8) shows the educational stage of child's , where the highest percentage was (from 1st to the 3rd grade of primary stage) by 51.6%, then it (from 4th to the 6th grade of primary stage) by 34.4% and the lowest percentage (kindergarten) by 14.1%. Figure (b-9) shows the type of child's school, we concluded that highest percentage was (public school) with 45.1%, then it followed by (special education) with 20.7%, then it followed by (international schools) with 18.8%, and the lowest percentage was (Qur'an memorization school) by 15.5%. Figure (b-10) concluded parents evaluation of the child's level academic in 2018-2019 years (before the COVID-19) ,where the highest percentage was (excellent) with 76.0%, then it followed by (average) with 22.1%, and the lowest percentage was (weak) by 1.9%. Figure (b-11) concluded the parents evaluation of the child's level in the first semester of 2020-2021 (during e-learning) , where the highest percentage was (excellent) with 41.3%, then it is followed by (average) with 40.4% and the lowest percentage was (weak) with 18. Figure (b-12) concluded the first axis so about the physical activities the highest percentage was agreed then it followed by neutral then not agreed , then about the overweight the highest percentage was agreed then followed by neutral then not agreed , about the eye vision problems the highest percentage was agreed then followed by neutral then not agreed , about the normal development of bones the highest percentage was agreed then followed by not agreed then neutral.

figure(b-13) concluded the second axis, about losing incentive and the spirit of competition so the highest percentage was agreed then it followed by neutral then not agreed, about losing the child's ability to build new friendships and isolating his self from others the highest percentage was agreed then it followed by neutral then not agreed , then about preventing the child from practicing artistic activities the highest percentage was agreed followed by neutral then not agreed, then about child's exposure to boredom and depression the highest percentage was agreed followed by not agreed then by neutral.

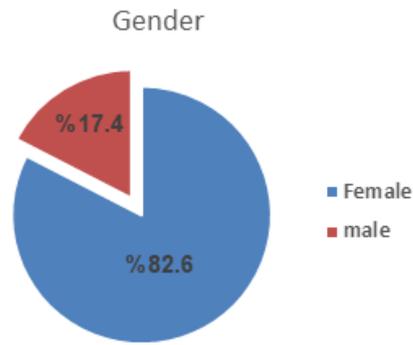


Figure (b-1) Percentage of parent's gender

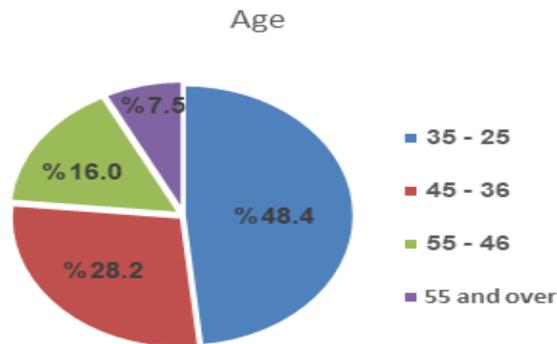
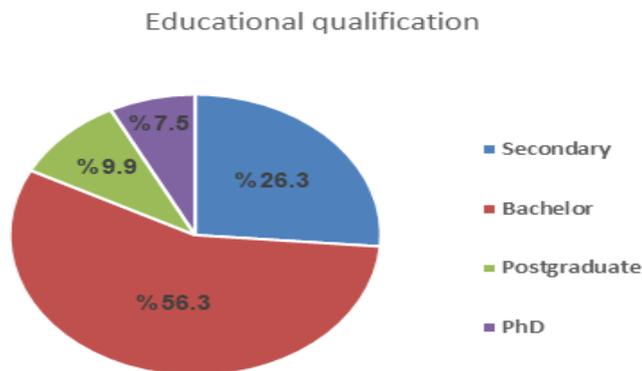


Figure (b-2) Ages of the parent's



Figure(3-3)

Figure (b-3) The educational qualification of parent's

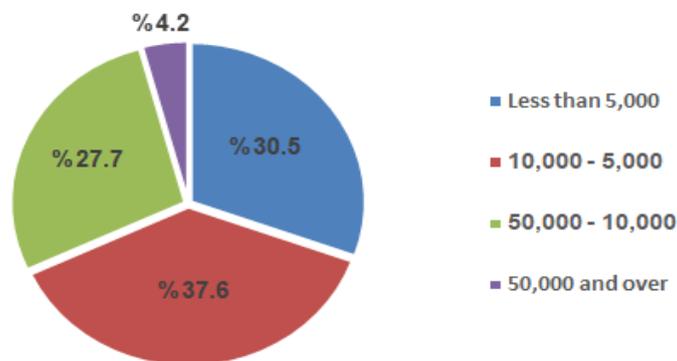


Figure (b-4) The level income for parents

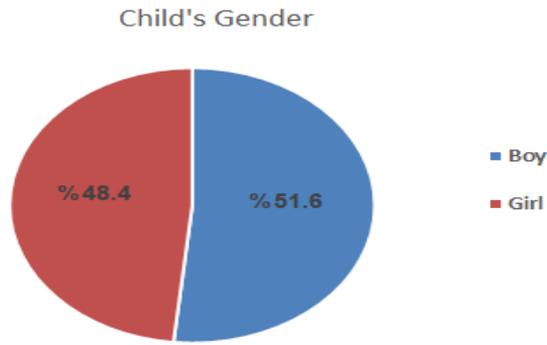


Figure (3-5)

Figure (b-5) Gender of child’s that they answered in the questionnaire

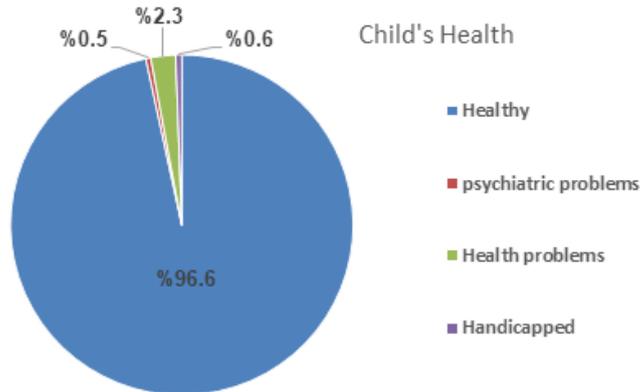


Figure (b-6) child’s health

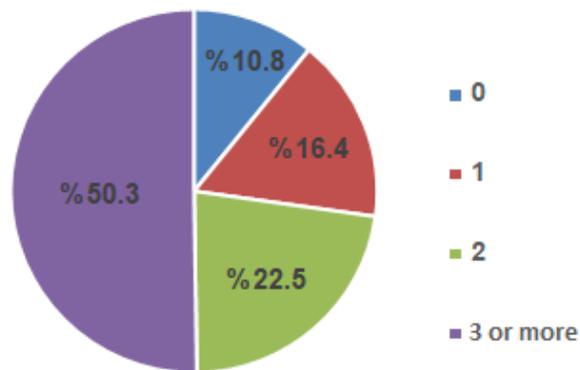


Figure (b-7) number of siblings for the child

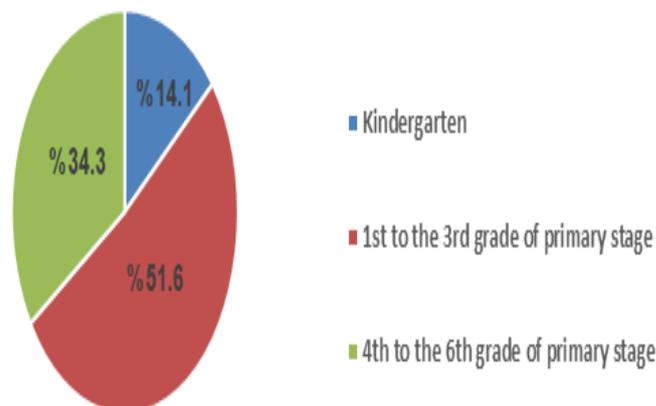


Figure (b-8) the educational stage of child’s

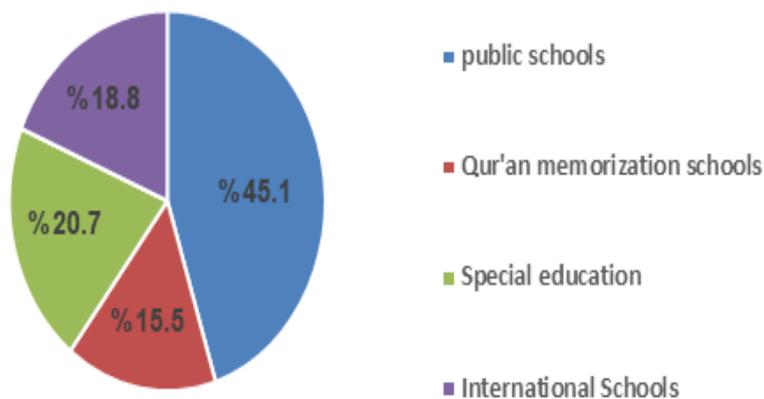


Figure (b-9) type of child's school

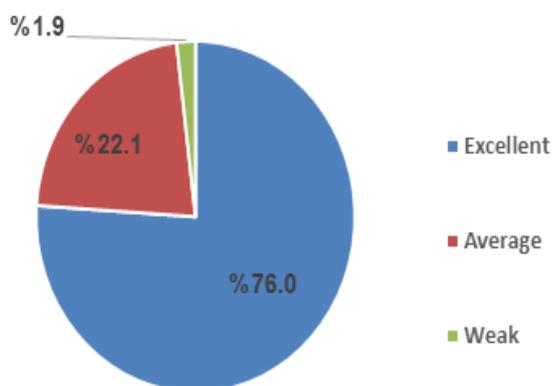


Figure (b-10) concluded parent's evaluation of the child's level academic in 2018-2019 years (before the COVID-19)

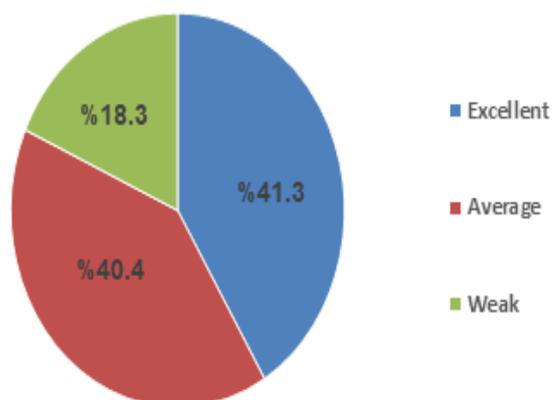


Figure (b-11) concluded the parent's evaluation of the child's level in the first semester of 2020-2021 (during e-learning)

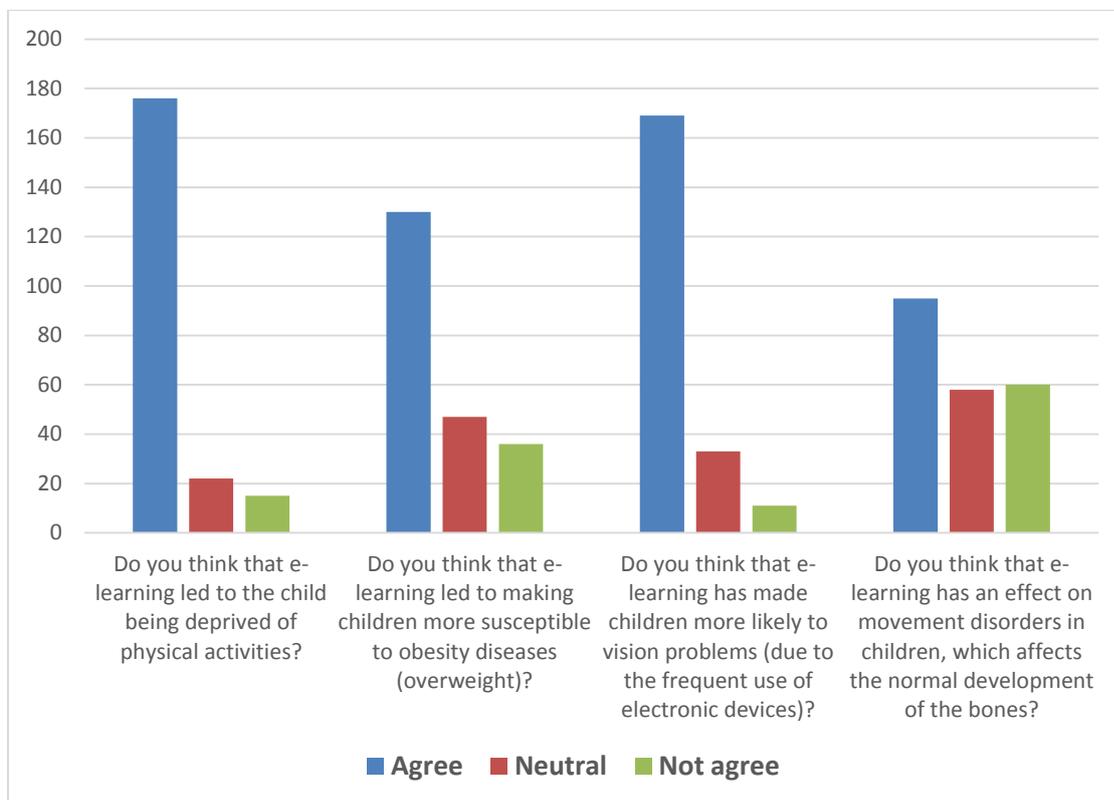


Figure (b-12) The effect of using e-learning on the physical health of children

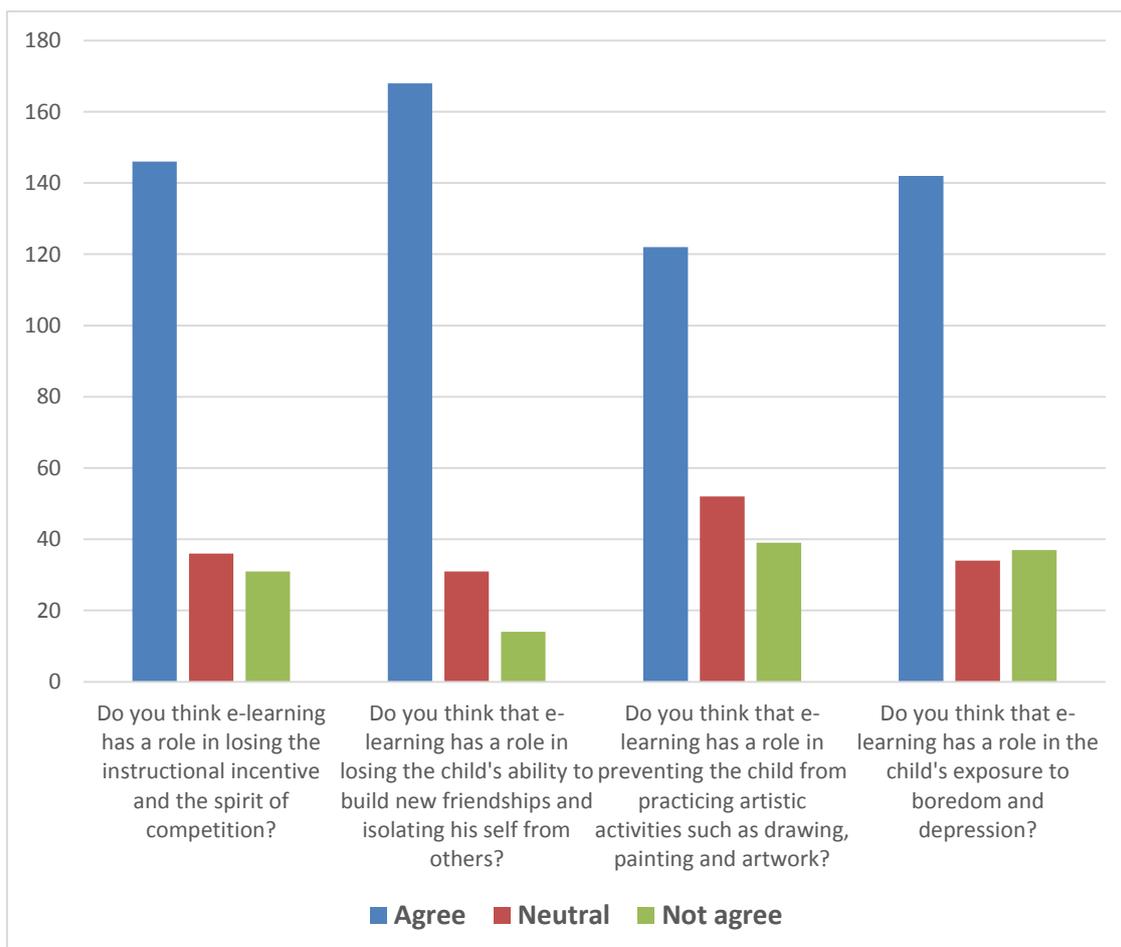


Figure (b-13) The effect of using e-learning on the physical health of Childs.

Statistical Analysis

Alpha Cronbach' test

Cronbach's alpha was used to measure of internal consistency. We published an exploratory sample on 50 parents and the alpha Cronbach was 0.695 which is considered acceptable, so we modified the questionnaire and republished it. The result of alpha cronbach was based on the **Table (3-1)**.

Table (3-1) Coefficient alpha and the internal structure of tests. (Cronbach, L. J.,1951)

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Table (3-2) The reliability coefficients of questionnaire

stability	The number of phrases	The axes
.699	4	First axis
.749	4	Second axis
.824	8	General stability of the questionnaire

We concluded from **Table (3-2)**, that the general stability coefficient for the study is high .824, and the reliability of the two axes is between a minimum of .699 and a maximum of .749, which means that we can rely on the questionnaire.

Internal consistency validity:

The validity of the internal consistency of the questionnaire was verified. **Table (3-3) and (3-4)** show the correlation coefficients between each question of the first axis.

Table (3-3) The correlation of the first axis

Questions number	correlation coefficient	sig
1	.622	.000
2	.801	.000
3	.685	.000
4	.790	.000

we concluded from table (3-3), we find that all the Pearson correlation coefficients between the questions of the first axis and the total mark for the axis at the level of 0.01 significance, and the correlation coefficient between a minimum of .622 and a maximum of .801, which means the questions of the first axis are internally consistent with their axis, which proves the sincerity of its internal consistency.

Table (3-4) The correlation of the second axis

Axis questions	correlation coefficient	sig
1	.743	.000

2	.774	.000
3	.765	.000
4	.761	.000

we concluded from table (3-4), that all the Pearson correlation coefficients between the questions of the second axis are internally consistent with their axis, which proves the questions of the second axis and the total mark for the axis at the level of 0.01 significance, and the correlation coefficient between a minimum of .743 and a maximum of .774, which means the sincerity of its internal consistency. Through the results of reliability and internal consistency in the previous tables, it is clear to us that the questionnaire is highly reliable.

Hypothesis testing

To test the hypotheses of the study, the non-parametrical statistical methods Chi-Square, Man-Whitney, and Kruskal-Wallis, tests have been used.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to their gender.**

We found out the value of Sig= 1.00 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the gender of parents and the physical health.

• **There's no significant difference between parent's responses about E- learning effects on children's psychological health according to their gender.**

We found out the value of Sig= .520 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the gender of parents and the psychological health.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to their child's gender.**

We found out the value of Sig= .793 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the gender of the child and the physical health.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to their child's gender.**

We found out the value of Sig= .128 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the gender of the child and the psychological health.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to educational qualification.**

We found out the value of Sig= .125 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the educational qualification and the physical health.

• **There's no significant difference between parent's responses about E- learning effects on children's psychological health according to educational qualification.**

We found out the value of Sig= .103 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the educational qualification and the psychological health.

• **There's a significant difference between parent's responses about E- learning effects on children's physical health according to level of income.**

We found out the value of Sig= .004 <0.05 which means that we will reject the null hypothesis and accept that there's a significant difference in means between the level of income and the physical health.

• **There's a significant difference between parent's responses about E- learning effects on children's psychological health according to level of income.**

We found out the value of Sig= .002 <0.05 which means that we will reject the null hypothesis and accept that there's a significant difference in means between the level of income and the psychological health.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to type of school.**

We found out the value of Sig= .204 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the type of school and the physical health.

• **There's no significant difference between parent's responses about E- learning effects on children's psychological health according to type of school.**

We found out the value of Sig= .327 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the type of school and the psychological health.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to health status.**

We found out the value of Sig= .306 >0.05 which means that we will not reject the null hypothesis: significant difference in means between the health status and the physical health.

• **There's no significant difference between parent's responses about E- learning effects on children's psychological health according to health status.**

We found out the value of Sig= .938 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between the health status and the psychological health.

• **There's a significant difference between parent's responses about E- learning effects on children's physical health according to number of siblings.**

We found out the value of Sig= .000 <0.05 which means that we will reject the null hypothesis and accept that there's a significant difference in means between number of siblings and the physical health.

• **There's a significant difference between parent's responses about E- learning effects on children's psychological health according to number of siblings.**

We found out the value of Sig= .015 <0.05 which means that we will reject the null hypothesis and accept that there's a significant difference in means between number of siblings and the psychological health.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to the age.**

We found out the value of Sig= .236 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between age and the physical health.

• **There's no significant difference between parent's responses about E- learning effects on children's psychological health according to the age.**

We found out the value of Sig= .358 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between age and the psychological health.

• **There's no significant difference between parent's responses about E- learning effects on children's physical health according to educational phase.**

We found out the value of Sig= .695 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between educational phase and the physical health.

• **There's no significant difference between parent's responses about E- learning effects on children's psychological health according to educational phase.**

We found out the value of Sig= .913 >0.05 which means that we will not reject the null hypothesis: there's no significant difference in means between educational phase and the psychological health.

• **There's a relationship between a child's academic level and E- learning.**

We found out the value of Sig= 0.007<0.05 which means that we will reject the null hypothesis and accept the alternative hypothesis which there's a relationship between a child's academic level and E-learning.

Likert-Scale Analysis

Likert-Scale is a method of measuring responses. The scale is adopted on responses indicating the degree of approval or objection to a question. The results were summarized in table (3-5).

Figure (b-12) concluded the first axis so about the physical activities the highest percentage was agreed then it followed by neutral then not agreed, then about the overweight the highest percentage was agreed then followed by neutral then not agreed, about the eye vision problems the highest percentage was agreed then followed by neutral then not agreed, about the normal development of bones the highest percentage was agreed then followed by not agreed then neutral.

Table(3-5) Likert-Scale Analysis results

First axis's: (The effect of using e-learning on the physical health of children)	Scale	Agree	Neutral	Not agree	Mean	Std deviation	Direction
Do you think that e-learning led to the child being deprived of physical activities?	frequency	175	22	15	1.25	.573	Agree
	percent	82.5	10.4	7.1			
Do you think that e-learning led to making children more susceptible to obesity diseases (overweight)?	frequency	129	47	36	1.56	.767	Agree
	percent	60.8	22.2	17.0			
Do you think that e-learning has made children more likely to vision problems (due to the frequent use of electronic devices)?	frequency	168	33	11	1.26	.545	Agree
	percent	79.2	15.6	5.2			
Do you think that e-learning has an effect on movement disorders in children, which affects the normal development of the bones?	frequency	94	58	60	1.84	.839	Neutral
	percent	44.3	27.4	28.3			
First axis's					1.47	-	Agree

Second axis's: (The effects of using e-learning on child's socially and psychologically)	Scale	Agree	Neutral	Not agree	Mean	Std deviation	Direction
Do you think e-learning has a role in losing the instructional incentive and the spirit of competition?	frequency	145	36	31	1.46	.737	Agree
	percent	68.4	17.0	14.6			
Do you think that e-learning has a role in losing the child's ability to build new friendships and isolating his self from others?	frequency	167	31	14	1.28	.578	Agree
	percent	78.8	14.6	6.6			
Do you think that e-learning has a role in preventing the child from practicing artistic activities such as drawing, painting and artwork?	frequency	121	52	39	1.61	.780	Agree
	percent	57.1	24.5	18.4			
Do you think that e-learning has a role in the child's exposure to boredom and depression?	frequency	141	34	37	1.51	.776	Agree
	percent	66.5	16.0	17.5			
Second axis's					1.46	-	Agree

Figure(b-13) concluded the second axis, about losing incentive and the spirit of competition so the highest percentage was agreed then it followed by neutral then not agreed, about losing the child's ability to build new friendships and isolating his self from others the highest percentage was agreed then it followed by neutral then not agreed, then about preventing the child from practicing artistic activities the highest percentage was agreed followed by neutral then not agreed, then about child's exposure to boredom and depression the highest percentage was agreed followed by not agreed then by neutral.

Table (3-6) First axis: The effect of using e-learning on the physical health of Childs.

Independent variable	Levels of independent variable	Test used	sig	The decision
Gender of child	Girl	Mann-Whitney	.128	Accept the null hypothesis.
	Boy			
The educational qualification	Secondary	Kruskal-Wallis	.103	Accept the null hypothesis.
	Bachelor			
	Postgraduate			
	PhD			
Level of income for parents	Less than 5000	Kruskal-Wallis	.002	Reject the null hypothesis.
	5000 – 10000			
	10000-50000			
	50000 and over			
Gender of parents	Female	Mann-Whitney	.520	Accept the null hypothesis
	Male			
Type of school	Public school	Kruskal-Wallis	.327	Accept the null hypothesis.
	Qur'an memorization school			
	Special education			
	International			
Health status	Healthy	Kruskal-Wallis	.938	Accept the null hypothesis.
	Psychiatric problems			
	Health problems			
	Handicapped			
Number of siblings	0	Kruskal-Wallis	.015	Reject the null hypothesis.
	1			
	2			
	3 or more			
Age of parents	25 - 35	Kruskal-Wallis	.358	Accept the null hypothesis.
	36 - 45			
	46 - 55			
	55 and over			
Educational stage	Kindergarten	Kruskal-Wallis	.913	Accept the null hypothesis.
	1 st to the 3 rd grade of primary stage			
	4 th to the 6 th grade of primary stage			

Table (3-7) Second axis: The effects of using e-learning on child are socially and psychologically.

Independent variable	Levels of independent variable	Test used	Sig	The decision
Gender of child	Girl	Mann-Whitney	.793	Accept the null hypothesis.
	Boy			
The educational qualification	Secondary	Kruskal-Wallis	.125	Accept the null hypothesis.
	Bachelor			
	Postgraduate			
	PhD			
Level of income for parents	Less than 5000	Kruskal-Wallis	.004	Reject the null hypothesis.
	5000 – 10000			
	10000-50000			
	50000 and over			
Gender of parents	Female	Mann-Whitney	1.00	Accept the null hypothesis
	Male			
Type of school	Public school	Kruskal-Wallis	.204	Accept the null hypothesis
	Qur'an memorization school			
	Special education			
	International			
Health status	Healthy	Kruskal-Wallis	.306	Accept the null hypothesis
	Psychiatric problems			
	Health problems			
	Handicapped			
Number of siblings	0	Kruskal-Wallis	.000	Reject the null hypothesis.
	1			
	2			
	3 or more			
Age of parents	25 - 35	Kruskal-Wallis	.236	Accept the null hypothesis
	36 - 45			
	46 - 55			
	55 and over			
Educational stage	Kindergarten	Kruskal-Wallis	.695	Accept the null hypothesis
	1st to the 3rd grade of primary stage			
	4th to the 6th grade of primary stage			

CONCLUSIONS AND RECOMMENDATIONS

Parents were agreed that using e-learning has an effect on the physical and psychologically health of children Parents were agreed that using e-learning has an effect on child's socially and psychologically. We found that there's a difference between the child's academics level before and during the Pandemic. There's a difference between parents opinions regarding to the effect of the level of income on the physical and psychological health of the child. There's no difference between parents opinions regarding to their gender and age on the

effect of the psychological and physical health of the child. There's no difference between parents opinions regarding to the effect of the educational qualification on the psychological and physical health. There's no difference of e-learning impact regarding to child's gender on the psychological and physical health. There's no difference of e-learning impact on the psychological and physical health regarding to: child's health, child's school type, child's educational phase and child's number of siblings

RECOMMENDATIONS

Establishing laboratories specialized in e-learning for kindergartens and elementary schools. Programming the curricula to keep pace with technological development. Holding courses and workshops for teachers. Working more on the edutainment to preserve the child's psyche.

A- The questionnaire

- **Do you have children in the educational stages (kindergarten – primary stage):**

Yes no

- **Gender of parents:**

Female male

- **Age of parents:**

25-35 36-45 46-55 55 and over

- **educational qualification of parent's:**

Secondary Bachelor Postgraduate PhD

- **level of income:**

Less than 5000. 5000 – 10,000 10,000 – 50,000 50,000 and over

- **Child's Gender:**

Female male

- **Child's Health:**

Healthy. psychiatric problems Health problems Handicapped

- **Child's siblings :**

0 1 2 3 and more

▪ **Child's Educational Stage:**

Kindergarten - 1st to the 3rd grade of primary stage - 4th to the 6th grade of primary stage

▪ **Type of school:**

Public Schools - Qur'an memorization schools – private schools - International Schools

▪ **What is your evaluation of your child's level in the academic year 2018-2019 (before the COVID-19):**

Excellent Average Weak

▪ **What is your evaluation of your child's level in the first semester of 2020-2021 (during e-learning):**

Excellent Average Weak

<u>First axis's:</u> (The effect of using e-learning on the physical health of children)	Agree	Neutral	Not agree
Do you think that e-learning led to the child being deprived of physical activities?			
Do you think that e-learning led to making children more susceptible to obesity diseases (overweight)?			
Do you think that e-learning has made children more likely to vision problems (due to the frequent use of electronic devices)?			
Do you think that e-learning has an effect on movement disorders in children, which affects the normal development of the bones?			

<u>Second axis's:</u> (The effects of using e-learning on child's socially and psychologically)	Agree	Neutral	Not agree
Do you think e-learning has a role in losing the instructional incentive and the spirit of competition?			
Do you think that e-learning has a role in losing the child's ability to build new friendships and isolating his self from others?			
Do you think that e-learning has a role in preventing the child from practicing artistic activities such as drawing, painting and artwork?			
Do you think that e-learning has a role in the child's exposure to boredom and depression?			

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