

DOI: <https://doi.org/10.34069/AI/2022.56.08.21>

How to Cite:

Alnabulsi, M.M. (2022). Al-Jouf educational supervisors perceptions about handheld devices' importance in health education concepts' acquisition to students. *Amazonia Investiga*, 11(56), 210-223. <https://doi.org/10.34069/AI/2022.56.08.21>

## Al-Jouf educational supervisors perceptions about handheld devices' importance in health education concepts' acquisition to students

تصورات المشرفين التربويين بمنطقة الجوف حول أهمية الأجهزة الكفية في اكتساب الطلاب مفاهيم الثقافة الصحية

Received: August 23, 2022

Accepted: October 27, 2022

Written by:

**Mishal Mohammed Alnabulsi<sup>90</sup>**<https://orcid.org/0000-0001-6413-3476>

### Abstract

The study aimed to find out the educational supervisors' perceptions about the importance of handheld devices in acquiring health education concepts by school students in Al-Jouf region, KSA. A descriptive approach and a questionnaire were applied on random educational supervisors' sample. The study's results concluded that the school students' most important health concepts are "health" and "diet", that the handheld devices are of great importance in acquiring health education concepts, the students' great challenges and absence of statistically significant differences in the questionnaire both dimensions at ( $\alpha \leq 0.05$ ) attributed to the study variables (gender, educational administration, experiences).

**Keywords:** Handheld devices, Health concepts, Educational supervisors.

### Introduction

KSA 2030 Vision's technology leap increased students' use of handheld devices in education. KSA rushed to transform to digital remote education during COVID-19 pandemic period, to protect students from contracting diseases and maintain their health. Ottawa Declaration stressed that health is a daily resource that meets individual's needs, helps them realizing their ambitions, and is a positive concept emphasizing social and personal resources and physical capacities (WHO, 2012, p. 6). Health is indispensable human right, hence the states are responsible for caring for health education of all society's classes, spreading health awareness, and making use of handheld devices in that

### الملخص

هدفت الدراسة معرفة تصورات المشرفين التربويين حول أهمية الأجهزة الكفية في إكتساب طلاب المدارس لمفاهيم الثقافة الصحية في منطقة الجوف بالمملكة العربية السعودية. تم استخدام المنهج الوصفي، وطبقت الاستبانة على عينة عشوائية من المشرفين التربويين بمنطقة الجوف. توصلت نتائج الدراسة إلى أن أهم المفاهيم الصحية لطلاب التعليم العام هي "الصحة"، و"النظام الغذائي"، وأن للأجهزة الكفية أهمية كبيرة في اكتساب الطلاب مفاهيم الثقافة الصحية، ووجود تحديات بدرجة كبيرة تواجه الطلاب. وعدم وجود فروق ذات دلالة إحصائية في بعدي الاستبانة عند مستوى ( $0.05 \geq \alpha$ ) ترجع إلى متغيرات الدراسة (الجنس، نوع الإدارة التعليمية، سنوات الخبرة).

**الكلمات المفتاحية:** الأجهزة الكفية، المشرفين التربويين، المفاهيم الصحية.

(Al-Kinani & Al-Dujaili, 2018, p. 13). Technology and digital skills intervened in all life's activities, through developing many suitable digital applications. The importance of learning health education concepts is attributed to its being as important means for improving human life and health, changing individuals' unhealthy trends and behaviors, improving health level, increasing health awareness's and improving life' quality (Al-Kinani & Al-Dujaili, 2018).

The scientific problem is to study the importance of handheld devices in acquiring school students with health education concepts, and the most

<sup>90</sup> Dr. Assistant Professor of Education Techniques, Department of Curriculum and Teaching Techniques Faculty of Education and Literature, Northern Border University, Saudi Arabia.

important health concepts for students, and the challenges facing students' use of hand devices in acquiring health concepts. The research highlights about handheld devices' importance in health education concepts' acquisition to students from educational supervisors' point of view, and statistically differences of sample responses about each reality challenges according to gender, educational administration, and experience. Therefore, the priority tasks of schools in the present time is to develop student's ability to use handheld devices in acquiring health education concepts according to their needs.

Statistics of "Communication and Information Technology Commission 2020" indicate that the average data consumption per capita in KSA is 920 megabytes, equivalent approximately to triple global average. Some studies indicate to shortcomings in health concepts in KSA different educational stages curricula, Abu-Hula & Al-Balawi, (2006). Ben-Amrouche & Saker, (2020) recommends the necessity of developing health awareness methods through applying and spreading of new media and handheld devices. Al-Qaisi et al., (2021) points to the internet cultural content diversity. (Ben-Amrouche & Saker (2020) said that 50% of internet users believe in the internet significant impact on their health problems' understanding and 44% have improved their relationship with doctors thanks to internet. Bin-Safi (2019) showed that handheld devices-internet changed individuals' tastes of home-cooked meals, and opinions on fast-food-obesity relationship. Educating students about health concepts makes them aware of their health and healthy behaviors, which enhance their school excellence, Al-Zakari, (2007), and urge them to adhere to sound health practices to reduce diseases' spread. The WHO strives to raise health education level worldwide, Badah, et al., (2014).

School students' engagement with handheld devices, passion for digital world, long hours spent on internet are obvious. Students' acquired distance learning experience during Covid-19 pandemic contributed in that. The author noted through his observations at schools' student's strong attachment with handheld devices, integration with virtual world, reluctance to engage in collective dynamic activities, and scarcity of direct discussions. Hence the importance of health education concepts for students, and their role in reaching health and physical fitness indicators, Al-Ameen, (2020), motivated the author to benefit from this phenomenon for defining its important role in

providing students with health education' concepts.

The main question of study problem is: What are the educational supervisors' perceptions in Al-Jouf region in KSA about handheld devices importance in acquiring school students with health education concepts?

Accordingly, four subquestions emerged from it:

1. What are the public education student's most important health concepts acquirable through handheld devices from educational supervisors' opinions?
2. What are the educational supervisors' real perceptions about handheld devices' importance in school students' real acquiring health education concepts?
3. What are school students' challenges in using handheld devices in acquiring health education' concepts from educational supervisors' opinions?
4. What are the statistically differences of sample responses about each reality challenges in respect to study variables (gender, educational administration, experience)?

The study aimed to know the educational supervisors' perceptions about handheld devices' importance in acquiring health education concepts by school students.

It stems from the school student's dependence on handheld devices to get desired information.

The study theoretical importance comes from its handling this present and future important topic. While its practical importance comes from its contribution in enriching knowledge relevant to the curricula, and becoming more compatible with digital age to realize KSA 2030 vision.

Objective limitations are defined by handheld devices importance in school students' acquisition of health education concepts. Human limits are education departments' educational supervisors. Spatial limits are Al-Jouf region, KSA, (Sakakah, Dumat Al-Jandal, Tabarjal and Sweir).

### Research Terminology

Handheld devices: "Portable electronic devices usable in education (mobiles, internet-accessed iPads, using an accredited operating system" (Al-Omari & Al-Momni, 2010, p. 2).

Health Concepts: “information set, facts and ideas relevant to positive state of physical, psychological, mental, social, personal, environmental, and preventive safety and adequacy included in the curriculum, and suitable for students’ age and contemporary developments” (Saleh et al., 2016, p. 1215).

The author defines procedurally health culture concepts as information and facts that deal with healthy learning experiences significant to students and aim to prevent them from contracting diseases and enhance their voluntary commitment to healthy behavior that limits the infection’s spread.

### **Theoretical framework and previous studies**

The research triggered off the "social responsibility" theory, which focused on media social responsibility, entrusted roles and ability to influence the public (Murad, 2014). The theory’ intellectual principles are based on their meeting the public rapid needs and self-adherence to the society moral codes. It emerged in the American society through the Hutchins Committee, 1947" report titled “Free and Responsible Press”, which referred to media trespasses’ damages to society. The author chose this theory to support his research, due to its relation to his topic; since awareness and education of the society’s rights is a social media responsibility, as traditional and modern media became effective tools in influencing societies and individuals’ life.

All governments including KSA’s, paid great attention to health. KSA 2030 vision focused on strengthening health education of society members, upgrading health services, and using all modern means to spread health awareness. The modern media impact on individuals’ behavior is known (Najmi, 2020), as modern technology plays important role in societies and individuals’ life, which increased in parallel to sophisticated handheld electronic devices spread among students, after transition to e-learning during COVID-19 pandemic. This spread increased students’ internet spent time making handheld devices an essential element in educational process and an integral part of the societies and individuals’ life (Al-Zayoud, 2020). Electronic content has helped increase student achievement joyfully and making learning more interactive (Kapilas & Sreedevi, 2022).

Some studies pointed to social media networks’ role in exchanging instant conversations, videos and audios (Al-Hawari & Maarouf, 2021),

interaction using handheld devices, such as Facebook, Twitter and YouTube (Al-Awfi, 2012) limitless geographically, and to develop students’ healthy medical education (Jadoun & Ghadban, 2022). Modern health awareness policies rely on integrating social media networks electronic platforms, to facilitate health organizations to digitally manage educational materials, interact their with users and keep them attached to their handhelds devices due to increasing attraction and importance to health sectors in educational programs (Al-Faram, 2016).

Handheld devices have some advantages, such as instant interaction, discussion and exchanging views on health issues, displaying images and video clips, strengthening individual’s particularity, high storage and archiving capacity, rapid information retrieval, mass influence (Jadoun & Ghadban, 2022), meeting educational and cultural students’ needs and increasing their knowledge (How & Hung, 2019).

Al-Zayoud (2020) mentioned some disadvantages of using handheld devices such social isolation, weak personal skills and learning undesirable things. Al-Nabulsi (2021) mentioned internet addiction, electronic bullying, and intellectual property violation, lack of physical activity and sleep disturbances.

WHO used “Health Awareness” as a synonymous for “health education” which defines as “educational processes, through which health concepts, trends and behavior of individuals are changed to prevent diseases, preserve and improve health” (Al-Hefnawy, 2014, p. 134). “Health culturing” is used as synonym for “health education”, for communicating information and skills process necessary for individuals to practice their life, and enhance some of their behaviors, which are reflected on society’s and own health (Ben-Amrouche & Saker, 2020), by using medical posters, video clips, awareness lectures, and electronic health information exchange through internet-accessable and navigable handheld devices, playing an important role in creating and changing behaviors and values (Zawi, 2020).

Health education is reflected on individual’s health awareness level, as a behavior’s drive through intended practicing healthy behaviors, then practicing is transformed into unconscious habits (Najmi, 2020). Health culturing occurs slowly and gradually (Qaim, 2016). Current health care industry age has

witnessed great progress in line with artificial intelligence and robotics, helping hospitals to gain competitive advantages, in remotely following up patients, answering their inquiries, and satisfying their medical needs by automating medical processes, and transforming to intelligent robotic hospital, preserving punctuality and speed (Pavithra & Afza, 2022).

Literatures studies can be divided in two domains:

First: Studies dealt with health concepts. (Al-Sulaimani, 2008) aimed to identify health concepts to be incorporated in KSA elementary schools' curricula while (Eslim, 2010) identified health concepts in secondary schools and (Al-Shehri, 2018) exposed health education standards in first intermediate grade. (Al-Tweissi & Al-Shawish, 2013) reveal the health concepts in Jordan sixth and seventh grades while (Al-Fakir et al., 2014) dealt with health culture concepts in geography curricula and (Saleh et al., 2016) uncover health concepts in vocational education and (Al-Khazaali, 2018) tackled health concepts lower basic stage curriculum. (Taabali et al., 2017) revealed health concepts in primary school curricula in Algeria.

Second: Studies dealt with electronic devices and health education: (Al-Sulaiman, 2016) identified the effectiveness of a suggested computer program in providing fourth-grade students with health education concepts. (Bin-Safi, 2019) culture comparative study discussed health anthropology and its impact on disease and health care. (Zawi, 2020) examined the relationship between modern media and creating

individuals' cultural and social awareness. (Bin Amrouch & Saker, 2020) identified the media role in spreading health. (Al-Suhail, 2021) tackled sports media role in raising individuals healthy culture level during COVID-19 pandemic in Kuwait. (Al-Qaisi et al, 2021) examined media role in spreading health education among students and how to deal with epidemiological crises. (Jadoun & Ghadban, 2022) handled Facebook's contribution to awareness health during COVID-19 pandemic through analyzing Algerian Health Ministry webpage. (Ghaffary et al., 2022) inspected the viewpoint of a doctor using wireless devices in intensive care units IP, Phone, Pager and wireless monitoring, and the possibility of assessing an intensive care unit patient's condition without visiting him, and accessing to patient's file via internet.

Current study tackled the importance of handheld devices in acquiring school students 'health education concepts while none of the reviewed studies did that, giving the current study a distinctive scientific importance, and distinguishes itself from them. It differentiated from previous studies in subject, study sample, and tool in order to bridge this research gap, and to stress the importance of its execution.

### Methodology and Procedures

The study used the descriptive approach to deal with a study population consisted of all educational supervisors in Al-Jouf region (Sakakah, Dumat Al-Jandal, Tabarjal, Sweir administrations), table (1).

**Table 1.**  
*Study population*

Phras /Administration	Population			
	Male	Female	Total	%
Sakakah	43	63	106	41.57
Dumat Al-Jandal	27	35	62	24.31
Tabarjal	29	24	53	20.79
Sweir	18	16	34	13.33
Total	117	138	255	100.00

Source: Al-Jouf region education department's statistics, 2022.

To calculate the sample size, (Thompson, 2012) equation was used, where the sample was (153) individuals. The researcher obtained (157) responses, with a (61.57%) of the (255) population study chosen randomly, using an electronic link to perform the questionnaire in the period (4/9-30/9/2022)

### Questionnaire

It based on five-point Likert scale, (5) fully agree, (4) agree, (3) to somewhat, (2) disagree, (1) absolutely disagree.

### Questionnaire Validity

The questionnaire's structural validity was computed, by calculating the Internal

Consistency Coefficients between the score of each phrase in each dimension and the total score of the dimension measured, table (2).

**Table 2.**  
*Internal Correlation Coefficients (R)*

Dimension (1)				Dimension (2)				Dimension (3)			
No.	R.	No.	R.	No.	R.	No.	R.	No.	R.	No.	R.
1	0.579**	10	0.615**	19	0.426**	28	0.478**	37	0.286**	46	0.576**
2	0.597**	11	0.527**	20	0.440**	29	0.485**	38	0.655**	47	0.388**
3	0.622**	12	0.604**	21	0.335**	30	0.452**	39	0.511**	48	0.541**
4	0.635**	13	0.542**	22	0.468**	31	0.464**	40	0.570**	49	0.483**
5	0.540**	14	0.609**	23	0.462**	32	0.467**	41	0.511**	50	0.572**
6	0.611**	15	0.525**	24	0.394**	33	0.388**	42	0.527**	51	0.435**
7	0.601**	16	0.471**	25	0.379**	34	0.434**	43	0.549**	52	0.435**
8	0.567**	17	0.418**	26	0.568**	35	0.469**	44	0.612**	53	0.345**
9	0.608**	18	0.464**	27	0.419**	36	0.339**	45	0.504**	-	-

(\*\*significance at 0.01)

Table (3) shows the internal correlation coefficients of each dimension and the total score of the questionnaire.

**Table 3.**  
*Internal Correlation Coefficients (R)*

Dimensions	R.
Most important health concepts of interest to school students	0.680**
Importance of handheld devices in school students' acquisition of health education concepts	0.722**
Challenges of school students' use of handheld devices in acquisition of health education concepts	0.709**

(\*\*significance at 0.01)

### Questionnaire Reliability

It was calculated using Cronbach's alpha coefficient, and the split-half equation of

Spearman-Brown. Table (4) shows stability parameter values.

**Table 4.**  
*Reliability Coefficients*

Dimensions	Cronbach's alpha	Split-half reliability
Most important health concepts of interest to school students	0.87	0.77
Importance of handheld devices in school students' acquisition of health education concepts	0.75	0.85
Challenges of school students' use of handheld devices in acquisition of health education concepts	0.82	0.81
Total questionnaire	0.86	0.69

### Results and Discussion

The researcher converted the responses obtained into numbers alternatives' limits according to the

questionnaire responses, table (5) limits of questionnaire alternatives:



**Table 5.**  
*Limits of questionnaire alternatives*

Category	Score	Limits		Score
		from	To less than	
fully agree	5	4.20	5.00	very large
agree	4	3.40	4.20	large
to some extent	3	2.60	3.40	medium
don't agree	2	1.80	2.60	little
absolutely disagree	1	1.00	1.80	very little

Table (6) shows the distribution of the educational supervisor's sample according to the variables (Gender, Administration & Experiences).

**Table 6.**  
*Sample Variables & Categories*

Variable	Category	Sample	%	Total
Gender	Male	79	50.32	157
	Female	78	49.68	
Administration	Sakakah	43	27.39	157
	Dumat Al-Jandal	42	26.75	
	Tabarjal	40	25.48	
	Sweir	32	20.38	
Experiences	5	31	19.75	157
	5 >10	30	19.11	
	10 >15	44	28.02	
	15 >	52	33.12	

Table (6) shows that the percentage of male is higher than that of females, respondents from Sakakah administration is the highest, and the respondents with more than 15 years' experience is the highest. Perhaps this is due to the influence of the experience factor on the response, and their desire to benefit from their expertise in scientific research.

The author answered the study four subquestions as follows:

First subquestion: What are the public education student's most important health concepts acquirable through handheld devices from educational supervisors' opinions? Table (7) shows the means and ranking of the of the most important health concepts of school students according to educational supervisors' perceptions:

**Table 7.**  
*Means and Ranking of Most Important Health Concepts*

Health Concepts	Means	Ranking
Health Care	4.26	1
Psychological health	3.86	8
Disease protection	4.04	3
Medical Examination	3.98	5
Medical treatment	4.03	4
Healthy behavior	3.98	5
Healthy diet	4.08	2
Vaccination against diseases	3.92	7
Fitness	3.98	5
Immunity	3.75	10
Delusion of illness	3.70	12
Affliction	3.80	9
Infection	3.95	6
Obesity	3.73	11

COVID-19	3.65	13
Cholesterol	3.57	15
Diabetes	3.60	14
Pollution	3.33	16
All dimension	3.84	

Table (7) shows that the most important health concepts dimension of school students that can be acquired through handheld devices according to educational supervisors' perceptions is (3.84), corresponding to a significant degree of agreement. The most important health concepts are "health care", which came in the first place with a very large degree of agreement, then "healthy diet" with a large degree of agreement. The "pollution" concept came in the last place with a medium degree.

Second subquestion: What are the educational supervisors' real perceptions about handheld devices' importance in school students' real acquiring health education concepts? Table (8) shows means and ranking of the responses of educational supervisors about the importance of handheld devices in the acquisition of health education concepts by students.

**Table 8.**  
*Means and Ranking of Importance of Handheld Devices*

N	Phrase	Means	Ranking
1	Students search internet for health care methods	4.22	1
2	Students learn the skills of health information and concepts in trusted medical websites	3.76	7
3	Students use handheld devices to recognize the concept of students' healthy behavior	3.77	6
4	Students use handheld devices in searching for methods of rationalizing medicines and medical treatment's expenditures	3.88	2
5	Students rely on handheld devices to obtain medical information instead of visiting and consulting doctors	3.75	8
6	Help students in researching the most appropriate healthy diet to reduce disease's spread	3.66	12
7	Using handheld devices to access sites specialized in calculating calories for students' appropriate healthy food	3.87	3
8	Help students in accessing up-to-date medical information	3.78	5
9	Quick access to information about instant health concepts	3.83	4
10	Students benefit from handheld devices in promoting healthy habits	3.71	10
11	Contribution of handheld devices in presenting an interesting explanation to students about health concepts implications	3.74	9
12	Students' publishing the meanings and implications of health concepts in internet	3.63	13
13	Students share health concepts' explanations with their colleagues on the electronic cloud and social media	3.75	8
14	Students watch clips those explain health concepts' meanings in easy way to apply	3.62	14
15	Students follow reliable Internet health channels	3.75	8
16	Easy access to extensive information on health concepts those support psychological stability of sick students	3.68	11
17	Students' use of handheld devices in educating society's members about health issues, especially in a period of crisis	3.63	13
18	Handheld devices presentation of correct methods for practicing sport and fitness exercises	3.63	13
	All dimension	3.76	

Table (8) shows that the average degree of the dimension "agreement of educational supervisors'

perceptions of the importance of handheld devices in school students' acquisition of health education

concepts” was high (3.76), and that the most important phrases "phrase 1" (very large degree), then "phrase 4" (large degree). “Phrase 14” came in the last place for the phrase of this dimension, (large degree). Each of the three penultimate phrases i.e. "Phrase 12", "phrase 17", and "phrase 18", (large degree).

Third subquestion: What are school students’ challenges in using handheld devices in acquiring health education’ concepts from educational supervisors’ opinions? Table (9) shows means and ranking of the educational supervisors’ responses to the challenges of school students’ use of handheld devices in acquiring the concepts of health education:

**Table 9.**  
*Means and Ranking of Challenges*

N	Phrases	Means	Ranking
1	Distraction of students’ understanding of the meanings of health concepts due to sources’ abundance	4.17	1
2	Students’ delusion of contracting diseases because their reading about symptoms on internet	3.50	9
3	Weak abilities of school students to comprehend the meanings of health concepts	3.50	9
4	Students’ preoccupation in health-irrelevant contents in Internet	3.68	4
5	Students' addiction to browsing various websites in Internet	3.69	3
6	Students' use of health concepts in cyberbullying their peers	3.38	13
7	Lack of health concepts included in the public education stages’ curricula	3.58	8
8	Addressing the meanings of health concepts in the public education stages curricula insufficiently for students needs	3.66	5
9	Scarce use of handheld devices in communication between teachers and students to explain health concepts	3.66	5
10	Marginalizing the family role in clarifying the meanings of health concepts to their children	3.31	14
11	Weakness of parents’ conviction in the information those explain health concepts in internet	3.50	9
12	Outdating of health information available in internet	3.44	11
13	Exaggeration by some medical websites specialized in providing information explaining health concepts	3.61	7
14	Incredibility of information available in internet about health concepts of students’ interest	3.43	12
15	Students’ satisfaction with health information available in internet without referring to medical institutions	3.46	10
16	Handheld devices facilitate to students following websites that deal with health concepts inappropriate for their age	3.65	6
17	Handheld devices enhance spreading the culture of taking medicaments without consulting specialized doctors	3.72	2
All dimension		3.58	

Table (9) shows that the average degree of challenges is (3.58), corresponding to a large degree of challenges, and the most challenge facing students was "phrase 1" (large degree), then "phrase 17" (large degree), while "phrase 10" came in the last place (medium degree).

Forth subquestion: What are the statistically differences of sample responses about each reality challenges in respect to study variables (gender, educational administration, experience)? The answers according to the variables are as follows:



1- Gender variable: to verify statistically differences of sample responses, means and standard deviations of the reality and challenges of school students' use of

handheld devices in acquiring the concepts of health education, and (t-test), according to gender, are clarified in table (10).

**Table 10.**  
*Means and Standard Deviations (Gender)*

Dimensions	Variable	N	Mean	Std.	(T) Value	Sig.
Real educational supervisors' perceptions	Male	79	67.15	7.60	0.83	0.69
	Female	78	68.15	7.48		
Challenges of school students in using handheld devices for acquiring health concepts	Male	79	59.79	10.37	1.49	0.19
	Female	78	62.05	8.58		

Table (10) shows that there are no statistically significant differences at ( $\alpha \leq 0.05$ ) in both questionnaire dimensions, and in the total questionnaire, related to the gender variable ( $T=0.83$ ). The results also indicate that male and female supervisors agree on the various challenges facing the school students' use of

handheld devices in acquiring health education concepts of ( $T=1.49$ ).

2- The educational administration variable: to verify statistically differences of sample responses, means and standard deviations were calculated, and clarified in table (11).

**Table 11.**  
*Means and Standard Deviations (Administration)*

Dimensions	Variable	N	Mean	Std.
Real educational supervisors' perceptions	Sakakah	43	68.54	5.89
	Dumat Al-Jandal	42	66.52	7.57
	Tabarjal	40	68.08	9.44
	Sweir	32	67.41	6.88
Challenges of school students in using handheld devices for acquiring health concepts	Sakakah	43	63.81	8.69
	Dumat Al-Jandal	42	60.45	7.81
	Tabarjal	40	59.75	11.82
	Sweir	32	59.06	9.16

Table (11) shows that Sakakah administration educational supervisors obtained the highest average in both questionnaire dimensions, and that Dumat al-Jandal administration supervisors obtained lowest average in reality dimension, and Sawyer administration supervisors obtained lowest average challenges dimension. Averages of reality dimension were (68.54), (68.08), (67.41), (66.52) were from Sakakah, Tabarjal,

Sweir and Dumat al-Jandal managements respectively. Averages of challenges dimension were (63.81), (60.45), (59.75), (59.06) from Sakakah, Dumat Al-Jandal, Tabarjal, and Sweir administration respectively.

One-way ANOVA was calculated for the educational administration variable for independent samples, and clarified in table (12).

**Table 12.**  
*One-Way ANOVA Test (Administration)*

Dimensions	Source of variance	Sum of squares	DF	Average of squares	(F) Value	Sig.
Real educational supervisors' perceptions	Between groups	96.07	3	32.02	0.56	0.64
	Within groups	8745.67	153	57.16		
	Total	8841.73	156			
Challenges of school students in using handheld devices	Between groups	534.46	3	178.15	1.99	0.12
	Within groups	13722.29	153	89.69		
	Total	14256.75	156	-		

Table (12) shows no statistically significant differences at the statistical significance ( $\alpha \leq 0.05$ ) of in both questionnaire dimensions according to educational administration variable (Sakakah, Dumat al-Jandal, Tabarjal, Sweir), in the reality dimension (F=0.56) and at a significance level of (0.64).), and in the challenges dimension (F=1.99) and at the level of significance (0.12).

3- Years of experience variable: to verify statistically differences of sample responses, means and standard deviations of scores for the reality and challenges of school students' use of handheld devices in acquiring health education concepts, according to the years of experience variable were calculated, and clarified in table (13).

**Table 13.**  
*Means and Standard Deviations (experience)*

Dimensions	Variable	Number	Mean	Std.
Real educational supervisors' perceptions	5 years>	31	69.97	7.65
	10 years>5	30	67.27	7.94
	15 years>10	44	67.11	8.04
	15 years<	52	66.94	6.68
Challenges of school students in using handheld devices for acquiring health education concepts	5 years>	31	63.13	8.34
	10 years>5	30	61.07	10.08
	15 years>10	44	61.52	9.43
	15 years<	52	58.98	9.94

Table (13) shows that educational supervisors with (less than 5 years) experiences obtained the highest average in both questionnaire dimensions, and supervisors with (more than 15 years) obtained the lowest average in both dimensions. The averages were (69.97), (67.27), (67.11), (66.94) for experienced supervisors (less than 5 years), (5 to less than 10 years), (10 to less than 15 years), (more than 15 years) respectively. In the challenges dimension, the averages were

(63.13), (61.52), (61.07), (58.98) for supervisors with experience (less than 5 years), (from 10 years to less than 15 years), (from 5 years to less than 10 years), (more than 15 years), respectively.

One-way ANOVA was calculated for the years of experience variable for independent samples, and clarified in table (14).

**Table 14.**  
*One-Way ANOVA Test (experience)*

dimensions	Source of variance	Sum of squares	DF	Average of squares	(F) Value	Sig.
Real educational supervisors' perceptions	Between groups	209.64	3	69.88	1.24	0.30
	Within groups	8632.09	153	56.42		
	Total	8841.73	156	--		
Challenges of school students in using handheld devices	Between groups	363.44	3	121.15	1.33	0.27
	Within groups	13893.31	153	90.81		
	Total	14256.75	156	--		

Table (14) shows that there are no statistically significant differences at the level of statistical significance ( $\alpha \leq 0.05$ ) in both questionnaire dimensions attributed to the years of experience variable, in the reality dimension ( $F=1.24$ ), with significance (0.30), in the challenges dimension ( $F=1.33$ ) with significance (0.27).

The results of table (7) show that the educational supervisors' opinion agrees to a large extent with the most important health concepts which can be acquired by students through handheld devices. This is explained by the fact that health concepts play a major role in supporting students' health culture, as it includes multiple knowledge and skills that contribute to changing attitudes and behaviors, and that the most important health concepts for students of public education are "health care", then "healthy diet". This corresponds to the human being basic needs, food and health, as the rest of needs depend on them according to Maslow's hierarchy. The concept of health care is one of the most needed concepts, especially in periods of diseases and epidemics spread, as happened during COVID-19 pandemic, and a healthy diet contributes to individual's health care condition and prevents diseases. While "pollution" concept came last, despite its importance locally and globally perhaps due to the lack of air and environmental pollutants in the fertile agricultural Al-Jouf region, that is famous for its olive trees.

Additionally, the "cholesterol" concept came Penultimately, perhaps due to that this term is mostly used among the elderly, and rarely used by educational students, and this is consistent with Taabali et al. (2017), and Al-Shehri (2018), which dealt with health concepts that should be included in curricula. It also explains the importance of health concepts for students as a result of COVID-19 pandemic impact and its infection and deaths cases globally, whereas the greatest interest was in health education to avoid contracting the disease.

Table (8) show the high agreement of the educational supervisors' point on the importance of handheld devices in students' acquisition of health education concepts which is explained by strong students' adherence to handheld devices which became vitals in their lives, as students depend on them in their scientific and cultural achievements, and searching the websites. This is in line with the current technological revolution and the rapid digital transformation that KSA is keen to keep pace with in accordance with 2030 Vision.

The most important phrases were "Students search internet for health care methods", then "Students use handheld devices in searching for methods of rationalizing medicines and medical treatment's expenditures", which indicates the students' association with internet, and their desire to increase health information from various reliable sources, due to the growth of their culture in maintaining their health condition, and reducing treatment expenses. This is consistent with Zawi (2020).

The phrase "Students watch clips those explain health concepts' meanings in easy way to apply" was less important among the phrases, which may be attributed to the large number of sites and accounts that broadcast clips of unreliable source on internet probably conflict each other and lose credibility in contrast with Ibrahim & Inan (2022). Penultimately, came the phrases "Students' publishing the meanings and implications of health concepts in internet", "Students' use of handheld devices in educating society's members about health issues, especially in a period of crisis", "Handheld devices presentation of correct methods for practicing sport and fitness exercises reflecting students' desire to educate themselves in a healthy way, and their unwillingness to publish and share information on internet for fear of responsibility due to lack of credibility in contrast with Al-Qaisi et al. (2021).

Generally, handheld devices are of great importance in students' acquisition of health education concepts, which expresses the study sample's conviction of handheld devices' importance for students, and their complementary role to school's role in education. This is explained by handheld devices spread among students, students' high searching skills using them which was greatly enhanced by adopting distance learning for during COVID-19 pandemic, and to the link between students learning and electronic platforms, in addition to health concepts' inefficiency in school curricula in concordance with Al-Shehri (2018).

Table (9) show that the challenges facing students are large, due to the abundance of cultural and informational diversity on internet, which affects students' behavior sometimes, and the contradictions of their contents occasionally. Continuous programs' updates and of technological devices' developments are another challenge facing students in adapting with them, which is consistent with Bin-Safi (2019) and Zawi (2020).

The greatest challenge for students was "Distraction of students' understanding of the meanings of health concepts due to sources' abundance", which may be attributed to the weak control over internet uploaded cultural contents, which makes students facing the challenge of choosing the most reliable and credible information. Then the phrase "Handheld devices enhance spreading the culture of taking medicaments without consulting specialized doctors". This is explained by the lack of health education information among students, and their lack of medical expertise, which makes them tolerate taking medicines without doctor's consulting, relying on information available on internet, in concordance with Al-Suhail (2021) and Al-Qaisi et al. (2021). The phrase "Marginalizing the family role in clarifying the meanings of health concepts to their children" came in the last place, which is explained by students' strong family bonding, and attributed to family's health directives and caring its children, in disconcordance with Jadoun & Ghadban (2022).

Penultimately, came "Students' use of health concepts in cyberbullying their peers" which was explained by students' possessing social awareness and appropriate amount of values that prevent them from bullying their colleagues of special needs, in concordance with Ben-Amrouche & Saker (2020). Generally, students face great challenges due to the fact that the era which we currently live is characterized by rapid and continuous technological development of handheld devices and software. The lack of educational curricula in addressing health concepts and the of content of health culture knowledge's diversity on the internet, increases the challenges that students face when use handheld devices, in accordance with Jadoun & Ghadban (2022).

Table (10) show no statistically significant differences in gender variable at ( $\alpha \leq 0.05$ ) in both questionnaire dimensions, and in the total questionnaire, which indicates male and female supervisors' agreement about both questionnaire dimensions. This is explained by males and females supervisors' similar acquaintance with the challenges which students face, due to their same preparation programs, juxtaposition of their living places, similarity of male and female schools' facilities and curricula in concordance with Al-Khazaali (2018), Al-Sulaiman (2016).

It also explains the males and females supervisors' agreement about the challenges the students face in using handheld devices to

acquire health education concepts, which is explained by males and females supervisors' similar acquaintance with the challenges which students face, good contact with them, students' need for more health education, shortcomings of school curricula in handling health education concepts, and great diversity in presenting cultural health concepts on internet, in concordance with Saleh et al. (2016) and Al-shehri (2018).

One-way ANOVA (table 12) show no differences between means in the questionnaire both dimensions attributed to the educational administration variable. This is explained by the similarity of the educational administrations in Al-Jouf region in terms of facilities, preparations, training programs, and follow-up methods, high similarity of educational supervisors' experiences and skills, and sample small number (255) which helped in enhancing their intercommunication and conducting scientific meetings and discussions to exchange knowledge, experiences, skills and ideas.

One-way ANOVA (table 14) show no differences between means in the questionnaire both dimensions attributed to the variable number of years of experience. This is explained by the fact that all educational supervisors have minimum skills and technological proficiency necessary to perform their supervision tasks inasmuch as they attend specialized training programs held by educational administrations, and exchange experiences through WhatsApp groups, and scholarly discussions remotely and in person.

## Conclusions

- The most important health concepts for school students are, "health care" and "healthy diet".
- The perceptions of educational supervisors about the importance of handheld devices in school students' acquisition of health culture concepts were very great.
- The most challenges facing school students are "Distraction of students' understanding of the meanings of health concepts due to sources' abundance" and "Handheld devices enhance spreading the culture of taking medicaments without consulting specialized doctors".
- There are no statistically differences at ( $\alpha \leq 0.05$ ) in the questionnaire dimensions and in the questionnaire as a whole, level attributed to the study variables (gender,

educational administration, & years of experience).

### Bibliographic references

- Abu-Hula, M., & Al-Balawi, K. (2006). Health concepts in science curricula for the intermediate stage in the Kingdom of Saudi Arabia. *Damascus University Journal*, 22(2), 197-240. <https://2u.pw/dCelp4> .(In Arabic).
- Al-Awfi, A. (2012). *Media Awareness Campaigns: Theoretical Foundations and Practical Procedures*. Riyadh: King Saud University. <https://2u.pw/obIsb5>. (In Arabic).
- Al-Fakir, S., Al-Subhien, E., & Al-Rasa'i, M. (2014). Health education concepts in geography books for the upper basic stage in Jordan. *Educational Journal*, 38, 128-152. <https://2u.pw/cPxOx1>. (In Arabic).
- Al-Faram, K. (2016). The use of social media in health awareness of Corona disease: An Applied Study on Medical Cities and Their Government Hospitals in Riyadh, Saudi Arabia. *The Arab Journal for Media and Communication Research*, 14, 164-175. (In Arabic). DOI: [10.21608/JKOM.2016.109340](https://doi.org/10.21608/JKOM.2016.109340)
- Al-Hawari, S., & Maarouf, A. (2021). *Media management for health crises*. Berlin: The Arab Democratic Center for Strategic Studies and Economic Policy. <https://2u.pw/WKg2js>. (In Arabic).
- Al-Hefnawy, M. (2014). *Press and health education*. Kafr Al-Sheikh, Egypt: House of Science and Faith for Publishing and Distribution. <https://2u.pw/SfoywE>. (In Arabic).
- Al-Khazaali, W. (2018). The degree of inclusion of health concepts in Islamic education books for the lower basic stage in Jordan. (Unpublished Master's Thesis), College of Educational Sciences, Al-Al-Bayt University, Jordan. <https://2u.pw/9D5spV>. (In Arabic).
- Al-Kinani, M., & Al-Dujaili, A. (2018). *Television and health awareness*. Amman: Dar Amjad for Publishing and Distribution. <https://2u.pw/FUjEoQ>. (In Arabic).
- Al-Ameen, H. (2020). Health culture and its relationship to some health and physical fitness indicators for preparatory stage students. *Scientific journal of physical education and sports sciences*, 88, 494-508. (In Arabic). DOI: [10.21608/JSBSH.2020.29384.1162](https://doi.org/10.21608/JSBSH.2020.29384.1162)
- Al-Nabulsi, M. (2021). Social media applications as one of the economic options for future education from the point of view of school principals. *Faculty of Education Journal*, 83(4), 579-638. (In Arabic). <https://doi.org/10.21608/MKMGT.2022.146937.1275>
- Al-Omari, M., & Al-Momani, M. (2010). *Innovations in the learning and teaching process and a step-by-step guide to their use*. Irbid: The world of books. <https://2u.pw/1o9DzS>. (In Arabic).
- Al-Qaisi, S., Abdul-Zobai, A., & Abdul-Razzaq, R. (2021). The degree of health media practice in dealing with epidemiological crises and its relationship to promoting health awareness for the Iraqi public. *Al-Arabi Journal for Media Studies*, 13, 68-95. <https://2u.pw/gqxr2C>. (In Arabic).
- Al-Shehri, S. (2018). The degree of observance of health education standards included in the science curriculum content for the first intermediate grade in the Kingdom of Saudi Arabia. *Journal of Educational and Psychological Sciences*, 2(1), 38-54. DOI: <https://doi.org/10.26389/AJSRP.H241017>. (In Arabic).
- Al-Suhail, M. (2021) The impact of sports electronic media in raising the level of health education in the Covid-19 pandemic. *Assiut Journal of Physical Education Sciences and Arts*, 57, 742-760. <https://2u.pw/Hg6VU5>. (In Arabic).
- Al-Sulaimani, N. (2008). The extent to which science books for the primary classes developed in the primary stage deal with the concepts of health education. (Unpublished Master's Thesis), College of Education, Umm Al-Qura University. <https://2u.pw/AC3Ey1>. (In Arabic).
- Al-Sulaiman, F. (2016). The effectiveness of an educational computer program to acquire health concepts in the science course for fourth grade students. (Unpublished Master's Thesis), Faculty of Education, Damascus University. <https://2u.pw/USHW5k>. (In Arabic).
- Al-Tweissi A., & Al-Shawish, I. (2013). Health concepts included in science books for the sixth and seventh grades in Jordan. *Educational Journal*, 27(108), 253-187. <https://2u.pw/3DHCey>. (In Arabic).
- Al-Zakari, M. (2007). Efforts of the press in spreading health knowledge. (Unpublished Master's Thesis), College of Da'wah and Media, Imam Muhammad bin Saud Islamic University. <https://2u.pw/aqgd3p>. (In Arabic).
- Al-Zayoud, S. (2020). The impact of modern technology and distance education on students. *The Scientific Journal of Technology and Disability Sciences*, 2(5), 21-46. (In Arabic). <https://doi.org/10.21608/SKJE.2020.156269>





- Badah, A., Badran, Z., & Mazahreh, A. (2014). Health Education. Amman: Dar Al-Masirah for Publishing and Distribution. <https://2u.pw/ZOEUEA>. (In Arabic).
- Ben-Amrouche, F., & Saker, S. (2020). The role of the media in spreading culture and health awareness. *Journal of Human and Society Sciences*, 9(4), 671-697. <https://2u.pw/EL2aXs>. (In Arabic).
- Bin-Safi, S. (2019). Health Anthropology. *Journal of Studies in the Humanities and Social Sciences*, 2(13), 89-107. <https://2u.pw/m82WwH>. (In Arabic).
- Communication and Information Technology Commission. (2020). Annual Report. Ministry of Communications and Information Technology. <https://www.mcit.gov.sa/documents>
- Eslim, N. (2010). Health concepts included in Islamic education books at the secondary stage in the Kingdom of Saudi Arabia. *Psychological Studies*, 3, 83-132. <https://2u.pw/5PkaNZ>. (In Arabic).
- Ghaffary, M., Nioumand, M., & Ghaffary, S. (2022). Telemedicine from the Perspective of a Medical Student Graduated Twenty Years Ago. *Journal of Positive School Psychology*, 6(7), 66-72. <https://2u.pw/AdWn3y>
- How, M., & Hung, W. (2019). Educational stakeholders' independent evaluation of an artificial intelligence-enabled network predictive simulations. *Educational sciences*, 9(10), 1-31.
- Ibrahim, H., & Inan, T. (2022). Using Cloud Computing Services in the Knowledge Sharing Process in Iraqi universities. *Journal of Positive School Psychology*, 6(6), 5423-5435. <https://2u.pw/dwu9S3>
- Jadoun, Z., & Ghadban, G. (2022). Facebook and health awareness in light of the COVID-19 pandemic - an analytical study. *Scientific Journal of Technology and Disability Sciences*, 4(2), 125-148. DOI: 10.21608/skje.2022.246437. (In Arabic).
- Kapilas, P., & Sreedevi, P. (2022). E-Content as An Innovative Teaching Tool for Improving Science Process Skills at Secondary Level. *Journal of Positive School Psychology*, 6(8), 3302-3306.
- Murad, K. (2014). Mass Communication and Media. Amman: Dar Al-Masirah. <https://2u.pw/FvDwtV>. (In Arabic).
- Najmi, A. (2020). Health education among Tabuk University students in the light of the National Vision 2030. *Journal of Education*, 4(188), 235-289. <https://2u.pw/5LV4cG>. (In Arabic).
- Pavithra, N., & Afza, N. (2022). Issues and Challenges in Adopting Robotics in Healthcare - A Conceptual Study. *Journal of Positive School Psychology*, 6(8), 4266-4270.
- Qaim, N. (2016). Arab satellite channels and the dissemination of health education: a descriptive and analytical study of the program (The Doctors) in its Western and Arabic versions on MBC4 and Dubai. International Conference: Media and the Development Bet. Faculty of Arts and Humanities, Fez, Morocco, 374-398. <https://2u.pw/Ub7Ac0>. (In Arabic).
- Saleh, R., Al-Rasa'i, M., & Al-Hilalat, K. (2016). The degree of inclusion of nutritional and health concepts in vocational education books for the first three grades in Jordan. *Studies for Educational Sciences*, 43(3), 1213-1229. <https://2u.pw/xGQarp>. (In Arabic).
- Taabali, M., Hami, S., & Farah, A. (2017). Health education in the Algerian school: books of the second generation of primary education as a model. *Journal of Studies in Health Psychology*, 2, 108-125. <https://2u.pw/BhezPM>. (In Arabic).
- Thompson, S. (2012). Sampling (3rd Ed). A John Wiley & Sons, INC., Publication.
- World Health Organization (WHO). (2012). Health education: Theoretical Concepts, Effective Strategies and Core Competencies: A Foundation Document to Guide Capacity Development of Health education. World Health Organization. Regional Office for the Eastern Mediterranean. <https://2u.pw/RU24Wl>
- Zawi, I. (2020). New media and the awareness industry in the era of globalization. *Think and Creativity*, 135, 403-436. <https://2u.pw/vIP4Qo>. (In Arabic).