

الجامعة
البريطانية في
دبي



The
British University
in Dubai

**Investigating Students' Perceptions of Health Education
Program in the Public Secondary Schools in Al Ain City,
UAE**

دراسة تصورات الطلاب لبرنامج التثقيف الصحي في مدارس الثانوية العامة في
مدينة العين، الامارات العربية المتحدة.

by

RANIA SAMIR ALAYLI

A thesis submitted in fulfillment

of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN EDUCATION

at

The British University in Dubai

July 2020

الجامعة
البريطانية في
دبي



The
British University
in Dubai

**Investigating Students' Perceptions of Health Education Program in the
Public Secondary Schools in Al Ain City.**

دراسة تصورات الطلاب لبرنامج التثقيف الصحي في مدارس الثانوية العامة في مدينة العين، الامارات
العربية المتحدة.

by

Rania Samir Alayli

**A thesis submitted to the Faculty of Education
in fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY IN EDUCATION**

at

The British University in Dubai

July 2020

Thesis Supervisor

Prof. Sufian A. Forawi

Approved for award:

Name
Designation

Name
Designation

Name
Designation

Name
Designation

Date: _____

DECLARATION

I warrant that the content of this research is the direct result of my own work and that any use made in it of published or unpublished copyright material falls within the limits permitted by international copyright conventions.

I understand that a copy of my research will be deposited in the University Library for permanent retention.

I hereby agree that the material mentioned above for which I am author and copyright holder may be copied and distributed by The British University in Dubai for the purposes of research, private study or education and that The British University in Dubai may recover from purchasers the costs incurred in such copying and distribution, where appropriate.

I understand that The British University in Dubai may make a digital copy available in the institutional repository.

I understand that I may apply to the University to retain the right to withhold or to restrict access to my thesis for a period which shall not normally exceed four calendar years from the congregation at which the degree is conferred, the length of the period to be specified in the application, together with the precise reasons for making that application.

Signature of the student

COPYRIGHT AND INFORMATION TO USERS

The author whose copyright is declared on the title page of the work has granted to the British University in Dubai the right to lend his/her research work to users of its library and to make partial or single copies for educational and research use.

The author has also granted permission to the University to keep or make a digital copy for similar use and for the purpose of preservation of the work digitally.

Multiple copying of this work for scholarly purposes may be granted by either the author, the Registrar or the Dean only.

Copying for financial gain shall only be allowed with the author's express permission.

Any use of this work in whole or in part shall respect the moral rights of the author to be acknowledged and to reflect in good faith and without detriment the meaning of the content, and the original authorship.

Abstract

Health education is an essential aspect of health promotion. As such, health related skills have become crucial factors of individual's and community's efficiency in the 21st century. Health education involves learning of knowledge, beliefs, attitudes, values, skills and competencies. Also, it is a vital measure for students to identify risk behaviors and conditions which influence them. Thus, the main components of health education are disease prevention and early detection and health information and practice. Therefore, it is encouraging students to lead a healthy lifestyle.

The main purpose of the study was to investigate students' perceptions of the newly implemented health education program in the public secondary schools in Al Ain City. A concurrent mixed method design has been used in this study. A students' questionnaire and in-depth semi-structured interviews were implemented. The participants of the study were female students from secondary public schools within the city of Al Ain, Emirate of Abu Dhabi, in the United Arab Emirates. A students' questionnaire was administered to the students of health education. The participants were four groups of 258 students. In-depth semi-structured interviews were conducted to five groups of 32 students' participants.

The results revealed that school health education program had a positive impact on students' health related knowledge, skills and dispositions. There was a significant statistical difference in means of participants' responses to the inquiry statements. Furthermore, the results showed strong correlation between the students' perceptions of health education and the teachers' knowledge and skills. It can be concluded that the results of the study emphasized the importance that health education is crucial to equip students with related knowledge, skills and dispositions. Moreover, students' learning in the health education program is critical to develop healthful bodies and minds to grow into healthy adults; that is an absolute need to face this dynamic and rapid changing world.

Keywords: *health education, health promotion, learning of health education, school health education, healthy lifestyle.*

نبذة مختصرة

التثقيف الصحي جانب أساسي من جوانب تعزيز الصحة. على هذا النحو ، أصبحت المهارات المتعلقة بالصحة عوامل حاسمة لكفاءة الفرد والمجتمع في القرن العشرين. يتضمن التثقيف الصحي تعلم المعرفة والمهارات والكفاءات. كما أنه مقياس حيوي للطلاب لتحديد السلوكيات والظروف الخطرة التي تؤثر عليهم. وبالتالي، فإن المكونات الرئيسية للتثقيف الصحي هي الوقاية من المرض والكشف المبكر والمعلومات والممارسات الصحية. لذلك ، يشجع الطلاب على قيادة نمط حياة صحي.

الغرض الرئيسي من الدراسة هو استكشاف تصورات الطلاب لبرنامج التعليم الصحي الذي تم تنفيذه حديثاً في المدارس الثانوية العامة في مدينة العين. تم استخدام تصميم طريقة مختلطة مترامنة في هذه الدراسة. تم تنفيذ استبيان الطلاب والمقابلات شبه المنظمة المتعمقة. شارك في الدراسة طالبات من مدارس ثانوية عامة في مدينة العين بإمارة أبوظبي بالإمارات العربية المتحدة. تم إجراء استبيان الطلاب لطلاب التربية الصحية. كان المشاركون أربع مجموعات من 258 طالبة. تم إجراء مقابلات شبه منظمة متعمقة مع خمس مجموعات من 32 طالبة.

أظهرت النتائج أن برنامج التثقيف الصحي المدرسي كان له تأثير إيجابي على المعرفة والمهارات المتعلقة بالصحة لدى الطالبات. كان هناك اختلاف إحصائي كبير في وسائل ردود المشاركين على بيانات الاستفسار. علاوة على ذلك، أظهرت النتائج ارتباطاً قوياً بين تصورات الطلاب للتربية الصحية ومعرفة المعلمين ومهاراتهم. يمكن الاستنتاج أن نتائج الدراسة تؤكد على أهمية التعليم الصحي لتزويد الطلاب بالمعارف والمهارات ذات الصلة. كذلك، يعد تعلم الطلاب في برنامج التثقيف الصحي أمراً بالغ الأهمية لتطوير الأجسام والعقول الصحية للنمو ليصبحوا بالغين أصحاء ؛ هذه حاجة مطلقة لمواجهة هذا العالم الديناميكي والسريع التغير.

الكلمات المفتاحية: التثقيف الصحي ، تعزيز الصحة ، تعلم التثقيف الصحي ، التثقيف الصحي المدرسي ،

أسلوب الحياة الصح

DEDICATION

I dedicate my thesis work to my parents for their endless love, prayers and inspiration. To my mother, Hajji Nada Yamout, this work is dedicated to you for your continuous support and prayers. To my father, Hajj Samir Alayli for always guiding me by your wise talks, encouraging me and being proud of my achievements.

I would like to dedicate my work to my beloved husband and four daughters. My husband, Raed El Baitam, you were the first to reassure me once I came with the idea of pursuing my studies to earn the PhD degree. This work is dedicated to you for being so supportive in every step of this journey and in life overall. Raed, if it was not for your understanding, patience and love, I would not have been able to complete this thesis. My daughters, Raleen, Rama, Yara and Clara, this thesis is also dedicated to you my blessings. I hope that it will set an example and inspire you to achieve great things in life.

ACKNOWLEDGEMENTS

First and foremost, I am so grateful to Almighty God for giving me the knowledge, strength and ability to complete this thesis.

I would like to express my utmost gratitude to my Director of Studies Professor Sufian A. Forawi. As my supervisor, he taught me how to smoothly accomplish this thesis through his understanding, continuous support, enthusiasm and guidance, and for pushing me farther than I thought I could reach. A special word of gratitude and appreciation is due to Dr. Ahmed Al Rahl, who has supported and assisted me so that the completion of this work would be possible. Also, I would like to acknowledge the help of Mr. Maniue Vilsoni for proofreading all thesis chapters.

I thank all my family and friends for being loving and supportive. Thanks to my dearest husband, for watching over our daughters, and giving me space to work on my thesis. Thanks for my daughters for being responsible and independent. Special thanks go to my exceptional friend Dr. Hadya Abboud with whom I started to study in this program. I am grateful for you all for the motivation that helped me surviving all stresses and kept me going, and without them it would not have been possible to complete my thesis and this PhD degree program.

Table of Contents

Chapter One: Introduction	1
1.1. Introduction	1
1.2. Background	2
1.2.1. School Health Education Program in UAE	3
1.2.2. Indicators of Health Education	5
1.2.3. Whole school Approach	6
1.3. Statement of the problem	8
1.4. Research Aim, Objectives and Questions	11
1.5. Significance of the study	12
1.6. Overview of Chapters	13
Chapter Two: Theoretical Framework and Literature Review	15
2.1. Theoretical Framework	15
2.1.1. Health Locus of Control	16
2.1.2. Social Cognitive Learning Theory	22
2.1.3. The Health Belief Model	31
2.1.4. Trans-Theoretical Model of Behaviour Change	36
2.1.5. Summary of the Theoretical Framework	43
2.2. Literature Review	47
2.2.1. The Evolution of School Health Education	47
2.2.2. Health Education in School Curriculum	52
2.2.3. Teachers of Health Education	57
2.2.4. Impact of Education on the Health of youth and women	63
2.2.5. Summary of the Literature Review	68
2.3. Situated Studies	70
Chapter Three: Methodology	74
3.1. Research Philosophy	74
3.2. Research Approach	78
3.3. Site Selection	83
3.4. Population of the study	83
3.5. Sample Selection	84
3.6. Research Instruments	86
3.6.1. Student Questionnaire	86
3.6.2. Validity	89
3.6.3. Pilot Study	90
3.6.4. Reliability	91
3.6.5. Interviews	91
3.7. Data Analysis and procedures	100

3.8. Ethical Considerations	102
3.9. Summary of the Study Methodology	103
Chapter Four: Data Analysis and Results	106
4.1. Analysis of Quantitative Questionnaire Data	106
4.1.1. Analysis of Demographic Data	107
4.1.2. Reliability	110
4.1.3. Descriptive Statistical Results	112
4.1.4. Analysis of Knowledge Questions	115
4.1.5. Analysis of Skills Questions	122
4.1.6. Analysis of Dispositions Questions.....	131
4.1.7. Analysis of Teacher Questions	136
4.1.8. Summary of Quantitative Questionnaire Data.....	140
4.2. Analysis of Qualitative Data.....	144
4.2.1. Theme 1: Healthy Living	147
4.2.2. Theme 2: Health Advocacy.....	151
4.2.3. Theme 3: Collaborative Learning.....	152
4.2.4. Theme 4: Teacher’s Character.....	154
4.2.5. Summary of the Qualitative Data	155
4.3. Integrated Analysis and Results	156
Chapter Five: Discussion, Conclusion and Recommendations	163
5.1. Discussions	163
5.1.1 Discussion of the Quantitative Results	164
5.1.2. Discussion of the Qualitative Results	168
5.1.3. Discussion of the Integrated Results	180
5.2. Conclusion	202
5.3. Implications.....	213
5.4. Research Recommendations	216
5.5. Limitations	217
References	218
Appendices	262
Appendix 1: Students’ Questionnaire.....	262
Appendix 2: Interview Questions Guide	264
Appendix 3: Ethics Advisory Committee of the British University in Dubai Approval	265
Appendix 4: Abu Dhabi Education and Knowledge Department (ADEK) Approval	267
Appendix 5: Consent Form	268

List of Illustrations

Figure 2.1	Locus of Control scale.....	18
Figure 2.2	Multi Health of Locus of Control scale.....	21
Figure 2.3	Bandura’s Observational Learning Process.....	23
Figure 2.4	Process of SLT and SCLT.....	27
Figure 2.5	SCLT Reciprocal Causation Model.....	28
Figure 2.6	Variables of the Health Belief Model.....	34
Figure 2.7	Trans-theoretical Model: Stages of Change	37
Figure 2.8	Trans-theoretical Model: The change process.....	40
Figure 2.9	Skill-based Health Education Model.....	57
Figure 2.10	Core Competencies of Health Education Teacher.....	59
Figure 3.1	The process of interview protocol refinement.....	95
Figure 3.2	The process of data collection and data analysis.....	100

List of Tables

Table 3.1	Summary of the organization of the study methods.....	81
Table 4.1	Distribution of students according to age.....	107
Table 4.2	Distribution of students according to their nationalities.....	108
Table 4.3	Distribution of students according to the number of years spent in the current school	109
Table 4.4	Distribution of students according to the school years they learned the HE.....	109
Table 4.5	Overall Reliability Test Result of Students’ Questionnaire	110
Table 4.6	Reliability Result of the Questionnaire’s Sections	111
Table 4.7	KaiserMeyer-Olkin and Bartlett’s Test Results	112
Table 4.8	Descriptive statistics of students’ participants’ age.....	113
Table 4.9	Descriptive statistics of students’ participants’ grade level.....	114
Table 4.10	Descriptive statistics of students’ participants’ Nationalities.....	114
Table 4.11	Distribution of data on the knowledge of communicable diseases and their causes	116
Table 4.12	Distribution of data on the knowledge of non-communicable diseases and its causes	117
Table 4.13	Distribution of data on the knowledge of Medical Terminology	118
Table 4.14	Distribution of data on the knowledge of Basics of First Aid and CPR.....	119
Table 4.15	Distribution of data on the knowledge about healthy eating	119
Table 4.16	Distribution of data on the knowledge on benefits of physical activities.....	120
Table 4.17	Distribution of data on the knowledge on healthcare services	121
Table 4.18	Distribution of data on communicable diseases preventive measures.....	123
Table 4.19	Distribution of data on non-communicable diseases preventive measures	124
Table 4.20	Distribution of data on the use of Medical terminology.....	124
Table 4.21	Distribution of data on the practice of first aid and CPR on a manikin.....	125
Table 4.22	Distribution of data on how to avoid health risks.....	126
Table 4.23	Distribution of data on decision making skills	126
Table 4.24	Distribution of data on goal setting skills.....	127
Table 4.25	Distribution of data on how to deal with stress	128
Table 4.26	Distribution of data on practicing of physical activity	128

Table 4.27	Distribution of data on practicing healthy eating	129
Table 4.28	Distribution of data on being a health advocate	131
Table 4.29	Distribution of data on teach others about healthy living.....	132
Table 4.30	Distribution of data on practice healthy lifestyle.....	133
Table 4.31	Distribution of data seeking reliable healthcare help	133
Table 4.32	Distribution of data on health related careers.....	134
Table 4.33	Distribution of data on Recommendation to all grade levels	135
Table 4.34	Distribution of data on teacher encouragement of students to apply HE concepts .	137
Table 4.35	Distribution of data on teacher’s practice of concepts they teach	137
Table 4.36	Distribution of data on teacher’s knowledge of health education	138
Table 4.37	Distribution of data on teacher’s practice the skills of the lessons.....	139
Table 4.38	Distribution of data on teacher as role model.....	139
Table 4.39	Integrated results of the questionnaire’s knowledge section and the interviews.....	158
Table 4.40	Integrated results of the questionnaire’s skills section and the interviews.....	159
Table 4.41	Integrated results of the dispositions section and the interviews.....	160
Table 4.42	Integrated results of the teacher’s section and the interviews	161

Acronyms

BUID	British University in Dubai
HE	Health Education
JCHET	Joint Committee on Health Education and Promotion Terminology
WHO	World Health Organization
CDC	Centers for Disease Control
NHES	The National Health Education Standards
HECAT	Health Education Curriculum Analysis Tool
WSCC	Whole School, Whole Community, Whole Child
ASCD	The Association for Supervision and Curriculum Development
SBHE	Skills-based Health Education
CVD	Cardiovascular Diseases
MoH	Ministry of Health
MoE	Ministry of Education
ADEK	Abu Dhabi Education and Knowledge Department
UAE	United Arab Emirates
MCAF	Ministry of Cabinet Affairs and the Future
PHE	Public Health England
NICE	National Institute for Health and Care Excellence
ARCMO	Annual Report of the Chief Medical Officer
DHA	Dubai Health Authority
FCSA	Federal Competitiveness and Statistics Authority
HAAD	Health Authority in Abu Dhabi
SHPPS	School Health Policies and Practices Study
OCID	Office of Curriculum and Instructional Design
OAHPERD	The Ohio Association for Health, Physical Education, Recreation and Dance
OECD	The Organization for Economic Co-operation and Development
SHAPE	Society of Health and Physical Educators
AHK	Action for Healthy Kids
UFS	Unite for Sight

SCAD
SOPHE
IYF
IUHPE

Statistics Center Abu Dhabi
The Society for Public Health Education
International Youth Foundation
International Union for Health Promotion and Education

Chapter One: Introduction

1.1. Introduction

Schools play a critical role in their students' health and wellbeing. This is because of the mutual relationship between health and education. The World Health Organization (WHO) (2020) stated that supporting students' health will promote their education and education will promote their health. Worldwide, young people who are attending schools are spending a minimum of six hours a day at their premises (CDC 2015). Therefore, schools are an ideal place for the promotion of health and safety with close cooperation and through working in tandem of the public health and education sectors through which students can be supported to maintain a healthy behaviour (CDC 2015). Promoting healthy behaviour involves the learning of knowledge, beliefs, attitudes, values, skills and competencies that are related to health (SHE 2013). Schools that follow this health promoting approach in their education not only perform towards physical health of their students and staff but also consider their mental, social and emotional aspects (CDC 2014). Consequently, schools are having higher student achievement records (CDC 2014) reduced absenteeism rate (BSAC 2012), and are able to prevent diseases and injuries among their students (CDC 2019).

Health related skills have become crucial factors of an individual's and a community's efficiency in the 21st century. Developing and implementing healthy skills/habits of a population, are fundamental factors of a country's standard of living (Pavlik 2014). Health education is an essential measure to identify risky behaviour and conditions which influence them. It, also, facilitates voluntary activities for health advocacy among community members (Birch, Priest & Mitchell 2015). So, health education programs must be tailored to meet the

needs of the population; and schools can provide the setting to recognize health related problems of students, their families, and communities and tackle them (White 2013).

At an academic level, as the curriculum integrates a whole range of skills and development areas, healthy students learn better. Students who receive health education in their school score in reading and math higher than those who did not (CDC 2014). It can be concluded that health education is a critical element of a school's approach to improving students' health (WHO 2020).

1.2. Background

In 2013, the United International Children's Emergency Fund (UNICEF) proclaimed its forthcoming School Health Education project (Emirates24/7 2013). The partners were the United Arab Emirates (UAE) Ministry of Health (MoH), UAE Ministry of Education (MoE) and SEHA Ambulatory Health Services (Emirates24/7 2013). This UAE proposed project was intended to enhance awareness of UAE school students on leading a healthy lifestyle. The control of obesity and Type 2 diabetes among children were the main reasons behind the UNICEF initiative (The National 2013). As the 2010 report of the World Health Organization (WHO) revealed that overweight and obesity among children aged 13 to 15 was higher than other age groups in the UAE. Thus, the focus of the project was divided into two main directions. One was to target the mentioned age group and, two, was to equip the school nurses to teach and encourage students to lead a healthy and active lifestyle (The National 2013). To apply the mentioned project, a pilot study began in December 2013 in eight government schools – for females only – in the Emirate of Abu Dhabi, four in Abu Dhabi city and four in Al Ain City. The program was delivered to 10, 11, and 12 grades. The focus

of grade 10 was on health and wellbeing to include healthy eating, physical activity and diseases prevention. The Grade 11 contents emphasized the social and mental health to target bullying, stress management, and family relationships. The Grade 12 content covered the health of young women including first aid skills.

To face the challenges of delivering active and participatory sessions of health education, the Ministry of Health and SEHA Ambulatory Health Services put strategies to train school nurses. Training workshops were focused on the teaching methods using skill-based approach to conduct health education topics effectively, and to encourage students to develop healthy choices based on a strong foundation of knowledge, attitudes and skills (Emirates247 2013).

1.2.1. School Health Education Program in the UAE

In 2015, the United Arab Emirates' Ministry of Education (MoE) and Abu Dhabi Education and Knowledge Department (ADEK) launched the physical and health education curriculum in government schools (MoE 2019). The main mission of this initiative was to reduce diseases and absenteeism through increase awareness of a healthy life style with all its aspects and to introduce long life positive health habits among students (Chaudhary 2016). The MoE and ADEK's plan for the health education was the introduction of a separate curriculum in schools that will be integrated into the system for all grade levels from kindergarten to Grade 12 and will be implemented in all government schools from January 2017 (MoE 2019). Currently, the education systems of the MoE and ADEK are under one entity all over the Emirates, and united under the Ministry of Education (MoE 2017). Also, the health education program is implemented only to grades 10, 11 and 12 in all female public schools in the UAE.

The focus of Grade 10 was on health and wellbeing to include healthy eating, physical activity and diseases prevention. The Grade 11 contents emphasized the social and mental health to target bullying, stress management, and family relationships. The Grade 12 content covered the health of young women including first aid skills.

The health education curriculum is planned to be age related to cover oral hygiene, nutrition, obesity, diabetes, and tobacco. So students, during their developmental stages, will recognize the positive effects of being healthy individuals, as well as the negative effects of being unhealthy and inactive. In line with UAE Vision 2021, His Excellency Hussain Ibrahim Al Hammadi, the UAE Minister of Education, ensures that the health education initiative was originated from the need to implement a modern curriculum which embraces the students' personalities and abilities in various aspects through the implementation of a high standard of educational practices. Also, H.E. reveals that the main objective of the new comprehensive curriculum is to allow young students to take ownership of their health and wellbeing to ensure a future generation of healthy, motivated, highly educated Emiratis (MoE 2019).

In order to develop the UAE educational system, to promote it to international standards, and to enhance capacity building in academia, the UAE MoE gave its teachers special attention. The MoE launched the teachers' training program in 2017 (MCAF 2019). The program aimed to train teachers to ensure better teaching practices and skills through the use of up to date teaching methods and advanced technologies (MCAF 2019). This was done in an attempt to raise the teachers' competencies and to create an advanced UAE educational system that competes with international models. To achieve this goal, the training program worked on strategies the teachers can use to implement the new curriculum. Training courses and material were customized as per teachers' needs. Courses, conferences, forum and field

trips were the training methods, so teachers will be provided with updates on the best international educational practices, innovative methods in teaching, applied scientific knowledge, and teachers' problem solving skills development. Also, training materials were intended to include the implementation of technology in classrooms and application of learning-oriented assessment strategies (MoE 2019). Similarly, the supporting bodies have great concerns about the impact of teachers on their students regarding their health behaviour as they recommended that teachers have to be role models for their students to promote a healthy school environment (Rizvi 2015), and to inspire them by using a variety of teaching methods and skills (MCAF 2019).

On the other hand, and as this reform needs to be supported not only from the school, the UAE Ministry of Education has highlighted the key element to its success, the parental engagement. The curriculum aims to raise awareness of the various health indicators such as obesity and related health skills that include positive life style choices. Parents need to be aware about this too, as they impact the development of healthy habits to their children. The curriculum is designed to encompass student-centered approach with practical and interactive activities and real world scenarios for the students to implement in their every day practices (MoE 2019). This will positively impact not only the students but also the close family members and consequently the whole society. Accordingly, a well-structured health education curriculum is the crucial resource through which schools deliver an effective health education program (CDC 2012).

1.2.2. Indicators of Health Education

Health status of human beings is significantly influenced by lifestyle (Farhud 2015). Lack of physical activity, the intake of poor diet and smoking are health indicators that may

considerably affect the individual's health status as they are lifestyle factors (Cawley & Ruhm 2011). For example, the habit of intake of fast food will lead to common health problems like obesity and cardiovascular diseases (CVD) (Mozaffarian et al. 2011). Wild et al. (2004) in their "Global prevalence of diabetes" have estimated that diabetes is a major cause of mortality globally, and by 2030, 400 million people worldwide will suffer from it. Another example, according to the WHO, the prevalence of smoking is constantly rising, as more than 1 billion people smoke (WHO 2020). Smoking is considered as a major cause of cardiovascular disease (CVD), it causes nearly one of every four deaths from CVD (CDC 2014), more than 10% of 17 million deaths (Wong 2014) and 8 million premature deaths globally every year (WHO 2020), and the second leading cause for CVD mortality after high blood pressure (Wong 2014). Furthermore, the effect of advanced technology on human life will result in unpleasant consequences. If it is misused, it influences individual's patterns of sleep, school academic performance and on the level of physical activity (Thomee, Harenstam & Hagberg 2011; Lapousis & Petsiou 2017).

Although genetics play important role in diabetes development, studies showed that dietary choices are of crucial importance (WHO 2015). Additionally, the Centers for Disease Control and Prevention (CDC) reported that the majority of chronic diseases can be prevented or managed by the adoption of healthy living practices (CDC 2008). To be specific, physical activities with healthy diet maintain the health status of the individual (Farhud 2015).

1.2.3. Whole School Approach

Decades ago, it was considered that the school setting and social conditions are vital for health education (Hagquist & Starrin 1997). A whole school approach to health education promotes a cordial staff-student relationship, enhances staff development and team work, and

improves parental involvement and the community (Weare & Nind 2011). Schools that are actively engaging students, staff, and parents in their health education programs, are the most effective (WHO 2000). It improves learning and emotional health and decreases health risk behaviours (St Leger & Young 2009). A school health education program not only needs to establish a practical and all-inclusive health education curriculum but also to adopt a health promoting environment (IUHPE 2010) to have a health conscious school. A school that promotes health is a school that “constantly strengthening its capacity as a health-focused setting for living, learning and working” (WHO 2019).

A whole-school approach is more than doing school activities that include health promotion. However, it includes an integrated health promotion plan in its written policy. The plan encompasses the whole school community to play an active role in activities and decision making. The promotion of health and well-being is the responsibility of all school community members through the development of related knowledge, skills and commitment (SHE 2013). On the other hand, if the school has a whole school approach to health it will be able to address the needs of students, parents and teachers, and the community’s health related issues, and incorporates these needs and issues in the health education curriculum (Gulzar et al. 2017). For example, counseling and parenting skills support provided by the school has been found to have effective interventions in dealing with real life situations. This enhances social health and well-being of family life and their children’s learning from the curriculum (NICE 2013). A supportive option is that the school may refer parents to local public health authorities to support them in dealing with specific conditions (PHE 2015). Also, the whole school approach to health promotes the children’s mental and emotional health that directly impacts their cognitive development and learning (Durlak et al. 2014; PHE 2014) in their

current life stage and in adulthood (ARCMO 2013; NICE 2008; NICE 2009). Such an approach encompasses all features of learning and teaching in school life, and it is effective in supporting optimal health and well-being (Department for Education 2014).

Schools are also work places, so it is essential to foster the school employees' physical and mental health that will reflect on the students' success and academic achievements. A healthy school staff is more productive, they act as role models for students, pay more attention to students' health, and they are less likely to be absent. They will help to create a healthy school environment that is free of smoking, will be able to apply safety measures, know how to manage stress, encourage healthy eating and adopt an active life style. An Employee wellness program is more efficient when incorporated in the school's plans and policies (Lewallen et al. 2015).

In a whole school approach, the school's physical environment cannot be ignored. The school's physical environment includes buildings, the area surrounding the buildings and the furniture and stationery in every classroom. The school structure and daily operations should be conducive to learning and ensuring the health and safety of students and staff. Safety measures include hazard free playgrounds, a suitable classroom temperature, good ventilation and lighting, the safe transfer of students to buses, and free from any physical threats (Lewallen et al. 2015).

1.3. Statement of the Problem

Obermeyer (2015) has conducted a study to highlight the main health risks among adolescents in Arab countries including the UAE. Her study addressed malnutrition, overweight and obesity, transport injuries and violence, tobacco, alcohol and other risk

behaviours, and mental health issues as the main health risks. Also, statistics collected and analysed by the Health Authority in Abu Dhabi, informed that cardiovascular diseases accounted for 34.9 per cent of all death cases in 2015. A report published by the Khaleej Times (2017) stated that the high incidents of unhealthy diet, obesity, diabetes and hypertension are the direct cause of heart diseases. Figures from the International Diabetes Federation showed that in 2015, 19.3 per cent, almost one in five people of the UAE population between the ages of 20 and 79 had Type-II diabetes (Kumar 2017). Regarding mental health, a study done by Dubai Health Authority (DHA) has revealed that about one in five teenage students in Dubai showed symptoms of depression. Out of 1,289 students between the ages of 14 and 18 surveyed, in 16 private and four public schools, nearly 17.5 percent were diagnosed with advanced symptoms (The National 2013).

The UAE government employed strategies to tackle these findings. One of these strategies was the implementation of the school health education program. The program main objective was to motivate students to hold a healthy life (MoE 2019), thus, there is an ultimate need to investigate its impact on students. In order to have a deep understanding, wide and selective research has been done to identify and locate related literature in the field of school health education. Between the years 2012 and 2019, studies on health education were conducted in other countries such as the United States, India, Malaysia, Thailand, Iran, United Kingdom and Canada. These studies addressed several aspects of health education in primary and secondary schools; including personal hygiene, nutrition, overweight and obesity, dental and oral hygiene, physical activity and mental health. It is noteworthy to highlight that most of these studies are of individual initiative type, either by school nurses or by other health care professionals, and not as a governmental initiative that is implemented all over the country.

One of these studies was done by Shrestha and Angolkar (2014) in India to assess the change in personal hygienic practices in primary school children. The data was collected after educational interventions have been applied. There was a positive change of knowledge and practices, what initiated the researchers' recommendation of further and wider involvement of schools at national levels. Another study was carried out by Ishak et al. (2016) in a Malaysian secondary school to promote healthy lifestyle and to prevent overweight and disordered eating through health education school-based interventions. The study resulted in better progress in healthy lifestyle practices of students. It also contributed to the country's ministry of health professionals, educational interventions and schools' health.

What is noticed is that there are no studies carried out to date in the UAE related to health education in schools. Also, there is no specific study yet to be carried out to investigate students' perceptions of the newly implemented health education (HE) program or to highlight the direct influence of the program, in secondary schools, on students' knowledge, practices and dispositions. Also, it is commendable to consider culture diversity, health related habits, practices and the way of living that may differ from other countries where health education research was carried out (Huff & Kline 2008). Nevertheless, the available literature is of great value to endorse and compare the findings of the current study. In addition to that, a plethora of recommendations for the need of further studies to highlight this impact was published. These recommendations came from both; the earlier mentioned studies and from the supporting bodies such as the Centers of Diseases Control (CDC 2017), and the World Health organization (WHO 2012).

1.4. Research Aim, Objectives and Questions

The main objective of the UAE health education program is to modify and encourage the healthy behaviour among school students. Its main purpose is to promote health and prevent diseases by the implementation of health education approaches to change the students' behaviour to healthier ones.

1.4.1. Main Aim

The main aim of this research study is to investigate students' perceptions of the newly implemented health education (HE) program in the public secondary schools in Al Ain City.

1.4.2. Objectives

To develop an insight into students' perceptions, the following objectives must be attained:

1. To identify the influence of demographic variables on students' perceptions of health education
2. To understand the responses/views public secondary students have regarding the HE program in Al Ain City
3. To provide recommendations on how to help facilitate a positive student perception of the Health Education Programme.

1.4.3. Research Questions

For the researcher to be able to attain the research objectives, the following questions must be addressed:

1. To what extent do demographic variables affect students' perceptions of health education?
2. What responses do public secondary students have regarding HE program in Al Ain City?
3. What perceptions do public secondary students have regarding HE program in Al Ain City?

As previously mentioned, the UAE's HE program is relatively a new governmental educational initiative, thus, it is worthy to study its impact on students. This is to identify if the reasons / problems behind starting it are solved and outcomes are attained. In addition to that and as a member of the HE program developers and involved in its implementation process, the researcher has personal curiosity to identify the effect of its application on students' knowledge, practices and dispositions.

1.5. Significance of the study

The UAE and the 2030 Agenda for Sustainable Development identified that to have happier individuals, an improvement in the quality of education and health is required. Also, it considered "happiness and positivity as a lifestyle" and "measuring happiness and wellbeing" are two of the National Program for Happiness and Positivity (NPHP) three main pillars (FCSA 2018). The Health statistics of the UAE revealed that many people are having chronic diseases like heart diseases, high blood pressure and diabetes. However, these diseases are preventable if physical activities and a healthy balanced diet are followed, specifically, in childhood and adolescence stages. The Health Authority in Abu Dhabi (HAAD) is supporting the health promotion and education of its students in schools. The department of health has launched the "schools for health" initiative. One of its projects is to introduce awareness of healthy eating patterns in childhood and adolescence as the main health related problems are: overweight and obesity, eating disorders and iron deficiency anemia (HAAD 2019). Furthermore, Dubai Health Authority (DHA) launched the school health policy. The DHA has defined its strategy to confirm healthy status for all students. The comprehensive strategy focuses on the creation of safe and healthy school environments. The three main components

are (1) disease prevention and early detection; (2) health information and research systems; and (3) encouraging students to lead a healthy lifestyle (DHA 2018).

In their study “An analysis of the health status of the United Arab Emirates: the ‘Big 4’ public health issues”, Loney et al. (2013), examined the major health problems that lead to chronic diseases. They cited personal, environmental and lifestyle factors that have direct impact on the development of chronic diseases in a population. They recommended future research to focus on population health interventions to avoid various chronic diseases. On an international wide scale, many studies have shown that school health education program yield with very positive outcomes. For example, Gulzar et al. (2017) have developed school health education curriculum using the perspective of comprehensive school health model. The curriculum aims to promote health in schools in Pakistan. A sample taken from their project was the initiative to provide a cafeteria to provide healthy food for school children. After the implementation of the curriculum, their initiative was successful and they recommended other schools in the developing countries to share the same concept to promote their students’ health. Another school-based interventional study conducted by Haghani, Shahnazi, and Hassanzadeh (2017) on the “Effects of Tailored Health Education Program on Overweight Elementary School Students’ Obesity-Related Lifestyle” concluded that providing students who are overweight with healthy lifestyle education will improve their health and reduce their weight.

Lastly, the significance of this study lies in the findings that will support future scholars, health professionals, school health curriculum developers, and policy makers in the UAE Health and Educational Departments with tools to identify national and international practices in health education interventions. As well as, providing recommendations on how

to help facilitate a positive student perception of the Health Education Programme to serve the common interest of promoting the health of the UAE school students, and equip them with healthy bodies and minds to become healthy adults to face this dynamic and rapidly changing world.

1.6. Overview of Chapters

The contents of this chapter introduced the background of initiation of the school health education program in the UAE, indicators of HE, the whole school approach to HE, statement of the problem, purpose and questions and, then, significance of the study. Chapter 2 displays the theoretical framework and literature review. It presents the theoretical framework that guides this study and a comprehensive review of literature on related empirical studies on the subject. Chapter 3 comprises the research methodology. The methodology contains research philosophy, research approach, site selection, population of the study, sample selection, research instruments, data analysis and procedures and ethical considerations. Chapter 4 includes data analysis and results. Chapter 5 presents discussion of the findings, conclusion, implications, research recommendations and limitations.

Chapter Two: Theoretical Framework and Literature Review

The aim of this research study is to investigate students' perception of the newly implemented HE program in the public secondary schools in Al Ain City. This chapter presents the theoretical framework that guides the study and provides a road map to develop an understanding of the impacts and outcomes of the implemented HE program. Also, the chapter offers the findings of an extensive literature review that was carried out on school health education programs and their curriculum and strategies that were implemented in the field of health education. Finally, the situated studies in related literature are presented.

2.1. Theoretical Framework

The core contribution of theories and models in any health education program is to provide guidance to understand health behaviour and to identify, develop, and implement interventions that are essential stages in program planning. These stages are crucial to produce long-term changes in health behaviour (WHO 2012). Theories and models also guide educators to clarify the process of health behaviour change (WHO 2012). Additionally, understanding of why individuals are engaged in specific behaviour is important to design and evaluate health education interventions (WHO 2012). The following sections attempt to highlight theories/models that discuss the human behaviour in a health related context and their connection to the present study. These include: Health Locus of control (HLC), Social Learning Theory (SLT), Health Belief Model (HBM), and Trans-theoretical Model of Change (TTM).

2.1.1. Health Locus of Control

The concept of Health Locus of Control was basically established by Rotter in 1966, it was mainly derived from the Social Learning Theory. Rotter labeled that locus of control as “one of the most studied variables in psychology and the other social sciences” (Rotter 1990, p. 489). Rotter (1990) described that Locus of Control (LOC) concept is to identify to which extent the individual believes that his/her behaviour is controlled by internal or external factors. It is about one’s belief on what causes his/ her life’s good or bad results, including health and academic status (Campis, Lyman & Prentice-Dunn 1986). Frazier et al. (2011) clarified that the locus of control is about a set of beliefs and views rather than an inherited or a biological personality trait. Asgari and Vakilli (2012) explained that LOC is a diagnostic tool displaying one’s perception of the “environment and position, and the role, rate, and influence of a person in successful events and failures in life”. Thakral et al. (2014) pointed that LOC has been recognized as “attribution” of people’s explanation of events that happened to them. Wang and Meizhen (2017, p. 1) reiterated that the LOC scale “presents a forced-choice pair of statements with one internally oriented and another externally oriented”. Previous studies highlighted the impact of one’s experiences on one’s perception of LOC including family members’ characteristics and life events (Wang & Meizhen 2017). Additionally, LOC has been linked with leadership potentials (Howell and Avolio 1993), commitment to change (Chen and Wang 2007), coping practices (Parkes 1984), and acquired feeling of helplessness (Hiroto 1974).

The individual's "locus" may be internal, where he/she believes that they can control their lives, or external, where their lives and decisions are controlled by surrounding people and/or environment (Rotter 1990). Persons with internal locus of control are performing better in schools (Schultz & Schultz 2011). They receive higher test scores, and relate their achievements to their own efforts, hard work, problem solving and decision making abilities (Hill 2016). Also, their parents are supportive, apt and show a sense of pride in their achievements (Schultz & Schultz 2011). Furthermore, students with internal LOC are more responsible for their accomplishments or disappointments, so they are more self-dependent in attaining their goals (Hill 2016). On the contrary, students with external locus of control tend to have lower grades in academic achievement (Wood, Saylor & Cohen 2009). Kutanis and Mesci (2011, p. 113) added that they are "more passive and reactive" during the learning process. Marks (1998), in his study, confirmed that group relationships enhance one's dependency leading them towards the external locus of control. Lynch, Hurford and Cole (2002) found that higher levels of the external locus of control have been associated with overprotective and unsociable parents (Schneewind 1995).

In order to provide an applicable resource to measure whether the person is having internal or external locus of control, Rotter (1966) developed the locus of control scale (Figure 2.1). The scale is composed of 11 items. Internal and external LOC are the two dimensions. The reason behind the application of the LOC scale is to find the relationship to specific behaviours. As the LOC scale score decreases, it measures a stronger internal dimension, however, a higher LOC score reflects a stronger external dimension (Ross et al. 2015).

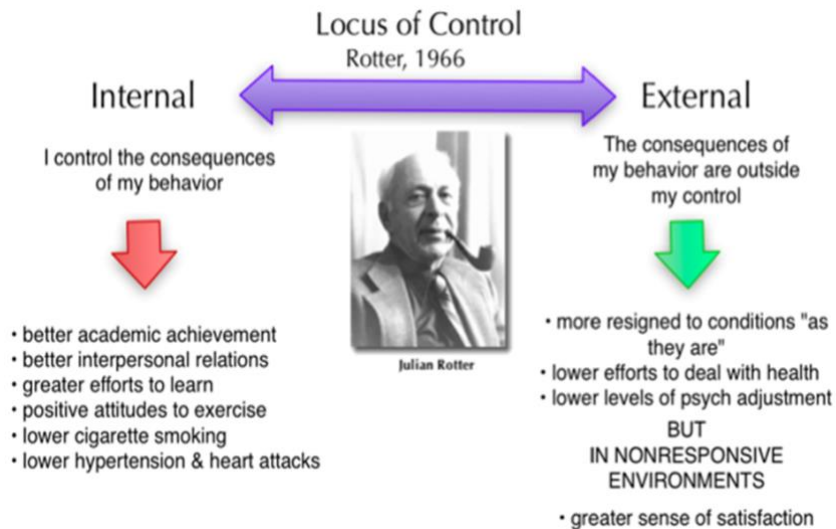


Figure 2.1: Locus of Control scale
(Adapted from Sinicki 2017)

When relating the concept to an individual's health status, the health locus of control (HLC) is applicable as it refers to how people recognize the sources regulating their health status. It plays a vital role in health behaviours (Khazaei, Khazaei & Sharifzadeh 2006), as it mediates among an individual's position, social status and health practices (Gelsema et al. 2009). Pourhoseinzadeh et al. (2017, p. 398) stated that "in order to change behaviour, health locus of control has been the hypothesis that the model is based on the close relationship between health locus of control and health behaviours sense of control and self-care are in the process of accepting responsibilities". Moreover, the HLC notion was considered as one of the most widely used instruments in health psychology research (Wallston 2005).

The internal HLC (IHLC) determines the impact of health conditions on one's apparent behaviour (Wallston 2013). This has caught the attention of scholars and researchers in the field of health education and promotion (He 2014; Reitzel et al. 2013). Bergvik, Sørliie and Wynn (2012) and Burker et al. (2005) have argued that people with higher IHLC are more

likely to adhere to health-promoting lifestyle and illness-preventing behaviours and have higher survival rates. As these individuals believe that their own actions and abilities will lead them to their present status. They also believe that they have impact on their surroundings and the environment (Maruta, Colligan, Malinchoc, & Offord, 2000) as they use coping tactics to solve problems (Kretchy, Owusu-Daaku & Danquah 2014). Schultz and Schultz (2011) assured that people with IHLC tend to be healthier in terms of physical and mental aspects. In general, they are capable to cope with stressful conditions, so they have less hypertension, anxiety and depression (Schultz & Schultz 2011). Therefore, individuals who have strong IHLC are more aware of their surroundings, more responsible for them (Macsinga & Nemeti 2012), and more adaptable to them. They are keen to step forward to improve the environment around them as they believe that they have control over their lives and act accordingly (Schultz & Schultz 2011). Malhotra and Suri (2016, p. 1) pointed that “Self-control and self-regulation abilities are critical components of health, happiness and competence of an individual. High sense of self-control leads to positive outcomes whereas lack of this leads to negativity”. Their belief of special control has positive impact on their psychological and social health (Stenström & Andersson 2000).

On the other hand, the external health locus of control (EHLC), a person trusts that their life happenings are subject to external factors and the power of others (Macsinga & Nemeti 2012) and that supernatural powers influence their own health (Wallston, Wallston, & Devellis, 1978) like fate and luck (Schultz & Schultz 2011). They exert minimal efforts in an attempt to change their condition or to improve themselves, as they believe that their actions make little differences (Schultz & Schultz 2011). This situation leads them to feelings of loneliness, helplessness and failure to prevent diseases (Stenström & Andersson 2000). In the same vein,

a study that has been done by Ghasemzadeh et al. (2012) concluded that negative self-esteem is also associated with external locus of control. França et al. (2012) assumed that these individuals have more depression and other mental disorders compared to internal ones.

It can be concluded that, HLC is not only associated with depression, anxiety and hopelessness, but also linked with achievements, development and coping with stressful conditions (Janowski et al. 2013). Recently, HLC has caught the researchers' attention and interest to investigate on the role of HLC in the treatment of diseases (Janowski et al. 2013).

Wallston et al. (1978) recommended that individuals with an internal health locus of control are more likely to be responsible for their own health behaviour and seek out health information to improve their health status more than those who score high on the scale, the external HLC (Ross et al. 2015).

Wallston and Wallston (1981) constructed the multi-dimensional Health Locus of Control (MHLC) Scale (Figure 2.2), after the recognition that locus of control is not a uni-dimensional concept. The MHLC scale is composed of 18 items and provides a self-rating continuum to identify whether internal or external factors have the control of one's health behaviour, life style and sense of control (Zhang & Jang 2017; Ross et al. 2015; Naude & Rothmann 2004). MHLC involves three dimensions assumed to control health: Internal, Chance and Powerful Others (Wallston, Wallston & DeVellis, 1978). Individuals who are likely to have control on their health promoting behaviours are considered within the internal dimension of the HLC. Those who view that their health behaviour is independent of their health status are within the chance and powerful others dimensions, and consequently are more prone to engage in health risky behaviours (Adekeye et al. 2017). Thus, the HLC scale

is not only reflecting self-evaluation including behaviours, feelings and abilities (Judge and Bono 2001), but also environmental evaluation (Johnson et al. 2015).

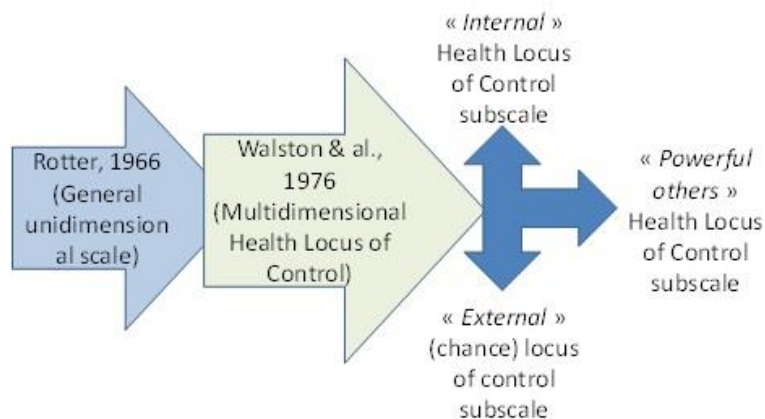


Figure 2.2: Multi Health of Locus of Control scale
(Adapted from Naviaux 2020, p. 2)

Many studies have applied and evaluated the MHLC scale to reveal its ability to foresee numerous health behaviours like healthy eating habits, adequate physical activities, personal hygienic practices, and abstinence from risky behaviours like smoking and drinking (Norman et al. 1998; Steptoe & Wardle 2001; Armitage 2003). However, fewer investigations were done to study the applicability of the MHLC to healthy behaviours in terms of safety practices (Ross et al. 2015). However, the health locus of control has been criticized in some aspects. Pudrovskaja (2015) argued that the theory lacks the link between the internal HLC and the individual's perception of health. However, a study done by Sargent-Cox and Anstey (2015) reported a positive link. Wallston (2005) added that the impact of locus of control on health behaviours are inconsistent, this mainly reflects methodological weaknesses which include problems with measuring the HLC (Steptoe & Wardle 2001). Angelova (2016, p. 249) discussed that Rotter (1975, 1982) in his behavioural studies "pointed out that locus of control had a close relation to the theory of social learning and he didn't investigate the interrelation

with the individual differences, personal characteristics, neither gender, age, and religious affiliation”.

To correlate with the present research study and its core assumption, and as stated earlier, the main objective of the UAE health education program is to modify and encourage the healthy behaviour among school students. Thus, the HLC concept is essential to be considered as one of the components of the framework guiding this study. Especially, and as clarified previously, that one’s belief about his HLC is highly influenced by parental practices during childhood rearing periods and the surrounding environment, either in schools or at home. In addition to that, and once the applied HE program achieves its outcomes, not only the students’ beliefs towards healthy lifestyle, in its physical, mental and social dimensions, are attained, but also they are able to influence the people around them leading to healthy fitting ones and consequently healthier citizens. Not to say that it is easy to change one’s belief towards his health, but the results are praiseworthy, especially when the modification strategy is based on and consolidated with sound knowledge and practices acquired from the implemented HE program.

2.1.2. Social Cognitive Learning Theory

Social learning theory (SLT) is progressively considered as important element of viable ordinary resource management and the promotion of anticipated behavioural change (Muro & Jeffrey 2008). SLT is based on the notion that people learn from their connections with others in a social environment. Separately, people acquire certain behaviours by observing those of others. Through the observation of other’s behaviour, people imitate these behaviours, particularly if their observational experiences are rewarding and are positive. According to Bandura, imitation encompasses the concrete reproduction of perceived actions

(Bandura 1977). SLT fundamental concepts comprise (1) observational learning that leads people to learn through the observation of others' behaviour, attitudes, and outcomes of those behaviours (Bandura 1977). (2) Learning through modeling, where most human behaviour is learned through imitating others who serve as a guide for action (Bandura 1973). (3) Enactive learning that is learning by doing through trial and error.

2.1.2.1. Observational Learning

Bandura, in 1961, has showed his Bobo doll well-known experiment to study the behavioural pattern by social learning theory, and displayed that the actions of models have elicited similar behaviour in children who were watching the behaviours without any rewards or reinforcement. However, they were merely imitating the behaviour they had watched (Nabavi 2012). For learning new skills, Bandura (1986) recommends a process of four stages. He labeled these stages as attention, retention, production and motivation (Figure 2.3) (Morse 2017).

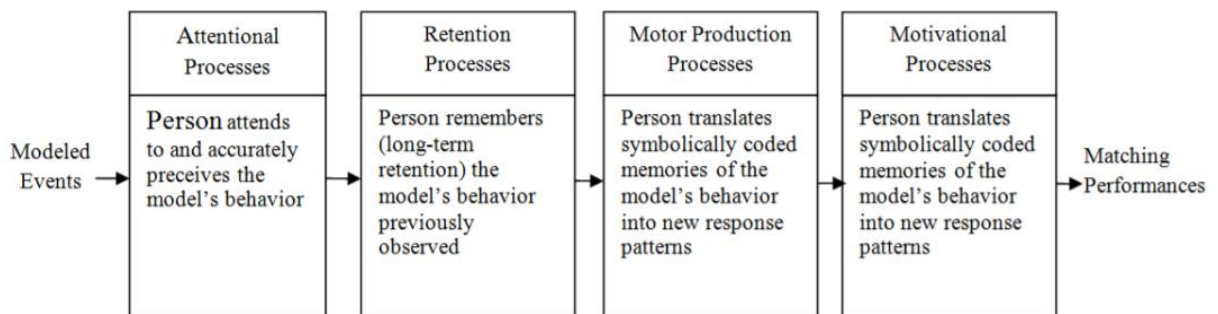


Figure 2.3: Bandura's Observational Learning Process
(Adapted from Morse 2017, p. 6)

The first stage is the attentional stage of observational learning. At this stage, individuals pay attention to modeled behaviour in their environment. Individuals who do not identify the

important features of the displayed behaviour cannot learn the new information. According to Bandura, many factors impact the attentional phase of the observational learning in terms of the observer's selection of a specific behaviour. In other words, it is about the extent of influence of the model itself on an individual. These factors rely on the individual's characteristics, the model's activities, and the number and type of observational experience (Harinie et al. 2017). Furthermore, another modeling determinant showed by Bandura was associated with the model characteristics and interaction. It is about the model features, quality, expertise or the skills the model shows. It is about the observation of the model and their interaction with the surrounding environment or in a specific situation. Accordingly, the observer considers adopting the interesting behaviour or ignoring it (Harinie et al. 2017).

Bandura (1977) identified that individuals require a course of memory and recollection so they can recall the observed modeled behaviour in future. These processes have been called retention processes. At this stage, the individual imitate the model's displayed behaviour that is stored in their memory. Therefore, if they cannot remember the behaviour of the model, and the model is not present, the individual cannot be influenced by it (Harinie et al. 2017). The retention processes of observational learning are comprised of two systems of internal presentations: imaginal coding and verbal coding (Bandura 1986). When the observer is exposed to situations that are similar to those observed on the model, there is an immediate recall of images of the previously watched behaviour. This is the imaginal observation. However, the verbal coding is the detailed step by step process given by the model. So the verbal code will serve as a guide for the observer when there is a need to recall the modeled behaviour. As per Bandura (1977), these verbal symbols are greatly facilitating the observational learning as they carry the needed information and can be easily stored. When

the model's behaviour has been transformed into images and verbal codes that can be easily accessed, these memory symbols can guide the individual's performance (Harinie et al. 2017).

During the motor production processes, the observer has the chance to replicate the modeled behaviour. At this stage, the individual displays motoric abilities to reproduce the behaviour in an appropriate manner. This means that the individual is able to transform the stored codes into correct actions. For an individual to display highly skilled motoric actions appropriately, they have to train several times on the modeled behaviour. To obtain skillful performance, the individual needs corrective modifications and feedback. Thus, by observing and consciously repeating the learned behaviour, the learners can facilitate their learning process (Harinie et al. 2017). In some cases, learners would be developmentally not ready to rehearse the behaviour (Nabavi 2012). Bandura (1977) stated that sometimes although the learners are able to replicate the modeled behaviour; they are not able to adopt or turn the learnt skills into actions. The reason behind this lack is the reception of negative feedback, or if the acquired skills are not related to daily life activities.

The fourth stage is the motivational processes. This stage defines the accomplishment of the learning process. This refers to the observed behaviour, recall of behaviour related information and the implementation of the appropriate actions that have been translated from the motoric skills. In this context, Bandura specified that regardless of the individual's abilities to do the modeled behaviour, they will not succeed to put the modeled behaviour into action without motivation, positive feedback or interesting incentives (Bandura 1986).

2.1.2.2. Learning through modeling

While learners observe and recognize the modeled behaviour and find that it corresponds with their interests, goals or experiences, they may decide to adopt it to become their own behaviour (Bandura 1977). The individuals who are being observed referred to models and the process through which people are learning is called modeling. So, imitation is the second and behaviour modeling is the third in the stages of social learning process (Bandura 1986). Previous studies confirmed that at least partly of many behaviours can be learned through modeling. Examples that can be mentioned here may include individuals who observe their parents exercise daily, or read a newsletter, or a teacher deals with students in a specific manner (Bandura 2006). Many researches show that when children watch aggressive behaviours from their models, their behaviour become more aggressive. Thus, moral and ethical behaviours as well as violence and aggressive behaviours can also be learned through models (Nabavi 2012).

2.1.2.3. Enactive learning

Enactive learning is learning by doing. It is direct learning experiences where learners are actually demonstrating the behaviour in real physical environment. Learners can directly identify the results of their behaviours and construct rules to control it (Peng 2008). According to Bandura, enactive learning is implicated in learning from one's actions and consequences. Consequences that are positive and successful are retained, and those that are negative and failed are discarded (Bandura 1986). Learners interpret the consequences of their actions and use these interpretations to develop their beliefs about their abilities to

engage in related activities or tasks. Later, Bandura concluded that enactive learning has more impact on one's self-efficacy than observational learning (Bandura 1997).

The SLT, over the following three decades and in its interpretation of human learning, has become increasingly cognitive. In 1986, Bandura's research had a more comprehensive view. The holistic approach provided a context for human behaviour in terms of understanding, prediction and change. Bandura's research embraced the human cognition in the social learning milieu. Thus, the social learning theory became a social cognitive learning theory (SCLT) (Figure 2.4) (Bandura, 1999).

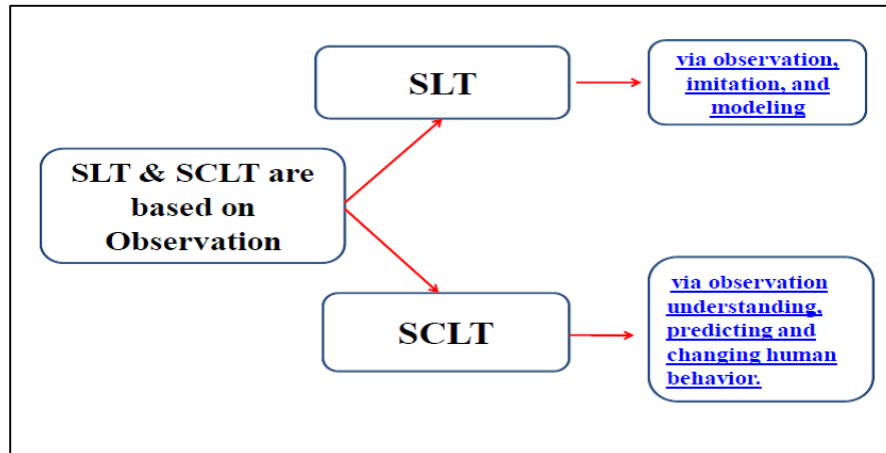


Figure 2.4: Process of SLT and SCLT
(Adapted from Nabavi 2012, p. 4)

The SCLT defines learning as an “internal mental process that may or may not be reflected in immediate behavioural change” (Bandura 1986). Bandura (1999) explained how social behaviour and learning are taking place through cognitive processes. The theory provides a framework that helps in the understanding of an individual's actions and how it can be justified and occur as a result of per changes in their environment that urge them to make specific decisions (Ortiz 2018). Bandura (2016) pointed out that advanced styles of thinking

and processing information can be fostered by observational learning. He explained that individuals can create new forms of the modeled behaviour by the extraction of the key features of that behaviour. Usually the new forms are beyond the original behaviour (Bandura 2016). The individual perception of satisfaction, accomplishment and pride from the new learnt and applied behaviours are elicited from internal thoughts and cognitions, what Bandura called the intrinsic reinforcement. This provides a connection between learning theories and cognitive developmental theories (Nabavi 2012). Thus, the SCLT incorporates the reciprocal causation model (Figure 2.5) that is an interaction and close relationship between behaviours, cognition and the environment (Hurst 2016). However, Bandura (1989) clarified that “reciprocal causation does not mean that the different sources of influence are of equal strength – some may be stronger than others – nor do the reciprocal influences all occur simultaneously. It takes time for a causal factor to exert its influence and activate reciprocal influences” (p.3).

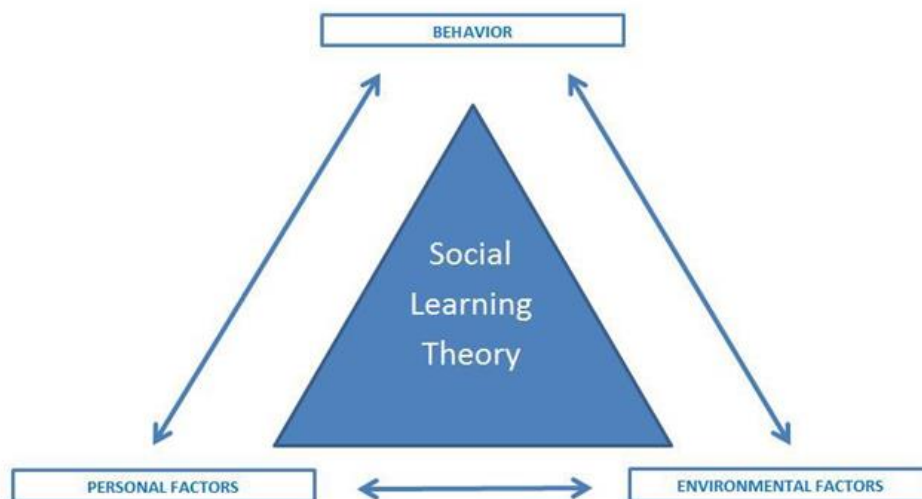


Figure 2.5: SCLT Reciprocal Causation Model
(Adapted from Hurst 2016)

It can be concluded that the added construct to the SCLT is self-efficacy. Bandura considers self-efficacy as an essential predictor for a change in behaviour to take place. Self-efficacy implies the individual's self confidence in their ability to appropriately perform a task or demonstrate a behaviour. As such, more self-confidence a person has in carrying out a behaviour, the more efforts he/she exerts to practice the new behaviour (Maddux 2012). Furthermore, according to Cherry (2020), self-efficacy may have significant role in health psychology, as it affects how individuals manage their health related issues such as nutrition and illnesses. Bandura proposes that self-efficacy can contribute to an individual's sense of well-being. For instance, having a high self-efficacy may contribute to those who are trying to manage their weight, or attempting to quit smoking or adhering to an exercise plan (Bandura 1997). Moreover, self-efficacy supports individuals to learn new knowledge and to nurture their skills to attain their own goals, and to have better life skills (Hasan, Hossain & Islam 2014). Additionally, Gangloff and Mazilescu (2017) found that self-efficacy contributes to academic performance. As individuals with high self-efficacy set higher challenging goals and put efforts to attain them, deal with anxiety and stress and accomplish better results. Conversely, individuals who do not consider themselves capable of doing a certain behaviour will, most probably, not engaging in such activity (Bandura 1997).

Based on previous studies, researchers highlighted weaknesses in Bandura's SLT and SCLT. One of these weaknesses was that the theory ignored the developmental stages across a lifetime span. Bandura's theory was criticized by biological theorists, who argued that it ignores biological states and autonomic nervous system responses. It is a fact that some behaviours and responses are not only learned but partly inherited. Another criticism was that the theory is not a cohesive theory. As there is no clear explanation to what extent each factor,

of the person, behaviour, and environment, is impacting the human behaviour. Another weakness that was reported is the minimal attention given to motivation, conflict, and emotion (Nabavi 2012).

According to LaMorte (2019) the objective of SCLT is to describe how individuals adjust their behaviours “through control and reinforcement to achieve goal-directed behaviour that can be maintained over time” (p.1). This notion is an essential contribution of Bandura’s theory to the present study as the health education program, which is implemented in schools, aims to prepare students to be healthy adults, and consequently, raise awareness in the UAE citizens to attain an overall healthy society. It can be concluded that the health education program’s goal considers simultaneously the health behaviour initiation and its maintenance. Another contributing factor is the concept of learning through observation. In the health education setting, students spend most of their daily schedule in schools. Obviously, they observe their educational environment including peers and teachers. Subsequently, from these observations, students may adopt healthy and unhealthy habits. The main goal of the health education program in schools is to make students aware of these behaviours and develop their abilities to select what is good for their health and well-being. At the same time, improve their awareness on avoiding risky behaviour that may lead to health hazards. Additionally, learning through modeling is a vital concept in Bandura’s theory. This concept’s contribution to the current study is of two dimensions. Firstly, to apply Bandura’s modeling notion, teachers are the models and students are the observers. Most of students look up to their teachers as role models. Students observe their teachers and are influenced by them in many aspects; such as through their behaviours, interpersonal skills, personality, etc... If any of these attributes are of interest to students, they prefer to “imitate” them and,

to an extent, make them their own. Specifically, the health education teacher must model the healthy behaviour and initiates his/her students' interest of this behaviour, so students acquire them and consider them as part of their lives. Secondly, when teaching any of the health related skills, teachers need to model and perform them in front of the students. For the students to master the taught skills, it is necessary that the teacher provides his/her students with opportunities to practice demonstrating the skills. The provision of feedback at this stage is essential. Until then, students will master the skills and are ready to implement them in similar situations through the recall of the imaginal and verbal codes.

2.1.3. The Health Belief Model

The Health Belief Model (HBM) is a psychological model which focuses on individual's beliefs and attitudes to describe health behaviours. Psychologists Hochbaum, Rosenstock and Kegels were the first to develop the HBM in the 1950s to promote the use of public health programs such as the screening of tuberculosis and cervical cancer (Hochbaum 1958; Rosenstock 1966). Thus, the model was initiated to enhance preventive behaviour, and then it was extended to correlate the adherence to medical guidance and the usage of health services (Becker, Haefner & Maiman 1977). The HBM was an early attempt to incorporate behaviourist stimulus and cognitive components. Consequently, its design was impacted by Kurt Lewin's theories which describe that behaviour is influenced by the individual's perceptions of reality rather than the objective reality. Earlier, the theory of the stimulus-response (Koffka 1935; Kohler 1940) stressed the significant role of behavioural consequences in predicting actions. However, cognitive theory altered this concept by emphasizing the role of the person's subjective evaluations on the implementation of the

desired consequences. Value-expectancy theory (Eccles et al. 1983) is the result of this combination.

Rosenstock (1974) described that there are modifying variables that indirectly influencing the perceptions of health related behaviours. These variables are demographic, psychosocial and structural. The demographic variables include age, gender and education. The psychosocial variables refer to personality, peer pressure and social class. The structural variables comprise the individual's knowledge about diseases and modes of prevention. The HBM explains the fact that socio-economic characteristics and demographics could not be modified by health education; however, the structural variables that are related to health behaviour can be modified by educational interventions (Abraham & Sheeran 2015). Abraham and Sheeran (2015) clarified that the active behaviour can be positively impacted when proper beliefs are held. Therefore, modifications can be done through individual's perceptions, health education awareness and social influences. Additionally, the health related beliefs can be modified by the use of convincing methods, and if it occurred, "provide a theoretical and practical basis for evidence-based health education" (Abraham & Sheeran 2015, p. 30).

Yet, the HBM infers that the resulted behaviour is not influenced by reinforcements and incentives, but it is a result of the individual's evaluation and judgment of the behaviour. Thus, the health related decisions taken by individuals pass through stages. Through these stages, variables that influence health decisions are present. The perception obtained from behaviour evaluation involves five variables (Figure 2.6). The first two variables are perceived susceptibility and perceived severity. The combination of these two variables constitutes the perceived threat. The perceived susceptibility includes the individual's

subjective assessment of the risk of acquiring a certain disease or condition, and the perceived severity and seriousness of the condition includes the consequences of the disease on one's life style, social relationships and working abilities. The overall threat perception is influenced by information and, thus, has a cognitive component. The perceived threat produces a pressure to act. The precise individual's action is determined by the impact of the balance between the third and fourth variables: perceived benefits and perceived barriers. The perceived benefits of an action indicate the assessment of the benefits of one's participation in health-promoting behaviour and to what extent this participation will reduce the health risk. This perception is given by one's beliefs that incorporate social and cultural influences rather than factual evidences. The perceived barriers to action are about individuals' beliefs on the difficulties and costs they may encounter by their participation in health promoting behaviour, and comparing them with the perceived benefits. The individual's course of action and decision of whether to implement the health-promoting behaviour or not depends on the comparison between benefits and costs. If these two variables are close, the person may face difficulty to make a decision and anxiety and hesitancy may result. The fifth variable is about the presence of internal or external cue or stimulus that motivates the person to take actions. Internal cues may include physical discomfort that is disease related or death of a friend, and external cues may involve advocacy and advice from an influencer or health care provider. These cues may trigger individuals to take action depending on the perceived benefit to cost ratio for the action and their motivation to change (Abraham & Sheeran 2015).

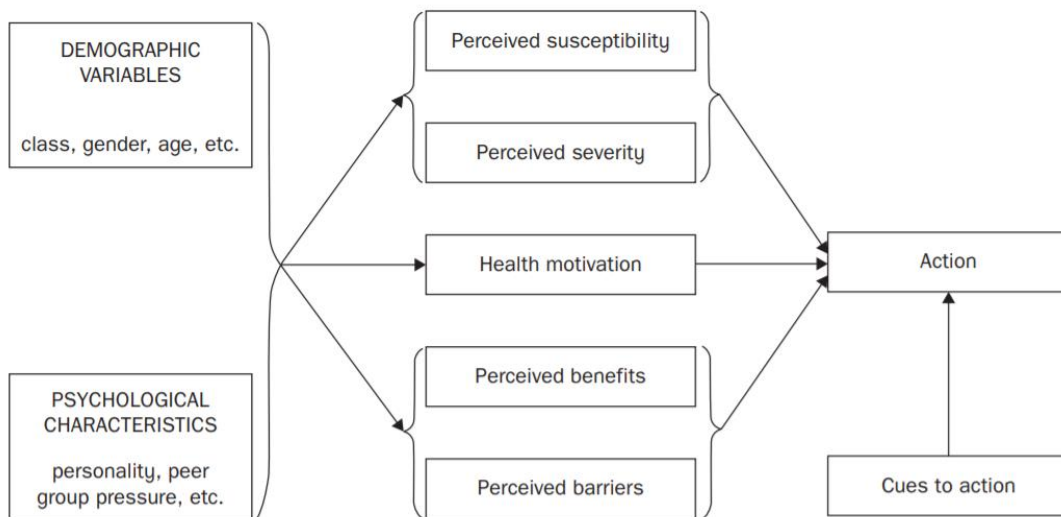


Figure 2.6: Variables of the Health Belief Model
(Adapted from Abraham & Sheeran 2015, p. 32)

Following the development of social learning theory of Bandura, Rosenstock (1974) suggested to add self-efficacy as the sixth variable to the HBM. Rosenstock's suggestion was based on two reasons. Firstly, the need for a better explanation of human differences in health behaviour, and secondly, the consideration of self-efficacy as a key component of health behaviour change (Rosenstock et al. 1988). Adjustments were performed in late 1988 to incorporate self-efficacy construct into the HBM (Glanz & Bishop 2010). As per Orji, Vassileva and Mandryk (2012) reiterated that self-efficacy refers to the belief in one's own abilities, to cover the person's sense of confidence through which people could successfully change behaviour and engage in health promoting behaviours. Huang et al. (2016) added that self-efficacy includes also the individual's motivation and readiness to be involved in health matters and health promoting behaviours.

Many researchers criticized the HBM for two main reasons; its low predictive capability and the unspecified rules for individual variables' combination and relationship. Thus, the

development of overall behavioural evaluation using the model is difficult to be achieved as the HBM does not offer a mechanism to proof how its stages and variables function (Abraham & Sheeran 2015). From the same perspective, Harrison et al. (1992) argued that, as it includes five separate independent constructs without specific definition of each, the model lacks operational homogeneity that weakened its status as a “coherent psychological model of the prerequisites of health behaviour”. Nevertheless, Orji, Vassileva and Mandryk (2012) considered this as strength, as the lack of clear rules provide flexibility and adaptability of the HBM to various health behaviour and population. Moreover, Orji, Vassileva and Mandryk (2012) suggested solutions for these limitations. They proposed to extend the HBM through the introduction of four variables. The projected variables are potential determinants of healthy behaviour: Self-identity, Perceived Importance, Consideration of Future Consequences, and Concern for Appearance.

Based on recommendations from many studies (Jones, Smith & Llewellyn 2013; Denford et al. 2015; Bartholomew et al. 2011), it can be concluded that the components of the HBM can offer a beneficial framework for health behaviour change. Therefore, the HBM, as part of the theoretical framework of the current study, contributes to understand students’ differences in terms of health behaviour patterns on one hand, and on the other hand, to provide curriculum developers a means to design interventions that aim to change these behaviours to healthier ones. Additionally, the HBM supports the current research to develop an understanding on the extent of the demographics’ influence on student’s behaviour that is related to the first research question of the study. Also, it provides support to understand the students’ perceptions when delivering the health education program that is related to the third research question of the study. So, it assists in gaining insights on what stages the students pass

through to decide on a change to healthier behaviours. Additionally, the model enhances the prediction of students' health behaviours and provides a milieu to identify students' health beliefs that guide the implementation of suitable interventions. To shed light on the application of the HBM, Orji and Mandryk (2014) study aimed to understand the participants' eating behaviour relates to various cultural groups in association with the HBM determinants. They inferred that the benefits and barriers were found to be consistently the strongest predictors. Also, Radtke et al. (2014) concluded that there is a strong positive relationship between dieting behaviour and health beliefs that play different roles at different stages of the health-behaviour change process. It can be found that the HBM variables can foresee the health-promoting behaviours in the students who are involved in the health education program. Evidences of this conclusion have been extracted from the effective implementation of the model in the resolution of various public health problems.

2.1.4. Trans-Theoretical Model of Behaviour Change

The Trans-Theoretical Model (TTM) – also called “the Stages of Change” model – has been applied in many research settings; however, it has been greatly examined and found beneficial in health related behaviour change studies. It is one of the most frequently used methods in behavioural change modeling in healthcare contexts (Hashemzadeh et al. 2019). Different than other biological and social influences on behavioural change, the TTM is a model that focuses on individual's abilities of decision-making to obtain a change in behaviour (Prochaska 2008). TTM model has been developed by Prochaska and DiClemente (1982) and it is a result of a systematic integration and analysis of more than 300 theories of psychotherapy and behavioural change. Its critical assumptions and main concepts comprise the stages of change, processes of change, self-efficacy, and decisional balance (Prochaska

et al. 2009). In the stages of change, the individual's readiness to change can be categorized. As actions and adaptation efforts are needed for a long-term behavioural change to occur, individuals can start at any level and not necessary from the first stage. It depends on their abilities and readiness to adopt the change. According to Prochaska and DiClemente (1982), there are five behavioural change stages (Figure 2.7). To identify in which stage an individual is in, an algorithm of four or five items is used. The items cover the present behaviour, intentions to change and previous attempts to change. The criteria to which an individual's responses match will identify the stage he or she is in (Prochaska et al. 1994).

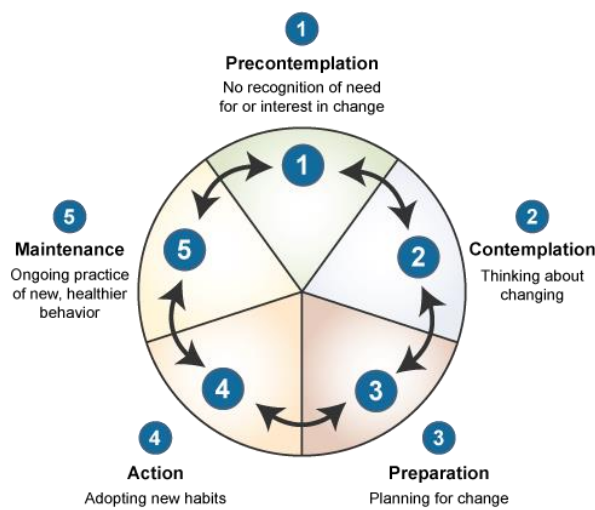


Figure 2.7: Trans-theoretical Model: Stages of Change (Adapted from Prochaska and Di Clemente 1982, p. 283)

The first stage is the pre-contemplation stage. At this level, the individuals are not recognizing the need or having any interest in change. This condition may result from unawareness of the consequences of the present behaviour (LaMorte 2019), or discouragement to try to change as a result of failure of attempts (Prochaska & Velicer, 1997). For Velicer et al. (1998), the main attribute of an individual in the pre-contemplation stage is

that they show confrontation to recognize or modify a behaviour. To move out of this stage, individual must practice cognitive disagreement, and recognize the seriousness of the problem (Scholl 2002). The second is the contemplation stage during which the individuals are thinking about changing their present behaviour and are planning on making a change within the next six months. They begin to weigh the change pros and cons which can make them stuck at this stage for long periods of time (Patten et al. 2000; Velicer et al. 1998). During this stage, individuals are aware of their problem, yet still join in the risky behaviour (Patten et al. 2000). The main feature of persons in the contemplation stage is that they are seriously considering resolving the problem (Prochaska et al. 1992). When the pros outweigh the cons and they have the motivation to apply the change, then, they are able to move out to the next stage (Scholl 2002). The third is the preparation stage, where planning for change is taking place within the next month. However, individuals at this stage are still engage themselves in high risk behaviours, and do not know how to start the implementation of change (Velicer et al. 1998; Patten et al. 2000). They will move to the next level when a plan of action is in place, and when they are confident that they will follow each step in the plan and they are confident that this plan can work for them (Scholl 2002). After planning, the action stage begins. Individuals start adopting the new behaviour and modify their environment. This stage requires commitment and efforts. Individuals get recognition for their visible efforts that are usually observed by others. Studies showed that these efforts should not be mistaken with the change itself as the actual required change is not yet happened unless certain criteria has been achieved (Prochaska & Velicer 1997; Velicer et al. 1998). Thus, the main way to know that an individual is in the action stage is when their visible efforts to modify their behaviour to an acceptable level can be recognized by others (Prochaska, DiClemente & Norcross 1992). When an individual realizes that he has positive

affective state, achieved improvement in his performance and gets positive feedback, then he is ready to move to the final stage (Scholl 2002). The last stage is the maintenance stage which includes the continuing practice of the new adopted behaviour. At this stage, individuals stay away from the unacceptable behavior and engaged in the new behaviour for about a period of six months. Also, individuals work to avoid relapse, and to stay confident about their achievements (Velicer et al. 1998; Prochaska & Velicer 1997). Prochaska and Velicer (1997) presented the result of their assessment of fifteen health related behaviours. They found that forty percent of the population is in the precontemplation stage, the same percentage is in the contemplation stage and twenty percent are in the preparation stage. Thus, the stages of change define the chronological order through which the change in behaviour is taking place. The process of change is the second main feature of the TTM. It defines how these movements throughout the stages occur (Rodgers, Courneya & Bayduza 2001). There are ten processes that are used to progress through the stages. The first five processes are categorized as experiential processes and used in the early stages. The next five are categorized as behavioural processes and are used in the last stages. The table below (Figure 2.8) shows where, in the stages, each process can be used (Patten et al. 2000).

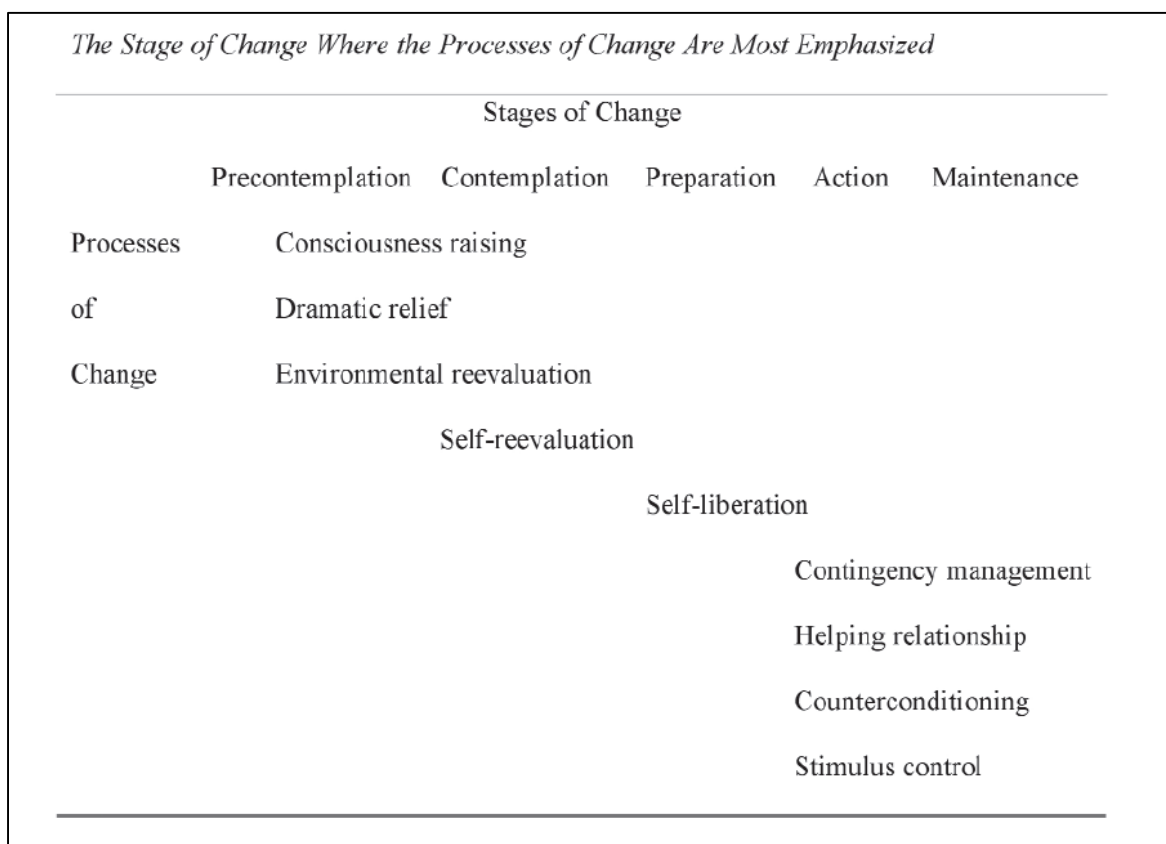


Figure 2.8: Trans-theoretical Model: The change process
(Adapted from Patten et al. 2000)

Consciousness raising process involves the individual’s need to increase his awareness on the negative consequences of the current unneeded behaviour. Dramatic relief process includes the expression of one’s feelings and emotions related to the current behaviour required to be changed (Patten et al. 2000). Self re-evaluation is considered as affective and cognitive assessment of the own self-image with and without current behaviour (Velicer et al. 1998). Environmental re-evaluation reflects one’s assessment of how his social environment is affected by the presence or absence of current behaviour. Self-liberation involves one’s belief in commitment and abilities to take action towards the required behaviour. Social liberation includes the individual’s need for better opportunities in society

to overcome the current behaviour. Counterconditioning reflects the learning of an individual how to replace current behaviour with the required better behaviour. Stimulus control process reveals the need to eliminate any stimuli related to the unwanted behaviour and replace it with stimuli related to the healthy behaviours. Contingency management offers the consequences to the individual when involve in current behaviour or avoid it. Helping relationships includes the participation and engagement with people who will support individuals to change their behaviour (Patten et al. 2000). Incorporated from Bandura, the TTM concept of self-efficacy reflects the individual's confidence not to relapse to the unwanted behaviour and to cope with the new healthy one. Self-efficacy is considered essential for an individual to move through from contemplation to preparation stage, and from preparation to action stage (Kraft, Sutton, & Reynolds 1999). Decisional balance refers to the individual's thinking of the benefits and costs of modifying their behaviour. Prochaska et al. (1994) argued that consideration of pros and cons may differ through the stages of change. For example, during the first stages, benefits of the present behaviour outweigh the costs. While in the last stages the benefits of the new healthy behaviour outweigh the costs (Prochaska et al. 1994).

The research of the published literature reflects the support and guidance the model may provide for appropriate and effective change. Farmanbar et al. (2011) highlighted the extensive use of the model in chronic conditions prevention interventions more than in treatment context. For example, TTM was used in Partapsingh, Maharaj and Rawlins (2011) in "Applying the Stages of Change model to Type 2 diabetes care in Trinidad: A randomized trial" to improve glycemic control among Type 2 diabetics. Their results showed that there is an improvement in the participants' adherence to proper exercise and diet and little change

was noted with regards medication use. In Iran, and in regard to non-communicable diseases, Pourhaji et al. (2014) have used the TTM to determine the effectiveness of educational programs to promote breast self-examination behaviour. Researchers conducted four educational sessions for groups, and after two months they distributed the questionnaire to participants to evaluate their adherence to the training provided. Positive significant progress was observed. Also consistent positive results were displayed in Moeini et al. (2010) research study when implementing the TTM to assess the effect of education on promoting physical activity and increasing physical work capacity. In regard to eating disorders, Dray and Wade (2012) research study showed promising results in the significant relationships between initial stage of change and treatment outcome. Girma, Assefa and Deribew (2010) implemented the TTM to assess the cigarette smokers' intention to quit smoking. Their findings were positive in all stages. They recommended the same to be applied to “raise awareness, clarify misconceptions, develop unfavorable feelings, acknowledge the cons of smoking and to increase confidence on oneself to quit smoking through quit skill training and setting norms not to smoke in public places” (p. 6).

Although the TTM has been applied in many health related research studies, it has been argued that the model ignores the social context in which change occurs such as an individual's socioeconomic status and income. Also the model has been criticized for its lack of clear criteria for every stage (Clarke et al. 2015). Another criticism has been added by Bandura (1977) that human functioning is a multidimensional process that cannot to be classified into stages.

Regarding the implemented health education program in the public secondary schools in the UAE, not only the initiation of healthful behaviours is the focus of the health education,

however, the maintenance of these behaviours. Moreover, identification of the stage of the students' readiness to change to adopt a healthier behaviour is considered an essential aspect in designing, planning and recommendations stages. These are the main contributions offered by the model to the current study. Also and at an academic level, it is essential to have a deep understanding of the stages of change an individual pass through to change a behaviour. This is to support the initiation, implementation and consequently, and more importantly, the maintenance of the acquired behaviour.

2.1.5. Summary of the Theoretical Framework

The above mentioned theories / models contribute to the current study's theoretical framework in different aspects to form an overarching theoretical framework for the study. The HLC theory determined the impact of health conditions on one's apparent behaviour (Wallston 2013). To correlate with the present research study and its core assumption, and as stated earlier, the main objective of the UAE health education program is to modify and encourage healthy behaviour among school students. Thus, the HLC concept is essential to be considered as one of the components of the framework guiding this study. Especially, that one's belief about his HLC is highly influenced by parental practices during childhood rearing periods and the surrounding environment, either in schools or at home. In addition to that, and once the applied HE program achieves its outcomes, not only the students' beliefs towards healthy lifestyle, in its physical, mental and social dimensions, are attained, but also they are able to influence the people around them leading to healthy fitting ones and consequently healthier citizens. Not to say that it is easy to change one's belief towards his health, but the results are praiseworthy, especially when the modification strategy is based

on and consolidated with sound knowledge and practices acquired from the implemented HE program.

For Bandura's SLT, it specifically informed that student's learning is mainly based on observation and practice of the required task, and behaviour modeling. According to LaMorte (2019) the objective of SCLT is to describe how individuals adjust their behaviours "through control and reinforcement to achieve goal-directed behaviour that can be maintained over time" (p.1). This notion is an essential contribution of Bandura's theory to the present study as the health education program, which is implemented in schools, aims to prepare students to be healthy adults, and consequently, raise awareness in UAE citizens to attain an overall healthy society. It can be concluded that the health education program's goal considers simultaneously the health behaviour initiation and its maintenance. Another contribution is the concept of learning through observation. In the health education setting, students spend most of their daily schedule in schools. Obviously, they observe their educational environment including peers and teachers. Subsequently, from these observations, students may adopt healthy and unhealthy habits. The main goal of the health education program in schools is to make students aware of these behaviours and develop their abilities to select what is good for their health and well-being. At the same time, improve their awareness on avoiding risky behaviour that may lead to health hazards. Additionally, learning through modeling is a vital concept in Bandura's theory. This concept's contribution to the current study is of two dimensions. Firstly, to apply Bandura's modeling notion, teachers are the models and students are the observers. Most of students look up to their teachers as role models. Students observe their teachers and are influenced by them in many aspects; such as through their behaviours, interpersonal skills, personality, etc... If any of these attributes is

of interest to students, they prefer to “imitate” them and, to an extent, make them their own. Specifically, the health education teacher must model the healthy behaviour and initiates his/her students’ interest of this behaviour, so students acquire them and consider them as part of their lives. Secondly, when teaching any of the health related skills, teachers need to model and perform them in front of the students. For the students to master the taught skills, it is necessary that the teacher provides his/her students with opportunities to practice demonstrating the skills. The provision of feedback at this stage is essential. Until then, students will master the skills and are ready to implement them in similar situations through the recall of the imaginal and verbal codes.

The HBM provided a highlight on how health education program can modify student’s beliefs and consequently their behaviours in terms of health concepts. Therefore, the HBM, as part of the theoretical framework of the current study, contributes to understand students’ differences in terms of health behaviour patterns on one hand, and on the other hand, to provide curriculum developers a means to design interventions that aim to change these behaviours to healthier ones. Additionally, the HBM supports the current research to develop an understanding on the extent of the demographics’ influence on student’s behaviour that is related to the first research question of the study. Also, it provides support to understand the students’ perceptions when delivering the health education program that is related to the third research question of the study. So, it assists in gaining insights on what stages the students pass through to decide on a change to healthier behaviours. Additionally, the model enhances the prediction of students’ health behaviours and provides a milieu to identify students’ health beliefs that guide the implementation of suitable interventions. To shed light on the application of the HBM, Orji and Mandryk (2014) study aimed to understand the

participants' eating behaviour relates to various cultural groups in association with the HBM determinants. They inferred that the benefits and barriers were found to be consistently the strongest predictors. Also, Radtke et al. (2014) concluded that there is a strong positive relationship between dieting behaviour and health beliefs that play different roles at different stages of the health-behaviour change process. It can be found that the HBM variables can foresee the health-promoting behaviours in the students involved in the health education program. Evidences of this conclusion have been extracted from the effective implementation of the model in the resolution of various public health problems.

Finally, the TTM informed about the student's readiness to change to adopt a healthier behaviour that is considered a fundamental recommendation of student's learning in health education. Regarding the implemented health education program in the public secondary schools in the UAE, not only the initiation of healthful behaviours is the focus of the health education, however, the maintenance of these behaviours. This is vital to be considered by curriculum developers and policy makers for strategies to follow in the implementation processes. Moreover, identification of the stage of the students' readiness to change to adopt a healthier behaviour is considered an essential aspect in designing, planning and implementation stages. These are the main contributions offered by the model to the current study. Also and at an academic level, it is essential to have a deep understanding of the stages of change an individual passes through to change a behaviour. This is to support the initiation, implementation and consequently, and more importantly, the maintenance of the acquired behaviour.

2.2. Literature Review

This section of the chapter offers the findings of an extensive literature review that was carried out on school health education programs and its curriculum and strategies that are implemented in the field of health education. As the scope of this study is to investigate students' perceptions of the newly implemented HE program in the public secondary schools in Al Ain City, the curriculum recommended by empirical studies and supporting bodies are presented in this literature review to provide an understating of what is expected from the implemented health education program in the UAE schools. The following sub-sections display a historical overview of the evolution of school health education, health education in school curriculum, teachers of health education, and impact of education on the health of youth and women.

2.2.1. The Evolution of School Health Education

Efforts to involve health in schools started in the nineteenth century. In 1850, school health experts, headed by Lemuel Shattuck, formed a report that had a major influence on school and public health. Then, school health related programs had received significant attention. This initiative was the reason behind the start of the "modern school health era" (Pigg 1992). In the 1860s, New York City was challenged with smallpox outbreak. As there was no process in place to provide vaccines to people who were in need, schools got the interest of the Board of Health. So, the education executives permitted school children inspection to identify whether the school children were vaccinated or not. Later, in 1870, the chicken pox vaccination became essential criteria to school attendance (Duffy 1974). Also, at this period, the Board of Health started the sanitary inspection program in schools to be implemented

twice a year. The inspections rounds revealed plenty of sanitary issues in school, such as, unclean plumbing systems and crowded classrooms with poor ventilation. In the 1890s was the era of “medical inspection” in schools. It started in response to problems of urbanization and immigration. Medical inspection programs started in Chicago, Philadelphia, and New York from the participating medical staff that provided their services for free of charge. Then, inspection for vision problems, contagious eye and other diseases was compulsory for child school attendance. Also, they provided healthcare assistance to guide parents to seek and follow treatment. Medical inspection had become mandatory in all public schools in Massachusetts in 1906. The initiative of routine inspections by medical professionals for many elements of school health programs continues to date (Means 1975).

Around the turn of the century, minor children health related conditions were treated in schools and instruction of self-care was given. However, students with major conditions or infections were excluded from schools. Healthcare professionals visited students’ homes and provided education for their parents, guided them for financial and medical resources, and they encouraged them to support their children’s treatment so they can come back and join their schools (Means 1975). So, children’s school absenteeism due to infectious diseases had been reduced by fifty percent (Lynch 1977).

In the 1920s, health was taught in 73 percent of schools in 108 cities all over the world. At that time, health concepts were included in other subjects taught at these schools. By 1930s, attention was given to school health by a variety of organizations. One of which is the American Association of School Administrators that launched its year book in 1940, titled “Safety and Education”. Two years after, the year book was “Health in Schools”. In 1950, the organization’s year book was titled “Health in the Elementary School”. In 1960, the

elementary school health programs were issued to include health services, instruction, and administration. In 1960s, significant initiative of school health education was done by the School Health Education Study (SHES), which is still been followed today with minimal modifications. This study defined health and health related concepts. The content areas outlined ten themes that are related to growth and development, nutrition, diseases, personal healthy practices and family and relationships. In 1970s, schools started to have nurse practitioners to provide the primary care to students minimizing the illness and injuries in schools, and also providing diagnosis and treatment (Silver et al. 1976; Kohn 1979). In 1970s, the concept of health promotion was introduced. In 1974, Marc Lalonde, the Canadian Minister of National Health and Welfare presented 'A new perspective on the health of Canadians: A working document' report, which later renamed as 'The Lalonde Report'. It “helped to diminish the dominance of the medical model for health systems” (Pinder & Rootman 1998). The report highlighted that even with high cost spent by the Canadian government on health care system, the outcomes of the Canadian citizens’ health are very limited and it is due to the traditional views that are considering medical care is mainly the task of physicians. The report stated that “The consequence of the traditional view is that most direct expenditures on health are physician-centered, including medical care, hospital care, laboratory tests and prescription drugs. When one adds dental care and the services of such other professions as optometrists and chiropractors, one finds that close to seven billion dollars a year are spent on a personal health care system which is mainly oriented to treating existing illness” (Lalonde 1981, p.11). Lalonde stressed the roles of human biology, environment, life style and healthcare organizations on individual’s health. Also, he identifies the role of other healthcare professionals as having shared and important contributions in people’s health status (Perera et al. 2012). In 1980s, the European Regional office of the

World Health Organization (WHO) came across a meeting of a working group where they discussed the concepts and principles of health promotion policies and programs. They described health promotion process as “the process of enabling people to increase control over, and to improve, their health”. The document presented five principles of health promotion that focused on individual’s everyday life context rather than individuals at risk for diseases, acted on determinants of health, combined strategies and methods to limit health related hazards, and aimed at participation of community members and not only medical services to work in-tandem on environmental, social and personal levels to improve health (Perera et al. 2012). This notion was adopted later by the Ottawa Charter to define health promotion. Then, school health education programs were established along with recommendations and guidelines for a world-wide school health initiative. In Geneva, the WHO founded the comprehensive school health education and promotion through an expert committee (WHO 1996). The WHO (1998) supported this initiative by publishing related articles, teaching materials, press releases, papers and references. Also, it introduced the notion of “Health Promoting School” in 1986 through the Ottawa Charter (WHO 2003). To provide school students with cohesive and encouraging experiences, this health promoting school initiative has been planned to include members from the school and community to promote health and prevent diseases by the implementation of health education approaches to change the students’ behaviour to healthier ones (Meeks, Heit & Page 1996). In its First International Conference on Health Promotion in Ottawa, Canada (1986), the WHO reported five health promotion movements to change from a therapeutic to a preventive focus. The five actions are constructing healthy public policy, creating supportive environments, development of personal skills, strengthening community actions, and changing present health care systems. In the Second International Conference (1998), WHO identified the

“healthy public policy establishes the environment”. The main focus of the public policy is to construct environments that assist individuals to have healthier lives (Halcomb 2010). The WHO (2012) describes that an improvement in health can be achieved through the dissemination of health-related information that fosters motivation, skills and confidence. It also clarifies that these health related information includes environmental, social and economic aspects, risk factors and behaviours, and the provision of health care systems to impact individual and community health.

On the other hand, the Centers for Disease Control and Prevention (CDC) and other organizations identified strategies to improve students’ health to promote learning. In addition, the CDC developed broad curriculum for school health education that has been adopted by the ministries of education in many countries all over the world (Maurer & Smith 2012). Therefore, the comprehensive focus of health education is not merely to increase knowledge about the health behaviour of individuals and communities but also to develop skills that demonstrate “various forms of action to address social, economic and environmental determinants of health” (WHO 2012). Hence, health education is attained through approaches that necessitate participation, interaction and critical analysis that are going beyond the dissemination of information (WHO 2017). According to Joint Committee on Health Education and Promotion Terminology (JCHET), health education is defined as “any combination of planned learning experiences using evidence-based practices and/or sound theories that provide the opportunity to acquire knowledge, attitudes, and skills needed to adopt and maintain healthy behaviours” (JCHET 2012, p. 17).

The general image concluded from the literature describes the evolution of health education as an integral part of health promotion. Thus, school health education programs were

established along with recommendations and guidelines for a world-wide school health initiative. In Geneva, the WHO founded the comprehensive school health education and promotion through an expert committee (WHO 1996). To provide school students with cohesive and encouraging experiences, this health promoting school initiative has been planned to include members from the school and community to promote health and prevent diseases by the implementation of health education approaches to change the students' behaviour to healthier ones. In the twentieth century health education that incorporates knowledge, skills and attitudes has become vital determinants for the individuals and their community. Furthermore, there is comprehensive significance of teaching health education to young adults; however, what needed is joined approach and solid interventions to address the health promotion and health education needs of present and future population. Emphasis must be on the content and method through which these principles can be educated based on international evidence based practices (Gulzar et al. 2017).

2.2.2. Health Education in School Curriculum

Health education is a subject that is equally important — if not more — than other school core subjects, as it is considered essential to students' learning and development (SHAPE 2015). For students to be best prepared to be the future change agents, they need a comprehensive and, at the same time, specialized set of knowledge, skills, attitudes and values. They can have a positive effect on their environments, impact the future, understand others' actions and feelings, and expect the consequences of their short and long-term actions (OECD 2018). To be competent, they need more than the acquisition of knowledge and skills. They need to use these knowledge, skills and attitudes and transfer them to meet the life demands and its evolving circumstances (OECD 2018). Consequently, a well-structured

health education curriculum is the crucial resource through which schools deliver an effective health education program (CDC 2012) where its main objectives are to make learners able to act as role model for their community, impact positively on their surroundings, and most importantly deal effectively with their life challenges.

Health education curriculum in schools should be “collaborative, integrative and vital within a school system and community” (SHAPE 2015, p.1). To achieve this, the curriculum must reflect a holistic approach to health and wellness through the inclusion of functional information on a variety of health related topics and the dimensions of health (OAHPERD 2016); It ought to embrace strategies to develop higher-order thinking and health related skills proficiency, to include interdisciplinary connections and to address health-enhancing norms, attitudes and values (SHAPE 2015). The National Health Education Standards (NHES) provide curriculum that its effectiveness was well acknowledged in the field of health education, as it reflects the input of health education experts (CDC 2015). So, schools that implement health education in its program of study should adopt the NHES (OCID 2019). The NHES involve eight standards. Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health. It covers the acquisition of fundamental health concepts and functional health knowledge and offers a foundation for promoting health-enhancing behaviors. This standard contains necessary concepts that are based on proven health behavior theories and models. Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors. It addresses the impact of the positive and negative influences within society on the individual’s health. This standard concentrates on the identification of the varied internal and external factors that affect health behaviors. Standard 3: Students will demonstrate the ability

to access valid information, products, and services to enhance health. It reports the access of reliable health resources and health-promoting products and services. This standard focuses on how to recognize valid health resources and to reject unverified ones. Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks. It focuses on effective communication to enhance personal, family, and community health. This standard provides information on how to maintain healthy personal relationships by using verbal and non-verbal skills, as well as how to express own feelings to strengthen interpersonal relationships to reduce or avoid conflict. Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health. It covers the identification and implementation of health-enhancing behaviours by using the decision making skills. This standard presents the required steps to make healthy decisions to improve quality of life. Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health. It displays the adoption of healthy behaviour through the application of goal-setting skills. This standard addresses the essential steps to achieve short term and long term health goals. Standard 7: Students will demonstrate the ability to practice health-enhancing behaviours and avoid or reduce health risks. It is about a positive quality of life that can be achieved through the practice of health enhancing behaviours. Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health. It offers the health promotion behaviour by the implementation of advocacy skills. This standard supports student to maintain their healthy behaviour and encouraging others to follow the same (CDC 2019).

Health education curriculum shapes the health teaching practices. Based on the NHES and CDC's Characteristics of an Effective Health Education Curriculum, CDC has launched the

Health Education Curriculum Analysis Tool (HECAT) that can guide schools to enhance curriculum selection and development (CDC 2018). The HECAT involves resources and appraisal tools to carry out a consistent and complete school-based HE curriculum. Moreover, it guides schools in the processes of revising, improving and strengthening their HE curriculum based on the analyzed results. Also, it supports the HE teachers to improve their impact of healthier behaviours on their students (CDC 2012). Therefore, the HECAT reveals the importance of utilizing science to promote practice, involving school staff and community in the selection and revision of curriculum, and recognizing local authorities in prioritizing health education topics, content, and decisions (CDC 2012).

Simultaneously, the Whole School, Whole Community, Whole Child (WSCC) model has been established in 2014 by the Association for Supervision and Curriculum Development (ASCD) and the CDC to support an integrated approach to health and education in schools. This model “incorporates the components of a coordinated school health program around the tenets of a whole child approach to education and provides a framework to address the symbiotic relationship between learning and health” (ASCD & CDC 2014, p. 6). It also provides a well-structured health education plan to support students to acquire knowledge and skills they need to promote healthy behaviours for themselves and others, make healthy decisions, and obtain health literacy. The WSCC model comprises ten components that are health education; physical education and physical activity; nutrition environment and services; health services; counseling, psychological, and social services; social and emotional climate; physical environment; employee wellness; family engagement; and community involvement (SHPPS 2015).

To acquire skills, deep understanding of subject matter is needed. This deep understanding comprises knowing all details, how they fit together and apply them to solve problems (Anyanwu & Reuben 2016). To nurture healthy behaviours in their students, teachers of health education recognized the need to go beyond the teaching of knowledge of contents (NBPTS 2002) as the recall of information is no longer what is needed from the learning process. On an international level, skills-based health education (SBHE) was recommended by the WHO since 2003 to emphasize the interaction and participatory methods of teaching and learning. WHO (2003), also, endorsed the SBHE through which learners are able to establish and maintain healthy lifestyles. SBHE is about the combination of shared learning experiences that targets the development of knowledge, attitudes and skills required to implement proper engagements to generate healthy lifestyles. It addresses the use of interactive teaching and learning methods to enhance the students' ability to apply knowledge, attitudes and skills in their daily life activities (Anyanwu & Reuben 2016). Moreover, an effective SBHE curriculum emphasizes the importance of the learner's life-long advocacy for personal, family, and community health through teaching of personal and social skills to influence student's health knowledge, attitudes and practices.

It is very well known, that the overall aim of any HE school program or interventions is to attain healthier behavioural changes. Thus, curriculum outcomes have to be based on data so that they are planned to encounter the requirements of students. It is also important to revise the curriculum periodically to meet the students' and community's changing demands as per the data findings in addition to appropriate assessment methods. Therefore, the curriculum must include formative and summative reliable assessments strategies (SHAPE 2015). In SBHE, the emphasis on knowledge alone is not effective, and so is its assessment. It is

important to assess all three aspects of behavioural change; knowledge, attitudes and skills (Anyanwu & Reuben 2016). Anyanwu and Reuben (2016) asserted this notion by presenting the Skill-based Health Education Model (Figure 2.9). The model displays the behavioural change at its center, surrounded by equal portions of knowledge, attitude, and skill. The authors meant that equal assessment emphasis should be applied on these three vital components to achieve a behavioural change.

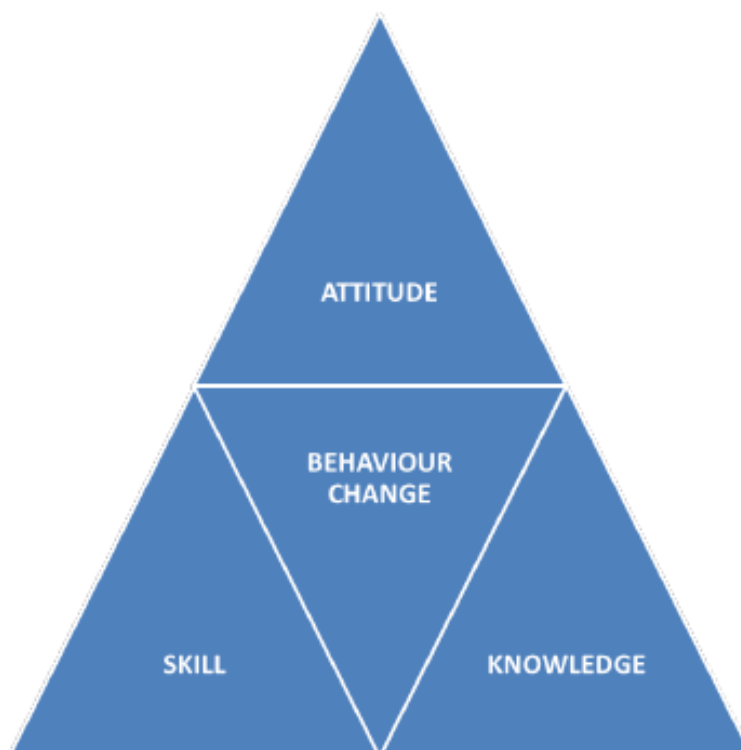


Figure 2.9: Skill-based Health Education Model
(Adapted from Anyanwu and Reuben 2016, p. 60)

2.2.3. Teachers of Health Education

A whole school approach to health education implies comprehensive methods of staff development, students-teachers' rapport and relationship, active involvement of parents and local community (Jourdan et al. 2016). At the core of this assumption, is the teachers' role in

the teaching and learning processes of health education. Keeping in mind that teaching is no more considered as the verbal approaches and memorizing, it is more about interaction and facilitation (Xhemajli 2016). As it is applied inside and outside classrooms, this change in teacher's role brings challenges to teachers as well as to education services. Such a change requires the teacher to possess knowledge, to be an educator, an advisor, an organizer, a coordinator, and an assessor (Xhemajli 2016). To be able to play all these roles, teachers have to create opportunities for interactive teaching, they should be able to prepare interactive activities in advance and to use interactive models where students are involved in small and large group activities so that the educational goals are effectively accomplished (Xhemajli 2016). In order for students to acquire skills to succeed in work and life, health literacy has been turned to be one of the subjects to be covered when building the 21st century skills (Partnership for 21st Century 2015), and also is one of the main objectives of modern school health programs (Kolbe 2005). Therefore, to define the role of teacher in health education is not a simple task, as it is a mixture of behavioural and cultural issues (Jourdan et al. 2008). Also, it includes the development of student's skills in relation to literacy, numeracy and well-being (Basch 2011). Moynihan et al. (2018, p. 9) clarified that the "Lack of coherent conceptualization of the competencies required for health education teachers further exacerbates this complexity". Thus, teachers may express certain challenges to give health education a priority (Jourdan 2011) and the need of a broader array of competencies that are not only based on knowledge but also to encompass skills and attitude (Moynihan et al. 2015). In addition, teacher's role also includes building an active and healthy environment, to be a role model, and to deal with conflicts. He/ she needs to indulge in establishing an effective teaching and learning activity based on exploration to promote effective learning (Kazi & Aziz 2018). Siti, Suryani & Melor (2010) added that teacher's traits of being

supportive, friendly, understanding and approachable cannot be ignored in this instance. Mart (2013) highlighted that passion and commitment are also key factors that positively impacting the teacher’s performance and motivation and, consequently, successful student learning. Apart from these qualities, teacher’s skills are also playing a major role in influencing the classroom environment (Siti, Suryani & Melor 2010).

To support students in their development of health literacy, Moynihan et al. carried out a study in 2015, to identify the health education teachers’ core competencies. Authors requested the help of experts in health education to identify core competencies for school health educators. Thirty six competencies were created from their call. After analysis, twelve core competencies were highlighted which are a “mixture of knowledge, attitude and skills” (p. 1) (Figure 2.10).

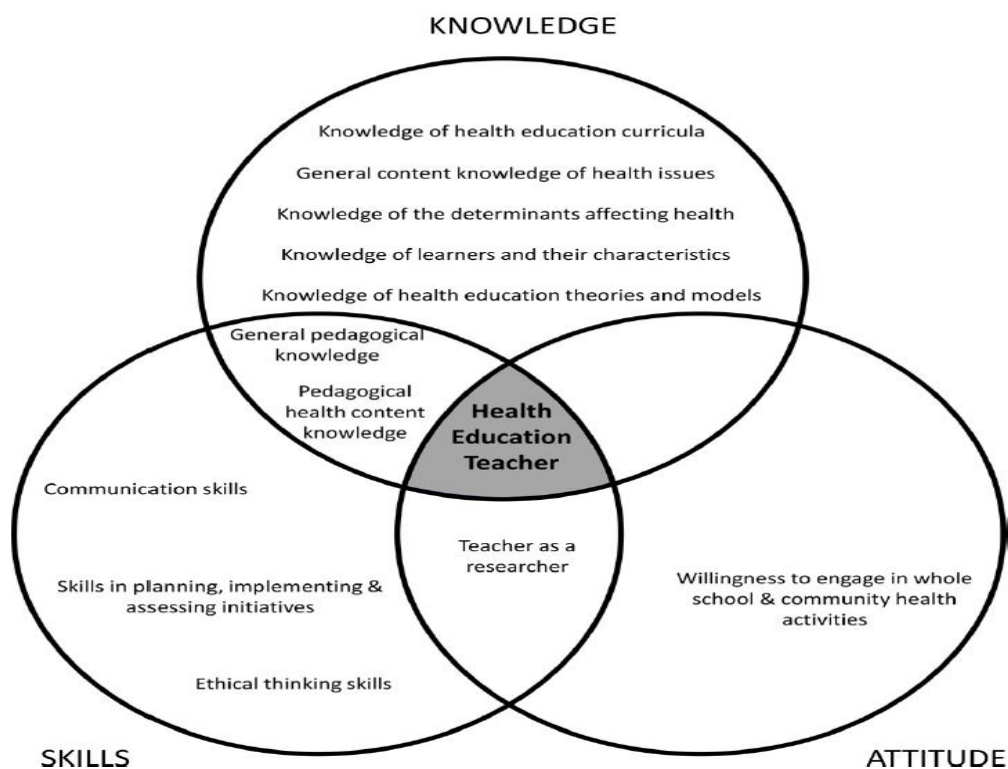


Figure 2.10: Core Competencies of Health Education Teacher

(Adapted from Moynihan et al. 2015, p. 10)

Knowledge based competency included content knowledge, curriculum knowledge, and pedagogical knowledge. For the content knowledge, the knowledge of health determinants, health issues and health education models and theories competencies are covered. For curriculum knowledge competency, knowledge of health education curricula and knowledge of learners and their characteristics are the main focus. Pedagogical knowledge comprises the principles and strategies of teaching and classroom management. In this context, Metzler and Woessmann (2010) provided quantitative and statistical evidences on the impact of teacher's subject knowledge on students' accomplishment that supports the attainment of students' learning outcomes.

Regarding the skills based competency, it comprises communication skills, planning and assessing skills and teacher as researcher. Communication skills include interpersonal, intrapersonal and community communication skills (McKenzie, Neiger & Smeltzer 2005). Planning and assessing skills are fundamental skills for health educators (Cottrell, Girvan & McKenzie 2011). In this regard, Hightower et al. (2011) asserted that quality teachers are able to reveal their teaching skills, communication, commitment and abilities to create an environment that is conducive to learning. The creation of such environment produces activation and interaction in their classrooms that is vital to address any challenges their students may experience (Blömeke, Olsen & Suhl 2016). The teacher as a researcher gains that degree of competency to connects skills to attitude domains. Research can be used by teachers to acquire an informed practice. Also, it helps them to reflect on practice and to have a strong content knowledge (OECD 2015). The last attitude based competency encompasses the health educator's willingness and commitment to be involved in school-wide and

community health promoting activities, and the abilities and enthusiasm to effectively conveying health related concepts to others (Jourdan et al. 2010). Loh and Nalliah (2010) recognized the teacher as a role model is an effective means to influence students' personality growth and academic success. In the same vein, Flynn (2011) discussed how role modeling is used not only to convey knowledge as a means to effective learning, but as a means to embed within the student qualities, such as behaviour, attitudes and values. Teachers themselves should possess healthy life styles and show commitment to positively contribute to overall health education efforts in schools (Auld & Gambescia 2016). As students tend to imitate behaviours and practices of their teachers, teachers must be the healthy role models for them (AHK 2015). Thus, by acquiring this competency, teachers can inspire their students and motivate them to have positive attitudes when dealing with each other and their community.

On the other hand, Anyanwu and Reuben (2016) have added that HE knowledge, skills and attitudes are also used in the assessment of students' learning outcomes. So teachers need to understand the three dimensions of health education and attempt to divide them into measurable components to be able to diagnose the curriculum objectives' attainment. These outcomes infer the assessment of behavioral change and inform teachers' reflective practices.

Although, teachers' main focus is the academic achievement of their students, yet, they have to consider students' physical, mental, social and emotional health development as well. Though, teachers, most of the time, are not provided with continuous professional learning opportunities to support them in developing student wellbeing (St Leger et al. 2007). Therefore, health promotion and education researchers recommended teacher training as they highlighted the seriousness of the teacher's role in ensuring success in school based settings

(Jourdan et al. 2008). To support teachers in their health education role, teacher training is considered as essential, primary and ongoing aspect (Jourdan et al. 2008). Jourdan (2004) highlighted that teacher training has the advantage of clarifying the teachers' role regarding school health education, helping them shape their professional character and provide them with methodological tools. Moreover, Simar et al. (2007) study argued that teacher training will support teachers to perceive health education in its comprehensive approach and also enhance the success of the program. Additionally, Ahmed et al. (2006) described that interactive and experiential professional development sessions were found to be effective strategies in a teacher's training; they argued the importance of successful reception and retention of the training messages by teachers in short term training programs, so they are able to convey the knowledge and skills acquired to their students in classrooms. However, to ensure that all information and messages taught are well retained by the teachers, long-term training programs are required to avoid gaps in knowledge that may be the result of fragmented short-term trainings. Therefore, teachers and students should be followed up not only immediately after training but also afterwards. They have added that pre and post training sessions must be conducted so the outcomes of the training program can be measured (UFS 2015).

The "concepts of wellbeing" subject was established and included in the Bachelor of Education curriculum (Masters 2008) as a teacher's preparation initiative. The main purpose of this initiative was to establish a fundamental aspect of teacher's physical, personal and social learning. This subject was introduced in the first semester of the first year of study for all Bachelor of Education students. The results of this trial were published to inform current practice. The emphasis of the subject was on improving students own personal wellbeing, as

well as on their professional capacity to teach health and wellbeing concepts to their students in the future. A variety of health related topics were included to engage future teachers in health education practice. All aspects of health including physical, social and mental and emotional wellbeing were involved in the main structure of the subject (Masters & Donnison 2010). Teaching these qualities early to future teachers can enhance the development of sound professional characteristics and influence their teaching practices and consequently, their students in the future (Hinton 2014).

2.2.4. Impact of Education on The Health of Youth And Women

Young people in schools are gathering and frequently in direct contact with each other which put them at risk for transmitting and spreading of infectious diseases. Globally, communicable diseases include various categories and types. The relatively common are tuberculosis and influenza. In 2016, Tuberculosis (TB) was the main cause of death as it was around 1.3 million deaths worldwide (Elflein 2019). Fortunately, the prevalence of TB cases in the UAE is low compared to other countries as it is at 0.79 per 100,000 populations. Yet, the United Arab Emirates Ministry of Health target is to eliminate TB by 2050 (Leon 2018). Influenza counts 40.9 % of all notified communicable diseases in Abu Dhabi Emirate for the year 2018. From which 65.3 % are for those who are less than 15 years of age (SCAD 2018). Thus, the inclusion of communicable diseases control and prevention practices in the school health education program is of an immense importance (Wang et al. 2018) to ensure students' knowledge on health and safety in this regard. Sørensen et al. (2012) clarified that there are three domains of health where an individual approach of health literacy should be accommodated "healthcare, disease prevention, and health promotion" with "being ill, being at risk, and staying healthy". Kim et al. (2016) study reiterated that unhealthy behaviour can

be modified to a healthy one through health education, thus, limiting the communicable diseases spread and consequently epidemics.

On the other hand, and as young people are the future adults and parents of a society, it is important to improve their levels of health related knowledge and practices on non-communicable / chronic diseases. Their knowledge about genetic blood diseases for example, will clarify for them the importance of pre-marital screening and provide awareness on the consequences of marrying a spouse with a hereditary disease. Health education supports them to make healthier life choices and promote healthier decision making abilities (Mohamed 2015). Also, physical and mental health of human being is significantly influenced by lifestyle (Farhud 2015). Another example, lack of physical activity, the intake of poor diet and smoking are health indicators that may considerably affect the individual's health status as they are lifestyle factors (Cawley & Ruhm 2011). The effect of advanced technology on human life will result in unpleasant consequences. If it is misused, it influences on individual's patterns of sleep, school academic performance and on the level of physical activity (Thomee, Harenstam & Hagberg 2011; Lapousis & Petsiou 2017). The habit of intake of fast food will lead to common health problems like obesity and cardiovascular diseases (CVD) (Mozaffarian et al. 2011). Worldwide, the World Health Organization has estimated that the rates of the chronic diseases are rapidly increasing, with the highest in the Eastern Mediterranean Region in cardiovascular diseases. It causes nearly one of every four deaths (CDC 2014), 5 million premature deaths globally every year, and the second leading cause for CVD mortality after high blood pressure (Wong 2014). In the UAE, the Statistics Centre – Abu Dhabi (SCAD 2018) published its 2018 statistical report that showed that more than one third of the total deaths for the year 2018 was caused by cardiovascular

diseases (37.1%). Cardiovascular diseases count the highest rate of 46.2 per 100, 000 populations; from which are 136.8 per 100,000 for males and 99.6 per 100,000 for females (SCAD 2018). These results shed light on the modern technology-driven life style that decreases physical activity, encourages consuming high caloric fast food and consequently poor nutrition.

Additionally, over weight and obesity are associated risk factors to diabetes that is a common chronic disease (WHO 2016). Wild et al. (2004) in their “Global prevalence of diabetes” have estimated that diabetes is a major cause of mortality globally, and by 2030, 400 million people worldwide will suffer from it. The WHO report on diabetes revealed that worldwide there is 422 million people are having diabetes, where 43 million are in the Eastern Mediterranean region, of which about one million are in the UAE (The National 2016), that approximately counts for every five people there is one who is having diabetes (Swan 2017). These figures draw an urgent call for further interventions from which health awareness and education are at the core, as these rates may be increasing as the young population ages (Loney et al. 2013). Although genetics play important role in diabetes development, studies showed that dietary choices are of crucial importance (WHO 2015), as physical activities with healthy diet maintain the health status of the individual (Farhud, Malmir & Khanahmadi 2015). Similarly, the Centers for Disease Control and Prevention (CDC) reported that the majority of chronic diseases can be prevented or managed by the adoption of healthy living practices (CDC 2008). Thus, the change of life style will positively impacted on individuals’ health and decreases the risk of obesity, diabetes and cardiovascular diseases.

One of the unhealthy habits the youthful population encounters is cigarette smoking. According to the WHO, the prevalence of smoking is constantly rising, as more than 1 billion

people smoke (WHO 2014). It is noteworthy to mention that smoking is also considered as major cause of cardiovascular disease (WHO 2014). The inception of adolescence corresponds with the start of smoking. Social and psychological influences lead the individual to fear rejection and seek acceptance of peers to be able to be a member in a group. This situation drives the youth to experiment with smoking. Encouraging results were presented in Stathopoulos and Sourtzi study (2013) the “Evaluation of a health education program for the prevention of smoking in secondary education students”, and Tahlil et al. (2013) “The impact of education programs on smoking prevention: a randomized controlled trial among 11 to 14 year olds in Aceh, Indonesia” (2013). Both studies showed positive results among participants. Authors also observed students’ increasing knowledge about the impact of smoking on individual’s health and some of the participants expressed willingness to reduce the number of smoked cigarettes per day. It can be concluded that including smoking and its hazardous effect on health in the school health education program is of significant impact on school students.

Young women are the future mothers. It is important to take the opportunity during their secondary education to enrich their knowledge about health related issues as health literacy is one of the core factors that influencing woman’s health. It is an essential element that supports her abilities to be involved in health promotion activities not merely for herself but also for her children (Shieh & Halstead 2009). It helps her to seek health care services at early stages and at the right time when dealing with health problems (Gönenç 2015). For example, maternity health, that includes pregnancy and cervical cancer. Health literacy supports the pregnant lady to recognize the dangerous signs of pregnancy and to ask for health care services to provide adequate care (Mojoyinola, 2011). Also, it provides the

concept of having a healthy and safe pregnancy for herself and her baby. Some of these safety practices may include proper nutrition, follow up visits in antenatal clinics, and attending health education classes. However, women with less health related knowledge will have poor health behavior, high risk of birth defects related to less follow ups and prenatal screening (Deliktaş, Körükcü & Kukulcu 2016). In the same context, a study that was done by Lupattelli et al. (2014) revealed that women with low health related literacy has less adherence to medication prescribed during her pregnancy due to the concepts that medications may harm her fetus. In respect to women's fertility, it was found that education advantages women to control how many children they have, thus, over time reducing their fertility rates. Another study that was done by UNESCO (2010) in Mali found that women who do not attend secondary education have an average of seven children; however, those who got education have an average of three children. Additional study in Guatemala revealed the relationship between the number of years a girl gets an education in schools and their first time pregnancy age. Thus, for every year a young woman spent in school, her first childbearing experience is delayed about six to ten months (Behrman et al. 2014). Summers (1992) estimated that for every one thousand women who engaged in an additional year of schooling, there is a support for the prevention of two maternal deaths, and that "mothers with secondary education are twice more likely to give birth more safely in health facilities as those with no education" (UNESCO 2010). Furthermore, improving maternal health is closely linked with improving child mortality as it ensures health development and reduces children's death at birth (Shaw 2006). Studies in the field have shown close connection between mother's levels of education on her children's health. Unfortunately, every year eighty-seven out of one thousand live births die due to preventable diseases such as diarrhea, pneumonia, malaria and AIDS (UN 2010). The World Health Organization (2009) linked high children mortality to malnutrition,

lack of breastfeeding, lack of vaccination, poor hygiene, and indoor smoking. For example, the children of a mother who gets an education at school are fifty percent more likely to survive than children born to an illiterate mother, as child vaccination is only nineteen percent for mothers with no education, however, this percentage increased to 68 percent when a mother attains her secondary education (UNESCO 2010). Semba et al. (2008) a study that was carried out in Indonesia and Bangladesh showed that women who receive an additional year of formal education have the opportunity to decrease the chance of having shorter children for their age by five percent. It can be concluded that empowering adolescent girls with knowledge and safe practices during their education journey will contribute to equip them with tools to make them able to respond and effectively manage challenges they will face in their lives.

2.2.5. Summary of the Literature Review

To sum up, this section of the chapter offered the findings of an extensive literature review that was carried out on school health education programs and its curriculum and strategies that are implemented in the field of health education. The implemented Health education programs - presented in the previous studies - incorporated knowledge, skills and attitudes as vital determinants for the individuals' health and their community that informed the present research study methodology as these determinants are the main focus of the study's students' questionnaire's items. Gulzar et al. (2017) reported that the content and method through which these principles can be educated should be based on international evidence based practices. To deliver an effective health education program, schools should employ a well-structured health education curriculum (CDC 2012), that is the case of the current implemented health education curriculum in the UAE schools. For the teaching-learning

processes, the WHO (2003) endorsed the SBHE. SBHE is about the combination of shared learning experiences that targets the development of knowledge, attitudes and skills required to implement proper engagements to generate healthy lifestyles. In terms of HE assessment, Anyanwu & Reuben (2016) recommended the assessment of all three aspects of behavioural change; knowledge, attitudes and skills. Additionally, this study highlighted the teacher's role in health education along with a teacher's competencies. As endorsed by Xhemajli (2016), the HE teacher is no more a lecturer or only communicate knowledge to students, but also an educator, an advisor, an organizer, a coordinator, and an assessor. Similarly, competencies are not only based on knowledge but also to encompass skills and attitude (Moynihan et al. 2015). Moreover, studies showed the advantages of offering teachers continuous professional development sessions and trainings on themselves and on students' wellbeing. Furthermore, the review provided evidences on the importance of inclusion of communicable diseases control and prevention practices in the school health education program. Likewise, studies displayed that the change of life style has positive impact on individuals' health and decreases the risk of obesity, diabetes and cardiovascular diseases that is evident in this study's focus. The reviewed literature presented the importance of empowering adolescent girls with knowledge and safe practices during their school education that contributes to effectively manage life challenges.

2.3. Situated Studies

In order to have a deep understanding, wide and selective research has been done to identify and situate related literature in the field of health education in schools. Between the years 2012 and 2019, studies on health education were conducted in other countries such as the United States, India, Malaysia, Thailand, Iran, United Kingdom and Canada. These studies

addressed several aspects of health education in primary and secondary schools; including personal hygiene, nutrition, overweight and obesity, dental and oral hygiene, physical activity and mental health. It is noteworthy to highlight that most of these studies are of individual initiative type, either by school nurses or by other health care professionals, and not as a governmental initiative like what is implemented in the UAE. One of these studies was done by Shrestha and Angolkar (2014) in India to assess the change in personal hygienic practices in primary school children. Its objective was to evaluate the modification of knowledge and practice concerning personal hygiene among primary school children after educational interventions. By random sampling, one primary school was selected out of seven governmental schools. The targeted school grades were grades three, four and five. All the targeted grades were included in this study. Two surveys were done one in February and the other in September 2013. Interventions were conducted through health education sessions that were implemented once a week for six weeks. Shrestha and Angolkar (2014) reported that there was a positive change of knowledge and practices among students involved in the study. These results initiated the researchers' recommendations of proper health education interventions through the framework of schools to the school children, to aim for improvement regarding personal hygiene among them, throughout the nation. Also, in India, Gambhir et al. (2013) came across the promotion of dental health through the provision of health education on oral hygiene at early stages. They presented a systematic review through which they reported their results of significant improvement in oral hygiene of school children after imparting dental health education. Another study was carried out by Ishak et al. (2016) in Malaysian secondary school to promote healthy lifestyle and prevent overweight and disordered eating. The researchers initiated an integrated health education intervention named 'Eat Right, Be Positive About Your Body and Live Actively', a primary prevention

which aimed to promote healthy lifestyle in preventing overweight and disordered eating among secondary school adolescents aged 13–14 years old. A peer-education strategy was used to teach students related knowledge and skills relevant to achieving a healthy lifestyle. The interventions were mainly focused on the promotion of healthy eating, positive body image and active lifestyle. Then, parameters were assessed including body weight, disordered eating status, stages of change, body image, health-related quality of life, self-esteem, eating and physical activity behaviours; and knowledge, attitude and practice towards a healthy lifestyle. Assessment was executed at three time intervals, which is, baseline, post-intervention and after three months as a follow-up. The study resulted in better progress in healthy lifestyle practices of students. It also contributed to the country's ministry of health professionals, educational interventions and schools health. Another related study was done in one school in Bangkok, Thailand, by In-Iw, Saetae, and Manaboriboon (2012). The purpose of the study was to define the change in body weight and body mass index (BMI), as well as diet behaviours. The participants were school students of grade eight who were diagnosed with being obese. Interactive educational interventions were provided by a pediatrician for the intervention group while the rest, the control group, attended regular nutritional class. After four months of interventions, the intervention group showed significant decrease in BMI compared to the control group; however, there was no significant change in dietary options particularly in calorie and fat intake in food consumption within each group. The researchers concluded that intensive interactive nutritional education focusing on healthy food selection, food energy calculation, and food exchanging had shown positive changes in participants' BMI and impacted on their healthy dieting attitudes. The same recommendations were reported by Lavelle, Mackay and Pell (2012) in their systematic review and meta-analysis of school-based interventions to reduce body mass index. In their

study, researchers aimed children of 18 years age and younger. The conclusion they presented showed that there is accumulating evidence that school-based interventions can significantly reduce children's BMI, especially if they include a physical exercise component. These conclusions are also consistent with Mahmood et al. (2014) results obtained from review, meta-analysis and supported by quantitative evidences. Results revealed that school-based intervention programs are effective in prevention of childhood overweight and obesity problem. In Toronto, Canada, a review of the evidence on school-based interventions to address obesity prevention in children 6-12 years of age was published by Charlebois, Gowrinathan and Waddell (2012). The aim of the review was to highlight an evidence-informed decision making process on obesity prevention during childhood that can be achieved through a combination of population-based initiatives. The authors recommended interventions to reduce the prevalence of obesity in children before they reach adulthood. They pointed that these interventions should focus on health education to increase knowledge, awareness, attitudes and motivation. Cawley, Frisvold, and Meyerho (2012) were more specific in their published work "The Impact of Physical Education on Obesity among Elementary School Children". Their study targeted grade five school students. They recommended the revision of the physical education policies in schools to increase the duration of the physical education sessions in order to prevent childhood obesity and consequently the other diseases associated with it. In Iran, a study conducted by Haghani, Shahnazi and Hassanzadeh (2017) in two elementary schools for boys. Researchers' aim was to determine the effects of tailored education on lifestyle modification. The participants in their research were male students in grades four, five and six and who were between the 85th and 95th weight percentile. The authors suggested a reform of the schools' curriculum to include necessary points regarding obesity-inducing factors, complications arising from

obesity, and ways of preventing it. Also, they recommended involving teachers and students in ongoing and regular age-appropriate programs for the aim of improving physical activity and nutrition. In china, a study was done by Wang et al. (2018) to explore the impact of health education on student knowledge and behaviours toward infectious diseases and to define the factors that are affecting their knowledge and behaviours. The authors concluded that health education contributes positively to student knowledge and behaviours toward infectious diseases, and they recommended that students are in extensive need to know more about infectious diseases. In addition to that, a plethora of recommendations stating the need for further studies to highlight this impact was published. These recommendations came from both; the earlier mentioned studies and from the supporting bodies such as the Centers of Diseases Control (CDC 2019), and the World Health organization (WHO 2012).

In the studies completed, it has been noted that there are no studies carried out to date in the UAE related to health education in schools. This evidence can be considered as a call for studies to assess the impact of health education programs that are currently implemented in public secondary schools in the UAE. Also, it is recommended that consideration be made of the: cultural diversity, health related habits, practices and the way of life that may differ from other countries where health education researches were carried out.

Chapter Three: Methodology

The philosophical aspects underpinning the research approach and the research methods of this study are discussed in the following sections. To provide a full description of the methodology process, the flow of sections follows the “research process onion” (Saunders, Lewis & Thornhill 2012), as this process can be adapted to almost all types of research methodology (Bryman 2012). Saunders, Lewis and Thornhill (2012) clarified that the outer layer of the research process onion must be unwrapped first so that the subsequent inner layer can be seen. The process represents the research philosophy as the outer shell. Then the following sections present the research approach, site selection, population of the study, sample selection and research instruments. Finally, the data analysis and procedures and the ethical considerations are displayed.

3.1. Research Philosophy

Modern education research is structured and organized by several paradigms. All paradigms are philosophical in nature and incorporate the common elements of (1) axiology which reflects morals, beliefs and values in research, (2) ontology that assumes nature of reality, (3) epistemology that assumes how we get knowledge, (4) methodology that shares understanding of the best ways to get knowledge, and (5) rhetoric that shares understanding of research language (Lincoln et al. 2011). Each paradigm views these elements in different perspective. Postpositivism, for example, is one of the previous social research approaches that is usually linked to quantitative methods. In postpositivism, within the research process, researchers observe ‘inquiry’ as a series of steps that are logically related, and they develop knowledge claims relying on objectivity and control (Creswell 2013). On the other hand,

constructivism is linked to qualitative methods, where researchers' views are based on the views of the participants, and they develop knowledge claims relying on subjectivity (Creswell & Clark 2011). It can be noted that postpositivism and constructivism are situated at the opposite ends of a continuum (Betzner 2008). To bridge the gap of the older approaches, a newer approach of "pragmatism" is used (Creswell 2013). Opposing to other research philosophies, pragmatism incorporates more than one research approach, qualitative and quantitative, within the same study rather than the contradiction of positivism and interpretivism (Tariq 2017).

The philosophy of pragmatism as research paradigm includes a variety of methods (Creswell & Clark 2011). The emphasis of this study is on the concerns and questions of the research and not on the methods. Thus, the researcher of the study used the pragmatic approach to underpin this research study as its main philosophical approach that serves best the research problem under investigation (Tashakkori & Teddlie 1998). The American philosophers Peirce, James, and Dewey initiated pragmatic philosophy in the 1870s. Many researchers have conveyed its applicability in social science research and its use to originate data about the problem (Creswell 2014). Pragmatism underpins this study to support the researcher to investigate the students' perceptions of the newly implemented HE program in the public secondary schools in Al Ain City. By means that pragmatists believe that human knowledge is guided by practical goals. Godfrey-Smith (2014) reported that basic beliefs and general inquiry methods are evaluated by their outcomes. As students vary with their health related knowledge and interests, pragmatism accepts those variables and focuses on serving every knowledge and interest. So, knowledge, as a tool for action, is valued and examined by its consequences, and thus its efficiency is evaluated (Cornish & Gillespie 2011). Therefore,

students' health related thoughts are linked to their actions and future consequences, thus, results of their actions can be predicted (Morgan 2014). Pragmatist philosophy assumes that beliefs are originated from past experiences, and these past experiences cannot be separated from actions. Also, pragmatists believe that actions are essential to pragmatism and that external forces are not static, they can help in shaping student experiences, thus, actions can change the surroundings and the world (Morgan 2014; Goldkuhl 2012). Morgan (2014) reiterated that "actions cannot be separated from the situations and contexts in which they occur" (p.26). Students can predict the outcomes of a certain action if the situation through which the experiences gained is repeated. Also Morgan (2014) has added that "actions are linked to consequences in ways that are open to change" (p. 26), meaning that, if the action is the same and the situation is changed, the consequences would be changed as well. In addition to that, pragmatists consider that every student's knowledge and experience is unique, and that there are always different degrees of shared beliefs based on varying degrees of shared experiences based on the situation in which the experiences take place (Morgan 2014).

Pragmatism is strongly associated with the theoretical framework of this study. In Locus of Control (LOC), it can be clearly observed the internal or external control of individual's beliefs on their lives, choices and actions (Rotter 1966). Therefore, the internal self-efficacy and confidence in one hand, or the external uncontrollable factors on the other, can define human actions and outcomes. In regard to Health Locus of Control (HLOC), same concept applies, but the difference is that it is about the goal attainment of one's own health status. It is more about the extent of an individual's development of health promoting behaviour and lifestyle. Individuals with Internal HLOC tend to impact on their surrounding environment

to modify and improve it (Bergvik, Sørli & Wynn 2012). However, those with External HLOC tend to suffer and feel that they have limited control on their surroundings (Schultz & Schultz 2011) which may lead to have negative self-esteem and show several mental illnesses (França et al. 2012). This coincides with the pragmatic notion that the environment is not static and could be changed, and that human beliefs are linked to their behaviours and upcoming consequences where their outcomes can be predicted. Likewise, pragmatism holds that present behaviours cannot be separated from individual past experiences, and those actions people do are directly linked to these experiences. This notion can be linked to Bandura's modeling and observational learning. If for example, a child who was raised in a family where he observed his parents are continuously reading or going to a sport club, he / she will acquire this behaviour and make it a habit of his everyday life. To acquire such a habit, the child surely will pass through the four stages of attentional, retention, motor production and the motivational processes mentioned earlier (Morse 2017; Bandura 1977). Similarly, pragmatists believe that knowledge is a tool for action; this is presented in the Health Belief Model (HBM) where individuals use cognitive processes to decide on their behaviour. So, the resultant behaviour is not an outcome of incentives or reinforcement but it is the product of one's evaluation and judgment (Janz, Champion & Strecher 2002). These outcomes are developed by passing through the stages of perceived threats, perceived susceptibility, perceived benefits, perceived barriers, and motivation (Abraham & Sheeran 2015). Also, pragmatism accepts individual's variables and focuses on serving every knowledge and interest, the same can be noted in Trans-Theoretical Model of Change (TTM). TTM tackles one's interest to change and highlights that behavioural change can be attained at any level of the change process (Prochaska & DiClemente 1982). So, the pragmatism

concept can be linked to the processes of awareness, readiness and / or maintenance of the modified behaviour.

It can be concluded that pragmatism can be considered as a philosophical means to address and solve real world practical problems (Biesta 2010) and serves best the research problem under investigation of this study. Moreover, it is strongly linked to the theoretical framework's components of this study. As the process of change to better healthful practices starts with a person's acceptance of this change, followed by attempts to modify false beliefs, then it is interpreted by one's actions and behaviours that reflect the change.

3.2. Research Approach

The main purpose of the study aimed to investigate students' perceptions of the newly implemented HE program in the public secondary schools in Al Ain City. In order to obtain an in-depth understanding, the researcher selected the mixed methods to carry out the study. Creswell (2014) defined mixed method as the combination of qualitative and quantitative approaches to provide a more complete understanding of a research problem that is under study than either approach alone. As health related issues are more complex and need to be looked at from broader perspectives (Bryers et al. 2014), there is a need for special consideration to the variety of factors that contribute to an individual's overall health (Glogowska 2011). Thus, the integration of both quantitative and qualitative methods is the best research methodology, as the mixed method is used to study the diverse health related features (Östlund et al. 2011). The mixed method allows the researcher of this study to find answers to the research questions through the integration of two opposing methodologies to obtain clearer conclusions (Cronholm & Hjalmarsson 2011). As per Scott et al. (2011), the outcome of combining the two methods is greater than the sum of parts of one method. It,

also, allows the researcher to gain an insight of the problem under investigation. This methodology opposes the quantitative-qualitative dichotomy (Tashakkori & Newman 2010) and integrates the two approaches. So the researcher can overcome the limitation of data provided by one approach alone and able to obtain more meaningful answers to the research questions (Halcomb & Hickman 2015). Raven et al. (2011) added that it provides the joint strength of the qualitative and quantitative methods and balances their weaknesses. Precisely, qualitative approaches are often used to explain quantitative results and quantitative techniques to aid in the interpretation of qualitative findings (Newman & Ramlo 2010).

The core assumption is that the mixed method is able to provide the researcher of the study with a wide range of tools to answer the study's research questions (Tariq & Woodman 2013; Creswell 2014); 1. To what extent do demographic variables affect students' perceptions of health education? 2. What responses do public secondary students have regarding HE program in Al Ain City? 3. What perceptions do public secondary students have regarding HE program in Al Ain City?

For the researcher to be able to address the aim of the study and obtain answers to all its questions the quantitative approach was used to obtain answers for the first and third questions and the qualitative approach was used to obtain responses for the second research question. Consequently, the researcher of this study planned to carry out the study through quantitative and qualitative approaches - a mixed method - rather than one single method.

Creswell and Plano Clark (2011) differentiated between the four categories of mixed methods' research design. First type is the convergent design. It is also called parallel or concurrent. This type refers to a design where quantitative and qualitative data are carried

out with equal priority in the phases of data collection and analysis and only mixed at the interpretation phase. The second type is the sequential design where the study splits into two phases. The second phase is to follow the first phase as the first phase is given the priority. The authors defined two forms of sequential designs. One is the explanatory sequential where the qualitative method is used as a second phase to explain and explore the first statistical findings obtained by the quantitative method. The second form is the exploratory sequential design where the qualitative method is used first to explore the present situation of a research study, and then the quantitative method is followed as a means to design suitable quantitative instruments. The third type of the mixed method is the embedded design. It also called the nested design where the collection of data is done through a quantitative or qualitative method but with the addition of a qualitative strand to a quantitative design or the addition of a quantitative strand to a qualitative design. This is done to refine thinking or to provide new insights. The fourth type is the multiphase design. This refers to multiple designs to involve both the sequential and convergent elements. The researcher of this study combined the quantitative and qualitative methods to address the study aims (Creswell et al. 2011), specifically, the convergent – concurrent – design. By the use of the concurrent type of mixed methods, the researcher implemented the quantitative and qualitative methods independently aiming to “obtain different but complementary data” (Creswell 2014). So, the quantitative method is used to get statistical results to answer the research questions (1) and (3) (Williams 2011) and the qualitative part of the study provides the students with opportunities to reflect and share their experiences allowing the researcher to explore meanings and insights (Levitt et al. 2017), that is to answer the research question (2). Also, the qualitative method helped the researcher to observe and interpret the students’ perceptions in a natural setting (Gentles et al. 2015).

The below Table 3.1 explains an overview of the organization of the study. It provides links between the study’s questions, related instruments, sampling, participants, and the method of data analysis.

Research Questions	Instrument	Approach	Participants	Sampling	Data analysis
1. To what extent do demographics variables affect students’ perceptions of health education?	Students’ Questionnaire	Quantitative	Grade 12 students (n=258) (4 groups)	Convenience sampling	Statistical Analysis (SPSS version 23.0)
2. What responses do public secondary students have regarding HE program in Al Ain City?	In-depth Semi-Structured Interviews	Qualitative	Selected students of 5 groups (n1=32)	Homogenous sample selection	Thematic Analysis
3. What perceptions do public secondary students have regarding HE program in Al Ain City?	Students’ Questionnaire	Quantitative	Grade 12 students (n=258) (4 groups)	Convenience sampling	Statistical Analysis (SPSS version 23.0)

Table 3.1: Summary of the organization of the study methods.

To enhance reliability and validity of data and results, and to enable data saturation, triangulation is needed (Fusch, Fusch & Ness 2018). Triangulation is a technique used to facilitate the validation of data by cross verification from two or more sources to create understanding of an experience (Honorene 2017). It is the converging of more than a research method to ensure that the obtained data and the phenomena under study are correctly explained (Fiorini, Griffiths & Houdmont 2016). It helps the researcher to explore the different stages and perspectives of the same phenomena (Fusch, Fusch & Ness 2018). Heale and Forbes (2013) argued that triangulation of data may have inconsistent results, but it depends on the researcher to clarify the information and make it rich for the reader. Denzin (1978) identified four types of triangulation. (1) Data triangulation that is referred to three data points; people, time and space. These are ongoing and inter-related. Although, these are

about the same event, however, different data is represented by each data point. This helps the researcher to discover commonalities in different settings. (2) Investigator triangulation that is the presence of more than one researcher – investigator – to explore a specific phenomenon. Denzin (2009) clarified that different interpretation of investigators of the same data helps in mitigation of bias. (3) Theory triangulation that is referred to the application of different theories to the data set. Usually, it includes viewing the data from two contradictory theories. Another approach, that researchers may use, is the development of a new theory that can come up from raw data of a different theory. (4) Methodological triangulation that is referred to the use of triangulation “within method” or “between method”. Within method triangulation is utilized with multiple sources of data from one design. For example, in qualitative research the triangulation of data obtained from interviews, observation and focus groups are within method triangulation. However, between method triangulation – that is also called across method – is used in mixed methods study when the researcher wants to triangulate data obtained from the combination of qualitative and quantitative techniques. This reflects one of the important reasons behind the implementation of the mixed methods in this research study, as between method triangulation overcomes flaws and deficiencies of each method by taking the best from both of them (Creswell 2012). Furthermore, Gorissen, Van Bruggen and Jochems (2013) added that between method triangulation assists in the mitigation of any researcher bias.

On the other hand, triangulation of findings takes place after the analysis of both data separately at the interpretation stage of a study (O’Cathain, Murphy & Nicholl 2010). The outcomes resulted from triangulation could be convergence, inconsistency and contradiction (Denzin 1978). An explanation of the studied phenomena is achieved when one of these

outcomes dominated. The process of triangulation implementation can be done either by separate data collection of the qualitative and quantitative methods and then combined them later, which is called simultaneous triangulation, or the outcome of one method is used to plan the next method, and this is called sequential triangulation (Morse 1991). The simultaneous triangulation is the best fit for this research study as the data is collected based on mixed method concurrent design.

3.3. Site Selection

This study was conducted in the public secondary schools in Al Ain City, Emirate of Abu Dhabi in the UAE. According to the UAE education context, the secondary schools are the schools that enroll students in grades 10, 11, and 12, and usually they are between fifteen and eighteen years of age. These are called “Cycle 3” schools, and they are distributed among nine education zones, namely Abu Dhabi, Al Ain, Al Garbia, Dubai, Sharjah, Ajman, Umm Al Quwain, Al Fujairah, and Ras Al Khaimah. Secondary schools are segregated to allow female and male students to study on different premises. Currently, the health education program is delivered in female public secondary schools all over the education zones (MoE 2017) to grade 10, 11 and 12 students. In the last year of schooling, i.e. grade 12, the health education curriculum is completely delivered to students. The governmental female secondary schools, in which the HE program is delivered, is considered the ideal site for the study.

3.4. Population of the study

The population of a study is the entire set of individuals who are having the characteristics of the research interest and the researcher chooses to include them in the study (Johnson &

Christensen 2014), and from which the sample of the study is drawn (Taherdoost 2016). The participants of this study are students who are receiving the health education curriculum in public secondary schools in the UAE. For the researcher to be able to obtain data to fulfill the research objectives, grade 12 students are the target population, as at this time, these students will complete the whole curriculum delivered over the three years i.e. grades 10, 11 and 12. If the grade 10 or 11 students were involved, their responses to fulfill the research questions would not be complete. Only grade 12 students are able to provide the researcher with findings to fulfill the aim of the study. They are the individuals who are well-informed about the theme under investigation (Cresswell & Plano Clark 2011). The total number of grade 12 students in the public secondary schools in Al Ain education zone is 1880 (MoE 2018). For the quantitative part of the study, the researcher will consider a sample of approximately 188 (10 % of the population) as an adequate sample size (Muijs 2011).

3.5. Sample Selection

The sample selected in the study is criterion-based. Criterion-based selection is the sample selection that is based on criteria stated by the researcher (Johnson & Christensen 2014). Thus, the set of characteristics of the participants were set by the researcher and those participants who did not meet these characteristics were excluded from the study (Johnson & Christensen 2014). Participants who are included in the study are students sharing the same characteristics. These are students who enrolled in grade 12 in the public secondary schools who are receiving the health education curriculum.

As the collection of data requires effort, energy and time, a convenience sampling is also considered during this research study. In convenience sampling, the researcher recruits participants who are willing and available to be included in the study (Johnson & Christensen

2014; Creswell 2012). Thus, Al Ain education zone was chosen for geographical proximity, practicability, convenience and availability (Dörnyei 2007). All public secondary schools in Al Ain City were physically approached to conduct the study, providing them with the approval of the the research department at the Abu Dhabi Education and Knowledge Department (ADEK), four of them permitted to enter their premises allowing their students to participate in current research. The total number of grade 12 students in the public secondary schools in Al Ain education zone is 1880 (MoE 2018). For the quantitative part of the study, the researcher will consider a sample of approximately 188 (10 % of the population) as an adequate sample size (Muijs 2011). Based on the four schools' approval, the number of students who were recruited in the quantitative method of the study is 258 students ($n = 258$) indicating adequate sampling size to investigate students' perceptions regarding the HE program in Al Ain City. The students have been divided into four groups according to the schools they are enrolled in. Thus, there are four groups of students.

For collecting the qualitative data of the study, the researcher used the in-depth semi-structured interview method. The researcher has a list of students' contact information (Creswell 2012) that have been collated from participants when the quantitative data had been collected, showing their willingness to be involved in further discussion. This strategy allows the researcher a prompt access to large numbers of students and provides a rich text and detailed database for analysis (Creswell 2012). In-depth semi-structured interview method supports the researcher with an in-depth understanding as it allows participants to elaborate on their perceptions of the phenomena under investigation (Johnson & Christensen 2014). The sample selected for the interviews is five homogenous groups to form $n=32$ in order to obtain an in-depth understanding of students' responses regarding the HE program.

3.6. Research Instruments

For the researcher to have an insight on what similar studies adopted as instruments to collect data in their methodology, a broad review in the available literature has been conducted. The search criteria were selected to focus on studies on health education interventions that were carried out in schools between the years of 2012 and 2019. Some of the studies were found to implement the systematic review (Gambhir et al. 2013; Mahmood et al. 2014; Lavelle, Mackay & Pell 2012; Charlebois, Gowrinathan & Waddell 2012). Other studies found to employ the quasi experimental using pre and post-tests (Shrestha & Angolkar 2014), and questionnaires (Haghani, Shahnazi & Hassanzadeh 2017; Ishak et al. 2016; In-Iw, Saetae & Manaboriboon 2012) as tools to collect the data. The following sections represent the instruments used to carry out this research study and their purposes. The instruments employed are students' questionnaire and in-depth semi-structured students' interviews.

3.6.1. Students' Questionnaire

Questionnaires are quantitative research measures through which the researcher can investigate on opinions, behaviours and attitudes of the population under investigation (Walston, Redford & Bhatt 2017). Roopa and Rani (2012) defined questionnaire as a "series of questions asked to individuals to obtain statistically useful information about a given topic" (p. 273). In this study, the students' questionnaire was used to collect data that are analyzed statistically - using numbers - to inform the researcher about the first and third research questions; 1. To what extent do demographic variables affect students' perceptions of health education? 3. What perceptions do public secondary students have regarding HE program in Al Ain City?

The students' questionnaire has the advantage as it is fast to finish, and easy to analyze, which is opposite to most of the other methods (Bowling 2014). Additionally, it can reach a large sample size (Arora et al. 2017) and the results obtained can be generalized to the target population (Creswell 2012). Students' questionnaire is also helpful when students wish to discuss sensitive health related topics when it is difficult to talk about during face to face discussion (Arora et al. 2017).

The questionnaire of this study was self- developed based on the principles of evidence based practice (Ruzafa-Martinez et al. 2013). The theoretical framework of this research and the principles of evidence based practice focused on the three dimensions that are knowledge, skills and attitude. The researcher found that these principles are extremely helpful to support the study to investigate students' perceptions regarding the HE program implemented in public secondary schools, and to cover health education concepts the students learn during their secondary schooling. The students' questionnaire of the study is self-administered with clear instructions and proper order of questions (Thomas, Oenning & Goulart 2018). It comprised five closed-items sections that aim to investigate the students' perceptions of the newly implemented HE program in the public secondary schools in Al Ain City; the closed items are followed by open ended item to provide room for participants of the study to express themselves if they prefer (Etikan & Bala 2017).

Each questionnaire's section reflects an area of investigation (Appendix 1). The first section enquires about the demographic data that includes age, nationality and school grade levels through which the students received the HE curriculum. The subsequent four sections include 28 statements that were designed according to a 5-point Likert-type scale ranging from "strongly disagree" to "strongly agree". Each statement was scored from 1 to 5. The responses

are scored as 1 for strongly disagree, 2 for disagree, 3 for neither agree nor disagree, 4 for agree and 5 for strongly agree. The second section includes inquiry statements on knowledge the students have in terms of the taught concepts. This section includes seven statements that inquire about the knowledge the students obtained during their learning of the health education subject. The related statements start with “Learning of Health Education helps me to know” about the following concepts: communicable diseases and their causes, non-communicable diseases and their causes, medical terminology, basics of first aid and cardiopulmonary resuscitation (CPR), healthy eating, benefits of physical activities and healthcare services. The third section inquires about the skills and practices the students acquire throughout their health education learning. This section begins with “Learning of HE helps me practice”. There are ten statements that are covered under this section: communicable diseases prevention measures, non-communicable diseases prevention measures, the use of medical terminology, the first aid and CPR on a manikin, how to avoid health risks, decision making skills, goal settings skills, how to deal with stress, physical activity and healthy eating at school and at home. The fourth section focuses on students’ dispositions. There are six statements questioning students to rate their agreement on being a health advocate, teaching others about healthy living, practicing healthy life style, seeking help from health professional in case of any health related issues, knowing about health related careers, and recommending HE to be given to all school grade levels. The fifth section encompasses the students’ perceptions of their health education teacher. This part includes five statements. Each statement starts with “Teachers of health education”. The subsequent items are to examine the encouragement of students to apply concepts they teach, teachers are able to practice concepts they teach in class, teachers have the related knowledge of health education concepts, teachers are practising the skills they teach and if students perceive their

HE teachers as role models. In sections two to five, the students have the freedom to choose the scores that are reflecting their perceptions from strongly disagree to strongly agree with the statements. The last section includes an area given to reflect on any related concerns the student would like to add.

The items of all sections were highlighted from the grade 10, 11 and grade 12 health education student's books. Based on the learning outcomes of each chapter, the contents were categorized into knowledge, practices and dispositions. While developing the statements of the questionnaire, the researcher avoided the use of any medical terms or abbreviations. However, simple language and easily understood words were used. As Etikan and Bala (2017) recommended that the questionnaire should include themes that are clear and short. And the two authors revealed that low number of responses in some research studies is due to the lack of understanding of the questions. It is noteworthy that the researcher was involved in the development and implementation of the HE curriculum in the schools. So, he is having a good understanding of the area of the study and is familiar with the environment where the questionnaire is administered; as per Etikan and Bala (2017) these are vital to elicit good responses from participants. It can add that, students are familiar with the questionnaire's statements as they are extracted from the books in their HE curriculum.

3.6.2. Validity

After the initial development of the questionnaire's statements, the validity of its contents was carried out. Roopa and Rani (2012) explained validity as a procedure that is applied to assess the degree the research questionnaire is measuring what it is intended to measure, and that content validity as a means that represents the concept under investigation, and it is

usually done by experts in the field. So the researcher seeks the opinions of two professionals in the field of health education. In the process of content validity, the researcher applied the principles of the Question Appraisal System (QAS-99) (Lessler 1999). Lessler (1999) provided the QAS-99 as a tool that is used to evaluate the quality of the questionnaire and to guide its revision. The QAS-99 provides a checklist that is composed of eight steps: (1) reading; (2) instructions; (3) clarity; (4) assumptions; (5) knowledge or memory; (6) sensitivity or bias; (7) response; and (8) other factors. Through these steps the researcher and the two HE professionals revised the questionnaire, and then they referred to the QAS-99 user's manual for suggestions to correct the identified issues. Recommendations and related modifications were applied on the questionnaire accordingly until the agreement of the experts is obtained.

3.6.3. Pilot Study

A pilot study is a sample study that is considered an initial step in the preparation for the main study (Johnson & Christensen 2012). Roopa and Rani (2012) recommended that to decide on the final format of the instrument, it should be presented to five to ten percent of the final sample size. So the researcher presented the questionnaire to twenty eight secondary school students who share the same characteristics of the study's targeted population. It was communicated to them the purpose behind this procedure that is to assess understanding, clarity and readability of the questionnaire items. Fifteen to twenty minutes was the average time taken by participants to complete the questionnaire. Students' feedback was positive in terms of clear and easy to complete statements.

3.6.4. Reliability

A reliability test was conducted to identify the stability and consistency of the results (Johnson & Christensen 2014). Fraenkel, Wallen and Hyun (2014) stated that when questionnaires provide an option for the respondent to be anonymous, the findings are more reliable, they encourage participants to respond and to be honest. The questionnaire of this study was designed to offer that option for the respondent to be anonymous. As well as that, the Cronbach's Alpha test was used to show the reliability and the level of consistency between the 28 students' responses and the entire questionnaire's scale of probe and intentions (Cohen, Manion & Morrison 2007). The interpretation of the Cronbach's Alpha is considered very highly reliable if it is > 0.9 , it is highly reliable if it is 0.80-0.90, it is reliable if it is 0.70-0.79, it is marginally reliable if it is 0.60-0.69, and it is unacceptable if it is < 0.60 (Cohen, Manion & Morrison 2007). The reliability test result among the 28 students' responses and the entire twenty-eight items on the questionnaire equaled 0.912. This indicates that the questionnaire items are very highly reliable.

3.6.5. Interviews

Researchers commonly use interview techniques to collect qualitative data (Alshenqeeti 2014). Interviews are conducted to explore participant's perspectives on a specific situation, idea, or program (Patton 2015) and they are well known in health related disciplines (Bolderston 2012). Interviews are selected as data collection tool as it was recognized that they have the advantage of being thought-provoking and motivating. In addition, interviews support the researcher to explore different perspectives among the study's students that are sharing the same selection criteria (Creswell 2014). They are also capable of producing the

in-depth and rich data required as they allow the participating students to open up through narrative styles (Creswell 2014). Also, interviews are methods that provide participants room to express their story behind an experience (McNamara 1999). This leads the researcher to have a deep understanding about the experiences and processes that shaped the student's present lives (Creswell 2014).

During interviews, the researcher asks questions to the interviewees to obtain answers and consequently information on a certain phenomenon under investigation (Cresswell 2014). To attain detailed information about a topic, Creswell (2014) recommended that the researcher should include open-ended questions, as close-ended questions demand yes or no answers and if they are not constructed properly, they may lead the participant's answers. If closed-ended questions are formulated properly, then they should be followed by 'how' and 'why' questions, so the researcher gives chances to participants to elaborate on their experiences. Other scholars in qualitative research have recommended other resources to have quality interviews such as the appropriate selection of participants and obtaining access to them (Seidman 2013), trust and rapport building (Rubin & Rubin 2012), the clarity, the order and the quality of questions (Patton 2015), and the interview conducting process (Brinkmann & Kvale 2015). McNamara (1999) added that the interviewer's knowledge about the subject under investigation plays a vital role to probe on participant's answers and to understand the meaning behind these answers.

The research revealed four types of interviews that are frequently implemented in social sciences. The first type is the structured interview. The structured format includes pre-prepared direct questions. For each question there are a number of responses that allow the participants to choose from, or the questions can be only answered with "yes" or "no". In this

type of interview, the interviewer and the interviewees are limited with the questions and the responses to present their opinions (Alshenqeeti 2014). Then, at a next stage, these responses can be easily collected and analyzed (Bells & Waters 2014). The second type is the unstructured interview. This type allows the complete freedom and flexibility for both the interviewer and the interviewees. They are both involved in the content of the interview and its questions, and also in the planning and implementation stages of the interview (Alshenqeeti 2014). Therefore, in this type of interviews, the researcher is not preparing the questions; however, they are spontaneous, as more questions are elicited from participant's responses. Surbhi (2017) has recommended for researchers who are willing to use this type of interviews they should be familiar with the discussed subject and equipped with deep knowledge and skills, so more meaningful and in-depth information can be obtained from participants. The third type is the semi-structured interview. It is a more flexible version of the structured interview as it allows the interviewer to expand and probe on responses. In this type of interviews the researcher is using a checklist to keep parameters and trace the areas to cover in congruence with the objectives of the study. The fourth type is the focus group interviewing. In this type, the interviewees are selected as a purposive sampling from a certain population to focus on a specific topic (Alshenqeeti 2014).

The widely used interview format in the health research is the semi-structured interviews (Jamshed 2014), and this is the format that is used in this study. Semi-structured interviews support the researcher of the present study to have responses from students about the implemented HE program and help to obtain more details and explanation of elicited ideas whenever more explanation is needed. The in-depth semi-structured interview contained previously prepared open-ended questions that were utilized during the interviews with

participated students (Corbin & Strauss 2008). Creswell (2014) recommended the use of open-ended questions as they are mainly qualitative. Adams (2015) clarified that most of the semi-structured interviews are “a blend of closed- and open-ended questions”, where the closed ended questions followed by extended probing queries. Adams (2015) pointed out that in some interviews close-ended questions can be “idea gateways to open-ended probing”. Also, this type of interviews is ideal for program recipients (Adams 2015), which is the case in the study.

Jones et al. (2014) highlighted that the researcher can procure a rich data bank if interview questions were well developed and constructed in a way that is consistence with research questions. Accordingly, during the planning, development and implementing of the interviews of the current study, the researcher followed the interview protocol refinement (IPR) framework recommended by Castillo-Montoya (2016). The IPR framework (Figure 3.1) provided a framework for systemic development and refining of an interview before it is conducted. It is a practical approach to develop initial strong interview that enables the researcher to produce “rich, focused, meaningful data that captures the experiences of participants” (Castillo-Montoya 2016, p. 812). As per Castillo-Montoya (2016), it is a method that can be used in qualitative research for refining structured or semi-structured interviews – that is applicable to this study – to reinforce the interview protocol’s reliability and to improve the quality of the data obtained. Furthermore, it provides a shared language for specifying the demanding steps needed to develop an interview and to ensure its consistency with the study (Jones, Torres, & Arminio 2014).

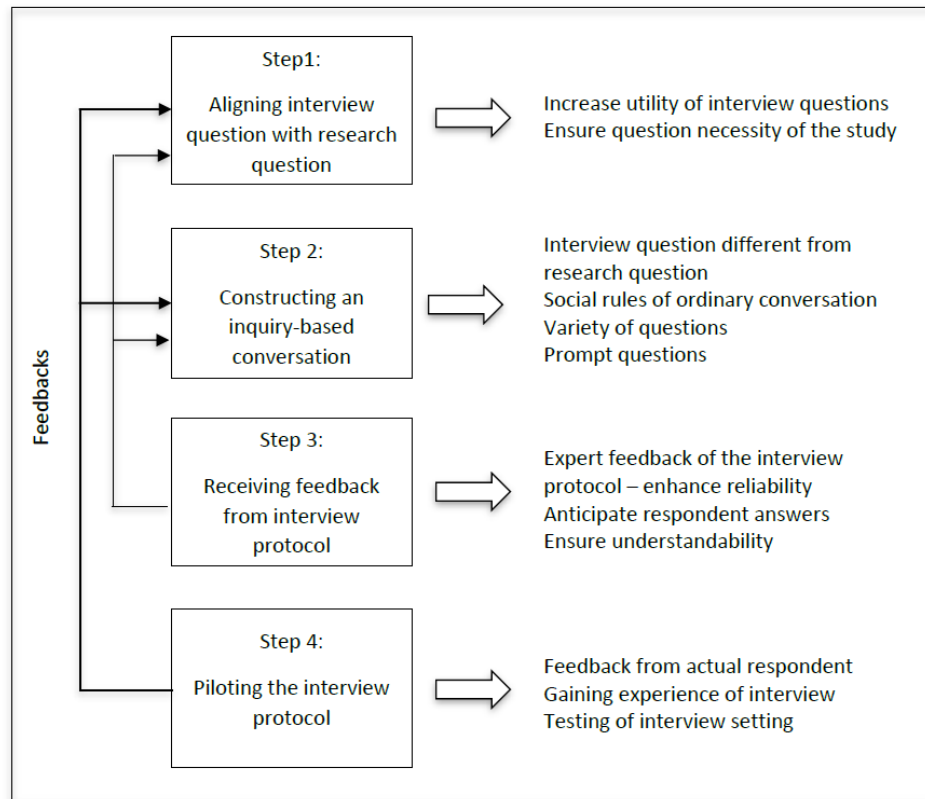


Figure 3.1: The process of interview protocol refinement
(Adapted from Yeong et al. 2018, p. 2702)

The researcher followed the process of the IPR framework that is comprised of four phases. First phase the researcher ensured the alignment of the interview questions with the research questions (Castillo-Montoya 2016) to obtain an understanding of the meaning behind the participants' experiences (Seidman 2013). However, the researcher did not use directly the same research questions as the interview questions; however, the researcher was aware and careful about the context of the interview questions that probed the needed contents of participants' experiences to serve the purpose of the study (Castillo-Montoya 2016). These questions were asked by the researcher in the middle of the interview after rapport building with the participants (Rubin & Rubin 2012). The second phase of the IPR framework includes

the construction of conversation that is inquiry-based conversation (Castillo-Montoya 2016). The interview questions were inquiry based (Patton 2015) in a manner to inquire about students' responses regarding the HE program. This phase comprised four important elements: A) interview questions written differently from the research questions; B) an organization following social rules of ordinary conversation; C) a variety of questions; D) a script with likely follow-up and prompt questions (Castillo-Montoya 2016, p. 813).

- A) The research questions were formulated differently from the research questions in a way that enabled the researcher to gain understanding of the participant's experiences. Moreover, one question at a time has been asked and bulk of questions were avoided (Patton 2015). It can be noticed that the interview questions provided in the interview guide were formulated to elicit one response at a time.
- B) The researcher asked questions the participants were able to answer. As the research study focused on HE that was a subject the secondary students were familiar with, the students were able to answer and respond. Also, the researcher followed the social rules while conducting the interview. For examples, avoiding interruption of participants when they were speaking, displaying attention and listening skills by nodding or using other gestures and expressing gratitude (Rubin & Rubin 2012).
- C) Researcher used a variety of questions. These included (1) introductory questions that helped the researcher to easily start the interview and were respondent-friendly to support the smooth flow of the interviews. This type of questions was used at the beginning of the interviews as it helped the researcher to initiate rapport with participants. (2) Transition questions supported the researcher to move forward with the conversation toward the key questions. The use of this type of questions was so

vital when the researcher wanted to move from one topic to another. The researcher used a strategy of close-ended questions and then probed on responses accordingly.

(3) Key questions were the core questions of the interviews as these are the main questions used to gain the understanding needed to answer the research questions. (4) The closing questions were used at the end of the interview to give the participants the opportunity to reflect or add any information that they considered important to be included but not being asked about.

D) The researcher wrote a guide and used it during the interview. The guide included notes to participants to be used at the beginning and at the end of the interview, and information about the purpose of the study. It also supported the researcher to move easily from one topic to another. The researcher of this study ensured the flow of the study's interview guide in a manner that followed and covered the needed specific areas, and through the use of the mentioned types of questions.

During the interview development phase, the third stage of the IPR framework was implemented. The researcher received feedback on the interview protocol. The researcher aimed to have feedback on the interview to augment its reliability as a research instrument. Also, it provided the researcher with information about the participants' understanding of the interview questions and about how much this understanding was close to what the researcher expects (Patton 2015).

The fourth and final phase covered the process of interview protocol piloting. After going through the previous phases where the researcher aligned the interview questions with the research questions, formulate an inquiry based questions, and received feedback on the questions for clarity. The fourth phase was the phase to pilot these questions by presenting

them to a sample of participants who meet the criteria of those of the actual participants of the study (Maxwell 2013). The researcher conducted the pilot interview with seven secondary school students who meet the selection criteria. This is to assess their understanding of what the researcher is aiming to measure by every question. After that, modifications have been done as necessary. The final review of the interview questions happened at this phase. Then, the researcher's interview instrument was ready to be carried out on the study's participants (Castillo-Montoya 2016).

While conducting the interviews of the present study, the researcher of this study relies on the Drake's Know, Do and Be (KDB) model (2010) to obtain data that answers the research question (2): What responses do public secondary students have regarding HE program in Al Ain City? The "Know" focuses on the concepts the students must know in the HE subject. Whereas, the "Do" concentrates on the skills the students learned to be able to utilize the learned knowledge. Finally, the "Be" reflects the influences of the health education on students' character, personal growth, values and attitudes. Additionally, the researcher implemented principles of the semi-structured interviews. One of these principles recommended by Adams (2015), the researcher of the present study drafted, edited, tested and refined the interview guide before implementation. This was done following the IPR framework allowing the researcher more time to focus on conducting the interview and have responses on the topics under study. Another important principle was that the researcher avoided a long agenda. During the revision process, the researcher decided on the essential topics that are having priority and highlighted them; however, the other less critical ones could be discussed if interview time permits. Also, during the revision process, the researcher omitted any simple questions or facts which answers can be obtained from documents or

published materials (Adams 2015). Another key principle that the researcher followed while conducting the interviews was that he/she assured participants of confidentiality, and informed them that their responses were the only concerned part in the study and not them as individuals. Also, the researcher reiterated the informed consent on participation of the students' participants. After introductions, the researcher used related and simple questions to reassure and elicit the comfort of the participants and prepare them for more detailed and complex questions. During this step, the researcher started to build trust to allow free flow and sharing of information. The step after was a continuity of the previous where the dialogue continues and where participants were talking about their own stories and perspectives using their own ideas and meanings. Another principle was that during the interview the participants and the researcher were engaged in a formal conversation. It comprised the in-depth detailed responses that were at the core of the interview objectives. The researcher used a pre-developed guide that included a list of properly ordered topics and questions that should be covered during the process of conduction of the interview (Appendix 2) (Kabir 2016). During the interview, the researcher accommodated different discussions from what was prepared; if they feel that it will support the topic under study. Another main principle and as participants of this study who did not prefer to be tape-recorded, the researcher assigned a note-taker; this allowed the researcher to be well-prepared and to initiate rapport with the participants (Kabir 2016). In addition to that, during the interview the researcher demonstrated the interpersonal skills such as communicating questioning techniques and listening skills (Creswell 2013). While conducting the interviews, the researcher was aware about the importance of selecting the specific words while asking questions, that the wording was simple and not complicated (Adams 2015). As the participants in this study are secondary school students, the researcher thoughtfully considered not to use any

sophisticated words or medical terms during the interviews. This is to make it less stressful and easier for the participants to respond and to share information and experience needed to meet the objectives of the study. The researcher’s main objective was to establish a rapport of trust, take field notes, and implement less structured style by the use of open-ended questions (Creswell 2013). At the end of the interviews, the researcher allowed participants to reflect on their own experiences that they see are relevant to the aim of the study and not being asked about. When the researcher obtained the required responses, it was the time to wrap up and thank the student participants for the valued participation in the interview.

3.7. Data Analysis and Procedures

The current study is designed to implement the concurrent mixed method to collect data. In concurrent mixed method, quantitative and qualitative data collection process is carried out simultaneously with the same priority (Creswell 2014). So the data collection, data analysis and interpretation processes of the qualitative and quantitative methods are taking place in parallel manner. When the results of both methods are at hand, they are integrated to address the main purpose of the study (Figure 3.2).

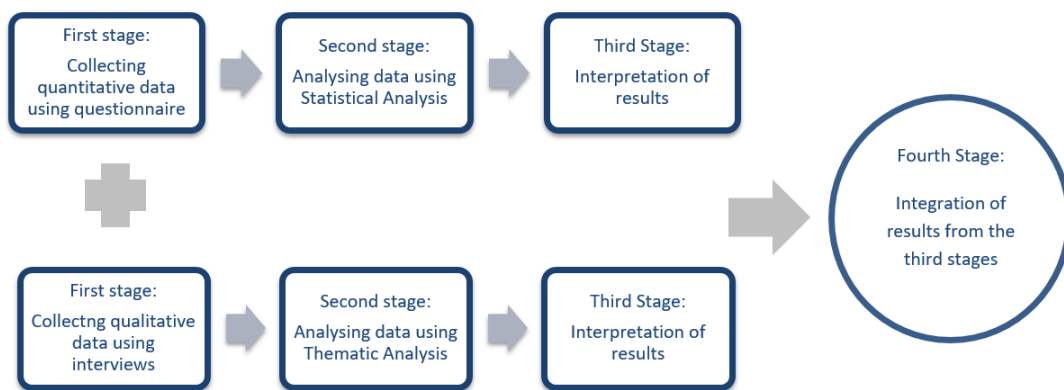


Figure 3.2: The process of data collection and data analysis.

The researcher used the questionnaire for collecting the quantitative data. As previously discussed, the principles of evidence based practice questionnaire competencies (Martinez et al. 2013) and the Question Appraisal System (QAS-99) (Lessler 1999) were followed to assess the questionnaire's validity. When the questionnaire was ready to be used, it was distributed to the population sample. Statistical analysis method using Statistical Package for Social Sciences (SPSS) software (version 23.0) was used to analyze data collected by the quantitative data collection tool (questionnaire). The researcher selected this statistical method as it can provide an in-depth statistical analysis without the need of advanced technical skills. This software was used to facilitate the display of frequencies, cross tabulation and density charts (Cronk 2016). According to Greene (2007), data analysis starts with filtering of the data through which invalid responses are excluded. The second step is extracting the descriptive analysis from the raw data, then the transformation of data is followed through which data consolidation or merging is taking place. The fourth step is data comparison through which the researcher is looking for patterns and using the analysis results to inform the analysis of another data set. The Statistical Package for Social Sciences (SPSS) statistics version 23.0 is used to carry out descriptive statistical test. The descriptive data analysis is presented using the frequency, percentage, mean, and standard deviation.

At the same time, the researcher used interviews for collecting the qualitative data. The interview questions guide was prepared and piloted as per the Interview Protocol Refinement (IPR) framework recommended by Castillo-Montoya (2016). Thematic analysis method was deemed the most appropriate for data analysis of the qualitative data collection tools in this study. The framework method is now widely used in health related research studies (Jones 2000; Thomas et al. 2003), and it is most appropriate for interview data analysis (Gale et al.

2013). This method has been selected as it conserves main principles that are important to the area of review (Thomas & Harden 2008), identifies the main recurrent themes, and endorses participants' knowledge and practices (Thomas et al. 2007). The reporting patterns are the identified themes of data analysis (Braun & Clarke 2006; Miles & Huberman 1994). The following steps were followed by the researcher to originate themes from the obtained data: familiarization, coding, theme development, charting, and mapping and Interpretation. The themes constitute an integration of all the components of the discussion that take place during the interviews.

After the third stage of data interpretation of each method, the integration of results was followed. At this stage, the resulted data were presented and integrated to best answer the research questions, where the researcher was able to gain a complete and in-depth understanding of the research problem from the obtained responses.

3.8. Ethical Considerations

Prior to conduct the data collection procedure, the initial approval was obtained from the Ethics Advisory Committee of the British University in Dubai (Appendix 3). Then, the approval to carry out the study was sought from the research department at the Abu Dhabi Education and Knowledge Department (ADEK) (Appendix 4). The researcher provided the research department with a copy of the study's proposal, consent forms, the questionnaire, interview questions, and the time plan. After gaining the official approval, participation consent forms (Appendix 5) were provided to the school principals along with the approval form signed by the ADEK Research Department Officer. So the approval to access the research site was granted. The participants also have been provided with an explanation about the purpose of the study. They were also assured that anonymity and confidentiality will be

strictly followed. Participants were provided with information that their participation in the data collection process is totally voluntary and that they can withdraw at any time without any penalty, or any social, financial or psychological harm. In addition, the expected implications of the study to the field of health education were also explained. Also participants were provided with opportunity to inquire about any research related aspect. Finally, one of the important ethical considerations for a researcher is the presentation of the data obtained in an objective manner without any interference or manipulation.

3.9. Summary of the Study Methodology

The philosophical approach that underpinned this research study was the pragmatic approach as its main philosophical approach that served best the research problem under investigation. Moreover, it is strongly linked to the theoretical framework's components of this study. As the process of change to better healthful practices starts with a person's acceptance of this change, followed by attempts to modify false beliefs, then it is interpreted by one's actions and behaviours that reflect the change. The researcher of the study employed the convergent type of mixed method design to obtain different but complementary data from quantitative and qualitative data collection methods. So the quantitative data provided the statistical results to answer the research questions and the qualitative part of the study provided the students with opportunities to reflect and share their experiences allowing the researcher to explore meanings and insights. On the other hand, as the HE program was implemented in female schools only, the female public secondary schools were considered the ideal site for the study. Participants who were included in the study were students sharing the same characteristics. These were students in their last year of schooling, i.e. grade 12; as at this stage the health education curriculum was completely delivered to them. The total number of

grade 12 students in the public secondary schools in Al Ain education zone was 1880 (MoE 2018). For the quantitative part of the study, the researcher considered a sample of approximately 188 (10 % of the population) as an adequate sample size (Muijs 2011). The number of students who were recruited was 258 students (n=258) indicating adequate sampling size to investigate students' perceptions regarding the HE program. For the qualitative part of the study, the sample selected was five homogenous groups to form n=32. Johnson and Christensen (2014) recommended that a small homogenous group of six or seven participants to gain an in-depth understanding is adequate, indicating that the size of the sample is adequate to obtain an in-depth understanding of students' responses regarding the HE program. The instruments employed were students' questionnaire and in-depth semi-structured interviews. The questionnaire of this study was developed based on the principles of evidence based practice (Ruzafa-Martinez et al. 2013). To ensure validity of the questionnaire, the researcher sought the opinions of two professionals in the field of health education. In the process of content validity, the researcher applied the principles of the Question Appraisal System (QAS-99) (Lessler 1999). In order to assess understanding, clarity and readability of the questionnaire items, it was piloted at twenty-eight secondary school students who share the same characteristics of the study's targeted population. The reliability test result among the 28 students' responses and the entire twenty-eight questionnaire's items equaled 0.912. This indicated that the questionnaire items were very highly reliable. During the planning, development and implementing of the interviews of the current study, the researcher followed the interview protocol refinement (IPR) framework recommended by Castillo-Montoya (2016) and the Drake's Know, Do and Be (KDB) model. Statistical analysis method using SPSS software (version 23.0) was used to analyze data collected by the quantitative data collection tool (questionnaire) and thematic analysis

method was used for data analysis of the qualitative data collection tools in this study. Prior to conduct the data collection procedure, the initial approval was obtained from the Ethics Advisory Committee of the British University in Dubai (Appendix 3). Then, the approval to carry out the study was sought from the research department at the Abu Dhabi Education and Knowledge Department (ADEK) (Appendix 4). Also, participants have been provided with explanation about the purpose of the study. They were also assured with anonymity and confidentiality. Finally, the researcher presented the data obtained in an objective manner without any interference or manipulation.

Chapter Four: Data Analysis and Results

The main purpose of the study was to investigate students' perceptions of the newly implemented health education program in the public secondary schools in Al Ain City. To be able to answer the research questions, concurrent mixed methods research approach is used. Thus, the data were collected using quantitative and qualitative tools: student questionnaire and student semi-structured interviews. The main focus of this chapter is to present the results of analyzed data. The data collection processes are carried out simultaneously. So, the analysis of each data set will be done separately, and then, it is integrated. The following sections present the analysis of quantitative questionnaire data, analysis of qualitative data and integrated analysis and results.

4.1. Analysis of Quantitative Questionnaire Data

The focus of the students' questionnaire is to address the first two research questions of the study: 1). To what extent do demographics variables affect students' perceptions of health education? 3). What perceptions do public secondary students have regarding HE program in Al Ain City? There were 258 students participated in the study. All participants are female students from four secondary public schools within the city of Al Ain, Emirate of Abu Dhabi, in the United Arab Emirates. The five steps of data analysis process were followed as recommended by Greene (2007). According to Greene (2007), data analysis starts with filtering of the data through which invalid responses are excluded. The second step is extracting the descriptive analysis from the raw data, then the transformation of data is followed through which data consolidation or merging is taking place. The fourth step is data comparison through which the researcher is looking for patterns and using the analysis results

to inform the analysis of another data set. The Statistical Package for Social Sciences (SPSS) statistics version 23.0 is used to carry out descriptive statistical test. The descriptive data analysis is presented using the frequency, percentage, mean, and standard deviation. The following sections display the result of the analyzed data in the subsequent sequence: analysis of the demographic data, reliabilities, descriptive statistics results & factor analysis, questionnaire cluster analysis of the three concepts of HE and correlations. Additionally, the analysis of each section of the questionnaire is also presented, namely: the analysis of knowledge questions, analysis of skills questions, analysis of dispositions questions and analysis of the teachers' questions.

4.1.1. Analysis of Demographic Data

The focus of this section is to present the demographic data of the questionnaire that is carried out on female students in secondary public schools in Al Ain City in the United Arab Emirates. The study's questionnaire was given to students who decided to participate in this study (N=258). The demographic data aimed to inform on age, nationality, and school grades through which the students learned the health education subject.

Age per year	Number of students	Percentages
16	75	29.1 %
17	138	53.5 %
18	28	10.9 %
19	8	3.1 %
20	1	0.4 %
	Total: 250	96.9 %
---	8	3.1 %
	Total: 258	100 %

Table 4.1: Distribution of students according to age.

Table 4.1 represents the distribution of students according to their age. In response to the demographic item inquires about the age, 250 (96.9%) among the 258 students provided a response, however, 8 (3.1%) did not. One of the responding students (0.4%) is at the age of

twenty, 8 (3.1 %) are at the age of 19. The remaining responses indicated that students are receiving their secondary education and specifically the HE program when they are at 16, 17 or 18 of age. The collected data reflected that the higher percentage of students at this stage of their education are at their 17 (n=138, 53.5%). The second higher percentage is the age of 16 (n=75, 29.1%). The remaining twenty-eight students (10.9 %) are at their 18 years of age.

Nationality	Number of students	Percentages
Egypt	1	0.4 %
KSA	1	0.4 %
Oman	12	4.7 %
Palest	1	0.4 %
Sudan	3	1.2 %
Syrian	1	0.4 %
UAE	222	86 %
Yemen	5	1.9 %
---	12	4.7 %
Total	258	100 %

Table 4.2: Distribution of students according to their nationalities

In regard to the demographic question about nationalities, displayed in Table 4.2, data collected shows that 246 (95.7%) responded and 12 (4.7 %) students did not fill in this inquiry. The analysis illustrates that the majority of participants are United Arab Emirates nationals that counts for 222 (86%). The data collected and presented in Table 4.2 clearly showing that the other nationalities percentages are sharply declined, such as 12 (4.7 %) students are Omani, 5 (1.9 %) are Yemeni students, and 3 (1.2 %) are Sudanese students. The minority of the participants are nationals from: Egypt, the Kingdom of Saudi Arabia, Palestine, and Syria. This counts for one student (0.4 %) of each mentioned nationality.

Number of years	Number of students	Percentages
1.0	11	4.3 %
2.0	19	7.4 %
3.0	148	57.4 %
4.0	11	4.3 %
5.0	1	0.4 %
6.0	6	2.3 %
7.0	36	14.0 %
12.0	2	0.8 %
	Total:234	90.7 %
---	24	9.3 %
	Total: 258	100 %

Table 4.3: Distribution of students according to the number of years spent in the current school

Among the 258 participants, 234 (90.7 %) answered the question inquiring about the number of years spent in the current school where health education program is implemented, and 24 (9.3 %) did not provide a response. As shown in Table 4.3, more than half of the students' responses, 148 (57.4%), reflected that they were studying in the same school for three years, 36 (14 %) stated that they spent seven years in their current school, 19 (7.4 %) have been for two years, 11 (4.3 %) indicated that they were in the same school for one and four years, 6 (2.3 %) for six years, 2 (0.8 %) for twelve years and 1(0.4 %) student mentioned that she has been in the same school for five years.

	Grade 10		Grade 11		Grade 12	
Number of students	238 (92.2 %)	√	243 (94.2 %)	√	244 (94.6 %)	√
	20 (7.8 %)	---	15 (5.8 %)	---	14 (5.4 %)	---
Total	258		258		258	

Table 4.4: Distribution of students according to the school years they learned the HE.

Table 4.4 presents the 258 participants' responses to the question inquiring about the grades they received in HE, the responses reflect that they have learned the subject in their Year 10, 11 and 12. However, Grades 11 and 12 record almost the same high percentages. 243 (94.2 %) students from grade 11 and 244 (94.6%) students from grade 12 confirmed their

responses. The responses from the Grade 10s are fewer as they count for 238 (92.2 %) out of the 258 students.

Those participants who did not provide a response to this question are as follows; for grade 10, 20 (7.8 %) students, for grade 11, 15 (5.8 %) students, for grade 12, 14(5.4 %) students. There were no respondents from Grade 13.

4.1.2. Reliability

A reliability test was conducted to identify the stability and consistency of the results (Johnson & Christensen 2014). Fraenkel, Wallen and Hyun (2014) added that when questionnaires offer anonymity of the respondent and reliability, they encourage participants to respond and to be honest. The questionnaire of this study was designed to be anonymous. As well as, the Cronbach's Alpha test was used to show the reliability and the level of consistency between the 258 students' responses and all the questions in the questionnaire (Cohen, Manion & Morrison 2007). The interpretation of the Cronbach's Alpha is considered very highly reliable if it is > 0.9 , it is highly reliable if it is 0.80-0.90, it is reliable if it is 0.70-0.79, it is marginally reliable if it is 0.60-0.69, and it is unacceptable if it is <0.60 (Cohen, Manion & Morrison 2007). The reliability test result among the students' responses and the entire twenty-eight questions equaled to 0.917. This indicates that the questions are highly reliable (Table 4.5).

Reliability Statistics	
Cronbach's Alpha	N of Items
.917	28

Table 4.5: Overall Reliability Test Result of Students' Questionnaire.

Additionally, the Cronbach's Alpha tests were conducted to show the reliability among the 258 students' responses for every section of the questionnaire. The reliability test result

among the students' responses and the seven questions/items in the knowledge section is 0.698. This shows that the knowledge section is marginally reliable. The reliability test for the skills section, that involves ten questions/items, is 0.849. This conveys that the skills section is reliable. The same reliable results are that of the dispositions (six items) and teachers' sections (five questions/items) as their reliability test results are 0.852 and 0.866 respectively. Thus, the different sections of the questionnaire are reliable (Table 4.6). It can be concluded that the questionnaire is a reliable tool to measure students' perceptions of the health education program in the public secondary schools in the UAE

Reliability Statistics		
Questionnaire's section	Cronbach's Alpha	N of Items
Knowledge	.698	7
Skills	.849	10
Dispositions	.852	6
Teacher	.866	5

Table 4.6: Reliability Result of the Questionnaire's Sections

For the researcher to be able to identify if the questionnaire's items are truly addressing the study's concepts, factor analysis is conducted. Factor analysis detects arrangements and commonalities between the questionnaire's items. To ensure reliability of the students' questionnaire, the KaiserMeyer-Olkin (KMO) test, Bartlett's test of sphericity and the correlation coefficient were conducted. The KMO test should be at 0.6 or above, Bartlett's test of sphericity must be significant; that is <0.05 , and the correlation coefficient should be 0.05 or higher (Cohen, Manion & Morrison 2007). As shown in Table 4.7, the KMO is 0.912 and Bartlett's test of sphericity is zero ($p<0.05$). This indicates the adequacy of the sample size and the significance of the questionnaire's items. Also, the correlation coefficient shows high level of correlation as it is more than 0.05 (Appendix 6) among all items in the questionnaire.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.912
Bartlett's Test of Sphericity	Approx. Chi-Square	3436.297
	df	378
	Sig.	0.000

Table 4.7: KaiserMeyer-Olkin and Bartlett's Test Results

In order to find out if any of the students' questionnaire items is to be excluded, communality values are calculated for all questionnaires' items. The communality of variables describes to what extent every item of the questionnaire is correlated with the other items (Leimeister 2010).

According to Kusmana & Sukwika (2018), the "higher is the communalities value (greater than 0.5 or near to 1), the tighter relationship between the variable with the established factors will be" (p. 911). It can be found that all communality values for the questionnaire items are between 0.5 and 0.8 (Appendix 7). Therefore, there is loading for every item in the questionnaire and no items to be excluded.

4.1.3. Descriptive Statistical Results

This section illustrates the descriptive statistical results to show students' responses on each demographic data against the overall items of the questionnaire. Descriptive statistics is employed to present and describe data (Cohen, Manion and Morrison 2007). Also, it helps the researcher to describe the relationships between variables in the study's population by summarizing them in a structured manner (Kaur, Stoltzfus & Yellapu 2018). As mentioned earlier, the participants of this study are grade 12 students' from governmental secondary schools in Al Ain city in the UAE.

Age is a demographic data that was included in the first section of the questionnaire. Table 4.8 shows that 247 (53.1 %) out of the 258 students' participants responded to all the items in the questionnaire including the demographic question about their age. Analysis displays that the overall mean is 3.69 ± 0.75 . It also shows that the students' responses indicated that their age range is between 16 and 20 years. The highest percentage of participants' responses states that they are at 17 years of age (N= 137, 55.5 %, Mean = 3.6, SD = 0.776). The next highest percentage is that of students at the age of 16 (N = 73, 29.5 %, Mean = 3.86, SD = 0.61). The lowest percentage is that for students that are eighteen years and above (N=37, 14.9 %, Mean = 3.39, SD = 0.123). It can be observed that more than half of the students' participants who shared their perceptions to the whole questionnaire items when receiving their health education in schools are at the age of 17.

	Age	Average_Overall
16 years	N	73 (29.5 %)
	Mean	3.8645
	Std. Deviation	.61027
17 years	N	137 (55.5 %)
	Mean	3.6911
	Std. Deviation	.77626
> 18 years	N	37
	Mean	3.392 (14.9 %)
	Std. Deviation	0.1236
	Min.	18 years
	Max.	20 years
Total	N	247 (53.1 %)
	Mean	3.6891
	Std. Deviation	.75339
	Min.	16 years
	Max.	20 years

Table 4.8: Descriptive statistics of student age

Another demographic data, that was included in the questionnaire, is the school grade level through which the students learned the HE. Analysis shows that 210 (81.4 %) out of the 258 participants responded fully to the questionnaire statements (Table 4.9). The analysis of

students' responses also displays that 204 (97.1%) among the 210 have learned Health Education in grades 10, 11 and 12. The same percentage is that for students who learned HE in their grade 11. 209 (99.5 %) out of the 210 responses stated that they received a HE grade in Year 11 and 12. The data reveals that only one student (210 – 209) did HE in Year 12. Among the 210 participants, 205 (97.6 %) reported that they did HE in Year 10 as well. It can be concluded that 5 (210 – 205) out of the 210 participants did not learn about HE in their school when they were in Grade 10. The analysis also showed that all the participants (N = 210, 100 %) learned HE while they were in Grade 12, and provided responses to the whole questionnaire items.

Year Grade	Grade 10	Grade 11	Grade 12	Grades 11+12	Grades 10+11+12	Overall Total
N	205	204	210	209	204	210
Percentage	97.6 %	97.1 %	100 %	99.5 %	97.1 %	100 %

Table 4.9: Descriptive statistics of students' grade levels

When responding to the demographic question about nationalities, the analysis (Table 4.10) illustrated that there are 243 (94.18 %) out of the 258 students' participants responded to the whole questionnaire items. 219 (90.12 %) among the 243 are Emirati students and provided responses to all items of the questionnaire. However, the non-Emirati students' responses account for 24 (9.87 %) out of the 243 participants. It can be noticed that the majority of students' participants are Emiratis who provided responses to all questions/items in the questionnaire.

Nationality	Emirati	Non-Emirati	Total
N	219	24	243
percentage	90.12 %	9.87 %	100 %

Table 4.10: Descriptive statistics of students' nationalities

The descriptive statistical results support the researcher to further describe and organize the collected data. Moreover, it facilitates to obtain an understanding of the relationships of students' participants responses of the demographic data and their responses to the questionnaire as a whole. It can be concluded that more than half of the student participants who shared their perceptions to the whole questionnaire when receiving their health education in schools are at the age of 17. The analysis also showed that all participants learned HE while they are in Grade 12. It revealed that the majority of the student participants are Emirati.

4.1.4. Analysis of Knowledge Questions

The focus of this section is to present the distribution of data on the students' HE knowledge during their learning. The data has been collected by the questionnaire that was filled by students in secondary public schools in Al Ain City in the United Arab Emirates. Section two of the questionnaire includes seven statements that inquire about the knowledge the students obtained during their learning of the health education subject. The related statements start with "Learning of Health Education helps me to know" about the following concepts: communicable diseases and their causes, non-communicable diseases and their causes, medical terminology, basics of first aid and cardiopulmonary resuscitation (CPR), healthy eating, benefits of physical activities and healthcare services. Every statement will be presented with its related analyzed data as per the data collected from the participated students.

In all questionnaires' statements every student has the option to mark one of the provided 5-point Likert-type scale ranging from "strongly disagree" to "strongly agree". Each statement

was scored from 1 to 5: 1 for strongly disagree, 2 for disagree, 3 for neither agree nor disagree, 4 for agree and 5 for strongly agree.

Communicable Diseases and Their Causes

Table 4.11 reflects the students' responses on the questionnaire statement that enquires about the knowledge the students gained when learning about the communicable diseases and their causes. Among the 258 students who participated in the study, a significant majority that counts for 253 (98.1 %, Mean= 3.9, SD = 1.167) have returned the questionnaire with a response, however, a very small portion of (n=5, 1.9 %) of students did not provide a response on this statement. The responses reflect that 100 (38.8 %) students strongly agreed that they gained the knowledge related to the communicable diseases and their causes through their learning in HE. Less number of 75 (29.1 %) agreed, 45 (17.8 %) conveyed neutral responses. On the other hand, 19 (7.4 %) students disagreed and 14 (5.4 %) strongly disagreed with the statement. It is found that two-thirds of the participating students, 175 (67.8 %), have responded by either agree or strongly agree with the related statement. In other words, at least two-third of the participants gained the essential health education knowledge about communicable diseases and their causes from school.

Responses	Number of students	Percentages
SD	14	5.4 %
D	19	7.4 %
N	45	17.4 %
A	75	29.1 %
SA	100	38.8 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100.0 %

Table 4.11: Distribution of data on the knowledge of communicable diseases and their causes

Non-Communicable Diseases and Their Causes

The second statement of the knowledge section is inquiring about the non-communicable diseases and their causes. Table 4.12 indicates that out of 258 participants, 253 (98.1 %, Mean=3.8, SD = 1.28) have provided responses to this item, and an insignificant minority (n=5, 1.9 %) of students did not. The higher percentage of the responses is for 'strongly agree' that is 36.8 % of the participants (n=95), and a bit lesser percentage is for the agree option that is 27.1 % (n=70). Disagree and neutral responses share nearly the same percentages that is 13.2 % and 14 % (n=34 and n=36) respectively. The lowest percentage is for the 'strongly disagree' option that is 7 % (n=18). It can be well highlighted that the sum of percentages of responses for the 'agree' and 'strongly agree' (63.9 %, n=165) is higher than that of 'disagree' and 'strongly disagree' (20.2 %, n=52). Consequently, the knowledge about the non-communicable diseases is mainly being learned by the students through the health education subject.

Responses	Number of students	Percentages
SD	18	7 %
D	34	13.2 %
N	36	14 %
A	70	27.1 %
SA	95	36.8 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100 %

Table 4.12: Distribution of data on the knowledge of non-communicable diseases and its causes

Medical Terminology

The questionnaire's statement that comes after the non-communicable diseases and their causes is about medical terminology. When the study's participants scored the knowledge on medical terminology in their HE learning, 252 (97.7 %, Mean= 3.94, SD = 1.12) out of 258 responded to this item. Yet, 6 students (2.3 %) did not present a response. Table 4.13 shows that the number of students who responded with 'agree' and 'strongly agree' with the statement on medical terminology is approximately the same with a difference of two

students, that is 96 (37.2 %) for ‘agree’ and 94 (36.4 %) for ‘strongly agree’. Responses show neutral options from 29 students (11.2 %), participants who ‘disagree’ are 20 (7.8 %), and ‘strongly disagree’ are 13 (5 %). It can be perceived that the majority of the students’ responses ‘agree’ with the statement that the learning in health education improves their knowledge about medical terminology.

Responses	Number of students	Percentages
SD	13	5 %
D	20	7.8 %
N	29	11.2 %
A	96	37.2 %
SA	94	36.4 %
Total	252	97.7 %
No response	6	2.3 %
Total	258	100 %

Table 4.13: Distribution of data on the knowledge of Medical Terminology

Basics of First Aid and CPR

The fourth statement in the knowledge section of the questionnaire is examining the students’ knowledge about the basics of first aid and cardiopulmonary resuscitation they obtain from the HE learning. Table 4.14 demonstrates that participants who answered this statement are 253 (98.1 %, Mean = 3.9, SD = 1.14) among the total number of students’ participants that is 258. The highest number of students are those considered the agree and strongly agree options, and those are 78 (30.2 %) and 104 (40.3 %) students respectively. 40 (15.5 %) students out of 258 marked the neutral option when responding to this statement. Conversely, the lowest number of students are those who scored the strongly disagree option that sums for 12 (4.7 %) students, then those for disagree that sums for 19 (7.4 %) students (Table 23). It can be noted that the percentages of the agree and strongly agree responses together reflected 70.5 % of the responses. Thus, two thirds of responses showed that the students’ knowledge on basic first aid and CPR is acquired through their learning of HE.

Responses	Number of students	Percentages
SD	12	4.7 %
D	19	7.4 %
N	40	15.5 %
A	78	30.2 %
SA	104	40.3 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100 %

Table 4.14: Distribution of data on the knowledge of Basics of First Aid and CPR

Healthy Eating

The fifth statement in the questionnaire under the knowledge section is about the healthy eating. Table 4.15 presents that 254 (98.4 %, Mean = 4.2, SD = 1.06) of the 258 participating students gave a response to this item, and a tiny portion (n=4, 1.6 %) of them did not. The majority of the participants (n=133, 51.6 %) specified the option of ‘strongly agree’ that their knowledge about healthy eating is gained through their HE learning. The next higher number of responses is for the ‘agree’ option that counts for 69 (26.7 %) students. Ten students (3.9 %) chose the ‘disagree response’ and the same number (n=10, 3.9 %) chose the ‘strongly disagree’ response. The ‘neutral’ response was selected by 32 (12.4 5) participating students. It is noteworthy that more than half of the participating students highlighted that their knowledge about healthy eating is developed through their learning in HE.

Responses	Number of students	Percentages
SD	10	3.9 %
D	10	3.9 %
N	32	12.4 %
A	69	26.7 %
SA	133	51.6 %
Total	254	98.4 %
No response	4	1.6 %
Total	258	100 %

Table 4.15: Distribution of data on the knowledge about healthy eating

Benefits of Physical Activities

The questionnaire statement number 6 under the knowledge section asks about the benefits of physical activities. The analyzed data to this concern is presented in Table 4.16. 251 (97.3

%, Mean = 3.88, SD = 1.13) of the 258 participating students have varied responses, 35 (13.6 %) of them selected the ‘neutral’ option. The remaining 7 (2.7 %) did not indicate responses to this questionnaire statement. The highest number (n=95, 36.8 %) of students answered ‘agree’, and a few students answered ‘strongly agree’ (n=87, 33.7 %). However, the number of students marked the ‘disagree’ (n=20, 7.8 %) and ‘strongly disagree’ (n=14, 5.4 %) responses is clearly declined. Accordingly, most of the participated students express the helpful impact of HE learning on their knowledge about benefits of physical activities.

Responses	Number of students	Percentages
SD	14	5.4 %
D	20	7.8 %
N	35	13.6 %
A	95	36.8 %
SA	87	33.7 %
Total	251	97.3 %
No response	7	2.7 %
Total	258	100 %

Table 4.16: Distribution of data on the knowledge on benefits of physical activities

Healthcare Services

The seventh statement in the knowledge section of the questionnaire provokes responses about students’ thoughts on HE learning and their knowledge about the healthcare services. Table 4.17 illustrates that a very large proportion of the participating students (n=254, 98.45%, Mean=3.972, SD=1.11) recorded an option on this statement. Nevertheless, 83 students ‘agreed’ (32.2 %) and 102 ‘strongly agreed’ (39.5 %) with the related statement. On the other hand, a tiny portion of 4 students (1.6 %) did not record a response. 35 (13.6 %) out of the responded students marked the ‘neutral’, 9 (3.5 %) and 24 (9.3 %) marked the ‘strongly disagree’ and ‘disagree’ options correspondingly. In other words, a significant proportion of students either ‘agreed’ or ‘strongly agreed’ (71.7 %) that their HE subject helps them learn about the healthcare services.

Responses	Number of students	Percentages
SD	9	3.5 %
D	24	9.3%
N	35	13.6 %
A	83	32.2 %
SA	102	39.5 %
Total	254	98.45 %
No response	4	1.6 %
Total	258	100 %

Table 4.17: Distribution of data on the knowledge on healthcare services

To sum up, the emphasis of this section is to inform on the distribution of the analyzed data on students' knowledge in HE in public secondary schools in Al Ain city in the UAE. The knowledge section of the questionnaire covers seven areas: communicable diseases and its causes, non-communicable diseases and its causes, medical terminology, basics of first aid and cardiopulmonary resuscitation (CPR), healthy eating, benefits of physical activities and health care services. The result of the analyzed data shows that at least two-third of the participants gained the essential Health Education knowledge about communicable diseases from school. Also, the knowledge about the non-communicable diseases is mainly being learned by the students through the health education school subject. Furthermore, the results demonstrate that the majority of the students' responses agree with the statement that the learning in health education improves their knowledge about medical terminology. Similarly, two-thirds of students' responses highlight that their knowledge about basic first aid and CPR is acquired through their learning of HE. It is noteworthy to mention that more than half of the participating students stated that their healthy eating knowledge is developed through their learning in HE. Moreover, most of the participating students expressed the helpful impact of school health education program on their knowledge about benefits of physical activities. Additionally, a significant proportion of students reflect that their learning in HE help them know about the healthcare services.

4.1.5. Analysis of Skills Questions

This section informs about the distribution of data about students' perceptions of the skills they gain through their learning in health education. These are covered in the skills section of the questionnaire. The title of this part begins with "Learning of HE helps me practice". There are ten statements that are covered under this section: communicable diseases prevention measures, non-communicable diseases prevention measures, the use of medical terminology, the first aid and CPR on a manikin, how to avoid health risks, decision making skills, goal settings skills, how to deal with stress, physical activity and healthy eating at school and at home. The following sub-sections present the analysis of each statement.

Communicable Diseases Preventive Measures

When asked to score the skills they learned in HE about communicable diseases and their preventive measures, significant majority (n=253, 98.1 %, Mean=3.56, SD=1.18) of the 258 participating students provided responses, and a very small proportion (n=5, 1.9%) failed. As Table 4.18 displays, neutral (n=68), Agree (n=66) and strongly agree (n=70) inputs nearly share the same percentages: 26.4 %, 25.6 % and 27.1 % respectively. A lesser portion preferred the disagree (n=36, 14 %), and the lowest number of students marked the strongly disagree (n=13, 5 %). It can be noted that the sum of agree and strongly agree responses counts for 136 (52.7 %). Thus, more than half of the students reported that they are able to practice the communicable diseases preventive measures they learned in HE at the public secondary school.

Responses	Frequency	Percent
SD	13	5 %
D	36	14 %
N	68	26.4 %
A	66	25.6 %
SA	70	27.1 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100 %

Table 4.18: Distribution of data on communicable diseases preventive measures

Non-communicable Diseases Preventive Measures

The second statement under the skills section enquires about students' practices to prevent the non-communicable diseases. Table 4.19 shows that out of 258 participated students, 252 (97.7 %, Mean=3.57, SD= 1.5) provided a response and the remaining 6 (2.3 %) did not. The largest students' proportion selected the 'agree' option (n=71, 27.5 %), the second highest is approximately equal for 'strongly agree' (n=66, 25.6 %) and 'neutral' (n=68, 26.4 %) responses. Also, the data shows that the number of students who 'disagreed' (n=35, 13.6 %) and 'strongly disagreed' (n=12, 4.7 %) is 47 (18.3 %). It is found that the students' perceptions about their ability to practice the learned skills about the preventive measures of non-communicable diseases are nearly the same. Additionally, the distribution of data shows that the number of the 'neutral' responses is within the range of the 'agree' and 'strongly agree' responses. It can be concluded that more than half of the responses (n=137, 53.1 %) either 'agreed' or 'strongly agreed' that their skills to prevent non-communicable diseases were learned through the HE subject.

Responses	Frequency	Percent
SD	12	4.7 %
D	35	13.6 %
N	68	26.4 %
A	71	27.5 %
SA	66	25.6 %
Total	252	97.7 %
No response	6	2.3 %
Total	258	100 %

Table 4.19: Distribution of data on non-communicable diseases preventive measures

The Use Of Medical Terminology

The third item of this section of the questionnaire asks the students to rate their agreement with the statement: Learning of HE helps me practice the use of medical terminology. From the 258 students' participants 252 (97.7 %, Mean=3.36, SD=1.2) provided a response and 6 (2.3 %) chose not to respond. Among the participants' responses, 73 (28.3%) 'agreed' and 54 (20.9 %) 'strongly agreed' with the statement. However, 64 (24.8 %) preferred to mark the 'neutral' box, 34 (13.2 %) chose the 'disagree' and 27 (10.5 %) the 'strongly disagree' options. From the displayed responses (Table 4.20) it can be concluded that the students who 'agreed' or 'strongly agreed' (n=127) is more than those who 'disagreed' or 'strongly disagreed' (n=61) that they have learned in their school to practice the use of medical terminology.

Responses	Frequency	Percent
SD	27	10.5 %
D	34	13.2 %
N	64	24.8 %
A	73	28.3 %
SA	54	20.9 %
Total	252	97.7 %
No response	6	2.3 %
Total	258	100 %

Table 4.20: Distribution of data on the use of Medical terminology

The first aid and CPR on a Manikin

The content of the fourth statement in the skills section of the questionnaire asks about the first aid and CPR skills the students acquired through their HE learning. Table 4.21 demonstrates the distribution of data on this item. There are 252 (97.7 %, Mean=2.95, SD=1.37) out of the 258 participating students decided to convey their choices. The missing responses are 6 (2.3 %). It can be noticed that there are little differences with the students' responses. If it is to be presented on a line chart, the chart would not contain peak values. The less scored is the strongly agree (n=41, 15.9 %), and the more scored is the neutral (n=57, 22.1 %). The difference between them is only 16. The other options: Agree (n=56, 21.7 %), Disagree (n=45, 17.4 %), and strongly disagree (n=52, 20.2 %) are nearly within the same number of responses.

Responses	Frequency	Percent
SD	52	20.2 %
D	45	17.4 %
N	57	22.1 %
A	56	21.7 %
SA	41	15.9 %
Total	252	97.7 %
No response	6	2.3 %
Total	258	100 %

Table 4.21: Distribution of data on the practice of first aid and CPR on a manikin

Avoiding Health Risks

The fifth item of the skills section in the questionnaire requests the students to state their level of agreement that they learned to practice how to avoid health risks through their learning in Health education subject. Table 4.22 clarifies that the higher percentage of students who decided to respond (n=252, 97.7 %, Mean= 3.7, SD=1.16) agreed (n=86, 33.3 %), and 73 students strongly agreed (28.3 %) with the statement. It can be noticed that 57 (22.1 %) of them selected the neutral selection. The 'disagree' and 'strongly disagree' choices have the

same percentages that is 7 % (n=18). Six (2.3 %) of the total 258 students did not convey a response. It can be determined that the majority proportion of students did mark either ‘agreed’ or ‘strongly agreed’ that learning the HE subject helps them to gain the skills on how to avoid the health risks.

Responses	Frequency	Percent
SD	18	7 %
D	18	7 %
N	57	22.1 %
A	86	33.3 %
SA	73	28.3 %
Total	252	97.7 %
No response	6	2.3 %
Total	258	100 %

Table 4.22: Distribution of data on how to avoid health risks

Decision Making Skills

Table 4.23 confirms that a large portion (n=249, Mean=3.5, SD=1.12) of the participating students (n=258) decided to rate this item about the decision making skills. The table also shows that minority of nine students (3.5 %) preferred not to answer. However, the two options agree (n=78, 30.2 %) and strongly agree (n=54, 20 %) rate together (50.2 %) the highest percentages of responses. Fourteen (5.4 %) of students marked the ‘strongly disagree’ and thirty-one (12 %) the ‘disagree’ choice. It can be also observed that 72 (27.9 %) students identified ‘neutral’ as their option. Approximately, half of the students’ input affirmed that their decision making skills are learned and consequently practiced during their learning in HE.

Responses	Frequency	Percent
SD	14	5.4 %
D	31	12 %
N	72	27.9 %
A	78	30.2 %
SA	54	20.9 %
Total	249	96.5 %
No response	9	3.5 %
Total	258	100 %

Table 4.23: Distribution of data on decision making skills

Goal Setting Skills

When asked about the goal setting skills they learned to practice, among the 258 participants, 252 (97.7 %, Mean=3.45, SD=1.23) answered, and 6 (2.3 %) did not answer the questionnaire statement (Table 4.24). The largest proportion marked the ‘neutral’ that is 78 students (30.2 %). After which the ‘strongly agree’, that is 65 students (25.2 %), and then the ‘agree’ that is 57 (22.1 %) students. Both the ‘strongly disagree’ and ‘disagree’ are the lowest proportions; that is 21 (8.1 %) and 31 (12 %) respectively. It can be computed that 122 (47.3 %) students conveyed that their education of the health subject supports them to practice the goal setting skills. It is also noteworthy that there is a high number of students measure this statement as ‘neutral’.

Responses	Frequency	Percent
SD	21	8.1 %
D	31	12 %
N	78	30.2 %
A	57	22.1 %
SA	65	25.2 %
Total	252	97.7 %
No response	6	2.3 %
Total	258	100 %

Table 4.24: Distribution of data on goal setting skills

Dealing with Stress

The eighth item of the skills’ sections reads “Learning of HE helps me practice how to deal with stress”. Among the overall 258 participating students a total of 253 (98.1 %, Mean=3.58, SD = 1.23) provided a response and 5 (1.9 %) desired not to (Table 4.25). The ‘strongly agree’ and the ‘agree’ options count the largest proportions and are nearly the same; that is 73 (28.3 %) and 71 (27.5 %) correspondingly. 59 students (22.9 %) rated ‘neutral’, and then 31 (12 %) rated ‘disagree’, and 19 (7.4 %) students rated the ‘strongly disagree’ options. The

majority of responses identified that the students' HE learning in schools assists them to practice dealing with their daily life stress (Table 4.1.5.8).

Responses	Frequency	Percent
SD	19	7.4 %
D	31	12 %
N	59	22.9 %
A	71	27.5 %
SA	73	28.3 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100 %

Table 4.25: Distribution of data on how to deal with stress

Practicing Of Physical Activity

Table 4.26 provides a visual illustration on the input of the participating students about their perceptions on the practice of physical activity. It demonstrates that 7 students, that count for 2.7 %, out of 258 students who participated in the study, preferred not to give an input. And each of the 251 (97.3 %, Mean=3.5, SD=1.2) students selected a response as follows: 20 (7.8 %) students indicated 'strongly disagree', 28 (10.9 %) indicated 'disagree', 60 (23.3 %) selected 'neutral', 81 (31.4 %) picked 'agree', and 62 (24 %) selected the 'strongly agree' option. From the data distribution provided, it was found that the higher percentage of students 'agreed' with the statement about the link between their learning of health education and their practice of physical activity. However, the number of students who indicated the 'neutral' option cannot be ignored.

Responses	Frequency	Percent
SD	20	7.8 %
D	28	10.9 %
N	60	23.3 %
A	81	31.4 %
SA	62	24 %
Total	251	97.3 %
No response	7	2.7 %
Total	258	100 %

Table 4.26: Distribution of data on practicing of physical activity

Practicing Of Healthy Eating

The last statement in the skills section of the questionnaire inquires about the correlation between the practice of healthy eating and the students' learning of health education. A total of 254 (98.4 %, Mean=3.65, SD=1.2) participants expressed their perception, and a small number of 4 (1.6 %) students failed to report a response. Table 4.27 displays that the largest proportion of the participating students, 79 (30 %), 'strongly agreed' with the item. The next higher proportion selected the 'agree', 73 (28.3 %). However, 56 (21.7 %) selected the 'neutral' option. The lowest portions of students selected 'strongly disagree', that counts for 20 (7.8 %), and 'disagree' counted 26 (10.1 %). It can be assumed that the majority of students conveyed perceptions that their learning of HE prepared them for healthy eating practices.

Responses	Frequency	Percent
SD	20	7.8 %
D	26	10.1 %
N	56	21.7 %
A	73	28.3 %
SA	79	30.6 %
Total	254	98.4 %
System	4	1.6 %
Total	258	100 %

Table 4.27: Distribution of data on practicing healthy eating

To conclude this section, the focus is to report on the distribution of data on students' skills in HE in public secondary schools in the UAE. The skills are covered in the third part of the questionnaire. There are ten questions/items in the skills section, and the questions start with "Learning of HE helps me practice". Areas covered are communicable diseases prevention measures, non-communicable diseases prevention measures, the use of medical terminology, the first aid and CPR on a manikin, how to avoid health risks, decision making skills, goal

settings skills, how to deal with stress, physical activity and healthy eating at school and at home.

The analyzed data shows that more than half of the students are able to put into practice the communicable diseases preventive measures they learned in HE at the public secondary school. Also, students convey their ability to practice the preventive measures of non-communicable diseases. In regard to medical terminology the data distribution shows that the students who 'agree' and 'strongly agree' are more than those who 'disagree' and 'strongly disagree'. On the other hand, and in regard to the learning of first aid and CPR in HE program, the responses presented by the participating students do not vary much. When it comes to the skills on avoiding health risks, the majority proportion of students either 'agree' or 'strongly agree' that learning the HE subject helps them to gain the skills. Moreover, the students' inputs on their decision making skills highlight that they have learned and consequently practising the skills during their study of HE. As well as, the majority of responses identify that the students' HE learning in schools assist them to practice dealing with their daily life stress. In respect to the practice of physical activity, the higher percentage of students 'agreed' with the statement about the link between their learning of health education and their practice of physical activity. Similarly, the majority of students conveyed a perception that their learning in HE prepared them to opt for healthy eating practices. In addition to that, it can be observed that four of the items in the skills' section had a noticeable score of 'neutral' responses. This is the case for communicable diseases, non-communicable diseases, medical terminology, and decision making skills.

4.1.6. Analysis of Dispositions Questions

The main purpose of this section is to present the distribution of data about the participating students' dispositions. There are six statements questioning students to rate their agreement on: being a health advocate, teaching others about healthy living, practicing healthy life style, seeking help from health professional in case of any health related issues, knowing about health related careers, and recommending HE to be given to all school grade levels. The following sub-sections present the analysis of each statement.

Being a Health Advocate

The first statement in the disposition section asks the participating students to rate their level of agreement of themselves being a health advocate. Out of 255 participants (98.8 %), there are 68 (26.4 %) students who 'strongly agreed', and 86 (33.3 %) who 'agreed'. The 'agree' response counts for the highest percentage of responses. Table 4.28 discloses that the lowest number of students selected the 'strongly disagree' answer, 23 (8.9 %). The next lowest number is for the 'disagree' choice that is 29 (11.2 %). The number of students who decided to provide 'neutral' response as their choice is 49 that is about 19 %, and 3 preferred not to provide a response at all. The analyzed data showed that more than half of the student participants conveyed that they are health advocates (n=154, 59.7%).

Responses	Frequency	Percent
SD	23	8.9 %
D	29	11.2 %
N	49	19 %
A	86	33.3 %
SA	68	26.4 %
Total	255	98.8 %
No response	3	1.2 %
Total	258	100 %

Table 4.28: Distribution of data on being a health advocate

Teaching Others about Healthy Living

The second statement of the dispositions section in the questionnaire assesses the students' willingness to teach others about healthy living. 253 (98.1 %, Mean=3.6, SD=1.18) of the 258 participating students showed their ratings, and 5 (1.9 %) did not. 89 (34.5 %) of the provided ratings disclosed that students agreed with the statement and 65 (25.2 %) strongly agreed. Yet, 29 (11.2 %) 'disagreed', and 18 (7 %) 'strongly disagreed'. Also, Table 4.29 reveals that 52 (20.2 %) provided 'neutral' responses. It can be perceived that more than half of participants 'agreed' or 'strongly agreed' that their learning of health education in schools help them to teach peers, siblings, and others about healthy living.

Responses	Frequency	Percent
SD	18	7 %
D	29	11.2 %
N	52	20.2 %
A	89	34.5 %
SA	65	25.2 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100 %

Table 4.29: Distribution of data on teach others about healthy living

Practicing Healthy Life Style

In response to the item querying about the practice of healthy lifestyle during their daily activities, the highest scores are for the 'agree' option (n=90, 34.9 %). However, the number of students who selected the 'strongly agree' and 'neutral' is the same (n=60, 23.3 %). 26 (10.1 %) disagreed and 12 (4.7 %) strongly disagreed with the statement. All in all, 248 (96.1 %, Mean=3.6, SD=1.1) of the participating students provided a score, and 10 (3.9 %) preferred not to provide a score. It can be observed that more than half of the participating students 'agreed' that they are supported to practice healthy lifestyle when they are students in health education program in schools (Table 4.30).

Responses	Frequency	Percent
SD	12	4.7 %
D	26	10.1 %
N	60	23.3 %
A	90	34.9 %
SA	60	23.3 %
Total	248	96.1 %
No response	10	3.9 %
Total	258	100 %

Table 4.30: Distribution of data on practice healthy lifestyle

Seeking Reliable Healthcare Help

Seeking the help of reliable healthcare services is the fourth statement in the dispositions section. While responding to this statement, 249 (96 %, Mean=3.67, SD=1.1) of the 258 participants gave a rating, and 9 (3.5 %) failed to give a rating. The bigger portion rated ‘agree’ (n=82, 31.8 %), and then 67 (26 %) ‘strongly agree’. The smallest portion rated ‘strongly disagree’ (n=13, 5%), and then 21 (8.1 %) rate ‘disagree’. 66 students who rated ‘neutral’, (25.6 %). The distribution of data analysis, presented in Table 4.31, demonstrates that 149, that count about sixty percent of the participating students, conveyed that they are seeking reliable healthcare help for their health related issues.

Responses	Frequency	Percent
SD	13	5 %
D	21	8.1 %
N	66	25.6 %
A	82	31.8 %
SA	67	26 %
Total	249	96.5 %
No response	9	3.5 %
Total	258	100%

Table 4.31: Distribution of data seeking reliable healthcare help

Health Related Careers

One of the essential concepts of the health education school program is to orientate students to the range of available health related careers. As illustrated in Table 4.32, when questioning the participants if learning in health education supports them being familiar with the healthcare careers, 252 (97.7%, Mean=3.65, SD=1.2) out of the 258 replied. The remaining

6 (2.3 %) did not give a reply to this item. The highest number of replies is for the ‘agree’ option (n=80, 31 %), and 76 (29.7 %) for ‘strongly agree’. The replies for the ‘strongly disagree’ and ‘disagree’ are 15 (5.8 %) and 36 (14 %) respectively. 45 (17.4 %) replies are for ‘neutral’. It can be found that approximately two thirds of the participants express that their awareness of the careers in the healthcare fields is linked to their studying the health education in schools.

Responses	Frequency	Percent
SD	15	5.8 %
D	36	14 %
N	45	17.4 %
A	80	31 %
SA	76	29.5 %
Total	252	97.7 %
No response	6	2.3 %
Total	258	100 %

Table 4.32: Distribution of data on health related careers

Recommendation to All Grade Levels

The sixth item of the dispositions section of the questionnaire inquires the students’ perceptions about their recommendation of the subject to the other school’s grade levels. This is due to the fact that the health education subject is being taught to the secondary students only in the public schools. As shown in Table 4.33, out of the 258 participants, 254 (98.4%, Mean=3.56, SD=1.19) decided to answer that question about their perceptions. The majority listed their agreement in either the ‘agree’ (n=86, 33.3 %) or ‘strongly agree’ (n=62, 24 %) options. Students who picked the ‘neutral’ option numbered 62 (24 %) and this number reflects that it is equal to the number of those who ‘strongly agree’. The number of students who ‘disagreed’ and ‘strongly disagreed’ with the statement is the same (n= 22, 8.5 %). It can be determined that more than half of the participating students recommended that the

health education subject to be included in the curriculum of the other Grade levels in the schools.

Responses	Frequency	Percent
SD	22	8.5 %
D	22	8.5 %
N	62	24 %
A	86	33.3 %
SA	62	24 %
Total	254	98.4 %
No response	4	1.6 %
Total	258	100 %

Table 4.33: Distribution of data on Recommendation to all grade levels

In conclusion, this section attempts to shed the light on the distribution of data on the students' participants' perceptions on their dispositions during the learning of HE. Female students of public secondary schools in Al Ain city in the UAE are the participants in this study. There are six statements inquiring students to rate their agreement on being a health advocate, teaching others about healthy living, practising a healthy life style, seeking help from health professional in case of any health related issues, knowing about health related careers, and recommending HE to be given to all grade levels.

The analyzed data showed that more than half of the students' participants conveyed that they are health advocates. Additionally, it can be perceived that more than half of the participants agree that their learning of health education in schools help them to teach their peers, siblings, and others about healthy living. Also, more than half of them 'agree' that they are supported to practice a healthy lifestyle. The distribution of data analysis demonstrated that about sixty percent of the participating students convey that they are seeking reliable healthcare help for their health related issues. Moreover, the data present that approximately two thirds of the participants express that their awareness of the careers in the healthcare

fields is linked to their studying the health education in schools. Lastly, more than half of the students recommend that the health education subject to be included in the curriculum of the other Grade levels in the schools.

Also, it is noteworthy to mention that the responses of three of the six dispositions statements have the same number of neutral and strongly agree responses. They are those examining about the practice of a healthy life style, seeking help from health professional, and the recommendation of the health education program to all school grade levels.

4.1.7. Analysis of Teacher Questions

The main purpose of this section is to present the data that has been collected through the questionnaire on perceptions of the students' participants about their HE teachers. This part includes five statements. Each statement starts with "Teachers of health education". The subsequent items are to examine the encouragement of students to apply concepts they teach, teachers are able to practice concepts they teach in class, teachers have the related knowledge of health education concepts, teachers are practicing the skills they teach and if students perceive their HE teachers as role models. In what follows there is an analysis of participants' responses on each item.

Teacher Encourages Students to Apply HE Concepts

The questionnaire's first item of this section inquires the perceptions of students about whether they are encouraged by their teacher to apply HE concepts. The analyzed data that is presented in Table 4.34 displays that 4 (1.6 %) of the participants do not give an answer, however, 254 (98.4%, Mean=3.8, SD=1.15) give their input. The largest number of them stated that they 'agreed' (n=89, 34.5%), 83 (32.2 %) of them 'strongly agreed', and lesser

number of 46 (17.8 %) stated ‘neutral’ responses. On the other hand, the smallest number of the participants ‘strongly disagreed’ (n=15, 5.8%), and then 21 (8.1 %) ‘disagreed’ that HE teacher encourage them to apply concepts they learned. It can be found that more than two third of the participants stated that they were encouraged by their teacher to practice HE concepts they learned in the class.

Responses	Frequency	Percent
SD	15	5.8 %
D	21	8.1 %
N	46	17.8 %
A	89	34.5 %
SA	83	32.2 %
Total	254	98.4 %
No response	4	1.6 %
Total	258	100 %

Table 4.34: Distribution of data on teacher encouragement of students to apply HE concepts

Teacher’s Practice of Concepts They Teach

The second statement under this section asks whether the HE teacher is practicing the concepts they teach in class. As illustrated in Table 4.35, 254 (98.4 %, Mean=3.78, SD=1.17) out of the 258 participants answered the item, and 4 (1.6 %) did not. Agree and strongly agree options get the majority of responses as their scores are 91 (35.3%) and 81 (31.4 %) respectively. Neutral option is the preferred answer for 44 (17.1 %) students. Nevertheless, the ‘disagree’ and ‘strongly disagree’ options are the answers of 21 (8.1 %) and 17 (6.6 %) participants respectively. From these data, it can be noted that more than two thirds of the participating students convey that their teacher is practising the health education concepts they teach in HE class.

Responses	Frequency	Percent
SD	17	6.6 %
D	21	8.1 %
N	44	17.1 %
A	91	35.3 %
SA	81	31.4 %
Total	254	98.4 %
No response	4	1.6 %
Total	258	100 %

Table 4.35: Distribution of data on teacher’s practice of concepts they teach

Teacher's Knowledge of HE

The distribution of data obtained from participating students on their perception about their teacher's knowledge of health education is presented in Table 4.36. The total number of participants is 253 (98.1 %, Mean=3.9, SD=1) out of the 258. From these participants 95 (36.8 %) 'agreed' with the statement, 84 (32.6 %) 'strongly agreed', and 49 (19 %) selected the 'neutral' response. Lesser number of 9 (3.5 %) participants 'strongly disagreed' and 16 (6.2 %) 'disagreed' with the statement. It can be observed that the majority of the participating students, that counts more than the two thirds of them, stated that their health education teachers have knowledge about the health education subject they teach.

Responses	Frequency	Percent
SD	9	3.5 %
D	16	6.2 %
N	49	19 %
A	95	36.8 %
SA	84	32.6 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100 %

Table 4.36: Distribution of data on teacher's knowledge of health education

Teacher's Practice the Skills of the Lessons

When the related statement in the questionnaire asks about if the teachers are able to practice the skills they teach in the class, 253 (89.1%, Mean=3.69, SD=1.17) of the participants responded, and 5 (1.9 %) did not. The majority picked either the 'strongly agree' or 'agree' options, 30.2 % (n=78) and 28.3 % (n=73) respectively. Also, 24 % (n=62) of the student participants chose the 'neutral' rating. Nonetheless, 5.4 % (n=14) of the participants preferred the 'strongly disagree' and 10.1% (n=26) the 'disagree' ratings. It can be concluded that more than half of the students' responses confirmed that their teachers of health education are practising the lesson related skills in the class (Table 4.37).

Responses	Frequency	Percent
SD	14	5.4 %
D	26	10.1 %
N	62	24 %
A	73	28.3 %
SA	78	30.2 %
Total	253	98.1 %
No response	5	1.9 %
Total	258	100%

Table 4.37: Distribution of data on teacher's practice the skills of the lessons

Teacher Is a Role Model

The last statement in this section asks the students to provide their ratings to the suggestion that their health education teacher is their role model. When responding to this statement, 254 (98.4 %, Mean=3.7, SD=1.16) of the 258 participants rate their level of agreement. The largest portion of participants selected the agree option (n=82, 31.8%). The second highest rated the strongly agree as their response (n=75, 29.1%). Smallest portion (n=14, 5.4%) of participants selected the disagree to rate their perceptions and 19 students scored the strongly disagree option. 64 (24.8%) of the participating students preferred the neutral rating. From the presented data in Table 4.38, it can be determined that more than half of the students consider their school health education teacher a role model.

Responses	Frequency	Percent
SD	19	7.4 %
D	14	5.4 %
N	64	24.8 %
A	82	31.8 %
SA	75	29.1 %
Total	254	98.4 %
No response	4	1.6 %
Total	258	100 %

Table 4.38: Distribution of data on teacher as role model

As previously mentioned, the participating students in this study are female students of public secondary schools in Al Ain city in the UAE. The focus of this section is to interpret the collected data on students' opinion about their health education teacher. The fifth section of

the questionnaire covers this concept. It consists of five statements. Each statement covers a feature of students' thoughts of their teacher. The students' ratings of the provided options vary from strongly agree to strongly disagree. Though, it is found that all the ratings are the highest either for agree or strongly agree options. For example, more than two thirds of the participants stated that they were encouraged by their teacher to practice HE concepts they learned in the class. Similarly, more than two thirds of the participating students convey that their teacher is practising the health education concepts they teach in school. Moreover, the majority of students stated that their health education teachers have knowledge about the health education subject they teach. More than half of them informed that their teacher of health education is practising the lesson related skills in the class. Also, from the presented data it can be determined that more than half of them consider their school health education teacher as their role model.

4.1.8. Summary of Quantitative Questionnaire Data

The focus of the students' questionnaire is to address the first two research questions of the study: 1). To what extent do demographics variables affect students' perceptions of health education? 3). What perceptions do public secondary students have regarding HE program in Al Ain City?

Analysis of Demographic Data:

- The higher percentages of students at this stage of their education are at their 17 (53.5%).
- The majority of participants are from United Arab Emirates nationalities (86%).

- More than half of the students' responses (57.4%) indicated that they have studied in the same school for at least three years.
- Analysis shows the highest percentages that they studied HE in their grade 11 (94.2 %) and grade 12 (94.6%).

Reliability Results

- The questionnaire is a reliable tool to perceive the public school students' perceptions of HE in the UAE.
- The KMO and Bartlett's test indicate the adequacy of the sample size and the significance of the questionnaire's items.
- The correlation coefficient shows high level of correlation among all items in the questionnaire.
- There is loading for every item in the questionnaire and no items to be excluded.

Descriptive Statistical Results

- More than half of the students' participants are at the age of 17.
- The majority of students received their learning of HE at their grades 11 and 12 at school.
- The majority of students' participants are Emirati students who provided responses to all items in the questionnaire.

Analysis of the knowledge Questions

- Two-thirds of the participants gained the essential Health Education knowledge about communicable diseases (67.9 %) and non-communicable diseases (63.9 %) from school.

- The majority of the students' responses agree with the statement that the learning in health education improves their knowledge about medical terminology (73.6 %).
- Two-thirds of students' responses highlight that their knowledge about basic first aid and CPR is acquired through their learning of HE (70.5 %)
- The majority of the participating students stated that their healthy eating knowledge is developed through their learning in HE (78.3 %).
- Two-thirds of the responses indicated the helpful impact of school health education program on their knowledge about benefits of physical activities (70.5 %).
- Two-thirds of students reflect that their learning in HE help them know about the healthcare services (71.7 %).

Analysis of the Skills Questions

- More than half of the students are able to practise the communicable diseases (52.7 %) and non-communicable diseases (53.1 %) preventive measures they learned in HE at the public secondary school
- Students who agree and strongly agree (49.2 %) that they learn the use of medical terminology are more than those who disagree and strongly disagree (23.7 %).
- Students' percentages of those who agree and disagree on the learning of first aid and CPR skills in HE program are equal (37.6 %).
- More than half of students agree that learning the HE subject helps them to gain the skills on how to avoid the health related risks (61.6 %).
- About half of students gain their decision making skills during their learning of HE (51.1 %).

- 47.3 % of the students agree that their skills of goal settings are linked to their learning of HE, however, 20.1 % disagree.
- More than half agree that HE assists them to practice dealing with their daily life stress (55.8 %).
- More than half of responses identify that learning in HE supports them to practise physical activity (55.4 %).
- More than half of students convey that their learning in HE prepared them for healthy eating practices (58.9 %).

Analysis of Dispositions Questions

- More than half of student participants conveyed that they are health advocates (59.7 %).
- More than half of participants agree that their learning of health education in schools helps them to teach peers, siblings, and others about healthy living (59.7 %).
- More than half of students agree that they are supported to practice healthy lifestyle (58.2 %).
- About sixty percent of the participating students convey that they are seeking reliable healthcare help for their health related issues.
- About sixty percent of the participants express that their awareness of the careers in the healthcare fields is linked to their studying the health education in schools.
- More than half of the students recommend that the health education subject to be included in the curriculum of the other grade level in the schools (57.3 %).

Analysis of Teacher Question:

- About two thirds of the participants stated that they are encouraged by their teacher to practice HE concepts they learned in the class (66.7%).
- Approximately two thirds of the participating students conveyed that their teacher is practicing the health education concepts they teach in school (66.7%).
- The majority of students stated that their health education teachers have knowledge about the health education subject they teach (69.4%).
- More than half of the students informed that their teacher of health education is practising the lesson related skills in the class (58.5 %).
- More than half of them considered their school health education teacher as their role model (60.9 %).

4.2. Analysis of Qualitative Data

The focus of the in-depth semi-structured interviews is to address the second research questions of the study: What responses do public secondary students have regarding HE program in Al Ain City? Semi-structured interviews support the researcher to explore the students' views, thoughts perceptions on health education subject offered in their schools. The interview questions guide was prepared and piloted as per the Interview Protocol Refinement (IPR) framework recommended by Castillo-Montoya (2016).

Thematic framework analysis was deemed to be appropriate for the analysis of the qualitative data collected in this study. As it is commonly applied in research studies related to the health field and it is suitable to analyze data collected through interviews (Gale et al. 2013). Framework analysis is an approach to analyze data that has been collected qualitatively. It

provides systemic structure that is transparent and can be visualized clearly. This enables the researcher to develop and maintain a clear review and checking throughout the analysis process (Smith & Firth 2011). It also offers a step by step guide to organize, categorize and chart the data in a way that enables the researcher to report patterns of the data and then identify themes out of these patterns (Gale et al. 2013). Gale et al. (2013) added that the framework analysis approach does not present directly the data as the researcher obtained it from participants; however, it helps him “to summarize/reduce the data in a way that can support answering the research questions” (p.1). Also, it is a flexible process where the researcher can move back and forth across the data and up and down of the steps of the framework. This supports the researcher to be familiar with the data collected (Smith, Bekker & Cheater 2011), and to better understand the participants’ experiences and perceptions (Gale et al. 2013). Gale et al. (2013) pointed out that the framework analysis can be used with a variety of qualitative approaches that intend to create themes; and is not associated with any specific philosophical or epistemological approach. However, the most important is that these themes reflect the participant’s voices and consequently, their insights and opinions (Hackett & Strickland 2018). Additionally, this type of analysis can be done without specific software or a computer program, however, qualitative data analysis software is available (Parkinson et al. 2016).

Creswell (2014) explained that the thematic framework analysis includes five stages. These are the stages followed by the researcher of this study during the analysis of the responses gained during the interviews. First is the transcription, second is the familiarization, third is the coding process, fourth is the theme formulation and the last stage is interpretation. The first stage encompasses transcribing interviews, visual scanning of the obtained responses, organizing the data and typing the notes. This is to provide the researcher with overall

information and meaning. The second familiarization stage offers the researcher to look and read through the data to have a general impression on the credibility and depth of the participants' responses. At this stage, impressions, notes and thoughts of the researcher can be written. At the third coding stage, the researcher starts to assign codes to the responses while reading the transcripts line by line and in details. Rossman & Rallis (2012) clarified coding as an organizing process where the researcher represents the given data by a label, word or category. At this stage, also the researcher highlights responses that "are surprising and that were not anticipated at the beginning of the study" (Creswell 2014, p. 248). Also at this stage, other issue has been pointed by Creswell (2014), the researcher may develop codes that are emerged based only on the collected information from participants, or he/she can use a preset codes and then fitting the data to these codes, or the researcher may use a combination of both emerging and preset codes. Most of researches in the health sciences fields are using the preset codes based on the theories being studied. Stage four includes the process of generating categories, themes, or sub-themes for analysis. These themes are used as the findings of the qualitative study. All the themes presented in the findings of this study reflected all responses expressed by participants during the interviews. Creswell (2014) added that "qualitative researcher can do much with themes to build additional layers of complex analysis" (p. 249). The final stage is the process of interpretation of the findings. It offers the lessons learned from the obtained results of participants' perceptions and experiences. The researcher can also compare these interpretations with the available findings from theories and literature on the same topic under study (Creswell 2014).

The researcher of this study relies on the Drake's Know, Do and Be (KDB) model (2010) while conducting the interviews to obtain data that answers the research question: What responses do public secondary students have regarding HE program in the UAE? The

“Know” focuses on the concepts the students must know in the HE subject. Whereas, the “Do” concentrates on the skills the students learned to be able to utilize the learned knowledge. Finally, the “Be” reflects the influences of the health education on students’ character, personal growth, values and attitudes.

Overall, four themes were developed and reported in the following sections. The students’ responses are presented within quotes.

4.2.1. Theme 1: Healthy Living

In the conducting of the in-depth interviews, healthy living is considered the overall theme that is derived from the students’ responses to the question: what students benefit from the health education subject? While responding to this question, students showed enthusiasm to tell the researcher what they learn in their health education program. Their responses were very broad and detailed. Thus, sub-themes were constructed under the overall theme of healthy living. These subthemes are developed as follows: healthy eating, benefits of physical activity, prevention of diseases, social and mental health and first aid.

Health Eating

Many participants expressed that they did learn a lot about healthy eating. Also, they explained that they gained knowledge and skills to be able to choose healthful food choices. Students reported that they are able to select from variety of products what is healthy to buy, what to bring to school to eat and what type of food that is beneficial to their health. Additionally, they stated that during their shopping, they know what items contain harmful ingredients and avoid buying them. They presented the correlation of bad eating habits and development of diseases. Another concept that was highlighted by the students is their awareness about the Body Mass Index (BMI), and how to interpret its results.

“I learned about healthy living and healthy eating.”
“Healthy eating and diseases of in proper eating habits and fast food.”
“Know what breakfast to bring school, what to eat in our break. I am bringing
fruits and vegetables to eat.”
“When I go to the supermarket with my family, I know how to select healthy
items.”
“We learned about BMI, how to calculate it and what does it means”

Benefits of Physical Activity

Others students reported that they have learned about the benefit of exercises on their health. Their responses reflect that they were encouraged to be involved in physical activities. They expressed their motive to do frequent exercises as it keeps them in shape.

“I learned the benefit of PE lessons and exercises”
“Health education encouraged me to be involved in the PE classes as much
as I can.”
“Exercise keeps me fit and not to be obese”

Some students show their perceptions that physical activity influences their mental health. They mentioned that their mental health is improved as they do exercise.

“I do exercises as we learned that they are good to be in good mood”

On the other hand, some participants showed their interest to have a schedule for practising daily activities. They highlighted that they have cultural boundaries to practise physical activities in sport clubs or outside their homes. This is limiting their participation in doing exercises to school activities and competitions that are planned by the school administration.

“I told my family that I like to walk every day, but for cultural reasons, they refused to let me go out to walk.”
“I only do proper work out in school during PE lessons”
“Also, I am participating in school sport activities and competitions”

Prevention of Diseases

Many responses were about the benefits the students gained on the prevention of diseases through their daily practices; like proper hand washing and coughing and sneezing protocols. They conveyed their awareness of the diseases transmission and methods of prevention.

“I am aware of many diseases and how it can be prevented.”
“We learned about hand washing and diseases transmission”
“We learned about hand washing technique”
“And also about coughing and sneezing techniques.”

They expressed that they are teaching their family members on proper practices to avoid diseases’ transmission.

“I taught my family how hand washing should be done”

Others also mentioned that they learned about non-communicable diseases and their effect on individuals’ health and future. They reported their awareness on the consequences of bad habits and its correlation with long term diseases development. They specified diseases that may develop from unhealthy eating habits such as overweight, obesity and diabetes. Also, they are aware of the bad consequences of smoking. Students showed their encouragement to share this information with their parents and family.

“I told my family what diseases we may have if eating junk food”
“I shared with family the danger of smoking”
“I told my family what will happen to our body if we have obesity, like diabetes, and that it is not good to be overweight”.

Social and Mental Health

The participating students’ responses highlighted the benefit of health education in making them aware about the importance of social health. As they mentioned, they are practising these skills as demanded by their families and society without being aware that these are

considered as part of their healthful living. Students' participants expressed their awareness to whom they may refer if they face any problems.

“Things are clear to me now ..about mental and emotional health”

“I learned about families and relationships, in our family we do it and visit relatives”

“We may refer to the school counselor or the social worker”

Other participants explained that the information they gained in the health education subject corrected some misconceptions they have about mental health. Students demonstrated that they are aware how to deal with stress and stressful conditions. Moreover, they conveyed their understanding of bullying behaviours and its concepts. However, they displayed their act of kindness they do to appreciate others.

“It helps me to know what should I do in case I have stress during exams for example”

“I know about bullying... it not good to be done”

“Be kind to each other, what to do in case we observe bullying of some students.”

“We learned about the act of kindness, to appreciate school workers for their work, we did many activities about this”

First Aid

When the participants were asked about other topics they benefited in the HE subject, they added the first aid. They demonstrated their knowledge and skills about some emergency situations. Participants expressed that they are aware to contact UAE medical emergency services in case of emergencies. Also, students confirmed that they will check with appropriate healthcare provider to seek help such as physicians and nurses and to follow their instructions.

“I have learned what to do in case of emergency”

“Now, I know what to do in case of emergency, if it happens to any of my

friends in school or a family member, and also, who to call and who to refer

to in case of any health problem.”

“In case of emergency, or accident I call 998”

“If any accident happens and there is bleeding, I press the wound”.
“If it not an emergency, I go to the doctor”
“I go to the nurse to inform her and follow doctors’ instructions”

The majority of the participants showed eagerness to learn life-saving skills. They prefer to practice these skills on manikins. Some students highlighted the lack of related equipment in their schools.

“I prefer to practice the life-saving skills on a manikin”
“It is more fun to do CPR on a doll”
“we do not have dolls to practice in school”

4.2.2. Theme 2: Health Advocacy

This theme reflected the participants’ thoughts on how the HE subject influences them as persons. The majority of students expressed their happiness to share their knowledge with others, especially family members, relatives and friends. This is to contribute to a healthier society.

“To be a good citizen for the benefit of my family and community”
“It encourages me to be a health advocate, to encourage others stay healthy too.”
“Yes, especially when we go together shopping for our home”

They illustrated that they tell their families about healthy eating habit, and consequences of eating unhealthy food.

“When I see somebody from my family is eating unhealthy food, I inform them about the possibility of becoming obese, and this is not good.”
“I tell my sisters and brothers what they should follow to stay healthy, eating health,

Some students expressed that they share their knowledge about diseases they learned.

“I like to talk to my parents about diseases we learned in the class”
“I am telling them the effects of obesity on human body”

Participants share their information on the danger of smoking.

“I am telling adults in the family about the dangers of smoking”

Encourage other to do physical activities.

“...do exercises, not to stay long time sitting and playing on their phones or on their computers.”

They also share their knowledge about the first aid they learned in HE class.

“Tell them about first aids principles and what to do in case of emergencies”

High portion of students pointed that the subject orients them for future careers. They reported that they are considering health related professions.

“I know now what fields I can study in university”
“I want to be a doctor taking care of sick people”

Others stated that it supports them to be healthy adults, and it affects their way of life to positively contribute to their present and future families. The HE subject gives them knowledge about keeping themselves healthy and take care of others.

“I know what is right and what is wrong, and not to practice risky behaviors”
“Stay away from unacceptable behavior”
“It benefited me a lot. It prepares us to be healthy people in the future, women and wife, to take care of my daughters and sons in the future.”
“it helps me to be a healthy adult.”
“...and to raise healthy kids”

4.2.3. Theme 3: Collaborative Learning

In response to the questions on what contributes to better learning experiences in health education, students expressed that their ability to learn better is the presence of their friends. They preferred to learn with group of friends. They mentioned that they like to share ideas

with their colleagues. This supports them to learn better and remember concepts they learn in class. Participants stated they may be reminded by their classmates on something they miss during the class.

“Learning in groups and with my friends”

“Activities in the classroom so students can remember what is learned and participate.”

“I ask my friends if I miss some information from the teacher in class”

“... I like to study and discuss issues with friends”

Others also reported that doing activities with friends help practice the skill they learned in class.

“I prefer to practice the skills with friends in the classroom or in the school hall”.

“Friends are encouraging me to practice what we learned in class.”

“Doing and practicing things we learn in class”

Majority of students mentioned that doing activities with friends in the class helps them to understand the topic, solving tasks and be well prepared for exams.

“...I may ask my friends if I do not know how to solve an exercise or a task”

“I like to talk to my friends about topics we studied, and also like to review with them to prepare for exams.”

“Studying with colleagues to discuss and clarify some topics related to the subject”

“studying with my friends helps me to solve problems”

“Ask my friends to help me and work together on the task”

On the other hand, minority students feel more confident to search by themselves. Others prefer to ask the teacher if they needed any support. Some expressed that they may offer help if they were asked to.

“...Because I like to work and do everything by my-self”

“I like to search by myself”

“... I prefer to study alone to have more knowledge about the content”

“... I will ask the teacher for explanation if I misunderstand anything”

“... I am ready to help other students if they ask for help”

When asked about the challenges the students are facing during their HE learning, the majority stated that they know how important the contents to them, however, the English language is a major challenge. They face difficulty with English language. Arabic translation is preferred by the participants so that they are able to understand better the topics. Students specified that their major challenge is solving the exams as it is in English.

“Subject is in English Language that may it hard to us to understand”

“We know what it is about but explanation is hard in English”

“We ask the teacher to translate to us in Arabic so that we understand the concept”.

“it is very hard to us specially during the exam”

4.2.4. Theme 4: Teacher’s Character

When asked how teachers’ role influences their learning, majority of participants pointed that the knowledge and experience the teacher has and the way s/he teaches has a lot of influence on their learning.

“The teacher should be of knowledge about health education”

“The teacher of HE is the resource person to us, if we want to know more or to ask about health related issues we ask her.”

“should be able to explain the topics of health education”

“Help student to understand the HE concepts”

“Teaching skills to explain to us and we understand from her”

Also, participants displayed that their learning is impacted by the teacher passion to the subject s/he teaches, they feel that this passion is transferred to them. Participants added that a knowledgeable and experienced teacher inspires them to be like her/ him in the future.

“I like my teacher.... she likes to teach the HE, she knows too much”

“Good relationship with students and be fair when dealing with us”

“I want to be a health education teacher”

“Teaching style should be simple and easy”.

Big portion of responses indicated that participants preferred the HE teacher to be specialized in one of the health related fields with good English language skills.

“The teacher should be a specialist in health, like nursing, public health, nutritionist, pharmacist or doctor”
“Teachers must know English language, as the HE subject books are in English.”

Others stated that teachers should be role model, and they noticed their teachers practicing health related skills they teach. This encourages them to do the same.

“Teacher has to be role model to us, practicing healthy behavior also”
“Encouraging us to be healthy and to practice healthy activities”
“I feel happy and supported when my teacher is doing things she mentioned in class”.

4.2.5. Summary of the Qualitative Data

To sum up, the purpose of this study is to investigate students’ perceptions of the newly implemented HE program in the public secondary schools in Al Ain City. The focus of the in-depth semi-structured interviews is to address the second research questions of the study: What responses do public secondary students have regarding the HE program in Al Ain City? The interview questions guide was prepared and piloted as per the Interview Protocol Refinement (IPR) framework (Appendix 2). Thematic framework analysis was used to analyze the qualitative data collected through the interviews. The five stages of thematic analysis are as follows: transcription, familiarization, coding, and theme formulation. The last stage is interpretation. It is covered in the discussion chapter of this study. The researcher relies on the Drake’s Know, Do and Be (KDB) model (2010) while conducting the interviews to obtain data that answers the research question. Overall, four themes were developed and reported. The first theme is healthy living that includes five sub-themes namely: healthy eating, benefits of physical activity, prevention of diseases, social and mental health and first

aid. The second theme is health advocacy, the third theme is collaborative learning and the last theme is teacher's character.

4.3. Integrated Analysis and Results

The purpose of this research study was to investigate the students' perceptions of the newly implemented HE program in the public secondary schools in the UAE. The researcher selected the mixed methods to carry out the study. The mixed method is a combination of quantitative and qualitative methods that is used to study the diverse health related features (Östlund et al. 2011). Thus, the benefits of employing the mixed method to the current study are of twofold. Firstly, it provides a more complete understanding of a research problem (Creswell 2014). Secondly, it allows the researcher to find answers to broad research questions through the integration of two opposing methodologies to obtain strong conclusions (Cronholm & Hjalmarsson 2011). Based on this, the data was collected through a questionnaire and semi-structured interviews.

The tables below: 4.39, 4.40, 4.41 and 4.42 offer an overview of the integrated results obtained from questionnaire and interviews. The researcher integrated the results of the data to provide a visual illustration of the results. Also, it serves the facilitation and referencing of the next discussion and recommendation sections of the study. The questionnaire is divided into sections to obtain students' perceptions on knowledge, skills, dispositions and the teachers of HE. The displayed integrated analysis covers only those perceptions that are mentioned by participants during the interviews and, at the same time, are stated in the questionnaire's statements. Statements that are not revealed by the participants in both methods are not included in the integrated analysis. However, they are included in the

quantitative or qualitative presented results. Also, demographic data are not mentioned in the integrated analysis as it is covered in details in the quantitative data analysis.

Table 4.39 displays the results of the data collected through the questionnaire's knowledge section and the interviews. It can be observed that the data collected through the interview elaborated on the students' perceptions about their knowledge that was collected through the questionnaire. For example, 78.3 % of the participating students stated that their healthy eating knowledge is developed through their learning in HE. During interviews, participants elaborated on healthy and unhealthy eating habits. Another example, 63.9 % of the participants reported that they gained the essential HE knowledge about non-communicable diseases from school. During interviews, participants conveyed that they learn about BMI and how to interpret it. This reflects their knowledge about obesity that is a non-communicable disease.

Quantitative method		Qualitative method	
Survey statement	Results	Interview questions	Results
1. communicable diseases and its causes	67.9 % of the participants gained the essential Health Education knowledge about communicable diseases from school.	What is the benefits students gain from the health education subject?	“I am aware of many diseases and how it can be prevented.” “We learned about hand washing technique” “And also about coughing and sneezing techniques.”
2. non-communicable diseases and its causes	63.9 % of the participants gained the essential Health Education knowledge about non-communicable diseases from school.	What are the topics students like the most and why?	“Healthy eating and diseases of in proper eating habits and fast food.” “We learned about BMI, how to calculate it and what does it means”
3. basics of first aid and CPR	70.5 % of students’ responses highlighted that their knowledge about basic first aid and CPR is acquired through their learning of HE.		“I have learned what to do in case of emergency” “Now, I know what to do in case of emergency, if it happens to any of my friends in school or a family member, and also, who to call and who to refer to in case of any emergency health problem.” “In case of emergency, or accident I keep calm, and call 998” “If it not an emergency, I go to the doctor” “If any accident happen and there is bleeding, I press the wound”.
4. healthy eating habits	78.3 % of the participating students stated that their healthy eating knowledge is developed through their learning in HE.	What is the benefits students gain from the health education subject?	“Healthy eating and diseases of in proper eating habits and fast food.” “I learned about healthy living and healthy eating.”
5. benefits of physical activities	70.5 % of the responses indicated the helpful impact of school health education program on their knowledge about benefits of physical activities		“I learned the benefit of PE lessons and exercises” “Exercise keeps me fit and not to be obese” “Also, I am participating in school sport activities and competitions”

Table 4.39: Integrated results of the questionnaire’s knowledge section and the interviews.

The integrated results of the data collected through the questionnaire’s skills section and the interviews are illustrated in Table 4.40. 52.7 % of the student participants who responded to the questionnaire section inquiring about their skills reported that they are able to practice the communicable diseases preventive measures they learned in HE. During interviews, students’ participants pointed out some measures for prevention of communicable diseases

transmission such as hand washing and sneezing protocols. On the other hand, percentages of participating students who agreed and disagreed on the learning of first aid and CPR in HE program are equal (37.6 %). During interviews, students expressed their preference to practice life-saving skills on manikins.

Quantitative method		Qualitative method	
Survey statement	Results	Interview questions	Results
1. communicable diseases prevention measures	52.7 % of the students are able to practice the communicable diseases preventive measures they learned in HE	How students apply concepts they learned at school? Give examples	“I am aware of many diseases and how it can be prevented.” “We learned about hand washing technique” “And also about coughing and sneezing techniques.”
2. non-communicable diseases prevention measures	53.1 % of the students are able to practice the preventive measures of non-communicable diseases they learned in HE	How students apply concepts they learned at home? Give examples	“We learned about BMI, how to calculate it and what does it means” “I do exercises as we learned that they are good for our mental health” “I told my family what are the consequences of obesity, like diabetes, and that it is not good to be overweight”. “I shared with my family what diseases we may have if eating junk food”
3. the first aid and CPR on a manikin	37.6 % is students’ percentages of those who agreed and disagreed on the learning of first aid and CPR in HE program are equal	How students deal with health related problems that might arise? Give examples.	“In case of emergency, or accident I keep calm, and call 998” “If it not an emergency, I go to the doctor” “If any accident happens and there is bleeding, I press the wound”. “I prefer to practice the life-saving skills on a manikin” “It is more fun to do CPR on a doll” “ we do not have dolls to practice in school”
4. physical activity	55.4 % of responses identified that learning in HE supports them to practice physical activity	How students apply concepts they earned at school? Give examples	“Health education encouraged me to be involved in the PE classes as much as I can.” “I do exercises as we learned that they are good for our mental health”
5. healthy eating at school and at home	58.9 % of students conveyed that their learning in HE prepared them for healthy eating practices.	How students apply concepts they learned at home? Give examples	“Know what breakfast to bring school, what to eat in our break. I am bringing fruits and vegetables to eat.” “When I go to the supermarket with my family, I know how to select healthy items.”

Table 4.40: Integrated results of the questionnaire’s skills section and the interviews.

Table 4.41 displays an integrated analysis of the data collected through interviews and those of the dispositions section of the questionnaire. When responding to the study’s questionnaire, more than half of the students stated that they are supported to practice healthy life style, whereas in the interviews, participants provided examples on the same concept from their daily living activities. The same can be applied to the questionnaire items about

health related careers. 60.5 % of the participants expressed that their awareness of the careers in the healthcare fields. However, in interviews, students verbalized what health related career they want to pursue in their future.

Quantitative method		Qualitative method	
Survey statement	Results	Interview questions	Results
1. being a health advocate	59.7 % of student participants conveyed that they are health advocates	How does health education subject affect the students as persons?	<p>“It encourages me to be a health advocate, to encourage others stay healthy too.”</p> <p>“I know what is right and what is wrong, and not to practice risky behaviors”</p> <p>“To be a good citizen for the benefit of my family and community”</p>
2. teach peers, siblings, and others about healthy living	59.7 % of participants agreed that their learning of health education in schools helps them to teach peers, siblings, and others about healthy living	Do they involve their family with lessons learned in class? Give examples.	<p>“I shared with my family what diseases we may have if eating junk food”</p> <p>“I taught them how hand washing should be done”</p> <p>“I shared with family the danger of smoking”</p> <p>“I told my family what are the consequences of obesity, like diabetes, and that it is not good to be overweight”.</p>
3. practice healthy life style	58.2 % of students agreed that they are supported to practice healthy lifestyle	What is the benefits students gain from the health education subject?	<p>“It encourages me to be a health advocate, to encourage others stay healthy too.”</p> <p>“I know what is right and what is wrong, and not to practice risky behaviors”</p> <p>“Stay away from unacceptable behavior”</p> <p>“It benefited me a lot. It prepares us to be healthy people in the future, women and wife, to take care of my daughters and sons in the future.”</p> <p>“it helps me to be a healthy adult.”</p> <p>“...and to raise healthy kids”</p>
4. seek help from health professional in case of any health related issues	57.8 % percent of the participating students conveyed that they are seeking reliable healthcare help for their health related issues.	How do they deal with health related problems that might arise? Give examples.	<p>“We may refer to the school counselor or the social worker”</p> <p>“I go to the nurse to inform her and follow doctors’ instructions”</p>
5. know more about health related careers	60.5 % of the participants expressed that their awareness of the careers in the healthcare fields is linked to their studying the health education in schools.	What is the effect of HE learning on future career?	<p>“I know now what fields I can study in university”</p> <p>“I want to be a doctor taking care of sick people”</p> <p>“I want to be a health education teacher”</p>

Table 4.41: Integrated Results of the dispositions section and the interviews.

The integrated results of the data collected through the questionnaire’s teachers section and the interviews are presented in Table 4.42. When responding to the questionnaire, 69.4 % of students stated that their health education teacher has knowledge about the health education subject they teach. In interviews, students expressed that they preferred their HE teacher to be a specialist in health related field. Another example, when answering the interview question: what are the traits of an effective HE teacher to enhance your learning of HE?

Students' responses pointed that the HE teacher should be knowledgeable and specialist in the health field. Whereas, 69.4 % of students stated that their health education teacher has knowledge, and 58.5 % of them informed that their teacher of health education is practising the lesson's related skills in the class.

Quantitative method		Qualitative method	
Survey statement	Results	Interview questions	Results
1. Encourage me to apply things I learnt	66.7% of the participants stated that they are encouraged by their teacher to practice HE concepts they learned in the class.	How would you describe the role of the teacher of HE?	"Encouraging us to be healthy and to practice healthy activities"
2. Practice concepts I learnt in class	66.7 % of the participating students conveyed that their teacher is practicing the health education concepts they teach in school.	How would you describe the role of the teacher of HE?	"Teaching skills to explain to us and we understand from her" "Teacher has to be role model to us, practicing healthy behavior also"
3. Have knowledge about health education concepts	69.4 % of students stated that their health education teacher has knowledge about the health education subject they teach.	In your opinion, what are the traits of an effective HE teacher?	"The teacher should be of Knowledge about health education" "Good relationship with students and be fair when dealing with us" "The teacher should be a specialist in health, like nursing, public health, nutritionist, pharmacist or doctor"
4. Able to practice the skills of the lessons	58.5 % of the students informed that their teacher of health education is practicing the lesson related skills in the class.	In your opinion, what are the traits of an effective HE teacher?	"Teaching skills to explain to us and we understand from her" "The teacher should be a specialist in health, like nursing, public health, nutritionist, pharmacist or doctor"
5. Are my health related role model	60.9 % of students considered their school health education teacher as their role model	In your opinion, what are the traits of an effective HE teacher?	"Teacher has to be role model to us, practicing healthy behavior also" "I feel happy and supported when my teacher is doing things she mentioned in class".

Table 4.42: Integrated Results of the teacher's section and the interviews

To conclude this section, the purpose of the study is to investigate students' perceptions of the newly implemented HE program in the public secondary schools in the UAE. The mixed method was employed. That is a combination of quantitative and qualitative methods. So the data was collected through a questionnaire and semi-structured interviews. This section presented the results of the data collected through the questionnaire's section and the

interviews. Although, it was a concurrent mixed method, it can be observed that the data collected from students' responses during the interview, elaborated, in a way or another, on the students' perceptions that were reported by students through the questionnaire. This section covered only those perceptions that are mentioned by participants during the interviews and, at the same time, are stated in the questionnaire's statements. Responses or perceptions that are not revealed by the participants in both methods are not included in the integrated analysis as they are presented in the quantitative or qualitative results.

The next chapter is the final chapter where the results of the collected data from the questionnaire and the interviews are discussed. This is followed by conclusions recommendations and the limitations of the study.

Chapter Five: Discussion, Conclusion and Recommendations

The reason behind conducting this research study arose from the desire of the researcher to investigate the students' perceptions of the newly implemented HE program in the public secondary schools in the UAE. This chapter aims to discuss the findings acquired in response to the three research questions: 1). To what extent do demographics variables affect students' perceptions of health education? 2). What responses do public secondary students have regarding HE program in Al Ain City? 3). What perceptions do public secondary students have regarding HE program in Al Ain City? Additionally, this chapter covers the conclusion, implications of the findings, research recommendations and limitations.

5.1. Discussions

To answer the above three questions, a mixed-method design approach was used. This methodology supports the researcher to obtain a comprehensive data from five-point Likert scale questionnaire and in-depth semi-structured interviews. The discussions section of this chapter discusses the study's findings in comparison with empirical studies in the field. At the same time, the study's theoretical framework is employed as foundation to develop a better interpretation of the results. Thus, the section presents the discussion of the findings of each data set and integrated results. So, the following sections display the discussion of the quantitative results, discussion of the qualitative results, and then the discussion of the integrated results.

5.1.1. Discussion of the Quantitative Results

The focus of the students' questionnaire is to address the first two research questions of the study: 1). To what extent do demographics variables affect students' perceptions of health education? 3). What perceptions do public secondary students have regarding HE program in Al Ain City? 258 students participated in the study. All participants are female students from four secondary public schools within the city of Al Ain in the United Arab Emirates. In the following sub-sections, there are discussions of the students' perceptions conveyed through the questionnaire.

5.1.1.1. Demographic Data

The demographic data was the first section of the students' questionnaire. It included queries on students' age, nationality, and school grades through which the students learned the health education subject. This section of the questionnaire did not require participants to reveal their names. According to Fraenkel, Wallen and Hyun (2014) anonymous questionnaires are reliable as they encourage participants to respond and to be honest. Also, the demographic section of the questionnaire did not include the gender specifics, as all participants were female students in the secondary public schools. The collected data reflected that more than half of students at this stage of their education were at the age of 17 (53.5%). The second higher percentage were 16 (29.1%). The remaining twenty-eight students (10.9 %) were 18 years of age. It can be concluded that the participating students who shared their perceptions about HE in Secondary Schools through answering the whole questionnaire, were between 16 and 18 years of age. On the other hand, it was found that the majority of the participating students were Emirati students who provided responses to all items in the questionnaire. The demographic questions in the present research study provided the researchers and the readers

with an opportunity to know what portion of society the findings are representing (Hammer 2011). It affords understandings of each participant's background, characteristics and actions, support and acknowledgments of personal abilities (Rughinis & Huma 2015). Additionally, it permits comparison in future replicated research studies. Especially, in health related fields, it supports researchers to highlight students' concerns, health risks, and limitations in health and educational services. It also allows an understanding of the participants' perspectives on how things should be done to meet their needs and to provide resources to meet their requirements. At a larger scale, it allows policy makers and communities to plan future service investments and improvement plans. Being aware of the study's demographics provide guidance to improve outcomes and effectively allocate resources.

The health education program in the secondary public schools is offered to students in Grades: 10, 11, and 12. The focus of Grade 10 was on health and wellbeing to include healthy eating, physical activity and diseases prevention. The Grade 11 contents emphasized the social and mental health to target bullying, stress management, and family relationships. The Grade 12 content covered the health of young women including first aid skills. Participants' responses to the questionnaire item inquiring about which Grade levels students learn about HE subject at their schools show that 97.1% were in grades 10, 11 and 12 and 99.5 % stated that they learned HE in Grades 11 and 12. However, recommendations from WHO stated that school HE programs and comprehensive curriculum should start in primary and secondary and before the youngsters engage in risky behaviours (WHO 2003). Other same recommendations were given by the experts at the Society for Public Health Education (SOPHE-ASCD 2010), Dorn, Kanikeberg and Mendoza (2016), and the State Statutes and Regulations for Healthy Schools (SSRHS 2019) that HE should be provided throughout all

school grades. The Joint Committee on National Health Education Standards (JCNHS) specified that the school HE program should be given to students in Grades 3 to 12 (JCNHS 2007). However, the findings of the current study showed that there was no significant difference between students' perceptions of the questionnaire items and their grade levels. It can be concluded that students may study the HE in schools at Grades 11 and 12 only and still be able to respond to the overall questionnaire. Although the content is different for every grade, however, the reason behind these results may be due to the repetition of the basic concepts through the three grade levels. This is specifically true if students were implementing the learned behaviours and skills in their daily life activities. For example, a study that was conducted by Haleem et al. (2016) on oral health education (OHE) showed that "the repetition and reinforcement play a key role in school-based OHE" (p. 10) as their findings showed a significant improvement in adolescents' oral health behaviour. Additionally, to match the students' cognitive abilities, the complexity of the concepts is higher at higher grades. So when students are able to perceive more difficult concepts, the easy ones are very well known to them. Jourdan (2011) stated that the differences in knowledge and skills acquisition rely on the type of knowledge and skills acquired and the mode of practice, training and routine.

5.1.1.2. Decision Making and Goal Setting Skills

In the displayed findings of the study, half of the students' input (51.1 %) affirmed that their decision making skills were learned and consequently practised during their learning of HE. In regard to the goal setting skills item, 47.3 % of the students agreed that their skills of goal settings were also linked to their learning of HE. Standards of health care focus on key skills that are needed for the application of concepts of healthy living. Decision making and goal

setting are among these skills that should be used by individuals to be engaged in health enhancing behaviours (JCNHS 2007). Shahsavarani and Abadi (2015) pointed out that decision making is a cognitive process that ends up with reasonable selections, based on the evaluation of the available options. Thus, decision making is the selection of the suitable solution from variety of alternatives (Mettas 2011). Delazer et al. (2011) argued that the decision-making process is influenced by an individual's beliefs, values, personality and culture. However, goal setting is the practice of creating strong and practical objectives or targets for learning. It includes performance and gaining good grades. If students' goals are linked to the learning task, the value of the task increases and consequently the motivation to accomplish it (Moeller, Theiler & Wu 2012). Regarding to their applications to health education, decision making and goal setting skills are needed to modify the influence of what surrounds the person; such as peers, family and media, to reach a more healthy option the person can adopt (JCNHS 2007). Dauphin (2019) argued that sound knowledge is fundamental for good decision making skills. When students gain health literacy in class, they are able to use the information to make informed decisions. Moreover, decision making promotes health, as it is a skill that can be used at any time and in the future (Dauphin 2019). According to Moeller, Theiler and Wu (2012), students who are provided with opportunities to learn and develop decision making and goal setting skills are able to make healthy choices and perform responsible decisions.

5.1.1.3. Medical Terminology

During the learning of the health education subject in schools, students are learning basic medical terms. This is to provide students with basic understanding of the language of medicine, such as: Hypertension, hypotension, BMI, hyperthermia, hypothermia, heat stroke

etc...In the current study the majority of the students' responses agreed with the statement that the learning in health education improved their knowledge about medical terminology. About half of participants' responses indicated the use of medical terminology in HE class. In addition to the analysis finding of a positive correlation between the perceptions on the knowledge of medical terminology and its use ($\rho = 0.443$). Learning some basic medical vocabulary at school level motivates students to pursue their study in a health related career. Knowing medical terms gives them an advantage when applying to health sciences or medicine universities as it is central for success in the health care workplace (Stauffer 2019).

5.1.2 Discussion of the Qualitative Results

The main purpose of the study was to investigate students' perceptions of the newly implemented health education program in the public secondary schools in Al Ain City. In-depth semi-structured interviews were conducted to five groups of 32 participating students. Participants were Grade 12 female students from four secondary public schools within the city of Al Ain in the United Arab Emirates. The focus of the in-depth semi-structured interviews is to address the second research questions of the study: What responses do public secondary students have regarding HE program in Al Ain City? In the following sub-sections, there is a discussion of the students' responses to the in-depth semi-structured interviews.

5.1.2.1. Physical Activity and Culture

According to Macdonald et al. (2009) teenagers' physical activity is formed by sociocultural and environmental factors. For that reason, families have a strong impact on their behaviours, decision-making, and attitudes. Especially in Arabs, Benjamin and Donnelly (2013) described that the lack or facilitation of families' social support can hinder or augment their

members' participation in physical activity. In reference to gender, the participants in Ramanathan and Crocker (2009) informed that they were taught to be engaged in physical activity by their brothers and fathers, and were inspired to be active by males in their families. Likewise, research found that female participants were prioritizing family commitments (Kahan 2011) and academic achievement (Taylor & Toohey 1998) over exercising. Another cultural issue was added by Donnelly et al. (2012) that the sedentary lifestyle of the participants was due to the fact that they depended on their domestic helpers and drivers. Taylor (2009) has highlighted the impact of dress and gender segregation as factors that prevent females from being active. Similarly, the participants in Nakamura's study (2002) reported that the dress code of certain sports, that is not suitable for them, prohibited them from being active and encouraged their sedentary behaviour. Recently, Aljayyousi et al. (2019) carried out a study in Qatar. The majority of the participants stated that their family health values were shaped by their culture, and they followed these values. They reported that their culture facilitates physical activity for males and prohibits it for females. The researchers observed that the participants perceived the males as role models of physical activity and are more active than females within the same family. Also, they found that more males joined the sport clubs, however, females are more to house work and walking. The authors indicated that gaining a level of physical fitness was the main aim for the males for engaging in physical activities, however for females, the most essential reasons were socialization and having fun. Furthermore, Laar, Shi and Ashraf's (2019) findings indicated that the female participants in their research have a negative attitude toward physical activity. Their study presented that females lack parental support to engage in sports and sometimes families prohibit their daughters to participate in physical activities. Likewise, during the interviews, the participants in this study identified that their culture would not allow them to

practise physical activities outside their homes. So, their exercises were somehow limited to what they did in schools.

5.1.2.2. Collaborative Learning

The findings of the interviews reflected that participants preferred collaborative learning to learn better the HE subject. They preferred to do activities and to apply the knowledge and skills they learned in the class about health education. They identified that doing these skills is motivating them. They stated that they like to discuss what they learned with their peers to have their feedback. Obtaining feedback from each other has mutual benefit among students in improving and consolidating the learned skills. Some participants in the study communicated their comfort and better performance when they learn alone. As they considered learning in groups may distract them or waste their time. It can be found that the findings of the study highlighted the students' different learning styles in a collaborative learning environment. There is a broad research defining collaborative learning. The most influential is the work of Gokhale (1995). Gokhale (1995) defined collaborative learning as a "pedagogy in which people come together in groups and learn from each other through cooperation. Each student takes responsibility for the learning of other students in their group as well as their own and they help each other to be successful" (p. 22). The author in her article "Collaborative Learning Enhances Critical Thinking" emphasized that "students at various performance levels work together in small groups toward a common goal. The students are responsible for one another's learning as well as their own. Thus, the success of one student helps other students to be successful" (Gokhale 1995, p. 22). Collaborative learning can be also defined as a principle of structured process of education that promotes teamwork through creating a context for students to exchange ideas and participate (Petrescu,

Gorghiu & Draghicescu 2017). Petrescu, Gorghiu and Draghicescu (2017) argued that collaborative type of learning enhances students' control over their own knowledge. This helps them to make their own decisions and take responsibility of their own learning and, consequently, work together to attain a common goal. In this context, the teacher's role is to facilitate and guide the students through their learning process. Lai (2011) has argued that an interaction among learners is able to produce expanded explanations and improve learning predominantly for students who are having low achievements. Moreover, two studies that were carried out by Laal and Ghodsi (2011) and Carmichael (2009) found that collaborative learning can produce better achievements and higher productivity levels among students. Other advantages have been identified by Senthamarai (2018) that in collaborative learning students develop their communication, teamwork, negotiation and leadership skills. In addition to that, they have opportunities to accept different perspectives. Olteanu et al. (2014) demonstrated that collaborative learning is a resourceful educational strategy. This strategy can be considered not only in classroom learning but also in online and distance learning and virtual learning environments (Olteanu et al. 2014). Petrescu, Gorghiu and Draghicescu (2017) conducted a survey study to identify the advantages of the collaborative learning associated with the identification of its limits. The participating teachers in their study reported that collaborative learning promotes positive attitude to learning among students, develops their interactive skills, improves students' performance, and increases their interest and motivation. However, teachers highlighted some limitations due to the time, efforts and expenses of the material needed. They added that the passivity of some students that may persist, especially, those who depend on their higher performing peers. Another limitation is the conflicts that may arise between students. Chen, Jones and Xu (2018) clarified that the need of a collaborative method in learning depends on the learning outcomes of the subject

and the requirement of students' interaction. In a health education context, Benes and Alperin (2019) acknowledged the students' engagement and interaction during the learning of skills in collaborative learning settings. They recognized the importance of practice in a student-centered learning environment while learning in health education; as it is related to student's self-efficacy and, consequently, self-confidence to apply the learned skills inside and outside the classroom and in many different settings. Thus, teachers need to provide room for students to showcase these skills and abilities. When a skill is practised in the classroom, it enhances behavioural change as per the health behaviour theories. It provides students with opportunities to have feedbacks, to experience success and to apply critical thinking (Benes & Alperin 2019).

Within the findings of the study, the students presented their perceptions of how they have better learning experiences of the health education subject. The majority of their responses reflected preferences towards collaborative learning; others are not, or within limitations. This finding sheds light on students' learning styles. Students' learning styles refer to the way the students learn. Scholars in the field of education look at different aspects of learning, so different classification and interpretation have been produced (Boneva & Mihova 2012). One of the definitions focuses on information processing given by Della-Dora and Blanchard (1979); this definition considers the learning style as "a personally preferred way of dealing with information and experiences for learning that crosses content areas" (p.22). Other definition considers the sensory perception during learning as presented by Claxton and Rolston (1978), that is, the learning style is "the student's consistent way of responding and using stimuli in the context of learning" (p. 1). According to David Kolb (1984) the individual's past experiences influence their learning styles. Kolb defines learning style as "a

result of hereditary equipment, past experience, and the demands of the present environment combining to produce individual orientations that give differential emphasis to the four basic learning modes postulated in experiential learning theory” (Kolb 1984). Some theorists focused on the preferences of students to perceive new information. This leads to the labeling of auditory, visual and tactile-kinaesthetic learners. The auditory learner refers to an individual who learn better by hearing the information or instruction. The visual learner is the one who prefers to see the material in a visual format to learn most effectively. And the tactile-kinaesthetic learner is the person who learns best through doing or practising the provided instructions (Boneva & Mihova 2012). Every learning style possesses a set of characteristics, qualities and features that defines students’ learning preferences (Zhang, Sternberg & Rayner 2012). Manolis et al. (2013) added that learning styles are present in set of learning environments, such as: learning environment that is affective, symbolic, perceptual, or behavioral. Thus, the consideration of these learning environments in the education process enhances the accommodation of different learning style (Al-kaabi 2016). For example, if an active learner is presented in an environment that limits his opportunity to interact or work within a group; this will hinder his satisfaction and consequently his performance. On the other hand, when a reflective learner who prefers to reflect on a certain task by themselves; will be having a sense of frustration when placed to work with others. In such cases, the effectiveness of interaction among students depends on some factors. One of these factors is the strength of the students’ preferences. Another factor is the group members who the student has to work with and whether or not the course requirement forces them to work with others (Chen, Jones & Xu 2018). Another example is based on the definition of leaning styles as verbal or visual learners. The verbal learner tends to enjoy an interactive environment where he has the opportunity to verbally discuss a certain problem. Conversely,

the visual learner may favor the perusal of a task or problem on his own (Chen, Jones & Xu 2018). It is expected that a verbal learner's learning experience would be better in a collaborative environment. Surprisingly, Chen, Jones and Xu (2018) found that visual learners' have better perceptions of learning experiences in a collaborative environment. It can be found that the learning styles play a major role in students' learning journey; it is of significant importance for teachers to be aware of their students' learning styles. The understanding of the learning styles supports the teachers to formulate their lesson plans to meet the students' styles. That is essential at this stage of learning, especially for poor performance students, as these students can be easily frustrated. However, the mismatch, that may be inconvenient to some styles, will help some students to discover new methods of learning that may suit them better. Yet, this mismatch should be used cautiously in an attempt not to cause a student's dropout (Tuan 2011). According to Ghoneim and Budi (2012), the learning style is a crucial aspect in the attainment of the objectives of the education process. Thus, it is essential to consider the students' insights about their preferred ways of learning so as to increase the effectiveness of the outcomes of the education system. Furthermore, the identification of students' learning styles can improve self-efficacy leading to enhance students' motivation and problem solving skills. Therefore, when learning styles is considered in the teaching methods, it will guide the creation of an improved educational environment as well as quality of education (Sen & Yilmaz 2012; Al-kaabi 2016).

Additionally, identifying one's learning style also benefits the learners themselves, as they come to know how they learn better. Thus, students become more responsible for their own learning, control it and situate themselves at the center of the learning process (Gilakjani & Ahmadi 2011). Besides, there are three categories of advantages of identification of learning

style as argued by Ldpride (n.d.). The first is the academic benefit that enhances the learning ability of students. It also supports them through all the stages of their education as it helps them to know how to study and get good grades in their subjects. The second advantage incorporates higher self-esteem and self-confidence, helps in identifying one's weak and strong points, increases their motivation and strengthens student's abilities and skills. The third merit is professional that encompasses gaining advantage of competition, acquiring team management skills, and being up to date of professional topics. Simultaneously, Sadler-Smith (2001) defined three groups of learners. The first learning group encompasses dependent learners. These students prefer a teacher directed learning. They favour integrated educational program and seek teacher's follow up and continuous evaluation. The second group includes the collaborative learners. These students prefer discussions and are concerned with social interaction and group projects. The third group embraces the independent learners. The students of this group consider their teacher as a resource and prefer to refer to learning databases. As a result, when students are aware of their learning style, they will be able to incorporate it into their learning process. Awla (2014) concluded that identifying one's learning style makes the learning process faster and easier for the learner. It also supports them to effectively solve problems.

The observational learning has been highlighted by the social aspect of Bandura's theory, and noted that these experiences successively directed anticipatory behaviors in upcoming interactions. However, the cognitive aspect of the theory explained how knowledge and experiences gained through social interaction are coded, stored and then recalled in learner's memory (Kay & Kibble 2015). Specifically, the reciprocal causation model of Bandura's theory highlighted the impact of interaction between individuals and their environment on

enhanced learning (Bandura 1986). As such, through the process of interaction and collaboration, learners progressively “internalize or take for themselves knowledge and skills they developed in their interactions with others” (Wood & Bandura 1989).

5.1.2.3. Women’s Health and Nutrition

The health education curriculum offered to the secondary female students in the UAE includes topics on women’s health and nutrition, and children’s health. As such, the participating students stated that their learning of health education supported them to be healthy female adults, and it affected their way of life to positively contribute to their present and future families. They added that they know how to take good care of their children in future. Generally, the evidences in the available literature showed that there is a strong link between the education status of individuals and their quality of life and lifelong health. Women, to be specific, are playing major roles within their families; they are the ones taking care of their children, preparing their food, comforting them during their illnesses. These roles women are fulfilling have situated them as health promoters of all family members. Most importantly, these interventions are providing the physical, emotional and social needs to promote their children and families health (Goodwin, Garrett & Galal 2005). Makoka (2013) indicated that school health programs that focus on adolescence girls as its core values have a huge impact on the future generation. The reason behind this assumption is the solid association between adolescent girls’ school education and the health of children they have in the future. Grant (2017) emphasized that if healthy and well-nourished children are the focus of any nation, then, its young women need to be well educated. Young women’s health education provides them with awareness, so that they utilize their knowledge to keep their children healthy and use the healthcare services provided whenever needed (Güneş 2013;

Natarajan & Devaki 2013). It empowers them with abilities to understand and communicate with healthcare providers. It offers them information about the consequences of risky behaviour, such as smoking, and its effect on the fetus during pregnancy. It supports them with greater knowledge about diseases, their methods of transmission and prevention (Güneş 2013). The offering of health education about nutrition assists young woman to provide healthy food for her children. Correspondingly, guiding her on the proper methods of storage, preparation and handling of food, and appropriate ways of sanitation to avoid diseases. This is leading to her awareness and abilities to protect her family from infections, malnourishment, and deficiencies and anemia that may result from the lack of certain nutrients supply (Goodwin, Garrett & Galal 2005). Women are the caretakers of their children. Health promotion and disease prevention can be considered as most effectively done by them within their families. Simultaneously, they have the opportunity to teach their children the healthy behaviours and hygienic practices to keep them safe. Another opportunity they can benefit from is due to the fact that children tend to observe and imitate their parents, so they can be their role models (Goodwin, Garrett & Galal 2005). For example, children who were nurtured in a house where their parents do not smoke are less prone to become adult smokers than those who nurtured with parents who smoke.

5.1.2.4. The Challenge of HE Learning in English

In the course of the interviews, some participating students reflected that one of the challenges they faced during their learning of health education was the English language, as the language is the medium of instruction. They added that they found it difficult during classroom explanation as well as during exams. The difficulty was mainly in the explanation of a concept to answer a question. They informed that they understood the topic well when

it was translated to the Arabic language as it is their mother tongue. As per the demographic data of the study, the majority of students in the government schools where the study was carried out are Emirati nationals. MooreJones (2015) argued that the English language as the medium of instruction is difficult for them. Al-Issa (2018) suggested that the reason behind this challenge is that most of the Emiratis are studying in government schools which are free of charge and do not teach English thoroughly. Rabea et al. (2018) observed that the English proficiency of students who are newly enrolled in universities is very low. Authors referred this finding to the fact that Arabic people are using their mother tongue in their daily life conversations. Earlier, Zughoul (1987) gave other rationales for the challenges the Arab students are facing in learning English. One of these rationales is that the English curriculum lacks proper implementation in some schools. Another underlying cause is due to the teaching methodology implemented by the teachers (Zughoul 1987).

Another related interviews' finding of the present study was that the students perceived that their learning would be better if their teachers have good English as their subject should be taught in English. Nowadays, English is becoming the language of communication and instruction within different contexts worldwide (Rabea et al. 2018). Thus, qualified English speaking teachers are needed to improve students' skills in using the language as well as to achieve the required learning outcomes of the course (Alfaran 2016). Morell et al. (2014) clarified that most of universities around the world offer programs that are being taught in English. Accordingly, it is recommended that the English language is a necessity (Rabea et al. 2018) and its competency should be developed prior to the students' enrollment in universities to pursue their studies (Alfaran 2016). Alfaran (2016) added that when the educational policies considered the implementation of English as medium of instruction they

recognized the positive impact of English language on students if the academic subjects are taught in the same language. On the other hand, Belhiah and Elhami (2015) conducted a study to explore the effectiveness of English as a medium of instruction in the Gulf region with special focus on the United Arab Emirates. Some of the study's students' participants highlighted the improvement in their English language. Others perceived that English as medium of instruction in several subject enhances their speaking, listening and writing skills and they felt more confident interacting during their lessons. Others preferred to include Arabic language in their examinations, as answering in Arabic is much easier since it is their mother tongue. They also conveyed their preferences of bilingual model; that is English-Arabic medium. They also, "explained that there should be an equal focus on both languages because English is a global language, which they must learn and master in order to be able to exchange information and interact effectively with people from other nations" (p. 19). Alternatively, teachers' participants of the same study acknowledged the improvement of their students' English language. They also suggested the use of the bilingual model. From this stand point, the researchers suggested the implementation of "bilingual curriculum in which instruction is delivered in English and Arabic in order to enhance students' linguistic and biliteracy skills" (p. 3). This is consistent and very well noted in the students' preferences in the present study.

In regard to health education, Chen, Goodson and Acosta (2015) recommended the use of English as a second language (ESL) curriculum. Additionally, Santos et al. (2014) pointed out the benefits of the ESL programs for those whom English is not their mother tongue language to promote their health literacy. Martinez et al. (2013) argued that ESL programs support learners of health education to understand basic information via guides and

frameworks of the needed vocabulary. In this context, there is a need for collaboration among the health education teachers and the ESL educators to focus on both health education and English language (Simons-Marton, McLeroy, & Wendel, 2012).

5.1.3. Discussion of the Integrated Results

This sub-section offers a discussion of the integrated results obtained from questionnaire and in-depth semi-structured interviews. The discussion covers only those perceptions that are mentioned by participants during the interviews and, at the same time, are stated in the questionnaire's statements. Statements that are not revealed by the participants in both methods are not included in the integrated results' discussion. However, they are included in the quantitative or qualitative presented discussions. Also, demographic data are not mentioned in this discussion as it is covered in details in the discussion of the quantitative questionnaire data. Thus, the focus of this sub-section is to present the discussion obtained from the questionnaire's data and the in-depth semi-structured interviews to address the second and third research questions of the study: 2). What responses do public secondary students have regarding HE program in Al Ain City? 3). What perceptions do public secondary students have regarding HE program in Al Ain City?

5.1.3.1. Communicable Diseases

Almost two-thirds (67.9 %) of the participants of the present study perceived that they gained their knowledge about communicable diseases and their causes from HE learning in their schools. About half (52.7 %) of the students reported their abilities to practise the communicable diseases preventive measures. Moreover, the correlation test found that there was a positive correlation between the students' perceptions on the knowledge of

communicable diseases and their causes and their practices to prevent them as the rho is 0.506 (>0.05). Throughout the interviews, participants' responses indicated that they gained their knowledge about prevention of the spread of diseases through their daily practices; like proper hand washing and coughing and sneezing protocols. In this regard, Nasreen et al. (2010) reported that the majority ($> 85\%$) of school students coughed or sneezed uncovered and into the air. Unfortunately, it was stated that "hand washing was never observed after participants coughed or sneezed into their hands" (Nasreen et al. 2010, p. 762). Sultana et al. (2017) offered participating students in their study an opportunity to spread a public message of a practical method to support the cough etiquette behaviours. They educated students to cover coughs and sneezes using elbows or upper sleeves. Hence after one month of their intervention, the proportion of students who followed the coughing and sneezing etiquette increased from 0% to 39%, and the percentage of coughing and sneezing into air was reduced by 45%. Moreover, they noted that students found it fun and were comfortably sharing it with their peers, teachers and parents (Sultana et al. 2017). Likewise, it is also recommended by the centers for disease control and prevention to cover mouth and nose when coughing and sneezing and keeping hands clean to limit the spread of germs and prevent respiratory diseases such as influenza, whooping cough, and COVID-19 (CDC 2020).

5.1.3.2. Non-communicable Diseases

The chronic or non-communicable diseases are diseases that are not transmitted from one person to another, and are of prolonged course (CDC 2013). They are also referred to "lifestyle-related diseases" (Gamage & Jayawardana 2017). The main causes of deaths and disabilities around the world are the non-communicable diseases (Hawkes, Jewell & Allen 2013). The key risk factors for the development of non-communicable diseases include

hypertension, diabetes, smoking, alcohol intake, obesity and physical inactivity (Musaiger & Al-Hazzaa 2012). About two thirds (63.9 %) of the students' participants of the current study stated that they gained their knowledge about non-communicable diseases and their causes from schools' HE program. Approximately half (53.1 %) of them informed that they are able to practise the non-communicable diseases preventive measures. Correlation test also showed that the students' perceptions on their knowledge of non-communicable diseases and their causes and their practices of the same concept is positive ($\rho = 0.474$). Also, in the interviews, participants mentioned that they learned about non-communicable diseases and their effect on individuals' health and future. They communicated their knowledge about prevention of obesity and diabetes, and the effect of smoking on the body. Others reported that they were aware of the methods of prevention of non-communicable diseases and they shared these knowledge and practices with their family members. Regarding the possible causes of the high rates of non-communicable diseases among individuals, Al-Nohair (2014) argued that modern world practices and technological development such as using cars instead of walking, lifts instead of climbing the stairs, international chains of fast food rather than cooking at home, and the facilitation of domestic helpers are leading factors to the intense increase in obesity. Gamage and Jayawardana (2017) highlighted the need for behaviour change in adolescence that leads to lifelong values in the prevention of non-communicable diseases. Consequently, it is of core value to carry out ongoing observation to understand the knowledge and practices of this age group to initiate a plan of development (Gamage & Jayawardana 2017).

5.1.3.3. First Aid and Cardiopulmonary Resuscitation

In response to the questionnaire, the majority (70.5%) of students' responses highlighted that their knowledge about basic first aid and cardiopulmonary resuscitation (CPR) was acquired through their learning of HE. In the interviews, students mentioned the benefit they gained through their learning about the first aid topic in HE. They reported that they learned what should be done in cases of emergencies in school and at home. They added that they should keep calm and call the 998; that is the medical emergency response number all over the UAE. They also mentioned some of the skills they learned like stop bleeding and performing the CPR. However, Students' percentages of those who agree and disagree on the learning of first aid and CPR skills in HE program are equal (37.6 %) showing low percentage on the skills item. Also, during the interviews, students did not show perceived confidence on their skills to practise these concepts. They informed their preferences to practice the skills on manikins and/ or dolls. A review that has been done by Reveruzzi, Buckley and Sheehan (2016) revealed that the knowledge and skills the students learn in their first aid training have a major protective effect, as the skills they acquire are of immense value to prevent and reduce injuries among adolescents. Other studies found that the training of lay people on first aid makes them capable of performing the skills better than those who are untrained (Cho et al. 2010; Tanigawa et al. 2011; Kanstad, Nilsen & Fredriksen 2011). This sheds light on the importance of the training of lay people about what to do in emergency cases (Bohn et al. 2013), especially the first aid that is given from the bystanders which is considered an essential procedure in the chain of survival (Bakke, Bakke & Schwebs 2017). Over time, and especially in schools, the skills taught can reach the wider community (Kanstad, Nilsen & Fredriksen 2011). Bakke, Bakke and Schwebs (2017) reported that the majority of physical

education and vocational subjects' teachers are teaching their students the first aid skills. As perceived by their participating teachers, there are some limitations in regard to the quantity and quality of the training sessions they provided. Teachers in this study stated that the curriculum failed to specify the skills they should teach and that they are not provided with first aid instructorship training. Another limitation is the lack of manikins (Bakke, Bakke & Schwebs 2017). The latter limitation is similar to what the students perceived was lacking in terms of their first aid training in the current study. Similarly, several studies acknowledged the core value of the availability of learning material during the first aid training such as booklets, videos and manikins (Fleischhackl et al. 2009; Jimenez-F ´ abrega et al. 2009; De Buck et al. 2015; Reveruzzi, Buckley & Sheehan 2016). Bakke, Bakke & Schwebs (2017) recommended that the curriculum should contain the expected outcomes of specific skills the students should learn, and also reiterate the importance of offering the teachers with the needed first aid training.

5.1.3.4. Smoking as a Health Hazard

More than half of the students showed that learning the HE subject helps them to gain the skills on how to avoid the health related risks (61.6 %). During interviews, participants of the study reported awareness of the harm of smoking to the human health. They stated that they shared this information with their parents and family. Smoking is a risk factor for the development of chronic diseases. According to Salimi et al. (2006), the smoking initiation among secondary students is associated with many factors, such as peer pressure, curiosity, smoking of a family member and imitation. As such, many scholars recommended modifications in the schools' policy to prohibit smoking on their premises (Kaleta et al. 2017; Pierce, White & Emery 2012; Huang et al. 2010). These policies to include all teaching and

non-teaching school staff as this can deliver indirect messages and can lead to reduced rate of smoking in adolescent students (Nikaj & Frank Chaloupka 2015). Studies also revealed that schools that are having antismoking policy in place have lower occurrence of student smoking (Kaleta et al. 2017).

On the other hand, in the HBM, the student depends on the comparison between benefits and costs among the present options to choose a health promoting behavior (Abraham & Sheeran 2015). The health belief model (HBM) is one of the most employed health behaviour model when health education is to be applied at an individual level. The model has been used to address behavioural problems that may induce health concerns, and to motivate individuals to make healthy decisions (Renuka & Pushpanjali 2014). Moreover, the model has been widely considered as a theoretical predictor of health actions that are preventable (Li & Kay 2009). For example, since smoking is a preventable cause of cardiovascular diseases and cancers, it is worthy to consider the model in the prediction of a smoking behaviour (Reisi et al 2014). The findings of a study that was done by Renuka and Pushpanjali (2014) found that the HBM is an effective foundation to improve the knowledge and attitude of all the study's participants. As it encouraged students to enroll into smoking cessation program to improve the attitude of other smokers.

5.1.3.5. Healthy Eating Habits

The majority (78.3 %) of the participating students stated that their healthy eating knowledge is developed, and more than half (58.9 %) of them conveyed that their learning in HE prepared them for healthy eating practices through gaining knowledge about proper food choices. Additionally, the correlation test showed a positive correlation between the students' knowledge of health eating and their skills in practicing it ($\rho = 0.369$). Also, throughout

the interviews, participants mentioned that they practised and implemented this knowledge during their daily life. Also, they demonstrated that they are aware of the association between unhealthy eating and diseases that may be developed by it. For example, while choosing their food or shopping with their families they tended to select healthful items. Besides, they were encouraged to prepare their food that was of nutritious value and bring to school to eat during their break time. These findings are consistent with Dudley, Cotton and Peralta (2015) results of their study that educational interventions led to positive behavior change among school students. The researchers clarified that these interventions had an encouraging impact on the students' choices of fruits and vegetables intake as it improved their knowledge about nutritional food. Also, it reduces the students' consumption of unhealthy and sugary foods. Similarly, the students' participants of Chan, Siu and Lee (2019) reported increased knowledge of healthy eating and changes in dietary behaviors. In addition to that, Al-Abed et al. (2012) reiterated the importance of eating habits of the student population. They argued that the unhealthy eating behavior that is developed early in an individual's life will most probably persist into later life.

5.1.3.6. Physical Activity

In the present study, more than two-thirds (70.5 %) of the responses indicated the helpful impact of school health education program on their knowledge about the benefits of physical activities. More than half (55.4 %) of responses identified that learning of HE supported them to practise physical activity. Furthermore, during the interviews, the participants stated that they learned about the Body Mass Index (BMI), and how to calculate and interpret the result. They also conveyed that they are encouraged to participate in school's physical activities and they knew its impact on their wellbeing, and on their mental health. These findings found to

be matching with the findings of several studies in the field that aimed to evaluate the obesity risk factors and the impact of the school based interventions to prevent it. For example, Haghani, Shahnazi, and Hassanzadeh (2017) carried out a three-year school-based study aimed to reduce the body fat percentage in school students. Their study showed that there are significant differences between the intervention and the control groups in terms of nutritional and physical activity. The researchers concluded that education intervention they provided to overweight students improves their lifestyle and reduces their weight. As they noticed that the average BMI elevated in the control group and decreased in the intervention one. Another study that was done by Xu et al. (2015) to assess the changes in the BMI and obesity in terms of students' knowledge and lifestyle behaviors. Xu et al. (2015) intervention's group showed greater reduction in the mean BMI compared to participants in the control group. As they observed that students' health behaviors were improved. They also noted that students were aware of the obesity risk factors and that they were trying to avoid sedentary and practicing more active lifestyle. On the other hand, several studies have assessed the impact of physical activity (PA) school based interventions on students' obesity. However, the results among studies were inconsistent; thus, studies were unsuccessful to create constant conclusions (Ridgers 2012). A systematic review that was done by Dobbins et al. (2013) concluded that there is a significant positive influence on students' behavior due to school-based physical activity interventions. Conversely, the meta-analytic review that was done earlier by Stice, Shaw and Marti (2006) conveyed that school based interventions of physical activity failed to reduce the BMI in school students. Another study by Mei et al. (2016, p. 1) recommended a "long-term school-based interventions containing PA as a core component appear to be effective in achieving healthier BMI". The authors also recommended to cautiously interpreting the results with consideration of the high heterogeneity among studies. The most

common recommendation of related studies was the long term delivery of educational interventions and not only during the time of the study; therefore, the positive impact of physical activity on an individual's health status can be achieved. In the same context, Biddle and Asare (2011) recommended that physical activity is a vital component of health education. It can be considered as the most important strategy to prevent obesity (Mei et al. 2016), and that school-based physical activity program should target all students irrespective to their weight status (Haynos & O'Donohue 2012).

Therefore, it can be noticed that there is a connection that can be initiated among the three concepts of healthy eating, physical activity and non-communicable diseases. According to Stapleton and Smith (2013), individuals' eating habits are controlled by their self-awareness on how much they engage in their eating styles. Some may perceive that they have the ability to monitor their food intake. Other, may lose this control when responding to specific situations that generates mindless eating. The centers for disease prevention and control (CDC) (2011) argued that physical inactivity and poor eating habits are risk factors for various health conditions, however, healthy diet and continuous physical activity can provide the body with controlled body weight.

5.1.3.7. Social and Mental Health

More than half (55.8 %) agreed that HE in schools assists them to practice dealing with their daily life stress. Throughout the interviews, participated students of the study indicated that their learning in school health education program taught them the principles of social and mental health. Students mentioned some examples such as social support and dealing with stress and bullying. They also revealed that they were taught who to refer to - school

counselor or social worker - when facing any of these issues. Students' participants conveyed that they learned physical activity is promoting mental health, and that their mental statuses were improved while exercising. These results match other studies' findings. To mention some, Tyson et al. (2010) reported that "students who engaged in high levels of physical activity showed significantly lower levels of anxiety and depression than the medium and low physical activity groups" (p. 495). Biddle and Asare (2011) reported the evidence of the link between mental health and physical activity, specifically, poorer mental health and sedentary lifestyle. Biddle and Asare (2011) added that physical activity can improve individual's self-esteem. Yet, the impact is not as strong, as it depends on suitable study designs and quality research. Also, Philippot et al. (2019) study's participants, who were subject to low and moderate exercise program, displayed reduced anxiety and depression symptoms. These results are aligned with the findings of another study that was done by Sund, Larsson and Wichstrom (2011). The later study's findings indicated that a high level of sedentary behaviour is considered a risk factor for depression symptoms (Sund, Larsson & Wichstrom 2011). Another study that was done by Tharaldsen (2019) reported that the students' participants perceived that the school based interventions improved their stress coping skills, their learning environment and promoted their social and emotional health. Research studies indicated that most of students' stresses are related to grades, teachers' and parents' expectations (Bakken 2016), and inability to fit in in school (Tharaldsen 2019). Other studies that were carried out by Clarke et al. (2015) and Durlak et al. (2014) informed that the school based interventions on social and emotional learning have improved students' mental well-being and academic achievements. Jones, Greenberg and Crowley et (2015) provided clarification on the social competence as it involves a student's ability to fulfill a task and learning of interpersonal skills. Thus, also the extent of the students' social

competency impacts their well-being at school (Lillejord et al. 2015). In the same vein, it is well known that chronic stress may lead to physical and emotional illnesses and negative impact on academic achievement. Sheykhjanm (2015) argued the vital role of the counseling services in schools as they provide comfort to students to talk and express their feelings. Accordingly, Sheykhjanm (2015) recommended that workshops and conferences on strategies to cope with stress should be given to all students.

The other emotional and mental issue that was observed in the interviews' findings of this study was the participants' awareness of the bullying concept. Participants stated that they were encouraged to practice the act of kindness to each other and avoid bullying. Also they specified that they know where to go to have support in their school. By definition, bullying refers to repeated, aggressive and intentionally harmful behavior against other person who is not able to defend themselves. It can either be verbal or physical. Another recent type is the online bullying – cyberbullying; it is taking place through the social networking sites. This type of bullying is rapidly changing relying on the technological development (Smith 2016). For the reasons that phones are not allowed in schools, Jang, Song and Kim (2014) argued that although cyberbullying is not taking place at schools, most of the bullies are from the same class or belong to same year group. Hasebrink (2014) added that it is well noticed that cyberbullying is rising especially among girls. Moreover, the studies have shown the negative effects on individual's life such as low self-esteem, depression, and in severe cases suicidal attempts. Some of these influences may continue and impact student's adult life (Takizawa, Maughan, & Arseneault 2014). Considering the long and short term impact of bullying on students' physical and mental health, there are various anti-bullying programs that are carried out in schools worldwide (Smith 2016). Generally, surveys in the field have found out a decline in bullying incidents in schools in the last decade. This is mainly the result of anti-

bullying awareness and implementation interventions (Chester et al. 2015). However, these programs are rarely evaluated as reported by Farrington and Ttofi (2010). Farrington and Ttofi (2010) carried out a review of literature and recommended that a wider community perspective should be considered to reduce bullying in schools; as to include parents and families either through meetings, trainings or educational presentations. Similar recommendation was suggested later by Axford et al. (2015). Smith (2016) also presented various recommendations to include in anti-bullying school program. One of the recommendations is the peer support. In this intervention, students are trained to support other students to reduce bullying and to improve their general well-being. Ttofi and Farrington (2011) proposed that these programs should involve students within fourteen years of age and older rather than younger students. Cross et al. (2011) endorsed the need for teacher training programs as the availability of such trainings are inadequate.

5.1.3.8. Health Advocacy

More than half (59.7 %) of student participants in the present study conveyed that they are health advocates and that their learning of health education in schools helps them to teach peers, siblings, and others about healthy living. Additionally, more than half (58.2 %) of students agreed that they are supported to practise healthy lifestyles. Furthermore, the correlation test showed a positive correlation between the students' being a health advocate and teaching peers, siblings, and others about healthy living ($\rho = 0.67$). Also, a positive correlation between the students' being a health advocate and practicing a healthy life style ($\rho = 0.54$). Likewise, throughout the interviews, participants stated they are sharing their knowledge and skills they learned in school with their families and relatives to keep them healthy. Students also perceived that they were supported to be healthy persons and to

encourage others to be healthy too. Also, they liked to tell others about risky behaviors they may indulge in and the consequences of these behaviours. The perceptions of the participants match with Griebler et al. (2017) findings that their study's students' participation in health education has positive impacts not only on students themselves but also on their teachers and parents, and consequently is essential to build a better society. This participation enhances their feeling of empowerment and ownership. It also develops their competence, confidence and their healthy behaviours. Griebler et al. (2017) emphasized that participation of students in health education benefitted their school communities and positively influencing their social interactions with peers. Also, it encourages them to possess a healthy life style in respect to diet and physical activity and stay away from risky behavior such as smoking and alcohol consumption. Offering students opportunities to be engaged in their communities enable them to make a difference that leads to a healthier society that is a real positive change (Checkoway & Gutiérrez 2006; Toomey et al. 2018). This contribution provides them with positive experiences and at the same time, through sharing of their knowledge with others, they develop their communication skills (Lerner et al. 2015). Nordin, Jensen and Simovska (2010) reiterated that these practices increase motivation, knowledge and awareness of health promotion interventions among students. Smathers and Ferrari (2018) stressed that the health advocate role of students supports them to identify healthy behavior, develop strategies, and implement these strategies for the benefit of themselves and their communities.

5.1.3.9. Health Related Careers

About sixty percent of the participants expressed that their awareness of the careers in the healthcare fields was linked to their studying the health education in schools. In interviews, the participating students pointed that they got ideas about future careers and that they were

considering health related professions. In general, schools are a vital place for students to start discovering diverse career prospects. Curry (2013) recommended that schools should offer wide and diverse curricula to warrant a successful career future for students. Having a diverse curriculum allows students to have wide range of opportunities and to develop the needed skills and competencies in preparation for the future work life (Curry 2013). The World Health Organization (WHO) (2013) added that learning experiences and solid background of related knowledge augment high quality students' recruitment in universities. In regard to the health field, students' engagement in the health education subject supports their orientation to healthcare related professions. The WHO (2013) specified that it also guides them to the health professional categories, and aspire and prepare them to such professions. The introduction of secondary school students to these careers serves as an urgent agenda item to overcome the worldwide severe shortage of the healthcare workers. This is evident in the students' perceptions, as they are considering health related professions for their future. This is associated with career planning offered at school level that facilitates settling a choice for future profession. Furthermore, the WHO (2013) emphasized the need of teachers' training and preparation, so competent teachers can be provided in schools. The reason behind the provision of competent teaching staff is not only for the purpose of sharing knowledge and skills but also to act as role models to their students. Thus, students can be influenced and choose the career path of their teachers. At this point, it is noteworthy to recall one of the student's statement to follow and emulate her HE teacher's character: "I want to be a health education teacher". Many factors impact students' future career path, such as self-interest, parents, teachers, society exposure, and media (Zafar 2019). Curry (2013) added that students get most of the future college experience if they understand well what to anticipate in their post-secondary education. Students perform better when they know what to expect

so they develop an attitude to prevail in their academic and social environment. Gysbers (2013) described a well-prepared student to be proactive and resilient to move towards a self-defined future career that meets his/her satisfaction. Hilling (2017) specified that “students must have the knowledge, skills, and dispositions to plan and visualize their futures” (p. 11). The International Youth Foundation (IYF) (2014, p. 1) argued that “insufficient or incomplete knowledge of available career paths, and how to pursue them, is a primary barrier to youth entry into the labor force”.

5.1.3.10. Reliable Health Services

In the current study, about sixty percent of the participating students conveyed that they are seeking reliable healthcare help for health related issues and more than two-thirds (71.7 %) of them reflected that their learning in HE help them know about the healthcare services. Also, during the interviews, students confirmed that they will check with appropriate healthcare providers to seek help such as physicians and nurses and to follow their instructions. Gönenç (2015) highlighted the importance of this notion, as it helps students to seek health care services at early stages and at the right time when dealing with health problems for themselves, family members and future children. For example, health education supports the pregnant lady to recognize the dangerous signs of pregnancy and to ask for health care services to provide adequate care (Mojoyinola, 2011). Also, it provides the concept of having a healthy and safe pregnancy for herself and her baby. Some of these safety practices may include proper nutrition; follow up visits in antenatal clinics and attending health education classes. However, women with less health related knowledge will have poor health behavior, high risk of birth defects related to less follow ups and prenatal screening (Deliktas 2016).

5.1.3.11. Health Education Teachers

When responding to questions about the teacher's role in their learning experiences of health education, aspects on teacher's impact were highlighted in participants' responses. The majority (69.4%) of students stated that their health education teacher have knowledge about the health education subject they teach. About two thirds (66.7%) of the participants stated that they are encouraged by their teacher to practise HE concepts they learned in the class. Same percentage (66.7%) of students conveyed that their teacher is practicing the health education concepts they teach in school. More than half (58.5 %) of the students informed that their teacher of health education is practicing the lesson related skills in the class. More than half (60.9 %) of them considered their school health education teacher as their role model. Moreover, it can be observed that there is positive correlation between the students' responses on all items of the questionnaire with teachers' knowledge and skills of HE. In the course of the interviews, the majority of participants pointed that the HE teacher's knowledge and experience is important to them and the way s/he teaches has a lot of influence on their learning. Also, participants displayed that their learning is impacted by the teacher passion to the subject s/he teaches, they feel that this passion is transferred to them. Participants added that a knowledgeable and experienced teacher inspires them to be like her/ him in the future. Some participants stated that teachers should be role model, and they noticed their teachers practicing health related skills they teach that encourages them to do the same.

Metzler and Woessmann's (2010) study provides quantitative and statistical evidence on the impact of teacher's knowledge on students' accomplishment. They asserted that the only consistent determinant that is associated with students' achievement is the teacher's subject knowledge. They highlighted the attention needed from the educational policy makers and

administrators on the subject knowledge of the teachers as well as to consider providing training whenever needed. These can be considered as a means to improve student's attainment of the learning outcomes. However, Clotfelter, Ladd and Vigdor (2007) noted that the teacher's knowledge of the subject contents is only a foundation aspect of a teacher. The authors highlighted that a strong teacher's academic credential is needed to enhance students' achievements. The participants of the current study also mentioned that the teacher's style of teaching and the methods of teacher's communication and dealing with them as professional and fair have positively affecting their learning process. In this regard, Hightower et al. (2011) asserted that quality teachers are able to reveal their teaching skills, communication, commitment and abilities to create an environment that is conducive to learning. The creation of such environment produces activation and interaction in their classrooms that is vital to address any challenges their students may experience (Blömeke, Olsen & Suhl 2016). The positive influence of teacher's understanding of the learner's styles, needs and culture is presented in several literature resources. Thus, the teachers' teaching strategies have positive impact on student's achievement, their approach to learning and learning styles (Rogers 2009; Tulbure 2010; Tulbure 2011; Uluga, Ozdenb & Eryilmazc 2011). Tulbure (2011) added that for the teacher to be able to respond to the student's needs, they require flexibility, creativity and responsibility. Although there are lot of evidences of teachers' impact on a student's learning, there is little observation that were carried out to prove this impact (Metzler & Woessmann 2010). Nonetheless, most of students' learning occurs during interaction. In classrooms, this interaction is usually planned and implemented by the teacher (Blömeke, Olsen & Suhl 2016). Therefore, teacher's quality is also an essential factor of students' learning outcomes (Hanushek and Rivkin 2010). However, the individual teacher's impact on his/her students depends heavily on the extent of his/her quality indicators. These

indicators vary from one teacher to another and influence their instructional processes. Thus, they impact instructional quality (Blömeke, Olsen & Suhl 2016). Blömeke, Olsen and Suhl (2016) clarified that the quality indicators are associated with the teacher's background, teaching experiences, and professional development participation. The authors also added that the teacher's character, such as self-efficacy, is also an important indicator of their quality. Then again, teachers should prepare well for their teaching, to master their pedagogical skills, and to prepare examples to use while conducting their lessons. Then, students will be able to construct knowledge from their learning and not only memorizing the information taught to them (Maazouzi 2019). In addition to that, Maazouzi (2019) identified that the teacher's behaviour inside the classroom has a vast impact on the students. As such, teachers who display enthusiasm, exert efforts, and accept students' differences are highly appreciated by their students. Per se, these characteristics not only enhance respect and understanding, but also produce an effective communication and instructional methods. Maazouzi (2019) added the teachers' competency also influences their behaviour, as they are able to plan for teaching strategies that meet their students' abilities and needs. This planning is a result of their appropriate knowledge and understanding of the taught curriculum. It can be concluded that these professional attributes demonstrate the teachers' ability to enhance students' learning (Kumar 2013), provide explanation to students whenever it is needed, and provide opportunities to practice new skills (Lai 2011). This is evident in the findings of the present study as about two third of the participants stated that they are encouraged by their teacher to practice HE concepts they learned. These outcomes, in turn, have impact on teaching quality and students' performance (Kersting et al. 2012).

As previously explained and shown in many studies, students' performance and academic accomplishment in health education are influenced by their teachers and through their abilities to create an environment that is conducive to learning (Tulbure (2011; Uluga, Ozdenb & Eryilmazc 2011; Blömeke, Olsen & Suhl 2016; Tulbure 2010; Hanushek & Rivkin 2010; Maazouzi 2019; Kumar 2013;Lai 2011; Kersting et al. 2012). As indicated in the findings of this study, more than half of the students considered their school health education teacher as their role model, and two thirds of them informed that their teacher is practicing the health education concepts they teach in school. Also, in the interviews, students expressed that their teacher should be their health role model to encourage them to behave the same. This leads to the concept that teachers are able to inspire their students and consequently are having life-long impressions on their lives (Bashir, Bajwa & Rana 2014). Most of the skills are being learned by the students through the process of observation (Salisu & Ransom 2014). As such, teachers are able to model the positive personal characteristics and show it through their teaching and caring behavior in schools (Narinasamy & Logeswaran 2015). Loh and Nalliah (2010) recognized teacher as role model is an effective means to influence students' personality growth and academic success. In the field of health education, health education teachers have been always acknowledged for their classroom activities in an attempt to facilitate students' health related skills development. They also must be role models for their students to create easier reception of health concepts and assist in implementation (Drummond 2015). Shein and Chiou (2011) study found that the students' learning styles are associated with their teacher's learning style when they consider them as role models. The researchers argued that the supportive relationship between students and their teachers encourage students to engage in activities carried out in the classroom. The same finding was noted by another study that was done by Bashir, Bajwa and Rana (2014). Bashir, Bajwa and

Rana (2014) findings identified that students like to share their concerns with their teachers that creates positive and supportive relationships with them. Thus, the teachers' attributes inspire these students to participate in activities and motivate them to have positive attitude towards the subject. Also, this kind of relationship offers the teachers "opportunities to understand and connect with students' interests, preferences, opinions, cultures and emotions, and plan for this in their teaching" (p. 12).

The theoretical framework of the present study served as a foundation to develop a better interpretation of the results. In Wallston's health locus of control, it has been clarified that the model is based on the individual's recognition of their own health status. Hence, it is the person who is taking responsibilities of their own health. The responsibility they have is reflected by their behavior. Specifically, in internal health locus of control, individuals believe that their current health status is directly related to their commitment and abilities to health promoting lifestyle activities (Bergvik et al. 2012). The model recommended that healthy practices impacted by individual's perception of control. As these individuals have a sense of responsibility for their health, they prevent to be involved in negative health behaviors that, for sure, lead to negative health outcomes. For example, eating behaviour is greatly relying on one's self-awareness on how to deal with environmental conditions, how to deal with stressful situations, when to eat and the quantity they need to eat. Therefore, these persons are careful in their decisions in regard to food choices (Stapleton 2013). According to Bandura (1986) and at this stage, the individuals interpret the consequences of their decisions. Consequences that are positive and successful are retained, and those that are negative and failed are discarded. This has been suggested by Bandura's enactive learning that impacts one's self efficacy. Self-efficacy helps people to decide on behaviour change, to

be confident in their abilities to perform a task, and to have better life skills (Hasan, Hossain & Islam 2014). When applying this construct to obesity and overweight, individuals interpret the consequences of their actions and use these interpretations to develop their beliefs about their abilities to engage in related activities or tasks. Adhikari et al. (2018) argued that reciprocal causation model in Bandura's theory is an interaction between the individual, behaviours and environment. According to the social cognitive theory, when individuals consider changing a behaviour, they also consider the impact of the social reinforcement of their environment. The theory does not suggest that an increased self-efficacy will certainly lead to a behaviour change. However, the self-efficacy is influenced by one's beliefs about an expected valued outcome. Therefore, social support and self-efficacy are important concepts to contemplate in the prevention of negative behaviour (over eating that lead to obesity) and the maintenance of a healthy one (normal body weight). In this context, the main reason to employ the TTM in this study is its impact on the maintenance of the changed behaviour. Baysal and Hacialioglu (2017) implemented the model on overweight women to prevent obesity. Their results found that it is effective not only in developing their exercise behaviours, but also their adherence to this change. TTM is considered as the most popular in physical activity behaviour (Pirzadeh et al. 2015), as it describes how the change in attitude to the newly implemented behaviour happens (Glanz, Rimer & Viswanath 2008). According to a study that was conducted by Pirzadeh et al. (2015), the TTM based interventions can promote and maintain physical activity behaviour among women. The model supports the researchers to classify their participants into groups, to apply different strategies to each group suitable for every stage of the model. Additionally, self-efficacy is considered essential for an individual to move through from contemplation to preparation stage, and from preparation to action stage. Pan and Chen (2010) found that the high school students' self-

efficacy increased after their interventions to exercise behaviour change. Likewise, the findings of Manely and Nishida (2014) study highlighted the efficiency of self-efficacy in the changes in behaviours. They found that the higher the self-efficacy the better people perform in their physical activities. Another example is on the skills section of the study and how the theoretical framework provided the guidance to its process. The theoretical framework components that support the concept of first aid and CPR skills are Bandura's SLT (1977) and SCT (1999). For learning new skills, Bandura recommends the observational learning process. There are four stages of observational learning: attention, retention, motor production and motivation. In the health related educational fields, studies have been conducted to evaluate the four components of the observational learning. A behavioural scale was used by Livsey and Lavender-Stott (2015) to evaluate motor reproduction. Another piece of literature by Bethards (2014) discussed the application of the SLT concepts in simulation in nursing education. From Horsburg and Ippolito (2018) perspective, students should be given the opportunities to practice the skills they observe on their role models. They also acknowledged the effective impact of feedback given to students when demonstrating the learned behaviour along with strategies for improvement. Moreover, the process of observing others, while performing the learned behaviour, gives opportunities for an individual to learn from others' mistakes (Horsburg & Ippolito 2018). Thus, the behavioural capability of the social cognitive theory provides the individual with the needed knowledge and skills to perform a behavior, and promote mastery learning through skills training (Rimer & Glanz 2005). Behavioural capability reports that, "to perform a behaviour, a person must know what to do and how to do it" (Rimer & Glanz 2005, p. 21). Bandura's theory supports the current study in guiding the process of HE skills' learning. Consequently, students of HE should observe their teacher practicing (modeling) the required skill, teachers to give students the

opportunities to demonstrate the learned skill (production), and then, teachers to give constructive feedback for students to develop and improve their skills. If to apply Bandura's social cognitive theory to the teacher character, it can be found that teachers who apply strong efforts to overcome challenges they face in classrooms, are having stronger self-efficacy and are persistent and able to overcome these challenges (Tschannen-Moran, Woolfolk Hoy & Hoy 1998).

To apply the theoretical framework to the mentioned concepts of dispositions, it can be found that students with internal health locus of control relate their achievements to their own efforts, hard work, problem solving and decision making abilities. Additionally, students with internal LOC are more responsible about their accomplishments or disappointments, so they are more self-dependent in attaining their goals (Hill 2016). Moreover, self-efficacy supports individuals to learn new knowledge and to grow their skills to attain their own goals, and to have better life skills (Hasan, Hossain & Islam 2014). Gangloff and Mazilescu (2017) found that individuals with high self-efficacy set higher challenging goals and put efforts to attain them. In regards to the TTM, student relies on their decision making abilities to decrease health risk behaviours, increase health-enhancing behaviors and maintain these behaviours (Prochaska 2008).

5.2. Conclusion

Schools play a critical role in their students' health and wellbeing. This is because of the mutual relation between health and education. Jourdan (2011) stated that supporting students' health will promote their education and education will promote their health. Therefore, schools are an ideal place for the promotion of health and safety through working in tandem

of the public health and education sectors through which students can be supported to maintain a healthy behavior (CDC 2015).

The United Arab Emirates' Ministry of Education (MoE) launched the health education curriculum in government schools (The National 2015). It is implemented, from January 2017, in all female public schools in the UAE to the grades 10, 11 and 12 (MoE 2019). This study aimed to investigate students' perceptions of the newly implemented health education program in the public secondary schools in Al Ain City. To develop an insight into students' perceptions, the following questions must be addressed:

1. What perceptions do public secondary students have regarding HE program in Al Ain City?
2. To what extent do demographics variables affect students' perceptions of health education?
3. What responses do public secondary students have regarding HE program in Al Ain City?

The employed theoretical framework was developed based on the thorough review of literature in the field of health education. The core contribution of the theoretical framework was to provide guidance to understand health behavior. Also, the framework provided guidance to clarify the process of health behaviour change. Additionally, it facilitated understanding of why individuals are engaged in specific behaviour that is important to design and evaluate health education interventions (WHO 2012). Finally, the theoretical framework of the present study served as foundation to develop a better interpretation of the results.

To be able to answer the research questions, concurrent mixed methods research approach was used. So the data collection, data analysis and interpretation processes of the qualitative

and quantitative methods took place in parallel manner. When the results of both methods were at hand, they were integrated and discussed. The data were collected using quantitative and qualitative tools: students' questionnaire and students' in-depth semi-structured interviews.

The questionnaire of this study was designed using a 5-point Likert-type scale. It was developed based on broad literature review, the study's theoretical framework and the principles of evidence based practice (Ruzafa-Martinez et al. 2013). It comprised six sections. The first section enquired about the demographic data. The second section included inquiry statements on knowledge students learned in HE. Third section inquired about the skills and practices the student acquired throughout their health education learning. The fourth section focused on students' dispositions. The fifth section encompasses the student's perceptions of their health education teacher. The last section included an open ended statement. Reliability was conducted using Cronbach's alpha test. Results showed that Cronbach's alpha for the scale was 0.917 indicating that the instrument has sufficient reliability to measure students' perceptions of the phenomena under the study. Besides, the KaiserMeyer-Olkin (KMO) test and Bartlett's test of sphericity were conducted. Results showed that the KMO for the scale was 0.912 and Bartlett's test of sphericity was zero indicating the adequacy of the sample size and the significance of the questionnaire's items. Participants were students enrolled in last year of schooling, i.e. grade 12; the health education curriculum would be completely delivered to students at that time. There were 258 students who participated in the study. All participants were female students from four secondary public schools within the city of Al Ain, Emirate of Abu Dhabi, in the United Arab Emirates. The five steps of data analysis

process were followed as recommended by Greene (2007). The Statistical Package for Social Sciences (SPSS) statistics version 23.0 was used to carry out descriptive statistical test.

The in-depth semi-structured interviews were conducted to five groups of 32 students' participants. Participants were grade 12 female students from four secondary public schools within the city of Al Ain, Emirate of Abu Dhabi, in the United Arab Emirates. The interview questions guide was prepared and piloted as per the Interview Protocol Refinement (IPR) framework recommended by Castillo-Montoya (2016). First phase is to ensure the alignment of the interview questions with the research questions. The second phase of the IPR framework includes the construction of conversation that is inquiry-based conversation. The third phase of the framework comprises the process of feedback receiving on the interview protocol. The fourth and final phase covers the process of interview protocol piloting. While conducting the interviews, the researcher relied on the Drake's Know, Do and Be (KDB) model (2010). The "Know" focuses on the concepts the students must know in the HE subject. Whereas, the "Do" concentrates on the skills the students learned to be able to utilize the learned knowledge. Finally, the "Be" reflects the influences of the health education on students' character, personal growth, values and attitudes. Thematic framework analysis was used for the analysis of the qualitative data collected in this study.

The quantitative and qualitative data were analyzed separately. The analysis of quantitative questionnaire data showed that more than half of the participating students receiving their health education in schools are at the age of 17. The majority of participating students are Emirati. Besides, analysis displayed that there was a significant statistical difference in means of all participants' responses to the questionnaire statements. Also, the independent sample t-test showed that there was no significant difference between students' perceptions of the

questionnaire items and the grade levels they learned about HE ($p>0.05$). Thus, it can be concluded that the HE program can be offered in schools at grades 11 and 12 only. The post-hoc Scheffe test presented that there was no statistical significance difference within the means of the responses obtained from three out of four groups of students. Spearman's correlation detected a positive correlation between students' perceptions of their knowledge and their skills of HE. Also, the test illustrated that there was correlation between the students' responses on all items of the questionnaire with teachers' knowledge and skills of HE.

The students' knowledge acquired through their learning in HE were covered in the second part of the questionnaire. The result of the analyzed data showed that at least two-thirds of the participants gained their knowledge about communicable and non-communicable diseases through their learning of HE. Furthermore, the results demonstrated that the majority of the students' responses agreed with the statement that the learning in health education improved their knowledge about medical terminology. Similarly, two-thirds of students' responses highlighted that their knowledge about basic first aid and CPR were acquired through their learning of HE. It is noteworthy to mention that more than half of the participating students stated that their healthy eating knowledge was developed as well. Moreover, most of the participated students expressed the helpful impact of school health education program on their knowledge about benefits of physical activities. Additionally, a significant proportion of students reflected that their learning in HE helped them know about the healthcare services. Also, analysis showed that there was a statistical difference in the mean score among the participants from the four groups ($p<0.05$). The Scheffe test divided all participants' responses into three sets. Furthermore, the results of comparison of

independent sample t-test between the responses on the knowledge statements and the students' grade levels of HE study showed that there was no significant statistical difference.

The students' skills acquired through their learning in HE were covered in the third part of the questionnaire. The analyzed data showed that more than half of the students were able to practice the communicable and non-communicable diseases preventive measures they learned in HE at the public secondary school. In regard to the use of medical terminology, the data distribution showed that the students who agreed and strongly agreed are more than those who disagreed and strongly disagreed. On the other hand, and in regard to the learning of first aid and CPR in HE program, the responses presented by the participating students do not vary much as students' percentages of those who agreed and disagreed on the learning of first aid and CPR skills in HE program were equal (37.6 %). When it comes to the skills on how to avoid the health risks, the majority proportion of students was either agreed or strongly agreed that learning the HE subject helped them to gain the skills. Moreover, the students' inputs on their decision making skills highlighted that they were learned and consequently practiced as well. Furthermore, the majority of responses identified that the students' HE learning in schools assisted them to practise dealing with their daily life stress. In respect to the practice of physical activity, the higher percentage of students agreed with the statement about the link between their learning of health education and their practice of physical activity. Similarly, the majority of students conveyed a perception that their learning in HE prepared them for healthy eating practices. In addition to that, it can be observed that four of the items in the skills' section had a noticeable score of neutral responses. This is the case for communicable diseases, non-communicable diseases, medical terminology, and decision making skills. Finally, analysis showed that the skills questions on how to avoid

health risks, physical activity and healthy eating were not statistically significant. Thus, the post-hoc Scheffe test results found that the responses to the same mentioned statements were within one set. The t-test did not show any differences between the responses to the questionnaire statements of skills and grade levels of HE study.

The distribution of data on the participating students' perceptions on their dispositions during the learning of HE showed that more than half of the students' participants conveyed that they are health advocates. Additionally, more than half of participants agreed that their learning of health education in schools helped them to teach peers, siblings, and others about healthy living. Also, more than half of them agreed that they were supported to practice healthy lifestyle. The distribution of data analysis demonstrated that about sixty percent of the participating students conveyed that they are seeking reliable healthcare help for their health related issues. Moreover, the data presented that approximately two thirds of the participants expressed that their awareness of the careers in the healthcare fields was linked to their studying the health education in schools. Lastly, more than half of the students recommended that the health education subject to be included in the curriculum of the other grade level in the schools. Also, it is noteworthy to mention that the responses of three of the six dispositions statements had the same number of neutral and strongly agree responses. One-way ANOVA test revealed that there was no significant statistical difference in the response about the recommendation of HE subject to all over school grade levels. However, there was a statistical difference in the mean scores among the participants from the four groups of the remaining responses on dispositions questions. The post-hoc Scheffe test divided the groups of students into two sets of responses. The independent samples t-test showed that there was no significant difference as per the grades of study of HE.

The analyzed data on students' perceptions about their health education teacher found that all the ratings were the highest either for agree or strongly agree options. For example, more than two thirds of the participants stated that they were encouraged by their teacher to practise HE concepts they learned in the class. Similarly, more than two thirds of the participating students conveyed that their teacher was practising the health education concepts they teach in school. Moreover, the majority of students stated that their health education teachers have knowledge about the health education subject they teach. More than half of them informed that their teachers of health education were practising the lesson related skills in the class. Also, more than half of them considered their school health education teachers as their role model. The analysis indicated that there was a significant statistical difference in means between participants' responses to the teacher statements from the four groups of students. The post-hoc Scheffe separated the responses into two or three sets. Finally, the independent samples t-test showed that there was no significant difference between students' responses of those who study HE in their school grades 11 and 12, and those who study the HE in their grades 10, 11 and 12.

The thematic framework analysis was used for the analysis of the qualitative data collected in this study. Overall, four themes were developed and reported. The first theme is healthy living that includes five sub-themes namely: healthy eating, benefits of physical activity, prevention of diseases, social and mental health and first aid. The second theme is health advocacy, the third theme is collaborative learning and the last theme is teacher's character.

The majority of participants expressed that they learned about healthy eating. Also, they explained that they gained knowledge and skills to be able to choose healthful food choices. Students reported that they are able to select from variety of products what is healthy to buy,

what to bring to school to eat and what type of food that is beneficial to their health. Additionally, they stated that during their shopping, they know what items contain harmful ingredients and avoid buying it. Moreover, they presented the correlation of bad eating habits and development of diseases. Another concept that was highlighted by the students was their awareness about the Body Mass Index (BMI), and how to interpret its results.

Also, students reported that they have learned about the benefit of exercises on their health. Their responses reflected that they were encouraged to be involved in physical activities. They expressed their motive to do frequent exercises as it keeps them in shape. Some students shared their perceptions that physical activity influenced their mental health. They mentioned that their mental health is improved as they do exercise. On the other hand, some participants showed their interest to have a schedule for practising daily activities. They highlighted that they have cultural boundaries to practise physical activities in sport clubs or outside their homes. This was limiting their participation in doing exercises to school activities and competitions that were planned by the school administration.

High proportion of responses was about the benefits the students gained on the prevention of diseases through their daily practices; like proper hand washing and coughing and sneezing protocols. They conveyed their awareness of the diseases transmission and methods of prevention. They also expressed that they were teaching their family members on proper practices to avoid the transmission of diseases. Others also mentioned that they learned about non-communicable diseases and their effect on individuals' health and future. They reported their awareness on the consequences of bad habits and its correlation with long term diseases development. They specified diseases that may develop from unhealthy eating habits such as overweight, obesity and diabetes. Also, they were aware of the bad consequences of smoking.

Students showed their encouragement to share their information on smoking hazards with their parents and family.

The participating students' responses highlighted the benefit of health education in making them aware about the importance of social health. As they mentioned, they were practising these skills as demanded by their families and society without being aware that these are considered as part of their healthful living. The participating students expressed their awareness to whom they may refer if they face any problems. Other participants explained that the information they gained in the health education subject corrected some misconceptions they have about mental health. Students demonstrated that they were aware how to deal with stress and stressful conditions. Moreover, they conveyed their understanding of bullying behaviors and its concepts. However, they displayed their act of kindness they do to appreciate others.

Study's participants expressed the benefit they gained from the learning of first aid in the HE program. They demonstrated their knowledge and skills about some emergency situations. Participants conveyed that they were aware to contact UAE medical emergency services in case of emergencies. Also, students confirmed that they would check with appropriate healthcare provider to seek help such as physicians and nurses and to follow their instructions. Participants showed eagerness to learn life-saving skills. They preferred to practise these skills on manikins. Some students highlighted the lack of related equipment in their schools.

Participating students expressed their happiness to share their knowledge with others, especially family members, relatives and friends to contribute to a healthier society. They illustrated that they told their families about healthy eating habit, and consequences of eating unhealthy food. Some students expressed that they shared their knowledge about diseases

they learned. Similarly, participants shared their information on the danger of smoking, encouraged others to do physical activities. They also shared their knowledge about the first aid they learned in HE class. Also, students pointed that the subject oriented them for future careers. They reported that they were considering health related professions. Others stated that learning the HE subject supported them to be healthy adults, and it influenced their way of life to positively contribute to their present and future families. The HE subject gave them knowledge about keeping themselves healthy and take care of others.

When it comes to better learning experiences in health education, students expressed their ability to learn better in the presence of their friends. They preferred to learn with group of friends. They mentioned that they liked to share ideas with their colleagues. This was supporting them to learn better and remembering concepts they learned in class. Participants stated they may be reminded by their classmates on something they missed during the class. Others also reported that doing activities with friends helped practicing the skills they learned in class. Majority of the students mentioned that doing activities with friends in the class helped them to understand the topic, solving tasks and be well prepared for exams. On the other hand, minority of students reported that they were more confident to search by themselves. Others preferred to ask the teacher if they needed any support. Some expressed that they may offer help if they were asked to.

When asked about the challenges the students were facing during their HE learning, the majority stated that they knew how important the contents to them, however, the English language was a major challenge. They faced difficulty with English language. Arabic translation was preferred by the participants so that they were able to understand better the topics. Students specified that their major challenge was answering exam questions as it was in English.

When asked how teachers' role influenced their learning, majority of participants pointed that the knowledge and experience the teacher has and the way s/he teaches has a lot of influence on their learning. Also, participants displayed that their learning was impacted by the teacher passion to the subject s/he teaches, they felt that this passion was transferred to them. Participants added that a knowledgeable and experienced teacher inspired them to be like her/ him in the future.

Big portion of responses indicated that participants preferred the HE teacher to be specialized in one of the health related fields with good English language skills. Others stated that teachers should be role model, and they noticed their teachers practicing health related skills they teach. This encouraged them to do the same.

The analyzed data was integrated and then discussed in chapter 5. The study's findings were discussed in comparison with empirical studies in the field of health education. At the same time, the study's theoretical framework is employed as foundation to develop a better interpretation of the results.

5.3. Implications

The main purpose of the study was to investigate students' perceptions of the newly implemented health education program in the public secondary schools in Al Ain City. In the UAE, no studies to date were conducted to measure the impact of the implemented health education program. The findings of the current study displayed the outcomes of the investigation of the students' perceptions regarding the implemented program. Students' participants reflected their perceptions and responses either through the questionnaire or during the interviews. In either way, this study provided an opportunity to students to reflect on their learning, to express their opinions and communicate their needs. It is essential for

the HE program policy makers and curriculum developers to identify and consider these perceptions and responses. Therefore, the most significant implication of the study's results is that they provided clinical presentation for evaluation of the implemented HE program in schools. Also, these findings can be considered a valuable tool to the program policy makers and curriculum developers for future revisions, improvement, as well as, the facilitation of resources needed. In other words, to obtain the full advantage of the implemented HE program in the UAE public secondary schools, it has to be tailored to meet the needs of the UAE students' population; and these findings can facilitate this process.

The main findings of this study are related to the impact of learning in the HE program on students' knowledge, skills and dispositions. The students' knowledge on communicable and non-communicable diseases and their causes, and their skills on their preventive measures were learned through the HE school program. As well as students' knowledge and skills to promote their health through healthy eating habits and physical activities were also the output of their learning in the school HE program. Additionally, their first exposure to the medical terminology and its use was fostered by their enrolment in school that is offering the HE program. Students' decision making and goal setting skills were also acquired by this program; likewise, their knowledge about the first aid and CPR techniques. The results also provided evidences of encouraging students to be health advocates and healthy adults that impacted their family and society. Moreover, the outcomes showed that the students awareness of their social and mental health and how to maintain them. On the other hand, the presented results showed some students' challenges such as the need for practical application of skills that they were not capable of doing due to lack of resources. Another example was the finding about their challenges during their HE learning that was the result of English as

the medium of instruction. Thus, the most remarkable implication of these findings is informing the practices of HE teaching from students' perspectives that implies their positive impact on the students' HE learning. Then again, the results provided the HE teachers with a practical indication about the ultimate need of students for hands-on activities of the learned HE concepts. Figures also showed clues for the educators to understand students' limitations and cultural diversity. The findings also highlighted what are the students' preferred methods of learning, learning styles and what they perceived was needed to improve their learning experiences. Thus, teachers in the field may utilize these evidences to inform their teaching practices and methods of instructions. That is having a main influence on students' learning of HE principles; consequently, supporting students to attain the learning outcomes of the program.

Furthermore, the results provided a clinical evidence for HE teachers on the impact of their character, teaching style and subject knowledge on their students while learning the HE subject, as these results showed a direct link to students' performance, achievements and motivation. Therefore, through the perusal of the findings of the study, the health education teachers may use these references to highlight areas for development and improvement in terms of theoretical or skills levels. Accordingly, teachers may seek guidance and recommendation for training needs and professional development sessions and/or workshops.

In a broader view, the reviewed literature does not have one study to date that measure health education in schools in the UAE, nor investigate the impact of the implemented health education program in the UAE public secondary schools. It is noteworthy that this study is a UAE based research study and the school health education program is a governmental

initiative and not school-based intervention as provided by most of the studies. Thus, it is a significant implication that the findings of this study can be utilized worldwide by scholars and researchers in the field to include and compare these findings with other findings in the specific literature compiled. Additionally, this study presents the advantages of using the mixed method research approach in the health education related studies. This is obvious through the comprehensive picture displayed in terms of the effectiveness of the implementation of health related interventions.

5.4. Research Recommendations

While the health education curriculum in the public secondary schools in the UAE is relatively a new program, it is highly recommended that future research studies are conducted to investigate the teachers' perceptions on the HE program. It is essential to measure the processes of HE curriculum implementations from teachers' perspectives. Further studies are needed to focus on the HE teachers' skills that are needed so that the transferability of the practices can be applied more easily. More observations are needed to measure the teachers' preparedness and competences to teach the HE curriculum. Future studies to include observations of health education teachers used strategies inside the classrooms to create an understanding how it impacts student learning. Furthermore, larger scale observations are recommended to endorse the findings of the study under real life situations. In addition, if it is decided that the HE curriculum to be delivered to boys schools in the UAE, investigations are also recommended to measure its impact on students and their teachers. Also, more mixed methods of research studies are needed to investigate the students' opinion and attitudes towards factors affecting their learning of health education. Future studies are needed to investigate students' perceptions of their learning of HE in other Emirates in the UAE. Future

investigations on the impact of HE subject learned in schools on students who choose health related studies in universities are also recommended. Moreover, it is of core value to carry out ongoing observations to understand the knowledge and practices of students to initiate a plan of development, as there is a need for behavioral changes that lead to lifelong changes. For a wider perspective, it is necessary to measure the cultural impact on students learning and practicing the concepts of health education in the UAE.

5.5. Limitations

The mixed method was used in this study to focus on breadth and depth of the findings. As such, it is required a lot of time, efforts and resources. So, the study was conducted in Al Ain city public secondary schools that were most convenient. These aspects excluded the other schools from being involved in the study. Thus, the generalization of the findings is subject to certain limitation. While the purpose was to collect data through students' questionnaire and in-depth interviews, the researcher tried to include as much participants as possible. One of the main limitations in this study is in the number of students who volunteered to participate in the study, and in accessing the schools where the HE program is implemented. Moreover, to meet this study criterion and to be able to type verbatim, the instruments of data collection were planned to be conducted in English, this may impact on the potential domination of respondents who are more confident to communicate in English. Another limitation of the study is due to the fact that the HE curriculum is provided to female students in public secondary schools in the UAE, this aspect excluded male students from being involved that may have different experiences if the HE curriculum is being implemented in their schools. Finally, due to the fact that the data collection of this study was self-reported, there is possibility of bias that might impact validity.

References

- Abraham, C. & Sheeran, P. (2015). *The Health Belief Model* [online]. [Accessed 18 January 2019]. Available at: https://www.researchgate.net/publication/290193215_The_Health_Belief_Model
- Action for Healthy Kids (AHK). (2015). *Action for Healthy Kids* [online]. [Accessed 23 November 2019]. Available at: <http://www.actionforhealthykids.org/component/content/article/39-step-3-challenges/1514-staff-as-healthy-role-models>
- Adams, W.C. (2015). 'Conducting Semi-Structured Interviews', in J. S. Wholey, H. P. Harty, H.P. and K. E. Newcomer (eds). *Handbook of Practical Program Evaluation*. San Francisco: Jossey-Bass, pp. 492-505.
- Adekeye, O., Agoha, B., Adeusi, S. O., Igbokwe, D. O., Olowokere, E. I., Elegbeleye, A. & Sholarin, M. A. (2017). Assessment of Health-related Locus of Control among Undergraduates Substance Users and Non-Users. *Journal of Humanities And Social Science*, vol. 22(3), pp. 14-20.
- Adhikari, C., Puri, A., Thapa, D., Thapa, R., Magar, S. & GC, S. (2019). Application of Social Cognitive Theory in Obesity Prevention: A Rapid Review. *Journal of Health and Allied Sciences*, vol. 7(1), pp. 53-62.
- Al-abed, A. A., Al-Dubai, S. A., Aljunid, S. M., Ganasegeran, K., Qureshi, A. M. & AM, R. (2012). Social and psychological factors affecting eating habits among university students in a Malaysian medical school: A cross-sectional study. *Nutritional Journal*, vol. 11(48), pp. 1-7.
- Alfaran, F. H. (2016). *A Study on the perspective of students and faculty towards English as a Medium of Instruction*. Ph.D. Thesis. The British University in Dubai. [Accessed 21 June 2019]. Available at: <https://bspace.buid.ac.ae/bitstream/1234/980/1/120138.pdf>
- Al-Issa, A. (2018). English As a Medium of Instruction and the Endangerment of Arabic literacy: The Case of the United Arab Emirates. *Arab World English Journal*, vol. 8, pp. 3-17.
- Aljanyousi, G. F., Abu Munshar, M., Al-Salim, F. & Osman, E. R. (2019). Addressing context to understand physical activity among Muslim university students: the role of gender, family, and culture. *BMC Public Health*, vol. 19(1), p. 1452.
- Al-kaabi, A. F. (2016). *Effects of Collaborative Learning on the Achievement of Students with Different Learning Styles at Qatar University (QU)*. Ph.D. Thesis. Qatar University.

[Accessed 21 November 2017]. Available at:

<https://bura.brunel.ac.uk/bitstream/2438/15137/1/FulltextThesis.pdf>

Al-Nohair, S. (2014). *Obesity in Gulf Countries. International Journal of Health Sciences*, vol. 8(1), pp. 79–83.

Alshenqeeti, H. (2014). *Interviewing as a Data Collection Method: A Critical Review* [online]. [Accessed 15 June 2019]. Available at:

<http://sciedu.ca/journal/index.php/elr/article/viewFile/4081/2608>

Angelova, V. N. (2016). Locus of Control and Its Relationship With Some Social-Demographic Factors. *Psychological Thought*, vol. 9(2), pp. 248-258.

Annual Report of the Chief Medical Officer (ARCMO). (2013). *Public Mental Health Priorities: Investing in the Evidence*. London: Department of Health.

Anyanwu, F. C. & Reuben, O. S. (2016). Retooling Assessment Procedures for Skill-based Health Education for Young People in Nigeria: Implications for 21st Century Educational Assessment. *Universal Journal of Educational Research*, vol. 4, pp. 58 - 64.

Armitage, C. J. (2003). The relationship between multidimensional health locus of control and perceived behavioural control: how are distal perceptions of control related to proximal perceptions of control? *Psychology & Health*, vol. 18, pp. 723 - 738.

Arora, C., Sinha, B., Malhotra, A., & Ranjan, P. (2017). Development and Validation of Health Education Tools and Evaluation Questionnaires for Improving Patient Care in Lifestyle Related Diseases. *Journal of Clinical and Diagnostic Research (JCDR)*, vol. 11(5), pp. JE06–JE09.

Asgari, M. H. & Vakilli, M. (2012). The Relationship between locus of control, creativity and performance of the educational department employees in the west of Mazandaran. *International Research Journal of Applied and Basic Sciences*, vol. 3, pp. 2556–2561.

Association for Supervision and Curriculum Development & Centers for Disease Control and Prevention (ASCD & CDC). (2014). *Whole School, Whole Community, Whole Child: a Collaborative Approach to Learning and Health*. Alexandria, VA: ASCD

Auld, E., & Gambescia, S. F. (2016). *Health Education* [online]. [Accessed 5 November 2019]. Available at: <http://www.oxfordbibliographies.com/view/document/obo-9780199756797/obo-9780199756797-0044.xml>

Awla, H.A. (2014). Learning Styles and Their Relation to Teaching Styles. *International Journal of Language and Linguistics*, vol. 2, p. 241.

- Axford, N., Farrington, D. P., Clarkson, S., Bjornstad, G. J., Wrigley, Z. & Hutchings, J. (2015). Involving parents in school-based programmes to prevent and reduce bullying: What effect does it have? *Journal of Children's Services*, vol. 10(3), pp. 242–251.
- Bakke, H. K., Bakke, H. K. & Schwebs, R. (2017). First-aid training in school: amount, content and hindrances. *Acta anaesthesiologica Scandinavica*, vol. 61(10), pp. 1361–1370.
- Bakken, A. (2016). *Youth Data 2016: National Results*, vol. 8.
- Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. *Journal of personality and social psychology*, vol. 1(6), p. 589.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, vol. 84(2), pp. 191-215.
- Bandura, A. (1986). *Social foundations of thought and action*. Upper Saddle River, NJ: Prentice Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc.
- Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development. Vol. 6. Six theories of child development*, pp. 1-60. Greenwich, CT: JAI Press.
- Bandura, A. (1997 a). Bandura A. *Self-Efficacy in Changing Societies*. Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Bandura, A. (1999). A social cognitive theory of personality. *Psychological review*, vol. 106(4), p. 676.
- Bandura, A. (2006). 'Autobiography', in M. G. Lindzey and W. M. Runyan (eds). *A history of psychology in autobiography*. Washington, DC: American Psychological Association.
- Bandura, A. (2016). 'The Power of Observational Learning Through Social Modeling', in R. Sternberg, S. Fiske and D. Foss (eds). *Scientists Making a Difference: One Hundred Eminent Behavioral and Brain Scientists Talk about their Most Important Contributions*. Cambridge: Cambridge University Press, pp. 235-239.
- Bartholomew, L .K., Parcel, G.S., Kok, G., Gottlieb, N.H. & Fernández, M.E. (2011). *Planning Health Promotion Programs: An Intervention Mapping Approach*. San Francisco, CA: Jossey-Bass.

Basch, C. (2011). Executive Summary: Healthier Students Are Better Learners. *Journal of School Health*, vol. 81(10), pp. 591–592.

Basch, C. (2010). *Healthier students are better learners: A missing link in school reforms to close the achievement gap* [online]. [Accessed 26 November 2017]. Available at: http://www.equitycampaign.org/i/a/document/12557_EquityMattersVol6_Web03082010.pdf

Bashir, S., Bajwa, M. & Rana, S. (2014). *Teacher As A Role Model And Its Impact On The Life of Female Students* [online]. [Accessed 24 November 2017]. Available at: http://granthaalayah.com/Articles/Vol1Iss1/02_IJRG14_A07_03.pdf

Baysal, H.Y. & Hacialioglu, N. (2017). The Effect of Transtheoretical Model-Based Education and Follow-up on Providing Overweight Women with Exercise Behavior. *International Journal of Caring Sciences*, vol. 10(1), pp. 225-234.

Becker, M.H., Haefner, D.P. & Maiman, L.A. (1977). The health belief model in the prediction of dietary compliance: a field experiment. *Journal of Health and Social Behaviour*, vol. 18, pp. 348–66.

Behrman, J.R., Hoddinott, J., Maluccio, J.A. Soler-Hampejsek, E., Behrman, E. L., Martorell, R., Ramírez-Zea, M. & Stein, A. D. (2014). What determines adult cognitive skills? Influences of pre-school, school, and post-school experiences in Guatemala. *Latin American Economic Review*, vol. 23.

Belhiah, H. & Elhami, M. (2015). English as a medium of instruction in the Gulf: When students and teachers speak. *Language Policy*, vol. 14, pp. 3–23.

Benes, S.S. & Alperin, H. (2019). Health Education in the 21st Century: A Skills-based Approach. *The Journal of Physical Education, Recreation & Dance*, vol. 90, pp. 29-37.

Benjamin, K. & Donnelly, T. (2013). Barriers and facilitators influencing the physical activity of Arabic adults: a literature review. *Avicenna*, vol. 8, pp. 1–28.

Bergvik, S., Sørli, T. & Wynn, R. (2012). Coronary patients who returned to work had stronger internal locus of control beliefs than those who did not return to work. *British Journal of Health Psychology*, vol.17 (3), pp. 596–608.

Bethards, M. L. (2014). Applying social learning theory to the observer role in simulation. *Clinical Simulation in Nursing*, vol. 10(2), pp. 65-69.

Betzner, A. E. (2008). *Pragmatic and Dialectic Mixed Method Approaches: An Empirical Comparison*. USA: University of Minnesota.

- Biddle, S. J. & Asare, M. (2011). Physical activity and mental health in children and adolescents: a review of reviews. *British Journal of Sports Medicine*, vol. 45(11), pp. 886–895.
- Biesta, G. (2010). ‘Pragmatism and the philosophical foundations of mixed methods research’, in A. Tashakkori and C. Teddlie (eds). *Handbook of Mixed Methods in Social and Behavioral Research*. 2nd edn. Thousand Oaks: Sage, pp. 95–117.
- Birch, D., Priest, H.M. & Mitchell, Q. (2015). *Advocacy for Quality School Health Education: The Role of Public Health Educators as Professionals and Community Members* [online]. [Accessed 24 January 2021]. Available at: <https://files.eric.ed.gov/fulltext/EJ1153606.pdf>
- Blömeke, S., Olsen, R. V. & Suhl, U. (2016). *Relation of Student Achievement to the Quality of Their Teachers and Instructional Quality* [online]. [Accessed 9 February 2020]. Available at: <https://core.ac.uk/download/pdf/81603168.pdf>
- Bohn, A., Van Aken, H., Lukas, R. P., Weber, T. & Breckwoldt, J. (2013). Schoolchildren as lifesavers in Europe - training in cardiopulmonary resuscitation for children. *Best practice & research. Clinical anaesthesiology*, vol. 27(3), pp. 387–396.
- Bolderston, A. (2012). Conducting a Research Interview. *Journal of Medical Imaging and Radiation Sciences*, vol. 43(1), pp. 66-76.
- Boneva, D. & Mihova, E. (2012). Learning styles and learning preferences in Dyslang: Dyslexia and Additional Academic Language Learning. *Module 8*, pp. 1-32.
- Bowling A. (2014). *Research methods in health: investigating health and health services*. UK: McGraw-Hill Education.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, vol. 3, pp. 77 – 101.
- Brinkmann, S. & Kvale, S. (2015). *Interviews: Learning the craft of qualitative research interviewing*. 3rd edn. Thousand Oaks, CA: Sage.
- Bryers, M.H., van Teijlingen, E. & Pitchforth, E., (2014). Advocating mixed-methods approaches in health research. *Nepal Journal of Epidemiology*, vol. 4(5), pp.417-22.
- Bryman, A. (2012). *Social Research Methods*. 5th edn. Oxford: Oxford University Press.
- Burker, E. J., Evon, D. M. & Galanko, J. (2005). Health locus of control predicts survival after lung transplant. *Journal of Health Psychology*, vol. 10(5), pp. 695–704.
- Campis, L. K., Lyman, R. D. & Prentice-Dunn, S. (1986). The parenting locus of control scale: Development and validation. *Journal of Clinical Child Psychology*, vol. 15(3), pp. 260-267.

Carmichael, J. (2009). Team-based learning enhances performance in introductory biology. *Journal of College Science Teaching*, vol. 38(4), p. 54.

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *The Qualitative Report*, vol. 21(5), pp. 811-831.

Cawley, J. & Ruhm, C.J. (2011). *The Economics of Risky Health Behaviors*. Bonn: Institute for the Study of Labor (IZA).

Centers for Disease Control and Prevention (CDC). (2018). *HECAT: A Guide for Health Education Teacher Preparation Programs in Institutions of Higher Education* [online]. [Accessed 9 March 2020]. Available at: https://www.cdc.gov/healthyyouth/hecat/hecat_ihe.htm

Centers for disease control and prevention (CDC). (2008). *Chronic Disease Prevention* [online]. [Accessed 20 June 2020]. Available at: <http://www.cdc.gov/nccdphp/>

Centers for Disease Control and Prevention (CDC). (2011). *Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Increase Physical Activity in the Community* [online]. [Accessed 24 November 2017]. Available at: https://www.cdc.gov/obesity/downloads/PA_2011_WEB.pdf

Centers for Disease Control and Prevention (CDC). (2012). *Health Education Curriculum Analysis Tool (HECAT): Overview* [online]. [Accessed 27 November 2017]. Available at: https://www.cdc.gov/healthyyouth/hecat/pdf/hecat_overview.pdf

Centers for Disease Control and Prevention (CDC). (2013). *Overview of Noncommunicable Diseases and Related Risk Factors* [online]. [Accessed 24 June 2020]. Available at: https://www.cdc.gov/globalhealth/healthprotection/fetp/training_modules/new-8/Overview-of-NCDs_PPT_QA-RevCom_09112013.pdf

Centers for Disease Control and Prevention (CDC). (2014). *Health and Academic Achievement* [online]. [Accessed 15 February 2019]. Available at: https://www.cdc.gov/healthyschools/health_and_academics/pdf/health-academic-achievement.pdf

Centers for Disease Control and Prevention (CDC). (2014). *Smoking And Cardiovascular Disease* [online]. [Accessed 15 February 2018]. Available at: https://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/pdfs/fs_smoking_CVD_508.pdf

Centers for Disease Control and Prevention (CDC). (2015). *Whole School, Whole Community, Whole Child* [online]. [Accessed 24 November 2017]. Available at: <http://www.cdc.gov/healthyyouth/wsc/index.htm>.

Centers for Disease Control and Prevention (CDC). (2015). *Characteristics of an Effective Health Education Curriculum* [online]. [Accessed 21 November 2017]. Available at: <http://www.cdc.gov/healthyyouth/SHER/characteristics/index.htm>.

Centers for Disease Control and Prevention (CDC). (2019). *Healthy Schools: How CDC Helps Students Get a Healthy Start* [online]. [Accessed 15 February 2018]. Available at: <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/healthy-schools.htm>

Centers for Disease Control and Prevention (CDC). (2019). *National Health Education Standards* [online]. [Accessed 9 March 2020]. Available at: <https://www.cdc.gov/healthyschools/sher/standards/index.htm>

Centers for Disease Control and Prevention (CDC). (2019). *Promoting Health for Children and Adolescents: CDC works to help children and adolescents develop healthy habits* [online]. [Accessed 9 May 2020]. Available at: <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/children-health.htm>

Centers for Disease Control and Prevention (CDC). (2020). *Hygiene Etiquette & Practice: Coughing and sneezing* [online]. [Accessed 21 June 2020]. Available at: https://www.cdc.gov/healthywater/hygiene/etiquette/coughing_sneezing.html

Chan, K., Siu, J. Y. M. & Lee, A. (2019). A school-based programme promoting healthy eating. *Health Education Journal*, vol. 79(3), pp. 277-289.

Charlebois, J., Gowrinathan, Y. & Waddell, P. (2012). *A Review of the Evidence: School-based Interventions to Address Obesity Prevention in Children 6-12 Years of Age* [online]. [Accessed 15 February 2018]. Available at: <https://theevidence.org/documents/webinars/Final%20Report%20Sept%2024-12.pdf>

Chaudhary, B. (2016). *Teen mental health issues growing in the UAE* [online]. [Accessed 27 April 2018]. Available at: <https://gulfnews.com/news/uae/health/teen-mental-health-issues-growing-in-the-uae-1.1663780>

Checkoway, B. & Gutiérrez, L. M. (2006). *Youth Participation and Community Change* [online]. [Accessed 24 November 2017]. Available at: https://www.researchgate.net/publication/233020765_Youth_Participation_and_Community_Change

Chen, C.C., Jones, K.T. & Xu, S.Z. (2018). The Association between Students' Style of Learning Preferences, Social Presence, Collaborative Learning and Learning Outcomes. *Journal of Educators Online*, vol. 15.

- Chen, J. & Wang, L. (2007). Locus of control and the three components of commitment to change. *Personality and Individual Differences*, vol. 42(3), pp. 503–512.
- Chen, X., Goodson, P. & Acosta, S. (2015). Blending Health Literacy With an English as a Second Language Curriculum: A Systematic Literature Review. *Journal of Health Communication*, vol. 20(2), pp. 101–111.
- Cherry, K. (2020). *Self-Efficacy and Why Believing in Yourself Matters* [online]. [Accessed 12 June 2020]. Available at: <https://www.verywellmind.com/what-is-self-efficacy-2795954>
- Chester, K. L., Callaghan, M., Cosma, A., Donnelly, P., Craig, W., Walsh, S. & Molcho, M. (2015). Cross-national time trends in bullying victimisation in 33 countries among children aged 11, 13 and 15 from 2002 to 2010. *The European Journal of Public Health*, vol. 25(2), pp. 61–64.
- Cho, G. C., Sohn, Y. D., Kang, K. H., Lee, W. W., Lim, K. S., Kim, W., Oh, B. J., Choi, D. H., Yeom, S. R. & Lim, H. (2010). The effect of basic life support education on laypersons' willingness in performing bystander hands only cardiopulmonary resuscitation. *Resuscitation*, vol. 81(6), pp. 691–694.
- Clarke, A. M., Morreale, S., Field, C. A., Hussein, Y. & Barry, M. M. (2015). *What works in enhancing social and emotional skills development during childhood and adolescence. A review of the evidence on the effectiveness of school-based and out-of-school programmes in the UK*. A report produced by the World Health Organization Collaborating Centre for Health Promotion Research: National University of Ireland Galway.
- Claxton, C.S., & Ralston, Y. (1978). Learning Styles: Their Impact on Teaching and Administration. *AAHE-ERIC/Higher Education Research Report*, No. 10.
- Clotfelter, C., Ladd, H. & Vigdor, J. (2007). Teacher credentials and student achievement: Longitudinal analysis with student fixed effects. *Economics of Education Review*, vol. 26, pp. 673–82.
- Cohen, L., Manion, L. & Morrison, K. (2007). *Research methods in education*. London: Routledge Falmer.
- Corbin, J. & Strauss, A. (2008). *Basics of qualitative research*. 3rd edn. Thousand Oaks, CA: Sage.
- Cornish, F. & Gillespie, A. (2011). A pragmatist approach to the problem of knowledge in health psychology. *Journal of health psychology*, vol. 14 (6), pp. 800 – 809.
- Cottrell, R., Girvan, J. & McKenzie, J. (2011). *Principles and Foundations of Health Promotion and Education*. 5th edn. California: Benjamin-Cummings.

- Creswell, J. W. & Plano Clark, V. L. (2011). *Designing and Conducting Mixed Methods Research*. 2nd edn. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. 4th edn. Pearson.
- Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. 3rd edn. Thousand Oaks: Sage.
- Creswell, J. W. (2014). *Research design: Qualitative, Quantitative & Mixed Methods Approaches*. Thousand Oaks, California: Sage Publications.
- Creswell, J. W., Klassen, A. C., Plano Clark, V. L. & Smith K. C. (2011). *Best Practices for Mixed Methods Research in the Health Sciences*. Bethesda (Maryland): National Institutes of Health.
- Creswell, J.W. (2014). 'The selection of a research approach', in J.W. Creswell (eds). *Research design: qualitative, quantitative, and mixed methods approaches*. SAGE. pp.3-23.
- Cronholm, S. & Hjalmarsson, A. (2011) Experiences from sequential use of mixed methods. *The Electronic Journal of Business Research Methods*, vol. 9(2), pp. 87-95.
- Cronk, B.C. (2016). *How to use IBM SPSS Statistics: A step-by-step guide to analysis and interpretation*. 9th edn. Los Angeles: Pyrczak Publishing.
- Cross, D., Epstein, M., Hearn, L., Slee, P., Shaw, T. & Monks, H. (2011). National Safe Schools Framework: Policy and practice to reduce bullying in Australian schools. *International Journal of Behavioral Development*, vol. 35(5), pp. 398–404.
- Curry, J. & Milsom, A. (2013). *Career Counseling in P-12 Schools* [online]. [Accessed 24 November 2017]. Available at: <http://www.ebrary.com.ezproxy2.drake.brockport.edu>
- Dauphin, C. (2019). *Teaching Decision-Making Skills to Promote Health Literacy* [Online]. [Accessed 24 February 2019]. Available at: <https://blog.shapeamerica.org/2019/10/teaching-decision-making-skills-to-promote-health-literacy/>
- De Buck, E., Van Remoortel, H., Dieltjens, T., Verstraeten, H., Clarysse, M., Moens, O. & Vandekerckhove, P. (2015). Evidence-based educational pathway for the integration of first aid training in school curricula. *Resuscitation*, vol. 94, pp. 8–22.
- Delazer, M., Zamarian, L., Bonatti, E., Walser, N., Kuchukhidze, G., Bodner, T., Benke, T., Koppelstaetter, F. & Trinka, E. (2011). Decision making under ambiguity in temporal lobe

epilepsy: does the location of the underlying structural abnormality matter? *Epilepsy & behavior* vol. 20(1), 34–37.

Deliktaş, A., körükcü, O. & kukulu, K. (2016). *Reflections of Health Literacy on Women Health* [online]. [Accessed 23 May 2019]. Available at:
https://www.researchgate.net/publication/311924446_REFLECTIONS_OF_HEALTH_LITERACY_ON_WOMEN_HEALTH

Della-Dora, D. & Blanchard, L. J. (1979). *Moving Toward Self Directed Learning*. Alexandria, Virginia: Association for Supervision and Curriculum Development.

Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*. 2nd edn. New York, NY: McGraw Hill.

Denzin, N. K. (2009). *The research act: A theoretical introduction to sociological methods*. 3rd edn. Englewood Cliffs, NJ: Prentice Hall.

Department for Education. (2014). *Supporting pupils at school with medical conditions: statutory guidance for governing bodies of maintained schools and proprietors of academies in England*. London: Department for Education.

Dobbins, M., De Corby, K., Robeson, P., Husson, H. & Tirilis, D. (2013). School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6-18. *Cochrane Database of Systematic Reviews*, (1).

Donnelly, T.T., Suwaidi, J.A., Enazi, N.R., Idris, Z., Albulushi, A.M., Yassin, K., Rehman, A.M. & Hassan, A. (2012). Qatari Women Living With Cardiovascular Diseases—Challenges and Opportunities to Engage in Healthy Lifestyles. *Health Care for Women International*, vol. 33(12), pp. 1114 - 1134.

Dorn, R. I., Kanikeberg, K. & Mendoza, G. (2016). *Health and Physical Education Standards* [Online]. [Accessed 24 February 2019]. Available at:
<https://www.k12.wa.us/sites/default/files/public/healthfitness/standards/hpe-standards.pdf>

Dörnyei, Z. (2007). *Research methods in applied linguistics*. New York: Oxford University Press.

Drake, S. M. & Reid, J. (2010). *Integrated curriculum: Increasing relevance while maintaining accountability*. Toronto, ON: The Literacy and Numeracy Secretariat.

Dray, J. & Wade, T. D. (2012). Is the transtheoretical model and motivational interviewing approach applicable to the treatment of eating disorders? A review. *Clinical Psychology Review*, vol. 32, pp. 558–565.

- Drummond, M. & Velardo, S. (2015). *Teacher health literacy: The importance of multiple healthy role models within the school environment* [online]. [Accessed 12 June 2019]. Available at: https://www.researchgate.net/publication/279726090_Teacher_health_literacy_The_importance_of_multiple_healthy_role_models_within_the_school_environment
- Dubai Health Authority (DHA). (2018). *Better Health: School Health Policy Launched* [online]. [Accessed 22 April 2019]. Available at: <https://www.dha.gov.ae/en/BetterHealth/Betterhealth2018April30-85.pdf>
- Dudley, D. A., Cotton, W. G. & Peralta, L. R. (2015). Teaching approaches and strategies that promote healthy eating in primary school children: a systematic review and meta-analysis. *The international journal of behavioral nutrition and physical activity*, vol. 12, pp. 1 – 26.
- Duffy, J. (1974). *A History of Public Health in New York City*. New York: Russell Sage Foundation.
- Durlak, J. A., Weissberg, R., Dymnicki, A., Taylor, R. & Schellinger, K. (2014). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. *Child Development*, [online]. Vol. 82(1). [Accessed 16 December 2018]. Available at: <https://pubmed.ncbi.nlm.nih.gov/21291449/>
- Eccles, J. S., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L. & Midgley, C. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motivation*, pp. 75–146. San Francisco: W. H. Freeman.
- Elflein, J. (2019). *Number of deaths caused by selected communicable diseases annually worldwide as of 2016* [online]. [Accessed 23 May 2020]. Available at: <https://www.statista.com/statistics/282715/deaths-from-communicable-diseases-worldwide/>
- Emirates 24/7. (2013). *UNICEF, Ministries and du launch School Health Education Project* [online]. [Accessed 27 April 2018]. Available at: <https://www.emirates247.com/news/emirates/unicef-ministries-and-du-launch-school-health-education-project-2013-12-23-1.532251>
- Etikan, I. & Bala, K. (2017). Developing Questionnaire Base on Selection and Designing. *Biometrics & Biostatistics International Journal*, vol. 5.
- Farhud, D. D. (2015). Impact of Lifestyle on Health. *Iranian Journal of Public Health* [online]. Vol. 44(11), pp. 1442–1444. [Accessed 22 November 2017]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4703222/>

Farmanbar, R., Niknami S., Lubans D. R. & Hidarnia, A. (2011). Predicting exercise behavior in iranian college students: Utility of an integrated model of health behavior based on the transtheoretical model and self-determination theory. *Health Education Journal*, vol. 72(1), pp. 56 – 69.

Federal Competitiveness and Statistics Authority (FCSA). (2018). *United Arab Emirates And the 2030 Agenda for Sustainable Development* [online]. [Accessed 12 February 2020]. Available at: <http://fcsa.gov.ae/en-us/Documents/UAE%20SDGs%20%E2%80%93%20Executive%20Summary%20%E2%80%93%20VNR%202018%20EN.PDF>

Fiorini, L.A., Griffiths, A., & Houdmont, J. (2016). *Mixed methods research in the health sciences: a review* [online]. [Accessed 28 November 2019]. Available at: https://www.researchgate.net/publication/311716572_Mixed_methods_research_in_the_health_sciences_a_review

Fleischhackl, R., Nuernberger, A., Sterz, F., Schoenberg, C., Urso, T., Habart, T., Mittlboeck, M. & Chandra-Strobos, N. (2009). School children sufficiently apply life supporting first aid: a prospective investigation. *Critical care (London, England)*, vol. 13(4), pp. 1 – 7.

Flynn, S. (2011). ‘Role model’, In A. McIntosh, J. Gidman, and E. Mason-Whiteman. *Key Concepts in Healthcare Education*. London: Sage Publishers Ltd.

Fraenkel, J. R. Wallen, N. E. & Hyun, H. H. (2014). *How to Design and Evaluate Research in Education*. New York: McGraw Hill Education.

França, S. P., De Martino, M. M., Aniceto, E. V. & Silva, L. L. (2012). Predictors of Burnout Syndrome in nurses in the prehospital emergency services. *Acta Paulista de Enfermagem*, vol. 25, pp. 68–73.

Frazier, P., Keenan, N., Anders, S., Perera, S., Shallcross, S., & Hintz, S. (2011). Perceived past, present, and future control and adjustment to stressful life events. *Journal of Personality*, vol. 100(4), p. 178.

Fusch, P., Fusch, G. E. & Ness, L. R. (2018). Denzin’s Paradigm Shift: Revisiting Triangulation in Qualitative. *Research Journal of Social Change*, vol. 10(1), pp. 19 – 32.

Gale, N. K., Heath, G., Cameron, E., Rashid, S. & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology* [Online]. Vol. 13. [Accessed 24 February 2017]. Available at: <https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-13-117>

- Gamage, A. U. & Jayawardana, P. L. (2017). Knowledge of non-communicable diseases and practices related to healthy lifestyles among adolescents, in state schools of a selected educational division in Sri Lanka. *BMC public health*, vol. 18(1), p. 64.
- Gambhir, R. S., Sohi, R. K., Nanda, T., Sawhney, G. S. & Setia, S. (2013). Impact of school based oral health education programmes in India: a systematic review. *Journal of Clinical and Diagnostic Research (JCDR)*, vol. 7(12), pp. 3107–3110.
- Gangloff, B. & Mazilescu, C-A. (2017). Normative Characteristics of Perceived Self-Efficacy. *Social Sciences*, vol. 6(4), p. 139.
- Gelsema, T., Doef, M.V., Maes, S., Janssen, M.A., Akerboom, S. & Verhoeven, C. (2006). A longitudinal study of job stress in the nursing profession: causes and consequences. *Journal of nursing management*, vol. 14(4), pp. 289-299.
- Gentles, S. J., Charles, C., Ploeg, J. & McKibbin, K. (2015). Sampling in Qualitative Research: Insights from an Overview of the Methods Literature. *The Qualitative Report*, vol. 20(11), pp. 1772– 1789.
- Ghasemzadeh, A., Karami, S., Saadat, M. & Soleimani, M. (2012). Relationship between self-esteem and locus of control in Iranian University students. *Procedia Social and Behavioral Sciences*, vol. 31, pp. 530– 535.
- Ghoneim, M. & Budi, Z. (2012). Differences in learning style and their relationship to some variables of academic students of the Faculty of Education. *Researches and Studies on the Egyptian Association for Reading and Literacy*, vol.125 (1), pp. 167-237.
- Gilakjani A.P. & Ahmadi, S.M. (2011). Paper title: The Effect of Visual, Auditory, and Kinesthetic Learning Styles on Language Teaching. *International Conference on Social Science and Humanity*, vol. 5, pp. 496-472.
- Girma, E., Assefa, T. & Deribew, A. (2010). Cigarette smokers intention to quit smoking in Dire Dawa town Ethiopia: An assessment using the transtheoretical model. *BMC Public Health*, vol. 10.
- Glanz, K. & Bishop, D. B. (2010). The role of behavioral science theory in development and implementation of public health interventions. *Annual Review of Public Health*, vol. 31, pp. 399–418.
- Glanz, K., Rimer, B. K. & Viswanath, K. (2008). *Health behavior and health education: theory, research, and practice*. New York: John Wiley & Sons.
- Glogowska, M. (2011) Paradigms, pragmatism and possibilities: mixed-methods research in speech and language therapy. *International Journal of Language and Communication Disorders*, vol. 46(3), pp. 251-260.

- Godfrey-Smith, P. (2014). *Pragmatism: Philosophical Aspects* [online]. [Accessed 18 January 2018]. Available at: http://petergodfreysmith.com/wp-content/uploads/2013/06/Pragmatism_PGS_Elsevier_Final-MS.pdf
- Gokhale, A. A. (1995). Collaborative Learning Enhances Critical Thinking. *Journal of Technology Education*, vol. 7, pp. 22-30
- Goldkuhl, G. (2012). Pragmatism vs interpretivism in qualitative information systems research. *European Journal of Information Systems*, vol. 21, pp. 135–46.
- Gonenc, M. (2015). *Health Literacy in Terms of Women's Health*. Ankara: Ankara University Faculty of Health Sciences.
- Goodwin, P. Y., Garrett, D. A. & Galal, O. (2005). Women and Family Health: The Role of Mothers in Promoting Family and Child Health. *International Journal of Global Health and Health Disparities*, vol. 4(1), pp. 30 – 42.
- Gorissen, P., Van Bruggen, J. & Jochems, W. M. G. (2013). *Methodological triangulation of the students' use of recorded lectures* [online]. [Accessed 28 November 2019]. Available at: https://www.researchgate.net/publication/235920636_Methodological_triangulation_of_the_students'_use_of_recorded_lectures
- Grant, C. (2017). The impact of school health programmes. *K4D Helpdesk Report*. Brighton, UK: Institute of Development Studies
- Greene, J. C. (2007). *Mixed methods in social inquiry*. San Francisco: Jossey-Bass.
- Griebler, U., Rojatz, D., Simovska, V. & Forster, R. (2017). Effects of student participation in school health promotion: a systematic review. *Health promotion international*, vol. 32(2), pp. 195–206.
- Gulf News. (2018). Gulf News Education. *More health education needed for UAE schools: officials* [online]. [Accessed 23 November 2017]. Available at: <http://gulfnews.com/news/uae/education/more-health-education-needed-for-uae-schools-officials-1.1184998>
- Gulzar, S. A., Nayani, P. , Husain, S. S. & Khan, A. (2017). Development of the School Health Education Program from the perspective of Comprehensive School Health Model: an example at a Higher Secondary School of Karachi, Pakistan. *Taiwan Journal of Public Health*, [online]. Vol. 36(6). [Accessed 16 December 2018]. Available at: https://www.researchgate.net/publication/322223680_Development_of_the_School_Health_Education_Program_from_the_perspective_of_Comprehensive_School_Health_Model_an_example_at_a_Higher_Secondary_School_of_Karachi_Pakistan

- Güneş, P. (2013). The Role of Maternal Education in Child Health: Evidence from a Compulsory Schooling Law. *GCC Working Paper Series, GCC 13-07* [online]. [Accessed 23 November 2017]. Available at: <https://core.ac.uk/download/pdf/76379957.pdf>
- Gysbers, N.C. (2013), Career-Ready Students: A Goal of Comprehensive School Counseling Programs. *The Career Development Quarterly*, 61(3), pp. 283-288.
- Hackett, A., & Strickland, K. (2019). Using the framework approach to analyse qualitative data: a worked example. *Nurse Researcher*, vol. 26(2), pp. 8–13.
- Haghani, S., Shahnazi, H. & Hassanzadeh, A. (2017). Effects of Tailored Health Education Program on Overweight Elementary School Students' Obesity-Related Lifestyle: A School-Based Interventional Study. *Oman Medical Journal*, vol. 32(2), pp. 140–147.
- Haghani, S., Shahnazi, H., & Hassanzadeh, A. (2017). Effects of Tailored Health Education Program on Overweight Elementary School Students' Obesity-Related Lifestyle: A School-Based Interventional Study. *Oman Medical Journal*, [online]. Vol. 32(2), pp. 140–147. [Accessed 23 January 2018]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5397082/>
- Hagquist, C. & Starrin, B. (1997). Health Education in Schools-From Information to Empowerment Models. *Health Promotion International*, [online]. Vol. 12(3), pp. 225–232. [Accessed 22 November 2017]. Available at: https://www.researchgate.net/publication/31208161_Health_Education_in_Schools-From_Information_to_Empowerment_Models
- Halcomb, E. & Hickman, L. (2015) Mixed method research. *Nursing Standard*, vol. 29(32), pp. 41-47.
- Halcomb, K. A. (2010). *Health promotion and health education: nursing students' perspectives*. Ph.D. Thesis. University of Kentucky. [Accessed 21 November 2017]. Available at: https://uknowledge.uky.edu/gradschool_diss/13/
- Haleem, A., Khan, M. K., Sufia, S., Chaudhry, S., Siddiqui, M. I. & Khan, A. A. (2016). The role of repetition and reinforcement in school-based oral health education-a cluster randomized controlled trial. *BMC Public Health*, vol. 16(2).
- Hammer, C. S. (2011). The Importance of Participant Demographics. *American Journal of Speech-Language Pathology*, vol. 20(4), p. 261
- Hanushek, E. A. & Rivkin, S. G. (2010). Generalizations about Using Value-Added Measures of Teacher Quality. *American Economic Review*, vol. 100 (2), pp. 267–271.

- Harinie, L. T., Sudiro, A., Rahayu, M. & Fatchan, A. (2017). Study of the Bandura's Social Cognitive Learning Theory for the Entrepreneurship Learning Process. *Social Sciences*, vol. 6(1), pp. 1-6.
- Harrison, J. A., Mullen, P.D. & Green, L.W. (1992). A meta-analysis of studies of the health belief model with adults. *Health Education Research*, vol. 7, pp. 107–116.
- Hasan, M. Z., Hossain, T., & Islam, A. (2014). Factors affecting self-efficacy towards academic performance: a study on Polytechnic students in Malaysia. *Advances in Environmental Biology*, pp. 695+.
- Hasebrink, U. (2014) *Children's changing online experiences in a longitudinal perspective* [online]. [Accessed 24 November 2017]. Available at: <http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20III/Reports/LongitudinalReport.pdf>
- Hashemzadeh, M., Rahimi, A., Zare-Farashbandi, F., Alavi-Naeini, A. M. & Daei, A. (2019). Transtheoretical Model of Health Behavioral Change: A Systematic Review. *Iranian Journal of Nursing and Midwifery Research*, vol. 24(2), pp. 83–90.
- Hawkes, C., Jewell, J. & Allen, K. (2013). A food policy package for healthy diets and the prevention of obesity and diet-related non-communicable diseases: the NOURISHING framework. *Obesity Reviews: An Official Journal of the International Association for the Study of Obesity*, vol. 14(Suppl 2), pp. 159–168.
- Haynos, A. F. & O'Donohue, W. T. (2012). Universal childhood and adolescent obesity prevention programs: review and critical analysis. *Clinical Psychology Review*, vol. 32(5), pp. 383–399.
- He, X. (2014). The role of health locus of control and self-efficacy beliefs in sunscreen use: Evidence from 2012 Health Information National Trends Survey. *Cancer Research*, vol. 74(19), pp. 5057–5057.
- Heale, R. & Forbes, D. (2013). Understanding triangulation in research. *Evidence Based Nursing*, vol. 16, p. 98.
- Health Authority in Abu Dhabi (HAAD). (2019). *Schools for Health Challenge* [online]. [Accessed 22 April 2019]. Available at: <https://schoolsforhealth.haad.ae/nutrition.aspx>
- Heckman, J. J. (2008). Role of income and family influence on child outcomes. *Annals of the New York Academy of Sciences*, vol. 1136, pp. 307–323.
- Hightower, A. M., Delgado, R. C., Lloyd, S. C., Wittenstein, R. Sellers, K., & Swanson, C. B. (2011). *Improving student learning by supporting quality teaching: Key issues, effective strategies* [online]. [Accessed 9 June 2020]. Available at: http://www.edweek.org/media/eperc_qualityteaching_12.11.pdf

- Hill, R. (2016). *Locus of Control, Academic Achievement, and Discipline Referrals* [online]. [Accessed 22 April 2019]. Available at: <https://digitalcommons.murraystate.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1003&context=etd>
- Hiroto, D. S. (1974). Locus of control and learned helplessness. *Journal of Experimental Psychology*, vol. 102(2), p. 187.
- Hochbaum, G.M. (1958). Public Participation in Medical Screening Programs: A Socio-Psychological Study. *Public Health Service Publication #572*. Washington, DC: US Government Printing Office.
- Honorene, J. (2017). *Understanding the role of triangulation in research* [online]. [Accessed 28 November 2019]. Available at: <http://www.srjis.com/pages/pdfFiles/149544238718.%20HONORENO%20JOHNSON.pdf>
- Horsburgh, J. & Ippolito, K. (2018). A skill to be worked at: using social learning theory to explore the process of learning from role models in clinical settings. *BMC Medical Education*, vol.18.
- Howell, J. M. & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of Applied Psychology*, vol. 78(6), pp. 891–902.
- Huang, C. (2016). Achievement goals and self-efficacy: A meta-analysis. *Educational Research Review*, vol. 19, pp. 119-137
- Huang, H. L., Chen, F. L., Hsu, C. C., Yen, Y. Y., Chen, T., Huang, C. M., Shi, H. Y., Hu, C. Y. & Lee, C. H. (2010). A multilevel-based study of school policy for tobacco control in relation to cigarette smoking among children in elementary schools: gender differences. *Health education research*, vol. 25(3), pp. 451–463.
- Hurst, M. (2016). *Albert Bandura: Social-cognitive theory and vicarious learning* [online]. [Accessed 20 June 2018]. Available at: <https://study.com/academy/lesson/albert-bandura-social-cognitive-theory-and-vicarious-learning.html#transcriptHeader>
- In-Iw, S., Saetae, T. & Manaboriboon, B. (2012). The Effectiveness of School-Based Nutritional Education Program among Obese Adolescents: A Randomized Controlled Study. *International Journal of Pediatrics*, vol. 2012.
- International Union for Health Promotion and Education (IUHPE). (2010). *Promoting health in schools: from evidence to action* [online]. [Accessed 20 June 2018]. Available at: www.iuhpe.org/images/PUBLICATIONS/ THEMATIC/HPS/Evidence-Action_ENG.pdf

- International Youth Foundation (IYF). (2014). *Preparing Youth to Succeed: The Importance of Career Guidance* [online]. [Accessed 24 November 2017]. Available at: https://www.iyfnet.org/sites/default/files/library/GPYE_Career%20Guidance_0.pdf
- Isaac, S. & Michael, W. B. (1997). *Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences*. 3rd edn. San Diego: Educational and Industrial Testing Services.
- Ishak, S. I. Z. S., Chin, Y. S., Taib, M. N. M. & Shariff, Z. M. (2016). *School-based intervention to prevent overweight and disordered eating in secondary school Malaysian adolescents: a study protocol* [online]. [Accessed 26 January 2018]. Available at: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-016-3773-7>
- Jamshed, S. (2014). Qualitative research method-interviewing and observation. *Journal of basic and clinical pharmacy*, vol. 5(4), pp. 87–88.
- Jang, H., Song, J. & Kim, R. (2014). Does the offline bully-victimisation influence cyberbullying behavior among youths? Application of General Strain Theory. *Computers in Human Behaviour*, vol. 31, pp. 85–93.
- Janowski, K., Kurpas, D., Kusz, J., Mroczek, B. & Jedynek, T. (2013). Health-related behavior, profile of health locus of control and acceptance of illness in patients suffering from chronic somatic diseases. *PloS one*, vol. 8(5), p. e63920.
- Janz, N. K., Champion, V. L. & Strecher, V. J. (2002). ‘The Health Belief Model’, in K. Glanz, B. K. Rimer, and F. M. Lewis (eds). *Health Behavior and Health Education: Theory, research, and practice*. San Francisco: Jossey-Bass, pp. 45-66.
- Jiménez-Fábrega, X., Escalada-Roig, X., Miró, O., Sanclemente, G., Díaz, N., Gómez, X., Villena, O., Rodríguez, E., Gaspar, A., Molina, J. E., Salvador, J. & Sánchez, M. (2009). Comparison between exclusively school teacher-based and mixed school teacher and healthcare provider-based programme on basic cardiopulmonary resuscitation for secondary schools. *Emergency medicine journal : EMJ*, vol. 26(9), pp. 648–652.
- Johnson, B. & Christensen, L. (2014). *Educational research: Quantitative, Qualitative, and Mixed-method*. 5th edn. Los Angeles: Sage Publications.
- Joint Committee on Health Education and Promotion Terminology (JCHET). (2012). Report of the 2011 Joint Committee on Health Education and Promotion Terminology. *American Journal of Health Education*, vol. 43(2), pp. 1-19.
- Joint Committee on National Health Standards (JCNHS). (2007). National Health Education Standards: Achieving Excellence. *American Cancer Society*.

Jones, D. E., Greenberg, M. & Crowley, M. (2015). Early Social-Emotional Functioning and Public Health: The Relationship Between Kindergarten Social Competence and Future Wellness. *American Journal of Public Health*, vol. 105(11), pp. 2283-2290.

Jones, R.K. (2000). The unsolicited diary as a qualitative research tool for advanced research capacity in the field of health and illness. *Qualitative Health Research*, vol. 10(4), pp. 555 – 567.

Jones, S. R., Torres, V. & Arminio, J. (2014). Issues in analysis and interpretation. In *Negotiating the complexities of qualitative research in higher education: Fundamental elements and issues*. 2nd edn. New York, NY: Routledge, pp. 157-173.

Jourdan, D. (2011). *Health education in schools: The challenge of teacher training* [online]. [Accessed 27 November 2017]. Available at: <https://www.aber.ac.uk/en/media/departamental/sell/pdf/wellbeinghealth/Health-education-in-schools.pdf>

Jourdan, D., Simar, C., Deasy, C., Carvalho, G.S. & Mannix McNamara, P. (2016). School health promotion and teacher professional identity. *Health Education*, vol. 116(2), pp. 106-122.

Jourdan, D., MannixMcNamara, P., Simar, C., Geary, T. & Pommier, J. (2010). Factors influencing the contribution of staff to health education in schools. *Health Education Research*, vol. 25(4), pp. 519–530.

Judge, T. A. & Bono, J. E. (2001). Relationship of core self-evaluations traits – Self-esteem, generalized selfefficacy, locus of control, and emotional stability – With job satisfaction and job performance: A metaanalysis. *Journal of Applied Psychology*, vol. 86(1), pp. 80–92.

Kabir, S. M. S. (2016). *Methods of Data Collection* [online]. [Accessed 15 June 2019]. Available at: https://www.researchgate.net/publication/325846997_METHODS_OF_DATA_COLLECTION

Kahan, D. (2011). Arab American college students' physical activity and body composition: reconciling Middle East-west differences using the socioecological model. *Research Quarterly for Exercise and Sport*, vol. 82(1), pp. 118–28.

Kaletka, D., Polańska, K., Rzeźnicki, A., Stelmach, W. & Wojtysiak, P. (2017). Tobacco use patterns, knowledge, attitudes towards tobacco and availability of tobacco control training among school personnel from a rural area in Poland. *Tobacco induced diseases*, vol.15(3), pp. 1 – 12.

- Kanstad, B. K., Nilsen, S. A. & Fredriksen, K. (2011). CPR knowledge and attitude to performing bystander CPR among secondary school students in Norway. *Resuscitation*, vol. 82(8), pp. 1053–1059.
- Kaur, P., Stoltzfus, J. & Yellapu, V. (2018). Descriptive statistics. *Academic International Medicine*, vol. 4, pp. 60-63.
- Kay, D. & Kibble, J. (2016). Learning theories 101: application to everyday teaching and scholarship. *Advances in Physiology Education*, vol. 40(1), pp. 17–25.
- Kazi, A. S. & Aziz, F. (2018). *Role of Teachers in Students Classroom Participation at University Level* [online]. [Accessed 9 April 2020]. Available at: https://www.researchgate.net/publication/330712579_Role_of_Teachers_in_Students_Classroom_Participation_at_University_Level
- Kersting, N. B., Givvin, K. B., Thompson, B. J., Santagata, R. & Stigler, J. W. (2012). Measuring usable knowledge: Teachers’ analyses of mathematics classroom videos predict teaching quality and student learning. *American Educational Research Journal*, vol. 49, pp. 568–589.
- Khazaei, I., Khazaei, T., Sharifzadeh, G. (2006). Nurses’ professional burnout and some predisposing factors. *Journal of Birjand University of Medical Sciences*, vol. 13, pp. 56-62.
- Kim, G. M., Kim, H., Nam, C. M. & Jee, S. H. (2016). A study on continuity of knowledge, attitude, and preventive behavior among elementary school students after tuberculosis prevention education. *Journal of the Korean Society of School Health*, vol. 29(3), pp. 209–217.
- Koffka, K. (1935). *The principles of Gestalt psychology*. New York: Harcourt, Brace.
- Kohler, W. (1940). *Dynamics in psychology*. New York: Liveright.
- Kohn, M.A. (1979). *School Health Services and Nurse Practitioners: A Survey of State Laws*. Washington, D.C.: Center for Law and Social Policy.
- Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Kolbe L. (2005). A Framework for School Health Programs in the 21st Century. *Journal of School Health*, vol. 75(6), pp. 226–8.
- Kraft, P., Sutton, S., & Reynolds, H. (1999). The transtheoretical model of behavior change: Are the stages qualitatively different? *Psychology and Health*, vol. 14, pp. 433-450.

- Kretchy, I. A., Owusu-Daaku, F. T. & Danquah, S. (2014). Locus of control and anti-hypertensive medication adherence in Ghana. *The Pan African Medical Journal*, vol. 17, p. 13.
- Kumar, A. (2017). *Lifestyle, diet leading to heart problems among youth in UAE* [online]. [Accessed 15 April 2019]. Available at: <https://www.khaleejtimes.com/nation/abudhabi/lifestyle-choices-diet-leading-to-heart-problems-among-youth->
- Kumar, M. S. V. (2013). The Influence of Teacher's Professional Competence on Students' Achievement. *IOSR Journal of Engineering (IOSRJEN)*, vol. 3(11), pp. 12 – 18.
- Kusmana, C. & Sukwika, T. (2018). *Coastal community preference on the utilization of mangrove ecosystem and channelbar in Indramayu, Indonesia* [Online]. [Accessed 24 February 2019]. Available at: https://www.researchgate.net/publication/326017745_Coastal_community_preference_on_the_utilization_of_mangrove_ecosystem_and_channelbar_in_Indramayu_Indonesia/figures?lo=1
- Kutanis, R. O. & Mesci, M. (2011). The Effects of Locus of Control on Learning Performance: A Case of an Academic Organization. *Journal of Economic and Social Studies*, vol. 1, pp. 113-136.
- Laar, R.A., Shi, S. & Ashraf, M.A. (2019). Participation of Pakistani Female Students in Physical Activities: Religious, Cultural, and Socioeconomic Factors. *Religion*, vol. 10, p. 617.
- Lai, E. R. (2011). *Collaboration: A Literature Review*. [Accessed 21 June 2018]. Available at: <http://images.pearsonassessments.com/images/tmrs/Collaboration-Review.pdf>
- Lalonde, M. (1981). *A new perspective on the health of Canadians: A working document*. Minister of Supply and Services: Government of Canada.
- LaMorte, W. W. (2019). *The social Cognitive Theory* [online]. [Accessed 12 June 2020]. Available at: <http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories5.html>
- LaMorte, W. W. (2019). *The Transtheoretical Model (Stages of Change)* [online]. [Accessed 12 June 2020]. Available at: <https://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories6.html>
- Lapousis, G. & Petsiou, E. (2017). The Impact of the Internet Use in Physical Activity, Exercise and Academic Performance of School Students Aged 14-16 Years Old. *Economics of Innovation and New Technology* [online]. Vol. 3(2), pp. 12-16. [Accessed 22 November 2017]. Available

at:<https://www.researchgate.net/publication/315831318> The Impact of the Internet Use in Physical Activity Exercise and Academic Performance of School Students Aged 14-16 Years Old

Lavelle, H. V., Mackay, D. F. & Pell, J. P. (2012). Systematic review and meta-analysis of school-based interventions to reduce body mass index. *Journal of public health (Oxford, England)*, vol. 34(3), pp. 360–369.

LdPride.(n.d.). *What are learning styles?* [online]. [Accessed 23 November 2017]. Available at: <http://www.ldpride.net/learningstyles.MI.htm>.

Leimeister, S. (2010). *IT outsourcing governance: Client types and their management strategies*. Wiesbaden: Gabler.

Lerner, R. M., Johnson, S. K., Wang, J., Ferris, K. L. & Hershberg, R. M. (2015) The Study of the Development of Civic Engagement Within Contemporary Developmental Science: Theory, Method, and Application. *Research in Human Development*, vol. 12(1-2), pp.149-156

Levitt, H. M., Motulsky, S. L., Wertz, F. J., Morrow, S. L. & Ponterotto, J. G. (2017). Recommendations for Designing and Reviewing Qualitative Research in Psychology: Promoting Methodological Integrity. *Qualitative Psychology*, vol. 4(1), pp. 2–22.

Lewallen, T. C., Hunt, H., Potts-Datema, W., Zaza, S., & Giles, W. (2015). The Whole School, Whole Community, Whole Child model: a new approach for improving educational attainment and healthy development for students. *The Journal of school health*, [online]. Vol. 85(11), pp. 729–739. [Accessed 20 June 2020]. Available at: <https://pubmed.ncbi.nlm.nih.gov/26440815/>

Li, K. & Kay, N.S. (2009). Correlates of cigarette smoking among male Chinese college students in China- a preliminary study. *International Electronic Journal of Health Education*, vol. 12, pp. 59 – 71.

Lillejord, S., Halvorsrud, K., Ruud, E. Freyr, T., Morgan, K., Manger, T., Eikeland, O. J., Hauge, T. E. & Homme, A. (2015). *Dropout in upper secondary: A systematic review*. Oslo: Knowledge center for education.

Lincoln, Y. S., Lynham, A. & Guba, E. G. (2011). ‘Paradigms and perspectives in contention’, in N. K. Denzin and S. Yvonna (eds). *The Sage Handbook of Qualitative Research*. Edited by. Lincoln. Thousand Oaks: Sage Publications

Livsey, K. & Lavender-Stott, E. (2015). Impact of vicarious learning through peer observation during simulation on student behavioural measures. *Focus on Health Professional Education*, vol. 16(4), pp. 64-73.

- Loh, K. Y. & Nalliah, S. (2010). Learning professionalism by role-modelling. *Medical Education*, vol. 44(11), pp. 11-23.
- Loney, T., Aw, T. C., Handysides, D. G., Ali, R., Blair, I., Grivna, M., Shah, S. M., Sheek-Hussein, M., El-Sadig, M., Sharif, A. A., & El-Obaid, Y. (2013). An analysis of the health status of the United Arab Emirates: the 'Big 4' public health issues. *Global health action*, [online]. Vol. 6, pp. 1-8. [Accessed 23 January 2018]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3566378/>
- Lupattelli, A., Picinardi, M., Einarson, A. & Nordeng, H. (2014). Health literacy and its association with perception of teratogenic risks and health behavior during pregnancy. *Patient Education and Counseling*, vol. 96(2), pp. 171-178.
- Lynch, A. (1977). 'Evaluating school health programs', in Health Services: The Local Perspective, A. Levin (eds). *Proceedings of the Academy of Political Science*, vol. 32(3), pp. 89–105.
- Lynch, S., Hurford, D. P., & Cole, A. (2002). Parental enabling attitudes and locus of control of at-risk and honors students. *Adolescence*, vol. 37(147), pp. 527-550.
- Maazouzi, K. (2019). The Impact of Teacher's Personality and Behavior on Students' Achievement. *Global Journal of Human-Social Science: G Linguistics & Education*, vol. 19(90), pp. 25 – 30.
- Macdonald, D., Abbott, R., Knez, K. & Nelson, A. (2009). Taking exercise: cultural diversity and physically active lifestyles. *Sport, Education and Society*, vol. 14(1), pp. 1–19.
- Macsinga, I. & Nemeti, I. (2012). The relation between explanatory style, locus of control and self-esteem in a sample of university students. *Procedia-Social and Behavioral Sciences*, vol. 33, pp. 25–29.
- Maddux, J. E. (2012). *Self-Efficacy: The Power of Believing You Can* [online]. [Accessed 4 May 2019]. Available at: https://www.researchgate.net/publication/285193896_Self-Efficacy_The_Power_of_Believing_You_Can
- Mahmood, S., Perveen, T., Dino, A., Ibrahim, F. & Mehraj, J. (2014). Effectiveness of school-based intervention programs in reducing prevalence of overweight. *Indian Journal of Community Medicine*, vol. 39(2), pp. 87–93.
- Makoka, D. (2013). The Impact of Maternal Education on Child Nutrition: Evidence from Malawi, Tanzania, and Zimbabwe. *DHS Working Papers*, no. 84. Calverton, Maryland, USA: ICF International.

- Malhotra, R. & Suri, S. (2017). Locus of Control and Well-Being Among College Students. *Indian Journal of Positive Psychology*, vol. 8(2), pp. 231-236.
- Manley, D., Cowan, P., Graff, C., Perlow, M., Rice, P., Richey, P. & Sanchez, Z. (2014). Self-efficacy, physical activity, and aerobic fitness in middle school children: examination of a pedometer intervention program. *Journal of Pediatric Nursing*, vol. 29(3), pp. 228–237.
- Manolis, C., Burns, D., Assudani, R. & Chinta, R. (2013). Assessing experiential learning styles: A methodological reconstruction and validation of the Kolb Learning Style Inventory. *Learning and Individual Differences*, vol. 23(1), pp. 44 – 52.
- Marks, L. I. (1998). Deconstructing locus of control: Implication for practitioners. *Journal of Counseling and Development*, vol. 76(3), pp. 251-260.
- Mart, C. T. (2013). A Passionate Teacher: Teacher Commitment and Dedication to Student Learning. *International Journal of Academic Research in Progressive Education and Development*, vol. 2(1), pp. 437 – 442.
- Martinez, J. L., Rivers, S. E., Duncan, L. R., Bertoli, M., Domingo, S., Latimer-Cheung, A. E. & Salovey, P. (2013). Healthy eating for life: Rationale and development of an English as a second language (ESL) curriculum for promoting healthy nutrition. *Translational Behavioral Medicine*, vol. 3(4), pp. 426–433.
- Maruta, T., Colligan, R. C., Malinchoc, M. & Offord K.P. (2000). Optimists vs. pessimists: Survival rate among medical patients over a 30-year period. *Mayo Clinical Proceedings*, vol. 75(2), pp. 140-143.
- Maurer, F. A. & Smith, C. (2012). *Community / Public Health Nursing Practice: Health or Families and Populations*. 3rd edn. New York, NY: Mosby.
- Maxwell, J. A. (2012). *Qualitative research design: An interactive approach*. Vol. 41. Thousand Oaks, CA: Sage publications.
- McKenzie, J., Neiger, B. & Smeltzer, J. (2005). *Planning, implementing, and evaluating health promotion programs*. 4th edn. California: Benjamin-Cummings.
- McNamara, C. (1999). *General Guidelines for Conducting Interviews* [online]. [Accessed 15 June 2019]. Available at: <http://www.managementhelp.org/evaluatn/intrview.htm>
- Means, R.K. (1975). *Historical Perspectives on School Health*. Thorofare, N.J.: Charles B. Slack.

Meeks, L., Heit, P. & Page, R. (1996). *Comprehensive School Health Education*. 2nd edn. Blacklick, OH: Meeks Heit.

Mei, H., Xiong, Y., Xie, S., Guo, S., Li, Y., Guo, B. & Zhang, J. (2016). The impact of long-term school-based physical activity interventions on body mass index of primary school children - a meta-analysis of randomized controlled trials. *BMC Public Health*, vol.16, p. 205.

Mertens, D. M., Bazely, P., Bowleg, L., Fielding, N., Maxwell, J., Molina-Azorin, J. F. & Niglas, K. (2016). The future of mixed methods: a five year projection to 2020. *Mixed Methods International Research Association* [Online]. [Accessed 24 February 2017]. Available at: <http://mmira.wildapricot.org/>

Mettas, A. (2011). The Development of Decision-Making Skills. *Eurasia Journal of Mathematics, Science & Technology Education*, vol. 7(1), pp. 63-73

Metzler, J. & Woessmann, L. (2010). The Impact of Teacher Subject Knowledge on Student Achievement: Evidence from Within-Teacher Within-Student Variation. *IZA DP No. 4999* [online]. [Accessed 12 June 2018]. Available at: <http://ftp.iza.org/dp4999.pdf>

Miles, M. & Huberman, M. (1994). *Qualitative Data Analysis: An expanded Sourcebook*. Beverly Hills, CA: Sage Publications

Ministry of Cabinet Affairs & the Future (MCAF). (2019). *Ministry of Education to launch specialised teachers training programme tomorrow* [online]. [Accessed 15 February 2018]. Available at: <https://uaecabinet.ae/en/details/news/ministry-of-education-to-launch-specialised-teachers-training-programme-tomorrow>

Ministry of Education (MoE). (2017). *Ministry of Education announces a brand new Physical and Health Education reform in the UAE* [online]. [Accessed 15 February 2018]. Available at: <https://www.moe.gov.ae/En/MediaCenter/News/pages/sport.aspx>

Ministry of Education (MoE). (2017). *Ministry of Education, ADEC reveal details of the standardised educational system* [online]. [Accessed 12 February 2018]. Available at: <https://www.moe.gov.ae/En/MediaCenter/News/Pages/MOE-AD-det.aspx>

Ministry of Education (MoE). (2017). *Stages of K-12 education* [online]. [Accessed 20 April 2018]. Available at: <https://government.ae/en/information-and-services/education/school-education-k-12/joining-k-12-education/stages-of-k-12-education->

Ministry of Education (MoE). (2018). *Students in government schools by education zone, stage, level and gender* [online]. [Accessed 15 February 2020]. Available at: http://data.bayanat.ae/en_GB/dataset/government-education-students-by-education-zone-stage-level-and-gender/resource/57b59772-b716-46c6-ac2d-15b8aca243e8

Ministry of Education (MoE). (2019). *25,000 Teachers Complete the Specialized Training Program in the UAE* [online]. [Accessed 22 May 2019]. Available at: <https://www.moe.gov.ae/En/MediaCenter/News/Pages/SpecializedTrainingProgram.aspx>

Moeini, B., Hazaveie, S., Allahverdi-pour, H., Moghimbeygi, A. & Mohammadfam, I. (2010) Effect of education based on transtheoretical model on promoting physical activity and increasing physical work capacity. *Journal of Military Medicine*, vol. 12, pp. 123–130.

Moeller, A.K., Theiler, J. & Wu, C. (2012). Goal Setting and Student Achievement: A Longitudinal Study. *The Modern Language Journal*, vol. 96, pp. 153-169.

Mohamed, H. A. (2015). Improving Knowledge and Attitude of Medical and Non-Medical Students at El Minia University Regarding Premarital Screening and Counseling. *American Journal of Nursing Science*, vol. 4(5), pp. 270–279.

Mojoyinola, J. K. (2011). Influence of Maternal Health Literacy on Healthy Pregnancy and Pregnancy Outcomes of Women Attending Public Hospitals in Ibadan, Oyo State, Nigeria. *African Research Review*, vol. 5(3), pp. 28-39.

Moore Jones, P. J. (2015). Linguistic Imposition: The Policies and perils of English as a medium of instruction in the United Arab Emirates. *Journal of ELT and Applied Linguistics*, vol. 3, pp. 63-72.

Morell, T., Aleson-Carbonell, M., Bell, D.B., Lloret, P.E., Speckens, M.P., & Martínez-Espinosa, R.M. (2014). *English as the medium of instruction: a response to internationalization* [online]. [Accessed 21 June 2019]. Available at: <https://pdfs.semanticscholar.org/10a0/7444289ebd069d1511d576731a424a27131a.pdf>

Morgan, D. L. (2014). *Integrating Qualitative and Quantitative Methods: A Pragmatic Approach*. Thousand Oaks: Sage.

Morse, B. A. B. (2017). *The role of observational learning in developing ecotourists' environmentally responsible behavioral intentions* [online]. [Accessed 18 January 2019]. Available at: <https://pdfs.semanticscholar.org/79c7/f55457766f3c89b7c6159b4bb71193d78caa.pdf>

Morse, J. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, vol. 40(2), pp. 120-123.

Moynihan, S., Paakkari, L., Välimaa, R., Jourdan, D. & Mannix-McNamara, P. (2015). Teacher Competencies in Health Education: Results of a Delphi Study. *PloS one*, vol. 10(12).

- Mozaffarian, D., Hao, T., Rimm, E. B., Willett, W. & Hu F. B. (2011). Changes in diet and life style and long term weight gain in women & men. *The New England Journal of Medicine*, [online]. Vol. 364(25), pp. 2392–2404. [Accessed 22 November 2017]. Available at: https://www.nejm.org/doi/full/10.1056/nejmoa1014296#article_citing_articles
- Muijs, D. (2011). *Doing Quantitative Research in Education with SPSS*. 2nd Ed. Thousand Oaks, CA: Sage Publications, Inc.
- Muro, M. & Jeffrey, P. (2008). A critical review of the theory and application of social learning in participatory natural resource management processes. *Journal of Environmental Planning and Management*, vol. 51(3), pp. 325-344.
- Musaiger, A. O. & Al-Hazzaa, H. M. (2012). Prevalence and risk factors associated with nutrition-related noncommunicable diseases in the Eastern Mediterranean region. *International Journal of General Medicine*, vol. 5, pp. 199-217.
- Nabavi, R. T. (2012). *Bandura's Social Learning Theory & Social Cognitive Learning Theory* [online]. [Accessed 24 November 2017]. Available at: https://www.researchgate.net/publication/267750204_Bandura's_Social_Learning_Theory_Social_Cognitive_Learning_Theory
- Nakamura, Y. (2002). Beyond the hijab: female Muslims and physical activity. *Women in Sport and Physical Activity Journal*, vol. 11(2), pp. 21–48.
- Narinasamy, I.A., & Logeswaran, A.K. (2015). Teacher As Moral Model – Are We Caring Enough? *World Journal of Education*, vol. 5, pp. 1-13.
- Nasreen, S., Azziz-Baumgartner, E., Gurley, E. S., Winch, P. J., Unicomb, L., Sharker, M. A., Southern, D. & Luby, S. P. (2010). Prevalent high-risk respiratory hygiene practices in urban and rural Bangladesh. *Tropical Medicine & International Health : TM & IH*, vol. 15(6), pp. 762–771.
- Natarajan, V. & Devaki, P. (2013). Does Maternal Education Really Improve Child Health? *Journal of Dental and Medical Sciences*, vol. 4(4), pp. 7-9.
- National Institute for Health and Care Excellence (NICE). (2008). *Social and Emotional Wellbeing in Primary Education*. London: National Institute for Health and Care Excellence.
- National Institute for Health and Care Excellence (NICE). (2009). *Social and Emotional Wellbeing in Secondary Education*. London: National Institute for Health and Care Excellence.

National Institute for Health and Care Excellence (NICE). (2013). *Social and Emotional Wellbeing for Children and Young People*. London: National Institute for Health and Care Excellence.

Naudé, J. & Rothmann, S. (2004). The validation of the Maslach Burnout Inventory – Human services survey for emergency medical technicians in Gauteng. *SA Journal of Industrial Psychology*, vol. 30(3).

Naviaux, A. F. (2020). Response-Ability Facing Covid-19: A matter of Psyche, Behavior and Civism. *Journal of Clinical Immunology & Immunotherapy*, vol. 6(21).

Newman, I. & Ramlo, S. (2010). ‘Using Q methodology and Q factor analysis in mixed methods research’, in A. Tashakkori and C. Teddlie (eds). *Sage Handbook of Mixed Methods in Social & Behavioral Research*. 2nd edn. Thousand Oaks: Sage Publications

Nikaj, S. & Chaloupka, F. (2015). School personnel smoking, school-level policies, and adolescent smoking in low- and middle-income countries. *Tobacco Control: An International Journal*, vol. 25(6), pp. 664–670

Nordin L., Jensen J. & Simovska V. (2010). Unges deltagelse i sundhedsfremme: hvad siger litteraturen. [Young people's participation in health promotion: what does the literature say?]. *Cursiv*, vol. 5, pp. 77–101.

Norman, P., Bennett, P., Smith, C. & Murphy, S. (1998). Health locus of control and health behavior. *Journal of Health Psychology*, vol. 3, pp. 171 -180.

O’Cathain, A., Murphy, E. & Nicholl, J. (2010). *Research Methods & Reporting: Three techniques for integrating data in mixed methods studies* [online]. [Accessed 28 November 2019]. Available at:
https://www.bmj.com/bmj/sectionpdf/186156?path=/bmj/341/7783/Research_Methods_Reporting.full.pdf

Obermeyer, C. M. (2015). *Adolescents in Arab countries: Health statistics and social context* [online]. [Accessed 15 April 2019]. Available at:
<http://www.qscience.com/doi/pdf/10.5339/difi.2015.1>

Office of Curriculum and Instructional Design (OCID). (2019). *Implementing the National Health Education Standards: Achieving Excellence in the Hawai‘i State Department of Education* [online]. [Accessed 24 March 2020]. Available at:
<https://www.hawaiipublicschools.org/DOE%20Forms/Health%20and%20Nutrition/HealthStandards.pdf>

- Olteanu, R.L., Bîzoi, M., Gorghiu, G. & Suduc, A.M. (2014). Working in the Second Life Environment - A Way for Enhancing Students' Collaboration. *Procedia Social and Behavioral Sciences*, vol. 141, pp. 1089-1094.
- Orji, R., Vassileva, J., & Mandryk, R. (2012). Towards an effective health interventions design: an extension of the health belief model. *Online journal of public health informatics*, vol. 4(3).
- Ortiz, T. M. (2018). *Social Learning in Public Relations* [online]. [Accessed 4 May 2019]. Available at: <https://sites.psu.edu/tortizcommunications/2018/12/04/social-learning-theory-in-public-relations/>
- Östlund, U., Kidd, L., Wengström, Y. & Rowa-Dewar, N. (2011). Combining qualitative and quantitative research within mixed method research designs: a methodological review. *International Journal of Nursing Studies*, vol. 48(3), pp. 369-383.
- Pan, F. C. & Chen, C. H. (2010). Application of the transtheoretical model of exercise behavior change plan in high school students. *International Journal of Educational and Pedagogical Sciences*, vol. 5(10), pp. 680–685.
- Parkes, K. R. (1984). Locus of control, cognitive appraisal, and coping in stressful episodes. *Journal of Personality and Social Psychology*, vol. 46(3), p. 655.
- Parkinson, S., Eatough, V., Holmes, J., Stapley, E. & Midgley, N. (2016). Framework analysis: a worked example of a study exploring young people's experiences of depression. *Qualitative Research in Psychology*, vol. 13, pp. 109 - 129.
- Partapsingh, V. A., Maharaj, R. G. & Rawlins, J. M. (2011). Applying the stages of change model to type 2 diabetes care in Trinidad: A randomised trial. *Journal of Negative Results in BioMedicine*, vol. 10.
- Partnership for 21st Century Skills (2011). *Framework for 21st century learning* [online]. [Accessed 9 April 2020]. Available at: http://www.p21.org/storage/documents/1.__p21_framework_2-pager.pdf.
- Patten, S., Vollman, A. & Thurston, W. (2000). The utility of the transtheoretical model of behavior change for HIV risk reduction in injection drug users. *Journal of the Association of Nurses in AIDS Care*, vol. 11(1), pp. 57-66.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods*. 4th edn. Thousand Oaks, CA: Sage.

Pavlik, Z. (2014). *Human capital from the demographic point of view* [online]. [Accessed 27 April 2018]. Available at: <https://relik.vse.cz/2014/sbornik/download/pdf/86-Pavlik-Zdenek-paper.pdf>

Peng, W. (2008). The Mediation Role of Identification in the Relationship between Experience Mode and Self-Efficacy: Enactive Role-Playing versus Passive Observation. *Cyberpsychology & behavior : the impact of the Internet, multimedia and virtual reality on behavior and society*, vol. 11(6), pp. 649-652 .

Perera, M., Gunawardena, N., Guruge, D. & Pieris, K. (2012). *Health Promotion: A Literature Review* [online]. [Accessed 23 November 2017]. Available at: https://www.researchgate.net/publication/280534728_Health_Promotion_A_Literature_Review

Petrescu, A. M. A., Gorghiu, G. & Draghicescu, L.M. (2017). ‘The Advantages of Collaborative Learning in Science Lessons’, in Clipa (eds). *Studies and Current Trends in Science of Education*. Suceava, Romania: LUMEN Proceedings, pp. 326-333.

Philippot, A., Meerschaut, A., Danneaux, L., Smal, G., Bleyenheuft, Y. & De Volder, A. G. (2019). Impact of Physical Exercise on Symptoms of Depression and Anxiety in Pre-adolescents: A Pilot Randomized Trial. *Frontiers in Psychology*, vol.10, p.1820.

Pierce, J. P., White, V. M. & Emery, S. L. (2012). What public health strategies are needed to reduce smoking initiation? *Tobacco Control*, vol. 21(2), pp. 258–264.

Pigg, R.M. (1992). ‘The school health program: Historical perspectives and future prospects’, In H.M. Wallace, K. Patrick, G.S. Parcel, and J.B. Igoe (eds). *Principles and Practices of Student Health*. Oakland, California: Third Party Publishing.

Pinder, L. & Rootman, I. (1998). Milestones of Health, A prelude to Health for all. *World Health Forum* [online]. Vol. 19(3), pp. 235-238. [Accessed 23 November 2017]. Available at: [http://whqlibdoc.who.int/whf/1998/.../WHF199819\(3\)p235-238.pdf](http://whqlibdoc.who.int/whf/1998/.../WHF199819(3)p235-238.pdf)

Pirzadeh, A., Mostafavi, F., Ghofranipour, F. & Feizi, A. (2015). Applying Transtheoretical Model to Promote Physical Activities Among Women. *Iranian journal of psychiatry and behavioral sciences*, vol. 9(4), pp. 1 – 6.

Pourhaji, F., Vahedian Shahroodi M, Esmaily H, Pourhaji F, harooni J. (2014). Effects of training program-based on stage of change model to promote breast self-examination behavior. *Scientific Journal of Hamadan Nursing & Midwifery Faculty*, vol. 21, pp. 59-68.

Pourhoseinzadeh, M., Gheibizadeh, M., Moradikalboland, M. & Cheraghian, B. (2017). The Relationship between Health Locus of Control and Health Behaviors in Emergency

Medicine Personnel. *International Journal of Community Based Nursing and Midwifery*, vol. 5(4), pp. 397–407.

Prochaska, J. O. & Di Clemente, C. C. (1982). *Transtheoretical therapy: Toward a more integrative model of change. Psychotherapy: Theory, Research and Practice*, vol. 19(3), pp. 276-288.

Prochaska, J. O. (2008). Decision Making in the Transtheoretical Model of Behavior Change. *Medical Decision Making*, vol. 28, pp. 845 - 849.

Prochaska, J. O. ,Velicer,W. F., Rossi, J. S., Goldstein, M. G., Marcus, B. H., Rakowski, W., Fiore, C., Harlow, L. L., Redding, C. A., & Rosenbloom, D. (1994). Stages of change and decisional balance for 12 problem behaviors. *Health Psychology*, vol. 13(1), pp. 39-46.

Prochaska, J. O., Johnson, S. & Lee, P. (2009). ‘The transtheoretical model of behavior change’, in S. A. Shumaker, J. K. Ockene and K. A. Riekert (eds). *The Handbook of Health Behavior Change*. 3rd edn. New York, NY: Springer, pp. 59–83

Prochaska, J., DiClemente, C., & Norcross, J. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, vol. 47(9), pp. 1002-1114.

Prochaska,J. & Velicer, W. F. (1997).The Transtheoretical model of health behavior change. *American Journal of Health Promotion*, vol. 12(1), pp. 38-48.

Public Health England (PHE). (2014). *The link between pupil health and wellbeing and attainment*. London: Public Health England.

Public Health England (PHE). (2015). *Promoting children and young people’s emotional health and Wellbeing: A whole school and college approach* [online]. [Accessed 20 June 2020]. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/414908/Final_EHWP_draft_20_03_15.pdf

Pudrovskaya, T. (2015). Gender and health control beliefs among middle-aged and older adults. *Journal of Aging and Health*, vol. 27(2), pp. 284–303.

Rabea, R., Adel Almahameed, N., Al-Nawafleh, A. H. & Obaidi, J. (2018). English Language Challenges among Students of Princess Aisha Bint Al-Hussein College of Nursing & Health Sciences at Al-Hussein Bin Talal University. *Journal of Language Teaching and Research*, vol. 9 (4), pp. 890 – 898.

- Radtke, T., Kaklamanou, D., Scholz, U., Hornung, R. & Armitage, C.J. (2014) Are diet-specific compensatory health beliefs predictive of dieting intentions and behaviour? *Appetite*, vol. 76, pp. 36–43.
- Ramanathan, S. & Crocker, P. R. E. (2009). The influence of cultural values on physical activity among female adolescents from the Indian diaspora. *Qualitative Health Research*, vol. 19, pp. 492–503.
- Raven, M., Doran, K., Kostrowski, S., Gillespie, C. & Elbel, B. (2011). An intervention to improve care and reduce costs for high-risk patients with frequent hospital admissions: a pilot study. *BMC Health Service Research* [online]. Vol. 11, pp. 270–270. [Accessed 28 November 2017]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3212942/>
- Reisi, M., Javadzade, S. H., Shahnazi, H., Sharifirad, G., Charkazi, A. & Moodi, M. (2014). Factors affecting cigarette smoking based on health-belief model structures in pre-university students in Isfahan, Iran. *Journal of Education and Health Promotion*, vol. 3(23).
- Reitzel, L. R., Lahoti, S., Li, Y., Cao, Y., Wetter, D. W., Waters, A. J. & Vidrine, J. I. (2013). Neighborhood vigilance, health locus of control, and smoking abstinence. *American Journal of Health Behavior*, vol. 37(3), pp. 334–341.
- Renuka, P., Pushpanjali, K. & Dental, R. (2014). Effectiveness of Health Belief Model in Motivating for Tobacco Cessation and to Improving Knowledge, Attitude and Behavior of Tobacco Users. *Cancer and Oncology Research*, vol. 2(4), pp. 43 – 50.
- Reveruzzi, B., Buckley, L. & Sheehan, M. (2016). School-based first aid training programs: a systematic review. *Journal of School Health*, vol. 86, pp. 266-272.
- Ridgers, N. D., Salmon, J., Parrish, A., Stanley, R. M. & Okely, A. D. (2012). Physical activity during school recess: a systematic review. *American Journal of Preventive Medicine*, vol. 43(3), pp. 320–328.
- Rimer, B. & Glanz, K. (2005). *Theory at a glance: A guide for health promotion practice* [online]. [Accessed 12 June 2019]. Available at: https://cancercontrol.cancer.gov/brp/research/theories_project/theory.pdf
- Rizvi, A. (2015). *Health education will be taught in Abu Dhabi schools* [online]. [Accessed 23 November 2017]. Available at: <https://www.thenational.ae/uae/health/health-education-will-be-taught-in-abu-dhabi-schools-1.121104>
- Rodgers, W., Courneya, K., & Bayduza, A. (2001). Examination of the Transtheoretical model and exercise in 3 populations. *American Journal of Health Behavior*, vol. 25(1), pp. 33-41.

- Rogers, K. M. A. (2009). A preliminary investigation and analysis of student learning style preferences in further and higher education. *Journal of Further and Higher Education*, vol. 33(1), pp. 13-21.
- Roopa, S. & Rani, M. S. (2012). Questionnaire Designing for a Survey. *Journal of Indian Orthodontic Society*, vol. 46(4), pp. 273-277.
- Rosenstock, I. M. (1974). Historical Origins of the Health Belief Model. *Health Education & Behavior*, vol. 2(4), pp. 328–335.
- Rosenstock, I. M., Strecher, V. J.; Becker, M. H. (1988). Social learning theory and the health belief model. *Health Education & Behavior*.
- Rosenstock, I.M. (1966). Why people use health services. *Milbank Memorial Fund Quarterly*, vol. 44, pp. 94–124.
- Ross, T. P., Ross, L. T., Short, S. D., & Cataldo, S. (2015). The multidimensional health locus of control scale: psychometric properties and form equivalence. *Psychological Reports*, vol. 116(3), pp. 889–913.
- Rossmann & Rallis (2012) Rossmann, G., & Rallis, S. F. (2012). *Learning in the field: An introduction to qualitative research*. 3rd edn. Thousand Oaks, CA: Sage
- Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcements. *Psychological Monographs*, vol. 80.
- Rotter, J. B. (1990). Internal versus external control of reinforcement: A case history of a variable. *American Psychologist*, vol. 45, pp. 489–493.
- Rubin, H. J. & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data*. 3rd edn. Thousand Oaks, CA: Sage.
- Rughinis, C. & HUMA, B. (2015). Who theorizes age? The Socio Demographic Variables device and age-period-cohort analysis in the rhetoric of survey research. *Journal of Aging Studies*, vol. 35, pp. 144-159
- Ruzafa-Martinez, M., Lopez-Iborra, L., Moreno-Casbas, T. & Madrigal-Torres, M. (2013). Development and validation of the competence in evidence based practice questionnaire (EBP-COQ) among nursing students. *BMC Medical Education*, vol. 13(19).
- Sadler-Smith, E. (2001). The relationship between learning style and cognitive style. *Personality and Individual Differences*, vol. 30(4), pp. 609-616.
- Saleh, S., Sakineh, A.P., Maryam, A., Pour, L., Niknia, L., Pour, P.M., Fatemeh, N., Leyla, S., Abadi, N., Arezou, A., & Samiei, P. (2006). Motives for cigarette smoking among high

school students in Urmia: a qualitative study. *Journal of Urmia Nursing and Midwifery Faculty*, vol. 16, pp. 43-57.

Salisu, A., & Ransom, E.N. (2014). The role of modeling towards impacting quality education. *International Letters of Social and Humanistic Sciences*, vol. 32, pp. 54-61.

Santos, M. G., Handley, M. A., Omark, K. & Schillinger, D. (2014). ESL participation as a mechanism for advancing health literacy in immigrant communities. *Journal of Health Communication*, vol. 19(2), pp. 89–105.

Sargent-Cox, K. A. & Anstey, K. J. (2015). The relationship between age-stereotypes and health locus of control across adult age-groups. *Psychology & Health*, vol. 30(6), pp. 652–670.

Saunders, M. N. K., Lewis, P. & Thornhill, A. (2012). *Research methods for business students*. 6th edn. Harlow, England: Pearson Education.

Schneewind, K. A. (1995). Impact of family processes on control beliefs. In A. Bandura (Ed.), *Self-efficacy in changing societies*. New York: Cambridge University Press.

Scholl, R. (2002). *The transtheoretical model of behavior change* [online]. [Accessed 18 January 2019]. Available at: <http://www.cba.uri.edu/Scholl/Notes/TTM.html>

School for Health in Europe (SHE). (2013). *School health promotion: evidence for effective action* [online]. [Accessed 24 November 2017]. Available at: http://www.schools-for-health.eu/uploads/files/SHE-Factsheet_2_School%20health%20promotion_Evidence.pdf

School Health Policies and Practices Study (SHPPS). (2015). *Results from the School Health Policies and Practices Study 2014*. U.S. Department of Health and Human Services: CDC.

Schools for Health in Europe (SHE). (2013). *SHE online school manual: 5 steps to a health promoting school* [online]. [Accessed 20 June 2020]. Available at: <https://www.schoolsforhealth.org/sites/default/files/editor/How%20to%20be%20a%20health%20promoting%20school/english-online-school-manual.pdf>

Schultz, D. P. & Schultz, S. E. (2011). *A History of Modern Psychology*. 10th edn. USA: Wadsworth, Inc

Scott, W. J., McCone, D. R., Sayegh, L., Looney, J. D. & Jackson, R. J. (2011) Mixed methods in a postdeployment study of U.S. Army National Guard soldiers. *Journal of Workplace Behaviour Health*, vol. 26(4), pp. 275-295.

Seidman, I. (2013). *Interviewing as qualitative research: A guide researchers in education and the social sciences*. 4th edn. New York, NY: Teachers College Press.

- Semba, R. D., de Pee, S., Sun, K., Sari, M., Akhter, N. & Bloem, M. W. (2008). *Effect of parental formal education on risk of child stunting in Indonesia and Bangladesh: a cross-sectional study* [online]. [Accessed 23 May 2019]. Available at: https://www.researchgate.net/publication/5557258_Effect_of_parental_formal_education_on_risk_of_child_stunting_in_Indonesia_and_Bangladesh_A_cross-sectional_study
- Sen, S. & Yilmaz, A. (2012). The effect of learning styles on students' misconceptions and self-efficacy for learning and performance. *Procedia - Social and Behavioral Sciences*, vol. 46(1), pp. 1482 – 1486.
- Senthamarai, S. (2018). Interactive teaching strategies. *Journal of Applied and Advanced Research*, vol. 3(1), pp. 36-38.
- Shahsavarani, A. M. & Abadi, E. A. M. (2015). The Bases, Principles, and Methods of Decision-Making: A Review of Literature. *International Journal of Medical Reviews*, vol. 2(1), pp. 214-225.
- Shaw, D. (2006). Women's right to health and the Millennium Development Goals: Promoting partnerships to improve access. *International Journal of Gynaecology & Obstetrics*, vol. 94, pp. 207–215.
- Shein, P. P. & Chiou, W. B. (2011). Teachers as Role Models for Students' Learning Styles. *Social Behavior and Personality*, vol. 39(8), pp. 1097-1104.
- Sheykhjan, T.M. (2015). *Health Education Strategies for Coping with Academic Stress* [online]. [Accessed 24 November 2017]. Available at: <https://files.eric.ed.gov/fulltext/ED565791.pdf>
- Shieh, C. & Halstead, J. A. (2009). Understanding the impact of health literacy on women's health. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, vol. 38(5), pp. 601-612.
- Shrestha, A. & Angolkar, M. (2014). Impact of Health Education on the Knowledge and Practice Regarding Personal Hygiene among Primary School Children in Urban Area of Karnataka, India. *Journal of Dental and Medical Sciences*, vol. 13, pp. 86-89.
- Shrestha, A. & Mubashir, B. A. (2014). Impact of Health Education on the Knowledge and Practice Regarding Personal Hygiene among Primary School Children in Urban Area of Karnataka, India. *Journal of Dental and Medical Sciences*, [online]. Vol. 13(4), pp. 86 – 89. [Accessed 23 January 2018]. Available at: https://www.researchgate.net/publication/263357156_Impact_of_Health_Education_on_the_Knowledge_and_Practice_Regarding_Personal_Hygiene_among_Primary_School_Children_in_Urban_Area_of_Karnataka_India

- Silver, H.K., Igoe, J.B. & McAtee, P. (1976). The school nurse practitioner: Providing improved health care to children. *Pediatrics*, vol. 58(4), pp. 580–584.
- Simons-Marton, B., McLeroy, K. & Wendel, M. (2012). *Behavior theory in health promotion practice and research*. Burlington, MA: Jones & Bartlett.
- Sinicki, A. 2017. The Importance of a Central Locus of Control. *Health Guidance* [online]. [Accessed 22 November 2017]. Available at: <http://www.healthguidance.org/entry/16868/1/The-Importance-of-a-Central-Locus-of-Control.html>
- Siti Maziha, M., Abd. Rahman, N. S. N. & Yunus, M. M. (2010). Factors influencing classroom participation: a case study of Malaysian undergraduate student. *Procedia Social and Behavioral Sciences*, vol. 9, pp. 1079- 1084.
- Smathers, C. & Ferrari, T. (2018). Levels of Community Change: A game to teach about policy, system, and environmental change. *Journal of Nutrition Education Behavior*, vol. 50(3), pp. 311-314.
- Smith, J. & Firth, J. (2011). Qualitative data analysis: the framework approach. *Nurse Researcher*, vol. 18(2), pp. 52 – 62.
- Smith, J., Bekker, H. & Cheater, F. (2011). Theoretical versus pragmatic design in qualitative research. *Nurse Researcher*, vol. 18(2), pp. 39 – 51.
- Smith, P. K. (2016). School-based interventions to address bullying. *Estonian Journal of Education*, vol. 4(2), pp. 142-164.
- Society for Public Health Education- The Association for Supervision and Curriculum Development (SOPHE-ASCD). (2010). *Reducing Youth Health Disparities Requires: K-12 Health Education* [Online]. [Accessed 24 February 2019]. Available at: https://www.sophe.org/wp-content/uploads/2017/01/healtheducationYHD_1nov2013_3-1.pdf
- Society of Health and Physical Educators (SHAPE). (2015). *Appropriate Practices in School-Based Health Education* [online]. [Accessed 9 November 2019]. Available at: <https://www.shapeamerica.org/uploads/pdfs/Appropriate-Practices-in-School-Based-Health-Education.pdf>
- Sørensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., Brand, H. & (HLS-EU) Consortium Health Literacy Project European. (2012). Health literacy and public health: a systematic review and integration of definitions and models. *BMC Public Health*, vol. 12(1).

St. Leger, L. & Young, I. M. (2009). Creating the document “Promoting health in schools: from evidence to action”. *Global Health Promotion*, [online]. Vol. 16(4), pp. 69-71. [Accessed 16 December 2018]. Available at: <https://pubmed.ncbi.nlm.nih.gov/20028673/>

Stapleton, P., & Smith, H.I. (2013). Health locus of control, self-awareness, and integrative eating styles in university students. *International Journal of Healing and Caring*, vol.13(2), pp. 1-23.

State Statutes and Regulations for Healthy Schools (SSRHS). (2019). *Health Education* [Online]. [Accessed 24 February 2020]. Available at: <https://www.childtrends.org/wp-content/uploads/2019/01/WSCC-State-Policy-Health-Education.pdf>

Stathopoulos, T. & Sourtzi, P. (2013). Evaluation of a health education programme for the prevention of smoking in secondary education students. *Health Science Journal*, vol. 7(1), pp. 68 – 80.

Statistics Center Abu Dhabi (SCAD). (2018). *Health Statistics 2018* [online]. [Accessed 23 May 2019]. Available at: https://www.scad.gov.ae/Release%20Documents/Health%20Statistics_2018_Annual_Yearly_en_v2.pdf

Stauffer, B. (2019). *4 Best Medical Terminology Activities for High School* [Online]. [Accessed 12 June 2020]. Available at: <https://www.aeseducation.com/blog/4-best-medical-terminology-activities-for-high-school>

Stenström, U. & Andersson, P. (2000). Smoking, blood glucose control, and locus of control beliefs in people with type 1 diabetes mellitus. *Diabetes research and clinical practice*, vol. 50(2), pp. 103–107.

Stephens, A. & Wardle, J. (2001). Locus of control and health behavior revisited: a multivariate analysis of young adults from 18 countries. *British Journal of Psychology*, vol. 92, pp. 659 - 672.

Stice, E., Shaw, H. & Marti, C. N. (2006). A meta-analytic review of obesity prevention programs for children and adolescents: the skinny on interventions that work. *Psychological Bulletin*, vol. 132(5), pp. 667.

Sultana, F., Nizame, F. A., Southern, D. L., Unicomb, L., Winch, P. J. & Luby, S. P. (2017). Pilot of an Elementary School Cough Etiquette Intervention: Acceptability, Feasibility, and Potential for Sustainability. *The American Journal of Tropical Medicine and Hygiene*, vol. 97(6), pp. 1876–1885.

- Sund, A. M., Larsson, B. & Wichstrom, L. (2011). Role of physical and sedentary activities in the development of depressive symptoms in early adolescence. *Social Psychiatry and Psychiatric Epidemiology*, vol. 46, pp. 431–441.
- Surbhi, S. (2017). *Difference Between Structured and Unstructured Interview* [online]. [Accessed 15 June 2019]. Available at: <https://keydifferences.com/difference-between-structured-and-unstructured-interview.html>
- Swan, M. (2017). *How the UAE is fighting the diabetes epidemic* [online]. [Accessed 23 May 2019]. Available at: <https://fridaymagazine.ae/health/body/how-the-uae-is-fighting-the-diabetes-epidemic-1.2126856>
- Taherdoost, H. (2016). *Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research* [online]. [Accessed 28 November 2019]. Available at: https://www.researchgate.net/publication/319998246_Sampling_Methods_in_Research_Methodology_How_to_Choose_a_Sampling_Technique_for_Research
- Tahlil, T., Woodman, R.J., Coveney, J. & Ward, P. R. (2013). The impact of education programs on smoking prevention: a randomized controlled trial among 11 to 14 year olds in Aceh, Indonesia. *BMC Public Health*, vol.13, pp. 367
- Takizawa, R., Maughan, B. & Arseneault, L. (2014). Adult health outcomes of childhood bullying victimization: Evidence from a five-decade longitudinal British birth cohort. *American Journal of Psychiatry*, vol. 171(7), pp. 777–784.
- Tanigawa, K., Iwami, T., Nishiyama, C., Nonogi, H. & Kawamura, T. (2011). Are trained individuals more likely to perform bystander CPR? An observational study. *Resuscitation*, vol. 82(5), pp. 523–528.
- Tariq, J. K. (2017). *Research Philosophy* [online]. [Accessed 19 January 2019]. Available at: <https://www.slideshare.net/DrJasimKhanTariqPhDA/research-philosophy-80102191>
- Tariq, S. & Woodman, J. (2013). *Using mixed methods in health research* [online]. Vol. 4(6). [Accessed 30 November 2017]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3697857/>
- Tashakkori, A. & Newman, I. (2010). ‘Mixed methods: integrating quantitative and qualitative approaches to research’, in B. McGaw, E. Baker and P. P. Peterson (eds). *International Encyclopaedia of Education* (3rd edn). Oxford, U.K.: Elsevier.
- Tashakkori, A. & Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. *Applied Social Research Methods Series*. Thousand Oaks: Sage Publications.

- Taylor, J. (2009). The changing health of the Middle East population through oil and automobiles. *European Heart Journal*, vol. 30(11), pp. 1291–3
- Taylor, T. & Toohey, K. (1998). Perspectives on sport: voices of women from non-English speaking backgrounds. *ACHPER Australia Healthy Lifestyles Journal*, vol. 45(1), pp. 5–9.
- Thakral, S., Bhatia, T., Gettig, E. A., Nimgaonkar, V. L. & Deshpandee, S. N. (2014). A Comparative Study of Health Locus of Control in Patients with Schizophrenia and Their First Degree Relatives. *Asian Journal of Psychiatry*, [online]. Vol. 7(1), pp. 34–37. [Accessed 22 November 2017]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3925311/>
- Tharaldsen, K. B. (2019). Winding down the stressed out: Social and emotional learning as a stress coping strategy with Norwegian upper secondary students. *International Journal of Emotional Education*, vol. 11(2), pp. 91-105.
- The Baltimore Student Attendance Campaign (BSAC). (2012). *State of Chronic Absenteeism and School Health: A Preliminary Review for the Baltimore Community* [online]. [Accessed 26 November 2017]. Available at: <http://www.elev8baltimore.org/site/wp-content/uploads/2012/04/Absenteeism-and-School-Health-Report.pdf>
- The National (2013). *Mental health study in Dubai schools* [online]. [Accessed 23 November 2017]. Available at: <https://www.thenational.ae/uae/health/mental-health-study-in-dubai-schools-1.653729>
- The National. (2013). *Programme to promote improved health education in schools* [online]. [Accessed 27 April 2018]. Available at: <https://www.thenational.ae/uae/health/programme-to-promote-improved-health-education-in-schools-1.321572>
- The National. (2015). *Health education will be taught in Abu Dhabi schools* [online]. [Accessed 27 April 2018]. Available at: <https://www.thenational.ae/uae/health/health-education-will-be-taught-in-abu-dhabi-schools-1.121104>
- The National. (2016). *Government taking battle with diabetes into classrooms* [online]. [Accessed 23 May 2019]. Available at: <https://www.thenational.ae/uae/health/government-taking-battle-with-diabetes-into-classrooms-1.136416>
- The Ohio Association for Health, Physical Education, Recreation and Dance (OAHPERD). (2016). *Quality skills-based health education curriculum* [online]. [Accessed 24 November 2019]. Available at: https://oahperd.memberclicks.net/assets/docs/OAHPERD_QualitySkillsBasedFI.pdf

The Organisation for Economic Co-operation and Development (OECD). (2018). *The future of education and skills Education 2030: The future we want* [online]. [Accessed 10 November 2019]. Available at:

[https://www.oecd.org/education/2030/E2030%20Position%20Paper%20\(05.04.2018\).pdf](https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf)

The Organisation for Economic Co-operation and Development (OECD). (2005). *Developing Teachers' Knowledge and Skills: Pointers for policy development* [online]. [Accessed 10 November 2019]. Available at:

<http://www.oecd.org/edu/school/45399491.pdf>. Accessed: 11 November 2015.

The United Nations Educational, Scientific and Cultural Organisation (UNESCO). (2010). *Education Counts: Towards the Millennium Development Goals* [online]. [Accessed 23 May 2019]. Available at: <http://unesdoc.unesco.org/images/0019/001902/190214e.pdf>

The United Nations Educational, Scientific and Cultural Organisation (UNESCO). (2011). *EFA Global Monitoring Report: Reaching the Marginalized* [online]. [Accessed 23 May 2019]. Available at: <http://unesdoc.unesco.org/images/0018/001866/186606E.pdf>

Thomas, D.B., Oenning, N.S., & Goulart, B.N. (2018). *Essential aspects in the design of data collection instruments in primary health research* [online]. [Accessed 15 February 2019]. Available at:

https://www.researchgate.net/publication/328563736_Essential_aspects_in_the_design_of_data_collection_instruments_in_primary_health_research

Thomas, J. & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology* [online]. Vol. 8(45). [Accessed 20 May 2017]. Available at:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2478656/>

Thomas, J., Kavanagh, J., Tucker, H., Burchett, H., Tripney, J. & Oakley, A. (2007). *Accidental Injury, Risk-Taking Behaviour and the Social Circumstances in which Young People Live: A systematic review*. Social Science Research Unit, Institute of Education, University of London.

Thomas, J., Sutcliffe, K., Harden, A., Oakley, A., Oliver, S., Rees, R., (2003). *Children and healthy eating: a systematic review of barriers and facilitators*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Thomee, S., Harenstam, A. & Hagberg, M. (2011). Mobile phone use and stress, sleep disturbances, and symptom of depression among young adults. *BMC Public Health*, [online]. Vol. 11, pp. 66–77. [Accessed 22 November 2017]. Available at:

<https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-11-66#citeas>

- Toomey, M., Smathers, C., Iaccopucci, A. M., Johnston, K. & Johannes, E. (2018). Youth Workers' Role in Engaging Youth in Health Advocacy for Community-Level Change. *Journal of Youth Development*, vol. 13(3), pp. 12–23.
- Trochim, W. M. K. (2020). *Research Methods Knowledge Base: Inferential Statistics* [Online]. [Accessed 24 June 2020]. Available at: <https://conjointly.com/kb/inferential-statistics/>
- Tschannen-Moran, M., Woolfolk Hoy, A. & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, vol. 68, pp. 202–248.
- Ttofi, M. M. & Farrington, D. P. (2011). Effectiveness of school-based programs to reduce bullying: A systematic and meta-analytic review. *Journal of Experimental Criminology*, vol. 7(1), pp. 27–56.
- Tuan.L.T. (2011) Matching and Stretching Learners' Learning Styles. *Journal of Language Teaching and Research*, vol. 2(2), pp. 285-294.
- Tulbure, C. (2010). *Psychological and educational predictors of academic achievement*. Cluj-Napoca: Presa Universitara Clujeana
- Tulbure, C. (2011). Learning styles, teaching strategies and academic achievement in higher education: A cross-sectional investigation. *Social and Behavioral Sciences* [online]. Vol. 3, pp. 398 – 402. [Accessed 12 June 2017]. Available at: http://ac.els-cdn.com/S1877042812001590/1-s2.0-S1877042812001590-main.pdf?_tid=a916fdf0-56d5-11e7-b89f-00000aacb35d&acdnat=1498086312_f36dcab60adf77ac69fa865ae05b6544
- Tyson, P., Wilson, K., Crone, D., Brailsford, R. & Laws, K. (2010). Physical activity and mental health in a student population. *Journal of Mental Health (Abingdon, England)*, vol. 19(6), pp. 492–499.
- Unite for Sight (UFS). (2015). *Module 3: Training School Teachers to Deliver Health Education Messages to Their Students* [online]. [Accessed 10 November 2019]. Available at: http://www.uniteforsight.org/school-health/module3#_ftn5
- United Nations (UN). (2010). *The Millennium Development Goals Report*. New York, NY: UN.
- Velicer, W. F., Prochaska, J. O., Fava, J. L., Norman, G. J. & Redding, C. A. (1998). Smoking cessation and stress management: Applications of the transtheoretical model of behavior change. *Homeostasis*, vol. 38, pp. 216-233.
- Wallston, K. (2013). 'Multidimensional health locus of control scales', in M. Gellman and J. R. Turner (eds). *Encyclopedia of behavioral medicine*. New York, NY: Springer, pp. 1266–1269.

- Wallston, K. A. (2005). Overview of the special issue on research with the multidimensional health locus of control (MHLC) scales. *Journal of Health Psychology*, vol. 10(5), pp. 619–621.
- Wallston, K. A. & Wallston, B. S. (1981). Health locus of control scales. In H. M. Lefcourt (ed.), *Research with the locus of control construct*, pp. 189–243. New York, NY: Academic Press.
- Wallston, K. A. Wallston, B. S. & DeVellis, R. (1978). Development of the Multidimensional Health Locus of Control (MHLC) Scales. *Health Education Monographs*, vol. 6(2), pp. 160–170.
- Walston, J., Redford, J. & Bhatt, M P. (2017). *Workshop on Survey Methods in Education Research: Facilitator's guide and resources* [online]. [Accessed 15 February 2019]. Available at: <https://files.eric.ed.gov/fulltext/ED573681.pdf>
- Wang L. & Meizhen L. V. (2017). ‘Internal-External Locus of Control Scale’, in V. Zeigler-Hill and T. Shackelford (eds). *Encyclopedia of Personality and Individual Differences*. Cham: Springer.
- Wang, M., Han, X., Fang, H., Xu, C., Lin, X., Xia, S., Yu, W., He, J., Jiang, S. & Tao, H. (2018). Impact of Health Education on Knowledge and Behaviors toward Infectious Diseases among Students in Gansu Province, China. *BioMed Research International*, vol. 2018.
- Weare, K. & Nind, M. (2011). Mental health promotion and problem prevention in schools: what does the evidence say? *Health Promotion International*, [online]. Vol. 26(1), pp. 29-69. [Accessed 16 December 2018]. Available at: <https://pubmed.ncbi.nlm.nih.gov/22079935/>
- Wild, S., Roglic, G., Green, A., Sicree, R. & King, H. (2004). Global prevalence of diabetes. *Diabetes Care*, [online]. Vol. 27(5), pp. 1047–1053. [Accessed 22 November 2017]. Available at: <https://care.diabetesjournals.org/content/27/5/1047>
- Williams, C. (2011). Research methods. *Journal of Business & Economics Research (JBER)*, vol. 5(3).
- Willis, B., & Lessler, J. (1999). *Question Appraisal System QAS-99*. Rockville, MD: Research Triangle Institute.
- Wong, N. D. (2014). Epidemiological studies of CHD and the evolution of preventive cardiology. *Nature Review Cardiology*, [online]. Vol. 11(5), pp. 276-289. [Accessed 22 November 2017]. Available at: <https://pubmed.ncbi.nlm.nih.gov/24663092/>

- Wood, R. & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, vol. 14, pp. 361–384.
- Wood, A. M., Saylor, C. & Cohen, J. (2009). Locus of control and academic success among ethnically diverse baccalaureate nursing students. *Nursing Education Perspectives*, vol. 30(5), pp. 290- 294.
- World Health Organization (WHO). (1986). *Ottawa charter for health promotion*. Geneva: WHO.
- World Health Organization (WHO). (1996). *The Status of School Health*. Geneva: WHO.
- World Health Organization (WHO). (1998). *Health promotion glossary*. Geneva: WHO.
- World Health Organization (WHO). (2003). *Expert Committee on Comprehensive School Health Education and Promotion*. Geneva: WHO.
- World Health Organization (WHO). (2003). *Information series on school health: Skills for health* [Online]. [Accessed 24 February 2019]. Available at: http://www.who.int/school_youth_health/media/en/sch_skills4health_03.pdf.
- World Health Organization (WHO). (2009). *Women and Health Report*. Geneva: WHO.
- World Health Organization (WHO). (2010). *Country Cooperation Strategy for WHO and the United Arab Emirates 2012–2017* [online]. [Accessed 23 November 2019]. Available at: http://applications.emro.who.int/docs/CCS_UAE_2012_EN_14947.pdf?ua=1&ua=1
- World Health Organization (WHO). (2012). *Health education: theoretical concepts, effective strategies and core competencies: A foundation document to guide capacity development of health educators* [online]. [Accessed 22 April 2019]. Available at: http://applications.emro.who.int/dsaf/EMRPUB_2012_EN_1362.pdf
- World Health Organization (WHO). (2013). *Transforming and scaling up health professionals' education and training* [online]. [Accessed 24 November 2017]. https://apps.who.int/iris/bitstream/handle/10665/93635/9789241506502_eng.pdf?sequence=1&isAllowed=y
- World Health Organization (WHO). (2015). *Obesity and Overweight: Key Facts* [online]. [Accessed 20 June 2020]. Available at: <http://www.who.int/mediacentre/factsheets/fs311/en/>
- World Health Organization (WHO). (2016). *Global Report on Diabetes* [online]. [Accessed 23 May 2019]. Available at: https://apps.who.int/iris/bitstream/handle/10665/204871/9789241565257_eng.pdf?sequence=1

World Health Organization (WHO). (2017). *Health literacy and health behavior* [online]. [Accessed 24 November 2019]. Available at: <http://www.who.int/healthpromotion/conferences/7gchp/track2/en/>

World Health Organization (WHO). (2019). *School and youth health: Global school health initiative* [online]. [Accessed 20 June 2020]. Available at: https://www.who.int/school_youth_health/gshi/en/

World Health Organization (WHO). (2020). *Tobacco: Key Facts* [online]. [Accessed 20 June 2020]. Available at: <https://www.who.int/news-room/fact-sheets/detail/tobacco>

World Health Organization (WHO). (2020). *Health Promoting Schools* [online]. [Accessed 20 June 2020]. Available at: https://www.who.int/health-topics/health-promoting-schools#tab=tab_1

Xhemajli, A. (2016). The role of the teacher in interactive teaching. *International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE)*, vol. 4(1), pp. 31–38.

Xu, F., Ware, R. S., Leslie, E., Tse, L. A., Wang, Z., Li, J. & Wang, Y. (2015). Effectiveness of a Randomized Controlled Lifestyle Intervention to Prevent Obesity among Chinese Primary School Students: CLICK-Obesity Study. *PloS one*, vol. 10(10), pp. 1 – 12.

Yeong, M.L., Ismail, R.B., Ismail, N.H. & Hamzah, M.I. (2018). Interview Protocol Refinement: Fine-Tuning Qualitative Research Interview Questions for Multi-Racial Populations in Malaysia. *The Qualitative Report*, vol. 23, pp. 2700-2713.

Zafar, M. (2019). Career Guidance in Career Planning among Secondary School Students. *Asian Journal of Education and Social Studies*, vol. 5(1), pp. 1-8.

Zhang, L. F., Sternberg, R. J. & Rayner, S. G. (2012). *Handbook of intellectual styles: Preferences in cognition, learning, and thinking*. Springer Publishing Company.

Zoghoul, M. (1987). Restructuring the English Department in the third World Universities: Alternative Approach for the Teaching of English Literature. *International Review of Applied Linguistics*, XXV(3), pp. 221-236.

Appendices

Appendix 1: Students' Questionnaire

Questionnaire

Dear Students,

Thank you so much for your contribution to this research study.

Please indicate how much you agree or disagree with the below statements.

SD: Strongly Disagree

D: Disagree

U: Neither Agree nor Disagree

A: Agree

SA: Strongly Agree

If you would like to discuss your opinion, or talk more on the statements please provide below your contact email or mobile number: _____ .

Thank you

1. Age:	2. Number of years in the current school:
3. Nationality:	4. Education zone:
5. Grades you received Health Education:	

Statement	SD	D	U	A	SA
Learning of Health Education helps me to know:					
1. communicable diseases and its causes					
2. non-communicable diseases and its causes					
3. medical terminology					
4. basics of first aid and CPR					
5. healthy eating habits					
6. benefits of physical activities					
7. health care services					
Learning of HE helps me practice:					
1. communicable diseases prevention measures					
2. non-communicable diseases prevention measures					
3. the use of medical terminology					
4. the first aid and CPR on a manikin					
5. how to avoid health risks					
6. decision making skills					
7. goal settings skills					
8. how to deal with stress					
9. physical activity					
10. healthy eating at school and at home					
Learning of HE helps me to:					
1. be a health advocate					
2. teach peers, siblings, and others about healthy living					
3. practice healthy life style					
4. seek help from health professional in case of any health related issues					
5. know more about health related careers					
6. recommend to be given to all grade levels					
Teachers of health education:					
1. Encourage me to apply things I learnt					
2. Practice concepts I learnt in class					
3. Have knowledge about health education concepts					
4. Able to practice the skills of the lessons					
5. Are my health related role model					

If you would like to provide related information that you would like to inform and not being asked in this questionnaire, please use the space below:

Appendix 2: Interview Questions Guide

Interview Questions Guide

1. Age group?
2. Nationality?
3. How long you have been in the current school?
4. School grades you learn health education?
5. What you benefit from health education subject?
6. In your opinion, what are the main topics that benefit you in HE?
7. How you apply concepts you learnt at school? Give examples
8. How you apply concepts you learnt at home? Give examples
9. How does health education subject affect you as a person?
10. How do you deal with health related problems that might arise? Give examples.
11. What do you do if you face difficulties related to learning in HE? Fulfill a task?
12. Do you involve your family with lessons you learn in class? Give examples.
13. What do you think contributes to a better learning of HE?
14. What are the main challenges you have faced during your learning in the health education?
15. In your opinion, what is the teachers' role in your learning of health education?
16. What is the effect of your HE learning on your future career?
17. How would you describe the role of the teacher of HE?
18. Does your teacher provide you with instructions to complete tasks?
19. In your opinion, what are the traits of an effective HE teacher?

Appendix 3: Ethics Advisory Committee of the British University in Dubai Approval



Research Research Ethics Form (Low Risk Research)

To be completed by the researcher and submitted to the Dean's nominated faculty representative on the Research Ethics Committee


i. Applicants/Researcher's information:

Name of Researcher /student	Rania Alayli
Contact telephone No.	0505437390
Email address	raniaalayli@hotmail.com
Date	21.5.2018

ii. Summary of Proposed Research:

BRIEF OUTLINE OF PROJECT (100-250 words; this may be attached separately. You may prefer to use the abstract from the original bid):	Attached
MAIN ETHICAL CONSIDERATION(S) OF THE PROJECT (e.g. working with vulnerable adults; children with disabilities; photographs of participants; material that could give offence etc...):	Attached
DURATION OF PROPOSED PROJECT (please provide dates as month/year):	One academic year 2018 - 2019, the data collection process starts in September 2018 and ends in June 2019.
Date you wish to start Data Collection:	September 2018.
Date for issue of consent forms:	September 2018

Appendix 4: Abu Dhabi Education and Knowledge Department (ADEK) Approval

 دائرة التعليم والمعرفة DEPARTMENT OF EDUCATION AND KNOWLEDGE	
Date: 25/09/2018	التاريخ : 25/09/2018
To: Public Schools Principals	السادة / مديري المدارس الحكومية المحترمين
Subject : Letter Of Permission	الموضوع : تسهيل مهمة باحثين
Dear Principals,	تحية طيبة وبعد،
The Department of Education and Knowledge would like to express its gratitude for your generous efforts and sincere cooperation in serving our dear researchers.	يطيب لدائرة التعليم و المعرفة ان تتوجه لكم بخالص الشكر والتقدير لجهودكم الكريمة و التعاون الصادق لخدمة ابنائنا الباحثين
You are kindly requested to allow the researcher /RANIA ALAYLI, to complete his research on:	و نود اعلامكم بموافقة دائرة التعليم و المعرفة على موضوع الدراسة التي سيجريها الباحث بعنوان
Investigating the students' perceptions of health education in the public secondary schools in the UAE.	
Please indicate your approval of this permission by facilitating her meetings with the sample groups at your resoeected schools.	
لذا يرجى التكرم بتسهيل مهام الباحث و مساعدة علي اجراء الدراسة المشار إليها	
For Further information : please contact Mr Helmy Seada on 02/6150140	للاستفسار : يرجى الاتصال بالسيد / حلمي سعده علي هاتف
Thank you four ur cooperation.	شاكرين لكم حسن تعاونكم وتفضلوا بقبول خالص الاحترام و التقدير
Sincerely yours,	أ.د. مسعود عبد الله بدري مدير وحدة البحوث والتخطيط وقياس الأداء
PO Box 36005 Abu Dhabi, United Arab Emirates T +971 (0)2 615 0000 F +971 (0)2 615 0602 E info@adec.ac.ae	

Appendix 5: Consent Form

Letter to the Research Department at the Abu Dhabi Education and Knowledge Department
(ADEK)

**Investigating the students' perceptions of health education in the public secondary schools
in the UAE.**

(Date)

Dear (Name of the Director)

Dubai, UAE

My name is Rania Alayli, I am a PHD student in Education at The British University in Dubai. I am writing to request your permission to visit your school to collect data for my study.

As you know, the United Arab Emirates' Ministry of Education (MOE) and Abu Dhabi Education and Knowledge Department (ADEK) launched the health education (HE) program in schools. The main mission of this initiative was to reduce diseases and absenteeism through increase awareness of a healthy life style with all its aspects and to introduce long life positive health habits among students. The MOE and ADEK's plan of the health education was the introduction of a separate curriculum in schools that will be integrated into the system for all grade levels from kindergarten to Grade 12 in all public schools. Currently, this initiative is implemented in secondary public girls' schools (Cycle 3). So, girls who are enrolled in these schools are the participants of this study. Students from each school will be selected based on their availability and interest in being participants in this study. Please be assured with anonymity and confidentiality of the students and schools. Also, that students' participation in the data collection process is totally voluntary and that they can withdraw at any time without any penalty, or any social, financial or psychological harm. On the other hand, the researcher will present the data obtained in an objective manner without any interference or manipulation. This research study aims to investigate the influence of health education on the UAE public secondary school students' knowledge, practices and dispositions.

I am hopeful that the results of my study will support future scholars, health professionals, school health curriculum developers, and policy makers in the UAE Educational Departments

with tools to identify national and international practices in health education interventions. This is to promote the health of the UAE school students, and equip them with healthful body and mind to face this dynamic and rapid changing world.

Please sign the consent form attached to indicate your approval of visiting your schools. Kindly, provide me with a suitable period – if any – where you think it is best for me to visit your schools and conduct the data collection procedure.

Thank you for your time and consideration.

Principal Researcher: Rania Alayli

PHD student in Education, The British University in Dubai

Mobile: 050- 5437390

Email ID: raniaalayli@hotmail.com