Female Saudi Arabian Students’ Attitudes, Willingness and Preferences of Communication in Online Educational Settings

by

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Abstract

Title: Female Saudi Arabian students’ Attitudes, Willingness and Preference of Communication in Online Educational Settings
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This study investigated the impact of age, location, and marital status on the attitudes of Saudi female students’ toward online education. A total number of 135 females participated in the survey. Findings revealed that Saudi female students had positive attitudes toward online education courses in both Saudi Arabia and the United States. Attitudes toward online educational courses were not significantly impacted by the age and locations of the participants. However, marital status significantly impacted the attitudes, where single participants were found to have a different attitude than married and divorced participants. Willingness to communicate with male instructors was not significantly impacted by the participants’ locations and marital status. Additionally, marital status of the participants did not have a significant impact on the willingness to communicate with male classmates; however, it was significantly impacted by participants’ location of residency. Interviews with 20 participants helped to characterize young Saudi female students who seek high quality education development.
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Chapter 1

Introduction

It is well known that recent developments in educational technology have led to more open sources for information, and this had led to an increase in higher educational degrees worldwide. The Kingdom of Saudi Arabia is no exception. Saudi educators and governors are eager to be a competitive country with an educated populace comparable to that of other developed countries (e.g., the United States, Singapore, and some European countries). As such, there is a demand from the Saudi government for students to keep pace with other developing countries in their higher education, resulting in online education being a growing field in Saudi higher education. Because online education is a recent type of distance education in the Kingdom of Saudi Arabia, educators and researchers are keen to investigate problems related to the new educational environment that allows such a high virtual interaction between students and in particular, between genders. This is because mixed-gender interaction is not highly supported by the Saudi individuals due to cultural and religious values, yet educators want to have an appropriate and acceptable online educational environment that allows females to continue their higher education.
This study investigated Saudi Arabian female students’ attitudes toward online education, including factors that might impact a Saudi female student’s willingness to complete an online degree or course, such as age and marital status. In addition, the study explored the impact of Saudi culture on female students’ attitudes toward online education.

**Internet access in the Kingdom of Saudi Arabia**

According to Al Lily (2011), Saudi culture is a very complex combination of traditional and Islamic standards. In any typical Saudi society, new changes or any demand for such development usually stays within acceptable Islamic and cultural boundaries. Therefore, the use of technology and, specifically, the use of the Internet went through a time-consuming and arduous period to be accepted by Saudi society when it first made its appearance at the end of the 1990s, when an elaborate national system was established to remove or block any inappropriate content. As a result of this Internet technology revolution, the idea of online education came to be considered the most suitable way for Saudi females to pursue their education and to engage in lifelong learning.

In Islam, there is a belief that when advantage and disadvantage are seen as equal potential consequences of an event, warding off harm has priority over bringing advantages. Therefore, some Saudi individuals emphasize the negative aspects of the Internet campaign against its use, while other groups of people are
more welcoming of it. In addition, many websites on the Internet were initially blocked from individuals in Saudi Arabia (Al Lily, 2011). Through the years and as in any society, most people started to see the benefits of the Internet and, as a result, online education gained in population with an increase from 200,000 users in 2000 to 4.8 million in 2006 (Communications and Information Technology Commission, 2015).

**Female education in the Kingdom of Saudi Arabia**

As mentioned previously, Saudi culture is a complex mixture of traditional and Islamic values, which includes females being taught by other females. In the 1970s, more Saudi women began to have access to higher education. Due to the increasing number of female students and the limited number of female academic instructors, the Ministry of Higher Education began to utilize closed-circuit television (CCTV), so that male academic instructors could teach females via a TV screen. The CCTV system is a one-way video that delivers from instructor to students and a two-way audio that connects or delivers an audio sound from teacher to students or vice versa. Female students are able to take part in discussions by microphones and speakers. This allowed the education of women to develop very quickly within the Saudi culture, because females remain physically separated from males.
Recently, several aspects in Saudi higher education, and female education particularly, have been changed and improved. According to Asbar Centre for Studies, Research and Communication (2015), Saudi women participate on an almost equal plane with their male peers in the online world, where 55% of users are men and 45% women. Clearly, the idea of female use of the Internet challenged the norm of physical division in Saudi Arabia and, even more, enhanced women’s public and educational practices. It has been observed, accordingly, that women are often among the strongest supporters of online education and may have the most to gain from further growth in online education (Bates, 2009). Furthermore, in 2006, the state sponsored 1374 Saudi females to study abroad, with a monthly payment awarded to a male guardian and a monthly payment per child. This support is for the Saudi female to take a step forward in her higher educational degrees.

**Statement of problem**

In Saudi Arabia, due to religious and social beliefs, a single sex educational environment is the only available option for students, because women are not allowed to interact with unrelated males. Thus, males and females have separate schools from K-12 and through higher education, which the Kingdom of Saudi Arabia is very keen to develop further. As a step to further this development, in 2005, King Abdullah offered a scholarship program for all Saudi students age 18 and older at the government’s expense. Since then, the United States has welcomed
more than 100,000 Saudi students, both male and female to its universities (Doyle, 2013). Around 54% of the Saudi students who study abroad are in the United States, while the remaining 46% are studying in other countries around the world (Taylor & Albasri, 2014). The reason for the high percentage of the Saudi students in the United States is that thirteen of the American universities are highly ranked among the best twenty universities in the world. Sending young Saudi students overseas to get their higher education from such developed countries, such as the United States, positively contributes to the development of education in Saudi Arabia (Taylor & Albasri, 2014).

One of the impacts of King Abdullah’s scholarship program was integrating online education into Saudi Arabian higher education. Over the last few years, online education has become a widespread practice in education and it is emerging as the advanced model for higher education. As a result, the awareness of the importance of online learning in Saudi Arabia has been growing in recent years. Researchers have found several reasons for this rapid growth. One of the reasons, according to Alkhalaf, Nguyen, Nguyen, and Drew (2013), is that the demand for higher education has far exceeded supply. Unfortunately, the Saudi educational institutions are faced with overcrowding in adequate services. Furthermore, some instructors are delivering the knowledge in a very traditional-style of education to all of the new technological nations who are considered qualified applicants for admission. Due to the growth in the college student population who are facing a
limited number of qualified faculty members, educators believe that as long as
students are given the materials and take them home to study on their own, online
learning is an effective strategy using technology. Secondly, due to the large
geographical size of the kingdom of Saudi Arabia and the large number of
communities that are isolated from population centers, online education offers the
potential to deliver educational services to remote locations. In addition to this, the
segregation of males and females has put the kingdom in need for more female
lecturers, buildings, and facilities. In particular, there is a considerable shortage of
female lecturers in the Saudi educational institutions (Alkhalaf et al., 2013;
AlKhalifa, 2010). Online education enables the Saudi higher education to keep up
with other developing countries in terms of implementing technologies in
education.

Previous studies have shown that Saudi students of both genders have a
positive attitude toward online learning (Almogbel, 2002; Alzaid, 2003). However,
government statistics in 2009, as cited in Al Lily (2011), stated that the ratio of
students enrolled in Al-Entisab (the traditional distance education program without
the Internet) was 12 men to 88 women. This was almost the inverse of the situation
under the newly established version of the program with Internet involvement, in
which the ratio is now 60 men to every 40 women. This change in the number of
enrolled females in online education led to the question of what challenges females
face and what factors influence their attitudes after converting from a traditional
program to an online one. There is a gap in the literature regarding the factors that have such a potential influence on female students’ attitudes toward online education and the decreased number of female students who enrolled. These problems need further investigation. This study aimed to unveil the factors that could have an effect on the Saudi female students’ attitudes toward online education and the factors that could have an influence on their willingness to communicate with male instructors and classmates in online educational settings.

**Purpose of study**

The purpose of this study was to investigate the attitudes toward online education of Saudi female students living in the United States as well as those living in Saudi Arabia. This investigation included the impact of location and marital status of the participants on their willingness to communicate with male instructors and classmates in online educational courses in Saudi Arabia and the United States. Furthermore, Saudi female students’ satisfactions and recommendations after their experiences with online educational courses in the United States and Saudi Arabia was examined, as well as how participants ranked their preferences of online tools of communication with male classmates according to their marital status. The following hypotheses were tested:
1. $H_1$: Attitude of Saudi female students toward online education are significantly impacted by their (a) age, (b) marital status, and (c) location of residency.

2. $H^2$: (a) Marital status and (b) location of residency of Saudi female students do not have significant impact on their willingness to communicate with male instructors in online educational courses.

3. $H^3$: (a) Marital status and (b) location of residency of Saudi female students have a significant impact on their willingness to communicate with male classmates in online educational courses.

Research questions that this study investigated were the following:

1. What affects the attitudes of Saudi female students toward online education?
   
   A. Does age impact the attitudes of Saudi female students toward online education?
   
   B. Does marital status impact the attitudes of Saudi female students toward online education?
   
   C. Does location of residency impact the attitudes of Saudi female students toward online education?

2. What affects the Saudi female students’ willingness to communicate with male instructors?
A. Does the marital status of the Saudi female students impact their willingness to communicate with male instructors through online educational courses?

B. Does the location of residency of the Saudi female students impact their willingness to communicate with male instructors through online educational courses?

3. What affects the Saudi female students’ willingness to communicate with male classmates?

A. Does the marital status of the Saudi female students impact their willingness to communicate with male classmates in online educational courses?

B. Does the location of residency of the Saudi female students impact their willingness to communicate with male classmates in online educational courses?

Study variables

Online education. According to Wilson (2015) “Online education is taking courses by way of a computer and internet connection over a distance from a physical campus setting.” (p.2). For the purpose of this study, online education refers to online courses in which undergraduates and graduates enrolled in order to achieve their degrees. Students receive the lecture online and interact with their instructors and peers through online discussion or via email. According to Holden
and Westfall (2006), online education includes two types of learning. First, it can be a synchronic learning when there is a communication between the students and the instructor or between the students and their peers in the same time. The exchange of knowledge can be obtained through three ways: videoconferences, chatting, or audio player. The second type of learning in online education is asynchronous learning, which happens when the communication between the instructor and student is not happening in real-time (Holden & Westfall, 2006). For instance, there may be online group discussions between the students and their peers or between the students and their teachers. Another example of asynchronous learning in online education is sending and receiving emails.

**Marital status.** For the purpose of the study, marital status is defined as the female’s state of being married, single, divorced, or widowed. In the Saudi culture, boundaries change based on the marital status of women in terms of what they are allowed and not allowed to do. This study examines how these boundaries affect the attitudes of the Saudi females toward the acceptance of online education, online coeducation, and communications with males in online coeducation.

**Age.** For the purpose of the study, age is categorized into three groups. The first group is ages that range from 19-29, the second group ages range from 30-39; the third group is over 40 years old. Typically, Saudi females pursue their higher education within these age groups.
Willingness to communicate. This variable refers to the interaction that occurs between females and their male instructor and between female students and male students’ peers. This interaction can be accomplished through online assignments done cooperatively (e.g. female and male students). Additionally, communication can happen through exchanging emails, voice mails, chat rooms, and discussion boards.

Saudi culture. It was difficult to reach to an agreement of what is the true concept of a culture. Part of the Saudi culture is produced by Islamic beliefs, where Islam is the core of the Saudi society (Macias, 2016). Islam influences the Saudi culture in all their lives’ aspects as well as their country flag (Al-Shahri, 2002). For the purpose of this study, culture is defined as the cumulative customs, traditions, values, beliefs, perceptions that are practiced by Saudi people. These traditions or customs can be explicit like clothing or food or they can be implicit such as knowledge, attitude, or even thoughts (Alsamani, 2014; Hong, 2009). Additionally, culture is defined in the present study as the combination of thoughts, actions, behaviors, protocols, habits, laws, traditions, and morals that are obtained by individuals in a particular society (Tylor, 1958). In 2011, Hofsted defined culture as “… the collective programming of the mind that distinguishes the members of one group or category of people from others” (p. 3).
**Attitude.** For the purpose of this study, attitude refers to the perceptions, feelings, thoughts, and readiness of a female toward online education. Furthermore, the attitude toward online education is identified as the student’s perceptions that are related to his/her experience of the online courses and the perceived usefulness of the online course value (Bollinger & Martindale, 2004; Ke & Kwak, 2012). According to Bohner and Dickel (2011), most researchers agree that attitude is an assessment of an object of thoughts; this object can contain whatever an individual holds in her or his mind. Fishbein and Ajzen (1975), referred to attitude as the person’s positive or negative feeling toward a particular subject.

**Location.** For the purpose of the study, the location of the students is in Saudi Arabia (S.A.) or in the United States (U.S.).

**Online communication preference.** For the purpose of this study, online communication preference is the type of online communication tool that participants prefer to use to communicate with male classmates in online educational course setting.

**Saudization.** This workforce policy was introduced to Saudi labor in 1996. It forces both private and public sectors to hire a high percentage of Saudi individuals and limit or replace the foreign workers in both sectors (Alsheikh, 2015; Al-Dosary, & Rahman, 2009).
Significance of the study

In Saudi Arabia, it is mandatory that females and males attend separate schools, though they may interact virtually through the use of Internet. Many Saudi and international studies have been done on the impact of the Saudi culture on students’ engagement in the western educational institutions (Al-Qataee, 1984; Akhtarkhavari, 1994; Macias, 2016), while some others included some comparison between Saudi female students and male students in terms of civil rights (Baki, 2004; Al Lily, 2011; Bates, 2009; Hamdan, 2005) and education (Alanazy, 2011; Akhtarkhavari, 1994; Alkhalaf et al., 2013; Bates, 2009, Alebaikan & Troudi, 2010; Hamdan, 2005, 2014; Alaugab, 2007; Macias, 2016; Ziyadah, 2012).

However, there is a shortage of studies focusing on Saudi female students’ attitudes toward online educational courses and willingness to communicate with male classmates and instructors in online educational course settings. This study is needed because it identifies new details on the Saudi female students’ situation with online education in both Saudi Arabia and the United States. This aspect would help the Saudi Ministry for Higher Education to provide better online education courses for female students. It is obvious that understanding the issues that promote the effective use of technology helps implement a successful online education. According to Dorman (2005), the best way to help instructional designers and stakeholders is to examine the attitudes and preferences in order to help provide effective online courses that meet learners’ needs and enhance student
FEMALE SAUDI ARABIAN STUDENTS IN ONLINE EDUCATION

achievement, satisfaction, and completion. As soon as females become more involved in online education, the shortage of the Saudi female lecturers will diminish. The findings of this study will provide Saudi decision makers with Saudi female students’ perceptions regarding online course. Decision makers will then better understand the characteristics of female students who seek higher education that integrates the Internet as a source of information and who interact with their peers in online virtual environment. Additionally, the results of this study help instructional designers to provide Saudi females with an applicable curriculum and online learning environment in Saudi Arabia.

Summary

The current chapter provides the introduction that gives an overview of the Saudi Arabian education, followed by the problem statement. Furthermore, this chapter includes the purpose of the study, research questions, and background information of the Internet access and female education in the Kingdom of Saudi Arabia. The study terms (e.g. online education, Saudi culture, attitude, age, marital status, location of residency, and communication willingness) are defined as well.

The following Chapter 2 explains in depth the history and current status of the Saudi educational system, the history of the Saudi female education, the role of women in the Kingdom of Saudi Arabia, higher education in Saudi Arabia, online
education in Saudi Arabia, and attitudes toward online education in the Kingdom of Saudi Arabia.
Chapter 2

Literature Review

Introduction

Since the purpose of this study is to find what factors influence female students’ attitudes toward online education in Saudi Arabia and Saudi females in the United States, it is necessary to look at studies that have been done in the area of Saudi online education along with Western online education. In this chapter, the literature review examines the aspects of student attitudes toward online education in three main sections. The first section includes theories related to online education as well as the impact of cultures and demographic characteristics on the attitudes toward online education.

In the second section, cultural and religious impacts are discussed based on both Saudi Arabian and Western studies. Additionally, the Saudi Arabian educational system, Saudi female education, and online education in Saudi Arabia are detailed through some statistical numbers and studies. For the purpose of the study, the literature review sheds light on the Saudi cultural attitude toward Internet access by Saudi females, how Saudi society perceives online education, and the
influence of Saudi culture on the students’ attitudes toward online education and coeducation.

The third section focuses on presenting some research studies that clarify females’ attitudes toward online education in Saudi Arabia and other countries to enhance the understanding of the nature of the Saudi females’ perceptions in regard to online education.

Theories regarding online education

Attitudes toward online education can be related to self-regulated theory (Sha, 2012), external and internal variables that impact students in online education, technology acceptance model, technological experience impact on students in online education, cultural impacts on students’ attitudes in online education and demographic characteristic impact on students’ attitudes toward online education.

Self-regulated theory. When designing online education, designers should take into consideration the personal factors and behavioral patterns of learners, then, based on this, look at the pedagogical and technological issues of the online course’s design. Self-regulated theory shares with online education that the learner is the individual who is in charge of learning and selecting which strategy is the best to learn and gain knowledge (metacognition) (Sha, 2012; Cho & Jonassen,
According to Sha (2012), “Self-regulating learners are agents who are self-proactive and self-organizing.” (p. 366). It was found that students in online education should have high self-regulation skills in order to monitor learning (Debbagh & Kitsantas, 2004). The evidence showed that students in online education who had low self-regulation skills usually had difficulties in achieving their learning goals due to the physical absence of the instructor (Debbagh & Kitsantas, 2004). Thus, learning through online courses involves both self-motivation and self-regulation (Debbagh & Kitsantas, 2004; Hartley & Bendixen, 2001).

Recently, Saudi educators are moving toward changing education from teacher-centered education to students-centered learning. Thus, students should develop self-regulation skills.

**External and internal variables impact students in online education.** Researchers have found that the attitudes of students toward online education can be impacted by their demographic characteristics (Anderson & Haddad, 2005; Bouras, 2009; Ivers, Lee, & Carter-Wells, 2005; Guta & Karolak, 2015; Li, 2006; Sahin, 2006). Additionally, students’ attitude might be impacted by their cultures (Watkins & Biggs, 1996, as cited in Liu, Liu, Lee, & Magjuka, 2010; Thompson & Ku, 2005; Zhang, 2007). Technology Acceptance Model (TAM) by Davis (1989)
revealed that some other external variables, such as, availability of technical support (Williams, 2002) and technology experience (Kerka, 1999), might have an impact on students in online education.

**Technology Acceptance Model.** In 1989, Davis presented a theoretical model to explain the use of technology acceptance. Technology Acceptance Model (TAM) states that an individual’s acceptance of a type of technology depends on the individual’s attitude toward the technology. Additionally, TAM claims that the perceived usefulness and perceived ease of use are highly influenced by the acceptance of technology use. Perceived usefulness refers to the degree to which individual believes that a specific type of technology is useful and would strongly improve her or his performance (Davis, 1989). Perceived ease refers to the degree to which an individual thinks that using a specific type of technology would not require effort (Davis, 1989). These constructs are found to be antecedents to the individuals’ attitudes toward adopting specific types of technology (see Figure 1).

Saudi female students could potentially perceive online educational courses as useful type of education that does not require too much effort to adopt. A study was conducted in Kuwait (Al-Doub, Goodwin, & Al-Hunaiyyan, 2008) to find the student attitudes toward e-learning in the Kuwaiti higher education. Researchers found that female students used and valued e-learning more than their male peers.
They also found that female students use e-learning materials and resources more than male students (Al-Doub, Goodwin, & Al-Hunaiyyan, 2008).

Figure 1: Technology Acceptance Model "TAM"

**Technology experience.** In 2009, Almuqayteeb conducted a study on Saudi female faculty members at the female colleges in Saudi Arabia. She investigated their attitudes toward the use of technology and explored the barriers that limited their use of technologies. She found that female faculty members showed positive attitudes toward using computers, indicating that they recognized the importance of using computer technology. However, the researcher found that Saudi female faculty members have a low level of technological experience. Participants revealed that different barriers limit their professional use of technology. These barriers were identified as lack of technical support, lack of effective training, lack of equipment, and lack of administrative support. These findings are supported by
the TAM theory where the attitude toward the use of technology was affected by different external variables, which influence an individual’s intention to use the technology. Even if the female faculty were aware of the importance of the technology “perceived usefulness”, they had issues with the “perceived ease” where they ranked the lack of technical support as the first barrier.

**Cultural impact on student attitudes toward online education**

Previous research found that culture played an important role on both genders attitudes toward online education (Al-Doub, et al., 2008). Numerous studies have agreed on the description of the Western and Eastern cultures in education (Zhang, 2007; Hofstede, 1986; Liu, et al., 2010; Watkins & Biggs, 1996). They hold the consistent picture of both cultures where in Eastern education; teachers are seen as the only source of knowledge that has the authority in the class setting. Students in the Eastern educational culture are discouraged from asking teacher questions or challenging their knowledge (Watkins & Biggs, 1996). It was revealed by Zhang (2007), that Eastern cultural traditions collectively with some other social factors have made a group-based, teacher-dominated, and centrally structured pedagogical culture. In the Saudi society, Islam is the primary source of the Saudi collectivism attributes (Bjerke & AL-Meer, 1993) On the other hand, in Western educational culture, challenging the teacher and asking questions are
considered to be a self-assessment that helps develop the students’ knowledge (Thompson, & Ku, 2005).

In a study that was done to explore the impact of culture on student attitudes toward online education and group work, researchers found that Eastern students differed from their Western peers. The Eastern students exhibited modest, face-saving personalities in the teamwork and favorite for group work. On the other side, it was also found that Western students are more independent and confident with a competitive attitude that dominated the group interaction process (Liu, et al., 2010). Previous findings are supported by Wan Lee, Becker, & Nobre (2012) study, they explore the impacts of the society culture on the peoples’ value and acceptance. The researchers investigated the interaction in online education using Hall’s cultural classifications and Hofstede’s cultural framework (Hofstede, Hofstede & Minkov, 2010). Hofstede, Hofstede, and Minkov (1991), classified the cultures based on six dimensions. Based on that theory, researchers looked at whether accepting online education with all its features can be influenced by the society cultural dimensions. Researchers found that high-context and collectivist cultures are more traditional in adopting or engaging in online management education. They further found that Eastern students are not highly engaged and participated little during online interaction. The other interesting finding was that there was significant difference in the adoption of learning innovation and changes. Researchers concluded that a nation’s culture has a direct influence on the manner
on which students engage in, relate to and benefit from online management education or training. According to Long (2005), Saudi Arabian culture is considered to be a collectivist culture, because they cling tightly to their traditions and social values.

In the Kingdom of Saudi Arabia, culture impacts the people’s attitudes in general. This influence is shown through their daily life actions. For instance, married and unmarried males and females had different attitudes toward communication in an online educational environment. Married students were less positive toward online communication than unmarried students. This was not surprising, because this finding is due to the Saudi cultural impact (Alanazy, 2011).

A case study was conducted by Hee Lee, Liu, Liu & Magjuka (2010), to find the perceptions of international students concerning the influence of cultural differences on student learning experiences in an online MBA program. The study was developed as an exploratory study to understand the emerging cross-cultural issues in worldwide online MBA courses. The field setting selected was an online MBA program in a large Midwestern university. Most courses were delivered entirely online through the learning management system. The study concluded that online instructors needed to design courses that remove any potential cultural barriers. For example, language, communication tool use, time zone differences, and the lack of multicultural content are some barriers that international students
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faced in online learning. Those factors might have greater impact on international students who take online courses. Furthermore, the findings of this study indicate that online educators need to provide scaffolding to the international students in order to support their international learning adventure to reduce cultural language barriers.

Several studies examined cultural influences on males and females’ education, particularly female students’ attitudes toward technological education. In 2014, Jianxia Du, XunGe, and Jianzhong Xu introduced their qualitative study that examined the perspectives of African-American female students toward online collaborative learning. Nine African-American female master’s students, ranging in age from 24-38, a completely web-based class that was delivered through WebCT, in the southeastern the United States participated in the study. To measure the women’s attitude, researchers used face-to-face and open-ended interviews, then followed with analysis of students posts in chat rooms that included the course students, and finally the examination of other related documents (e.g. email messages, transcripts of bulletin boards and chat room discussions, and students' online assignments). The data revealed that the attitude of the African-American female students was categorized into four themes. The first theme was the preference to deal or work with other participants from different ethnicities. The second was their preference to be leaders. The last two themes were a timid attitude toward online discussions and a preference for learning-oriented purposes for
online collaborative learning. In general, African-American female students have a strong self-concept and a clearer awareness of themselves as a group, and they feel more comfortable when completing tasks that require collaboration. Thus, they may prefer to join a group and learn with and from students from diverse cultural backgrounds in online learning environments.

**Effects of demographic characteristics on the attitudes of students toward online education**

A number of variables that have impact on students’ attitudes toward online education have been identified, including gender, age, and marital status (Anderson & Haddad, 2005; Bouras, 2009; Ivers, Lee, & Carter-Wells, 2005; Sahin, 2006). Those factors can affect the attitudes either positively or negatively.

That a student’s gender impacts the attitude toward online education is shown in several studies that were done on the gender differences and its influence on student perceptions toward online education. Females had a positive attitude toward online education and prefer to mask their gender when it is possible for them to do so, because many of them feel free to express their opinions and feelings (Li, 2006; Guta & Karolak, 2015). Other studies showed that females are less positive toward online education when it includes using a discussion board (Alshahrani, 2014). According to Frederickson et al. (2000) and Anderson and Haddad (2005), gender played an important role in students’ attitudes toward
online education; female students were found to be more positive and their levels of perceived learning were higher than male students. Additional studies showed that females had a more positive attitude than male students did when it comes to web-based learning (Chen & Tsai, 2007).

According to other research studies that investigated the effect of demographic characteristics on the students’ attitudes toward online learning, the age of students was found to have influence on their perceptions toward online education (Rhema, 2014). Younger students, aged (18-21), were found to receive less learning and satisfaction while, on the other hand, older students received more learning and satisfaction. (Frederickson et al., 2000; Sahin, 2006).

Marital status of the students has been found to be a variable that impacts students’ attitudes toward online education. Alanazy (2011) found that unmarried Saudi students were more positive toward online education than married students, who were found to be less positive. In contrast, another study showed that the marital status of the students did not make any significant difference in regards to the students’ attitudes toward online education (Alaugab, 2007).

**Factors that influence student retention in online education**

Tinto's (1975) theory highlighted two factors of students' motivation to continue in distance education courses. The first factor is students’ commitment to their educational goals. The second one is their commitment to the online education
institutions where they study and pursue their educational goals. Those two factors are impacted by some variables that are related either to the students themselves or to the institution. Tinto’s theory found that prior qualifications, students’ personalities, and students’ characteristics have direct influences on student retention. When it comes to the institutions, teaching styles, learning support, and facilities directly affect retention in distance education (Tinto, 1975).

Other researchers found that the student’s academic satisfaction, specifically the student’s GPA, is one of the important factors that impact students’ retention in distance education (Sweet, 1986; Astin, 1977, 1993). Five factors could play an important role on student retention in distance education. Those factors are categorized as: economic factors, psychological factors, organizational factors, societal factors, and interactional factors (Braxton et al, 1997). Based on this, Saudi Arabian higher education should sponsor more research on the characteristics of the Saudi Arabian female students who succeed in online education classes.

Al-Harthi (2005) mentioned that non-western student retention might be strongly impacted by the cultural background of the student. In the Arab world specifically, students perceive the teacher as the only source of knowledge, an idea which is the opposite of the western culture, where students develop individualistic learning styles and rely on analytical analyses. When the higher education of Saudi Arabia designs an online environment that fits with the Saudi culture, there will be
less ambiguity regarding female participation in online education and their retention in online courses (Al-Harthi, 2005).

Females in the Kingdom of Saudi Arabia strongly believe in the value of the family. It is the society’s belief that the role of female is the fundamental base of the family assembly and the society as well (Hamdan, 2005). Therefore, Saudi females need an online environment that enables them to pursue their education with no conflict with the surrounding Saudi culture. From that standpoint, online education seemed to be the most viable solution to having more Saudi females with graduate degrees within the cultural boundaries to overcome the need for Saudization demand.

**Higher education in the Kingdom of Saudi Arabia**

In the past decade, the Ministry of Education in Saudi Arabia has paid special attention to higher education and its development. The Ministry of Higher Education was established in 1975 to be in charge of planning and administering the kingdom’s requirements with regards to the higher education. Their goal was to assemble a national staff of professionals who are specialized in the fields of science, art, and administration to help the kingdom achieve national development. (Ministry of Higher Education, 2015)

When King Saud University was established in Riyadh in 1957, there were only nine instructors, who taught 21 students. Recently the students of King Saud...
University number about 65,000 students pursuing bachelor’s degrees, master’s degrees, and doctorate programs (Ministry of Higher Education, 2015). There are now 25 public universities in the Kingdom of Saudi Arabia that provide a monthly bonus to their students and 27 private universities that provide all different majors and degrees.

Currently, in the Kingdom of Saudi Arabia, more than 6 million students are enrolled in K-12 education and public or private colleges and universities. About 1,000,000 Saudi Arabian students are enrolled in the Saudi universities and colleges, a dramatic improvement compared to 7,000 students in 1970. Currently, over the half of the enrolled students are females. Saudi women are allowed to attend all major universities in the kingdom of Saudi Arabia (Royal Embassy of Saudi Arabia in Washington D.C., 2016). Through the rapid development of the higher education in Saudi Arabia, in 2011, King Abdullah approved the establishment of first electronic Saudi university (SEU) enrolled 5,330 students; 2,840 of the students are females. In SEU, students participate in their classes once a week for a bachelor’s degree and twice a month for master’s degree. Students interact the rest of the time through the Learning Management System (LMS) (Saudi Electronic University, 2015).

Due to the increased use of the open learning sources in the Kingdom of Saudi Arabia among the students, both male and female student learning styles have become less traditional and more flexible. It can be said that due to social
media, which allows Saudi students to exchange their thoughts and even knowledge, students have become less conservative and more open-minded. (Hamdan, 2014).

**Female education in the Kingdom of Saudi Arabia**

The Saudi educational system has been a subject of many international and national articles. The subjects of those articles range from its overt religious nature to the status of the women’s education as part of the Saudi Arabian society (Aljabre, 2012). For the purpose of the study, numbers of articles and statistics provide the clear understanding of the current status of the Saudi Arabian educational system. In this current study, articles presented the big picture of the higher education and a special focus on women’s status in the higher education in the Kingdom of Saudi Arabia.

The government of the Kingdom of Saudi Arabia puts great effort into enhancing higher education for the Saudi females. This effort has led to the establishment of Princess Noura Bint Abdurrahman University, which is designed to be the world’s largest school of higher education for females. Currently, young Saudi women have become professionals who occupy many different positions in the Saudi work force. Due to Saudi initiatives for women’s higher education, young Saudi women are strongly pursuing their higher education both inside the kingdom and overseas. They are seeking different professional jobs and looking forward to
being active members of society who help in developing education, economy, and other professional fields at the Kingdom of Saudi Arabia (Hamdan, 2005).

Since before 2010, women in the Kingdom of Saudi Arabia have experienced incredible changes in their lives and especially in education. There are many examples of the welcoming of females in the Saudi Arabian world of education, science, and economy. They have made remarkable achievements over the years. For instance, in 2009, Dr. Noura Alfayze was chose by the Saudi government to be the first female minister for the deputy education. Dr. Modhy Alkhalaf is the first Saudi female assistant attaché for cultural and social affairs at the Royal Saudi Embassy in the United States, and this has made her the first woman to hold such a senior diplomatic position since 2012. In addition, Dr. Hayat Sindi is the first woman to be appointed to Saudi Arabia's Shura Council in 2013. In addition, she and 26 other scientists were appointed to join the U.N. Scientific Advisory Board. Her role is to advise the UN leadership on science, technology, and innovation for sustainable development (Al-Arabiya News Website 2015).

**Online education in the Kingdom of Saudi Arabia**

Recently, Saudi Arabia is facing a serious problem of overcrowding students in the universities. Online education can be a viable solution to the challenge. However, in order to do so, instructors need to be users of information
technology in their classes. Students also need to be equipped and knowledgeable of the use of information technology and its tools.

According to the Internet World Stats in 2015, there was a population of 27,752,316 Saudi individuals in Saudi Arabia of which, 18,300,000 used the internet. This was an increase from 200,000 in the year 2000. Thirty percent of the users are young Saudi females whose ages ranged from 15 to 29. According to De Virese, (2012) as cited by Guta and Karolak (2015), that 50% of the bloggers in the Kingdom of Saudi Arabia are women aged between 18 and 30 years. These numbers reveal the widespread of the use of technology among Saudi young people. It also shows that females from Saudi Arabia are not passive or even oppressed. Saudi females live their lives, have access to the Internet, and pursue their higher education besides keeping up with their responsibilities, just like as any other women in the world, but within the Saudi Arabian cultural boundaries.

Another research study was implemented in one of the Saudi Arabian universities to investigate the effectiveness of online discussions during the online blended courses in the Kingdom of Saudi Arabia (Alebaikan & Troudi, 2010). Participants were nine undergraduate female students and instructors of different subjects. The study implemented a rigorous data collection procedure that was developed by employing multiple data collection methods, including observations focus groups, and in-depth interviews. The findings of the study revealed that Saudi university instructors showed low pedagogical and technical experience in
developing some web-based teaching techniques. This issue was due to the lack of experience on the computer and other technological tools. This lack negatively impacts the value of online discussions in blended learning programs. Concerning the infrastructure and Learning Management System (LMS) tools, in order to implement a successful online learning discussion, educational institutions need technical infrastructure, computer labs with free internet access on campus, as well as technical support. Saudi Arabian universities use the LMS program that called “JUSUR”, that has been a useful online tool for discussion matter. However, one of the faculty members who participated in the study stated that:

I would like the LMS to offer me a tool to monitor student activities… the system does not have a feature that allows me to know who is online. I think that offering me a search tool or a report of each student’s posts would facilitate my monitoring. Also, in some cases I found that a student has to be deleted from posting in the forum, but unfortunately I do not have this authority (p. 511, Alebaikan & Troudi, 2010).

Results from this study indicate that designers of Saudi Arabian online education should pay attention to the need for experienced instructors in technological tools and the learning management system used in the online learning environment. Students and faculty members should be prepared to interact
effectively in online courses, and this should happen only when they are ready and equipped for it. Saudi institutions should offer the students and university instructors a sufficient online environment that enabled them to fully participate in the discussion boards and maintain a high level of learning and interacting.

**Females and online education**

According to Price (2006), females who take online classes have high confidence in their ability to accomplish tasks. Additionally, females were found to be more independent and they were highly participatory compared to the males in the study. They tended to have as much access to the Internet as males. In 2004, 95.2% of the computer users were female students and 93.1% of them had access the Internet. Interestingly, the study also revealed that the percentage of women who completed the online courses was higher than men, where 79.8% of females and 75.6% of the males were able to finish. The passing rate percentage of the females in online courses was 85.5%, while males’ students’ percentage was 73.5%. Price’s study showed the difference in females passing the online courses and compared it to the non-online courses where passing percentage for females in online courses was 85.5% but it was 81.7% in traditional ones. From this study, it is obvious that females are getting more used to the use of technology and more ready to get involved in online education.
In some interesting studies about gender differences, researchers found that females tend to post more messages (Rovai, 2001), and more questions regarding the course subjects (McAllister & Ting, 2001). Female students accessed the learning system management and the course site more frequently than males did (Rovai, 2001; Al-Doub, Goodwin, & Al-Hunaiyyan, 2008). Female students’ interactions on the course sites were more frequent and supportive as well (Marcia & Baxter-Magolda, 1992; Savicki, Kelley, & Lingenfelter, 1996a, 1996b; Li, 2006; Al-Doub, et al., 2008). In contrast, females tended to be less positive compared to males in terms of the use of computer mediated communication (CMC), less skilled in terms of using technology, and had lower confidence in the use of the CMC (Li, 2006).

**Tradition and religious control over the Saudi educational system**

Saudi Arabia has had strong roots in religious and tribal history dating back to the eighteenth century. At that time, Ibn Saud, who was the ruler of the town of Al-Deriyah, joined with Muhammad ben Abdulwahab, who was a religious fundamentalist reformer and who reminded the Muslims in the Arab peninsula of the true worship and Islamic practices. This union produced the Islamic protocols that the Kingdom of Saudi Arabia follows now. The combination of the strong beliefs of Islam and a strong military led to the establishment of Saudi Arabia (Almunajjed, 1997 as cited in Baki, 2004)
In the early twentieth century, specifically in 1932, Abdul-Aziz ben Saud became the king of the Saudi Arabia after he consolidated the entire peninsula. At that time, Saudi Arabia was economically weak but politically strong enough to present itself among the other countries. According to AlMunajjed, 1997 as cited in Baki, 2004, “It was not until 1938 that oil was discovered and led to a major economic boom in the 1970s. With this boom came the construction of houses, schools, and universities.”

Traditions, religions, and history are values that critically have impacted the Arab countries and entire Asia in their daily lives and how they perceived and programmed their issues (Al-Hunaiyyan, Al-Huwail, & ALS, 2008). Islam is considered as the core of the Saudi society and has been influencing the Saudi people understanding of the classrooms and education in general (Macias, 2016). In order to have a clear idea about the Saudi educational system, it is important to know the history of Saudi Arabia and how Islam has become a significant part of Saudi Arabia education from k-12 through higher education (Macias, 2016). The Kingdom of Saudi Arabia has implemented the Qur’an and the Hadith of Prophet Mohammad (Peace be upon him) as their law of government. Qur’an, the holy book of Islam, is the Word of God as revealed to the Prophet Muhammad in the Arabic language (Royal Embassy of Saudi Arabia in Washington D.C., 2016). Hadith is the written records of the declarations of the Prophet Mohammad (Peace be upon him) (AlMunajjed, 1997). Sharia is a combination of the Holy Qur’an and the
Sunna, which produced the Islamic laws that the Kingdom of Saudi Arabia has adopted to protect humans rights. It is very crucial to avoid any generalization regarding the position of the women in Islam and to differentiate between the Islamic law and the Saudi traditions. Prior to the coming of the Islam, women lived their lives in subjection and degeneration (AlMunajjed, 1997).

In fact, the Qur’an provides females with equal but not identical rights with males. The given rights are personal, social, civil, and also on political levels. Both the Qur’an and Hadith give the right to the women to join in public life as long as there will not be any harm to the females. However, in the Qur’an, it is mentioned that mixing the genders could lead to some undesired consequences (AlMunajjed, 1997). The Qur’an is a very strong supporter of education for both genders equally. For instance, the first verse that was sent to the prophet Mohammad (Peace be upon him) started with: “Read, in the name of your lord, who has created- created man from clinging substance” (Qur’an, verse (1) in Surat Alalaq). Women were encouraged to be educated in order to achieve perfection (Baki, 2004). Additionally, Qur'an states that females have the right to work, even in industry, and agriculture as long as their work does not harm them (AlMunajjed, 1997).

For some families, letting their daughter to be a student at medical college will bring the shame to them due to studying in mixed gender classes and working in hospitals, where both genders work together. Online education can be a viable
option for those who prefer that women be away from unrelated males. Online education offers a safe virtual environment for mixed gender interactions and help promote Saudi females achieve their degrees in higher education. Furthermore, in Saudi Arabia, women are not allowed to drive and this can impair their ability to achieve higher education especially under the absence of the related male. Therefore, online education is a viable way for Saudi females to be highly educated and qualified to work in a different major jobs.

In Saudi Arabian education, Sharia is exemplified in all programs and is one of the educational goals of the country (Baki, 2004). Relating Islam to all life aspects is to root a strong belief in Islam in the people. Females take courses that are related to their lives in addition to their major courses, Islamic courses, and Arabic language courses.

Saudi Arabia has made every effort to keep females higher education developed as much as they can. One way they do this by using videoconferencing technology. According to Baki (2004) “It accommodates the reception by female students of televised lectures conducted by male instructors… [through the] live transmission of video and audio signals from specially equipped classes, attended by male students, to female classes.” Implementing videoconferencing technology was a result of the shortage of female instructors in some educational subjects and to comply with Saudi Arabian traditions and Islamic rules that satisfied Saudi
traditions and the Saudi females’ desire to learn. Saudi Electronic University is the most recent online education university that provides the developed and appropriate online environment to their females’ students. It is developed as much as one of the high rated universities in the world of online education. They are implementing the most useful educational technology to facilitate learning to their students and their faculty members as well.

**Saudi Arabian cultural attitudes toward females and the use of the Internet**

Saudi females have been portrayed as passive and wronged women by the Western media. However, Saudi females show the opposite how powerful they are through their education and their active role in the Saudi sphere (Guta & Karolak, 2015). Due to the cultural attitude toward the presence of the females in the social media, it is common to find accounts or even multiple accounts on Twitter, Facebook, and all other kinds of social media for females with their nicknames and fake pictures. Seven Saudi females revealed in their responses to an interview questions that was done for a study by Guta & Karolak (2015), that they feel more free to express their opinions when they use nicknames or even only their first names. In addition, using fake names allows them to not care about offending individuals on social media when it comes to social cultural problems.

A meta-analysis study was done by Li (2006) on 50 studies that investigated the gender impact on individual’s communicative, interactive, and process patterns.
through the use of computer-mediated communication (CMC). Researchers found that females tend to prefer not to disclose their gender. Researchers recommended that students have the option to not show their gender in order to make them feel free to express their opinions, thoughts, and ideas (Li, 2006; Guta & Karolak, 2015). In that study, it was interesting that females, regardless of nationality, religion, or culture, preferred not to show who they are in the online communication world.

Saudi and some other Arab countries have the belief that the female represents not only herself, but also all of her family members, including extended family. Therefore, any action on her part impacts the family members either positively or negatively. If the female brings shame to her family due to a behavior, an action, a reaction, or a decision that is considered inappropriate, this would bring dishonor to the family as a group, especially to all male relatives (Guta & Karolak, 2015). Saudi society is known to care about and be loyal to their extended family members as much as their immediate family members (Bjerke & Al-Meer, 1993; Gannon & Pillai, 2013)

**Impact of Saudi Arabian culture on students’ attitude toward online education**

A case study was conducted in Saudi Arabia by Hamdan (2014) to investigate the extent to which culture impacts student learning and the relationship between culture and online education in particular. The primary method of
collecting data was a questionnaire. The survey included 12 items and the participation of the students was voluntary. Sixty-seven students participated in the study and only 20 participants were selected randomly and interviewed informally. Researchers gathered the participants’ grades at the end of the term. The study concluded that online learners’ cultural beliefs are impacted by online education and vice versa.

A study that was done by Alaugab (2007), investigated the benefits of online instruction, barriers that prevent the effectiveness of implementing online instruction, and the attitudes of Saudi female faculty and students toward online education. The study sample was 310 Saudi female students and faculty members from two female institutions in the Kingdom of Saudi Arabia. A survey research design was used to collect the data. The study findings revealed that both faculty and students showed positive attitudes toward online instruction. Faculty members also showed their willingness to teach online and students showed their welcoming of online education if the institutions would offer them the appropriate online environment. The students’ positive attitudes were greater than the faculty members’ toward online instruction were. There was a correlation between having a computer and Internet at the students’ houses and their willingness to take online classes.
Attitudes toward online education of student from different countries

A study that was conducted by Kar, Saha, and Mondal (2014), measured the attitude of university students towards online education in West Bengal by taking 308 students from university level who studied at four universities. Researchers used a survey method and the sampling was stratified random technique. A questionnaire that was well-designed and developed by the researchers was used to gather the data. It was found that students have very positive attitudes towards online education. In addition, they found that the students’ attitudes were not impacted due to differences in gender, major of study, or residence.

Another study in Taiwan investigated the gender differences in students’ attitude toward web-based learning. A Web-based Learning Attitude Survey (WLAS) was developed to measure both genders’ attitudes based on five scales. Those scales were content, social structure, pedagogy, community relationship toward web-based learning, and access. The sample size was 1,866 participants, 926 of them were females; their ages ranged between 18 and 23. The results of the study showed that there were significant differences between males and females in three aspects: social structure, content, and community relationship in web-based learning. Females had significantly positive attitudes toward web-based learning in content and social structure. On the other hand, males were significantly more positive than females in terms of the community interaction in web-based learning. Both males and females were similar in their attitude in terms of access to
technology. Furthermore, both genders believed in the pedagogical values in the web-based learning (Chen & Tsai, 2007).

Another study was done on E-MBA students to investigate the factors that affect learners’ academic achievement and attitudes toward a web-based education by Deniz, Bayram & Erdogan (2008). The sample was 127 students enrolled in the e-MBA Master’s Degree of Bilgi University. The data were collected by a Demographic Information Questionnaire and Web Based Education Attitudes Scale developed by the researchers (Deniz, et al., 2008). The student’s grade point averages were obtained from the department to help determining the academic achievement of the participants. The study revealed that web-based education has positive effects on the improvement of academic achievement. The effect of web-based education on attitude toward learning suggested that web use had positive effects mainly on motivation for learning and interest in the lessons.

A study was conducted by Aydin (2012) to investigate the students’ attitudes toward online communication in open and distance-learning environment in Turkey. The study sample was 626 students who voluntarily participated; 259 of the sample were females and 362 were males. The researcher used a paper and pencil questionnaire, developed by Ledbetter (2009) to determine attitudes toward online communication. Students reported positive attitudes toward online environment and perceived online communication for education as a factor that helped facilitate their lives. Regarding the gender and attitude toward online
communication, females were found to believe that online communication errors could frequently happen due to misunderstanding and the lack of the non-verbal communication. The third section was about the computer experience and its impact on the students’ attitudes toward online communication. It was found that the more experienced students are in computers, the more they hold a positive attitude toward online communication (Aydin, 2012). This study shows how female students perceive online communication in education, which is the concern of the current study.

A study was done in an Iranian University to investigate male and female students’ attitudes toward online education. A sample of 408 students was randomly selected; 256 students were females and 152 were males. The study found that students held a negative attitude toward online education even if they were young enough to be familiar with the technology. The researchers revealed that the questionnaire was given to students who were in preparation for enrolling in the university and graduated from their high schools within three years prior, which meant that they were in young ages. Female attitude mean scores were significantly lower than the mean of males’ scores (Zahed-Babelan, Ghaderi & Moenikia, 2011). Considering that Iran is part of the Middle East, and their culture has had some of the same norms in Saudi society, this study would be expected to result in similar findings concerning the Saudi females’ attitudes toward online education in the Kingdom of Saudi Arabia.
A study was done by Baruch (2014) to examine the attitude of female students toward information technology in general and online learning in particular. The study sample was 20 female students of an average age of 23 years and 5 months. The researcher found that females indicated that the Internet is part of their daily lives, and as the years have passed, their relations with the Internet have expanded. They believe that the use of the Internet was a very necessary and useful tool for them. Interestingly, half of the study sample revealed that they had fear in the beginning when it came to the use of technology. However, they experienced that after the first and second experiences, their fear was gone. Most of the females believed that the Internet in particular has had a positive impact on their lives. In terms of online classes, the researcher found that female attitudes were diverse. Most of the women revealed that online education is convenient due its flexibility in place and time. However, some responses stated that online education has a lack of interaction among the learners and instructors. Furthermore, they believed that the workload is more than that of face-to-face classes.

All three students mentioned that the English language was the biggest difficulty that prevented them from participating in the course discussions as they wanted even if they were very comfortable with their English writing and reading skills. The finding of this study is similar to what Alaugab (2007) found in his study that students with more English language proficiency were more willing to take online courses than students with lower English language proficiency.
It was found those students’ life experiences had played a negative role in influencing their ways of participating or communicating with their peers or instructors. Most of the negative influences were the time zone difference, cultural difference, and lack of communication due to the English language proficiency. Socializing in an online learning environment was the fourth and last aspect they explored. Two of the students did not post anything on the socializing space of the online course. One of them posted only three messages asking questions about the class assignments (Zhang & Kenny, 2010). For this study, it was clear that English language proficiency and cultural differences were the largest contributing factors to the students’ perceptions of the online courses.

This study also could help in understanding the attitudes toward online education of Saudi females who study in US universities. Their attitude could be influenced by the cultural values that they hold from growing up in a religiously and culturally oriented society. Additionally, the English language could be a very important factor that can either positively or negatively affect their perspective toward online education. Since American higher education is considered to be one of the leading influences on Saudi higher education, and further research would help in recognizing what can be applied to the Saudi online education for females is wanted.

A study done by a Saudi researcher (Alanazy, 2011) investigated the attitudes, belief, and preference of Saudi Arabian students toward learning in a
mixed online cooperative learning environment. Participants in this study had completed their K-12 education in Saudi Arabia, had at least one online class that included cooperative learning, and had at least one group member of the opposite gender in cooperative learning. Of the 707 participants, the majority were male students with 586 and female students totaled 121. All participants were currently studying in the United States universities.

The findings of the study showed that Saudi Arabian students generally stated a positive attitude toward online cooperative education. Interestingly, male and female Saudi students showed almost the same level of positive attitude toward online cooperative education. Surprisingly, the study findings showed that Saudi married students were less positive toward communicating with the opposite gender in online education environment, while unmarried participants showed more positive attitude toward it (Alanazy, 2011). Those findings conflicted with the findings of Alaugab (2007), which stated that some demographic factors including marital status do not have a significant correlation with the students’ attitude toward online education. It seems to be not surprising where Saudi participants grew in a culturally oriented society. The current study looked deeply to the factors that can have an influence on the attitude of the Saudi female students who study in the Kingdom of Saudi Arabia and the United States.

Another researcher (Alshahrani, 2014) examined the area of the online education and Saudi females’ attitudes toward online education in the United
FEMALE SAUDI ARABIAN STUDENTS IN ONLINE EDUCATION

States. The study sample was comprised of 110 Saudi female students who studied in the United States. All participants had experienced online courses in the United States prior to the study. The findings reported that Saudi females showed a positive attitude toward the American online education; however, some of them were less positive toward the discussion board.

Summary

The purpose of this study is to investigate the impact of the marital status, age, and location on the attitude of the Saudi Arabian female students toward online education. It also investigates the impacts of marital status and location of residency on their willingness to communicate with a male instructor and male classmates in online educational courses. Therefore, the literature review covers four areas: theories on online education, Saudi higher education, online education in Saudi Arabia, attitudes toward online education from Saudi and other countries. The first section included a brief description of the online educational theories and the factors affecting students to retain in online courses. It also includes the Technological Acceptance Model and the cultural impact on the students’ attitudes. The second section describes the history of higher education in Saudi Arabia, the females’ education in Saudi Arabia. The third section provides the status of online education in Saudi Arabia and the impact of Saudi culture on the Saudi educational system. The fourth part focuses on students’ attitudes toward online education,
including studies from other countries. The literature review showed that there is a paucity of research examining the attitudes of the Saudi female students toward online education to enhance the online education in Saudi Arabia that is considered a new type of education.
Chapter 3

Methodology

Introduction

The focus of the current study was to examine the attitudes of Saudi female students toward online education according to their location of residency, age, and marital status. Additionally, this study examined Saudi female students’ willingness to communicate with male instructors and male classmates in an online course. A comparison was made to find if the groups of Saudi female students in the United States and Saudi Arabia differ in their willingness to communicate according to their location of residency and their marital status.

This chapter describes the research methodology that was implemented to conduct the study within the following sections: research design, participants, instrumentation, data collection, and data analysis. Data collected from a four-part survey was used to answer the following research questions:

1. What affects the attitudes of Saudi female students toward online education?

   A. Does age impact the attitudes of Saudi female students toward online education?
2. What affects the Saudi female students’ willingness to communicate with male instructors?
   A. Does the marital status of the Saudi female students impact their willingness to communicate with male instructors through online educational courses?
   B. Does the location of residency of the Saudi female students impact their willingness to communicate with male instructors through online educational courses?

3. What affects the Saudi female students’ willingness to communicate with male classmates?
   A. Does the marital status of the Saudi female students impact their willingness to communicate with male classmates in online educational courses?
   B. Does the location of residency of the Saudi female students impact their willingness to communicate with male classmates in online educational courses?

To better serve the purpose of the study and the research questions a mixed methods design was implemented. Figure 2 presents a flowchart of the study design.
Figure 2: Flowchart of the study design
Target population

The population of interest was Saudi female students enrolled at universities in the United States and the Saudi Electronic University (SEU) in Saudi Arabia. According to the Royal Embassy of Saudi Arabia in Washington D.C. (2016), more than one million students were pursuing their educations attending universities and colleges located in the Kingdom of Saudi Arabia and nearly 54,000 Saudi Arabian students were attending universities and colleges located in the United States.

Sample

Participants in the study were over 18 years old and enrolled in either SEU in Saudi Arabia or an American university in the United States. All participants had had the option to enroll in at least one online course. The SEU is one of the public Saudi universities that was established in 2010 for a complete online education with three different colleges: College of Financial and Administrative Sciences, College of Computing and Information, and College of Health Sciences. Students in the preparatory year at SEU are provided with blended online education in addition to 100% online English language courses that are provided by the Education First. Undergraduate female students attended the school once a week for 25% of their attendance, and the rest is online education. Graduate female students attended the campus twice a month for 25% of participation. At the time of this study, SEU had ten centers in different parts of the country for the purpose of
the students' direct attendance (SEU, 2015). Participants in this study were only students who enrolled at Education First courses (EF) for online English language courses in the preparatory year. The other group of participants involved Saudi female students who lived in the United States and were pursuing their higher education in one of the United States universities that provided 100% online courses.

**Participant Demographics**

Demographic characteristics were collected for age, region of residency, parents level of education, marital status, field of study, accessibility of computer and internet at home, and number of online courses that have been completed (see appendix B & C). The total number of original participants were 308 Saudi female students who lived in Kingdom of Saudi Arabia and the United States. From the actual sample, 173 participants were excluded because they did not meet the participation requirements where they should be:

- 18 years old.
- Optionally enrolled in online courses that are mixed gender
- Participants from the Saudi Electronic University must have enrolled at “English First” courses because they offer mixed gender online classes.
A total of 135 participants were included in the study, consists of 73 Saudi female students who lived in Saudi Arabia and 62 Saudi female students who lived in the United States. The demographic information of study participants is summarized in tables 1 through 7.

Age

Table 1 represents the frequencies and percentages of participants living in Saudi Arabia and the United States grouped by age. As shown on Table 1, the largest age group of the participants who lived in Saudi Arabia was the 19-29 years old at 63%, and 29% for those with ages between 30-39. Participants of age forty years old or above were the smallest group at 8%.

Additionally, Table 1 shows that the highest percentage of students living in the United States was 61% for participants with ages from 30-39. Where the 19-29 group had 34%, and the lowest percentage for participants aged 40 or above was 5%.
Table 1

Frequency and percent of participants by age at Saudi Arabia and the United States

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>Age group</th>
<th>Frequency</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Arabia</td>
<td>19-29</td>
<td>46</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td>30-39</td>
<td>21</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>Over 40</td>
<td>6</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>73</td>
<td>100%</td>
</tr>
<tr>
<td>United States</td>
<td>19-29</td>
<td>21</td>
<td>34%</td>
</tr>
<tr>
<td></td>
<td>30-39</td>
<td>38</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td>Over 40</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>62</td>
<td>100%</td>
</tr>
</tbody>
</table>

Marital status

Table 2 represents the frequencies and the percentage of the marital status of participants living in the United States. The majority were married (87%), while 10% were single participants, and divorced participants were only 3% of the total sample size living United States. None of the participants in this study were widowed (0%).
Table 2 indicated the frequencies and the percentages of the marital status of the participants who lived in Saudi Arabia. It shows that married and single participants are close in their percentages where single were 49%, and 45% for the married participants. Only 6% of the participants were divorced.

Table 2
*Frequency and percent of participants by marital status in the United States and Saudi Arabia*

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>Marital Status</th>
<th>Frequency</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>Single</td>
<td>6</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>54</td>
<td>87%</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>62</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>Single</td>
<td>36</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>33</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>73</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Field of study

Table 3 represents the frequencies and the percentages of the participants in regards to their academic majors. The highest percentage was for those who majored in business (29%), where media, music, and sociology were the lowest, at 1% for each of them.

Table 3

*Frequency and percent of participants by field of study*

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Science</td>
<td>15</td>
<td>11%</td>
</tr>
<tr>
<td>Business</td>
<td>39</td>
<td>29%</td>
</tr>
<tr>
<td>Education</td>
<td>27</td>
<td>20%</td>
</tr>
<tr>
<td>Medicine</td>
<td>19</td>
<td>14%</td>
</tr>
<tr>
<td>Science</td>
<td>5</td>
<td>4%</td>
</tr>
<tr>
<td>Not mentioned</td>
<td>6</td>
<td>4%</td>
</tr>
<tr>
<td>Medical Science</td>
<td>2</td>
<td>1.5%</td>
</tr>
<tr>
<td>Law</td>
<td>2</td>
<td>1.5%</td>
</tr>
</tbody>
</table>
Location of residency

Table 4 reports the frequencies and the percentages of the participants’ location of residency. As shown in this table, 73 participants lived in Saudi Arabia and 62 participants lived in the United States.
Table 4

*Frequency and percent of participants by location of residency*

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kingdom of Saudi Arabia</td>
<td>73</td>
<td>54%</td>
</tr>
<tr>
<td>United States of America</td>
<td>62</td>
<td>46%</td>
</tr>
</tbody>
</table>

**Total** 135 100%

**Numbers of completed online courses**

The distribution for the number of online courses respondents had is presented in Table 5. Of the respondents ($N = 135$), a total number of 52 participants had between two or three online courses. Table 5 also shows that 32 participants had at least four or five online courses. The lowest percentage was 8% for 11 participants who had over seven online courses.
Table 5

*Frequency and percent of participants by number of completed online courses*

<table>
<thead>
<tr>
<th>Number of online courses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>18</td>
<td>13%</td>
</tr>
<tr>
<td>2 or 3</td>
<td>52</td>
<td>38%</td>
</tr>
<tr>
<td>4 or 5</td>
<td>32</td>
<td>24%</td>
</tr>
<tr>
<td>6 or 7</td>
<td>22</td>
<td>17%</td>
</tr>
<tr>
<td>Over 7</td>
<td>11</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>135</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Accessibility to the internet at home**

Table 6 shows the distribution of the Saudi female students living in Saudi Arabia and the United States that have access to Internet at home. The majority of the participants in Saudi Arabia (99%) have access to the Internet, while 97% of the participants living in the United States have Internet access at home.
Table 6

*Frequency and percent of participants in Saudi Arabia and the United States by the Internet access at home*

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>Internet accessibility</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Arabia</td>
<td>Have access to the Internet at home.</td>
<td>72</td>
<td>99%</td>
</tr>
<tr>
<td></td>
<td>Does not have access to Internet at home.</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>73</td>
<td>100%</td>
</tr>
<tr>
<td>United States</td>
<td>Have access to the Internet at home.</td>
<td>60</td>
<td>97%</td>
</tr>
<tr>
<td></td>
<td>Does not have access to Internet at home.</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>62</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Accessibility to the computer at home**

All participants living in Saudi Arabia (n= 73) had access to the computers at home (see table 7). Of the Saudi female students in the United States (n=62), 97% had access to a computer.
Table 7

Frequency and percent of participants by a computer access at home in Saudi Arabia and the United State

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>Computer accessibility</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Arabia</td>
<td>Participants have access to a computer at home.</td>
<td>73</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Participants don’t have access to computer at home</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>73</td>
<td>100%</td>
</tr>
<tr>
<td>United States</td>
<td>Participants have access to a computer at home.</td>
<td>60</td>
<td>97%</td>
</tr>
<tr>
<td></td>
<td>Participants don’t have access to computer at home</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>62</td>
<td>100%</td>
</tr>
</tbody>
</table>

Instrumentation

Instrument description

A survey was designed in four parts, then pilot tested and modified to better serve the research questions (See appendix B & C). Permission to adopt the instruments of "Cultural Impact Scale" (CIS: Alaugab, 2007) and “Attitudes toward Online Education” (ATOE: Alanazy, 2011) was obtained from their authors.
Permission was obtained also from (Akhtarkhavari, 1994) to adopt the third and fourth parts of the study survey. (See appendix A)

Because some participants were not English speakers, the survey was designed in two languages, Arabic and English. The translation was made into Arabic by the researcher; however, to check the translation accuracy, the translated version was reviewed by another expert who was fluent in both English and Arabic languages. Having an expert in both languages was very important to ensure that the survey questions were understandable and easy to answer by the participants.

The first part of the survey was developed to collect demographic data of the participants. It includes: (1) age; (2) location of residency; (3) parents' level of education; (4) marital status; (5) husband nationality; (6) current field of study; (7) accessibility of internet at home; (8) accessibility of computer at home; (9) what university currently enrolled; and (10) the number of online courses that have been experienced so far. From part 1 of the survey, the researcher was able to answer research question number one, two, and three using the age, marital status, and location of residency variables.

**Attitudes toward online education scale (ATOES)**

The second part of the survey was modified from Alaugab (2007) and Alanazy (2011). It consisted of 30 statements that address Saudi female students' attitudes about online education. Ten of the statements were developed by Alanazy
18 statements were adopted from Alaugab (2007), one from Akhtarkhavari (1994), and one was developed for this study. Saudi female students’ responses ranged on a 4-Likert-scale type from strongly agree = 4, agree = 3, disagree = 2, and strongly disagree = 1. The attitudes items were categorized in four categories; 17 positive statements about “Online Educational Experience”, four positive statements about “Technology Importance”, five positive statements about “ Appropriateness to the Saudi Environment and Culture”, and four statements about “Saudi female suggestions for better online courses”.

**Communication willingness Scale (CWS)**

The third part of the survey “Communication Willingness” corresponded to research questions two and three. Communication in online educational courses occurred through several ways (e.g. emails, online chats, doing group assignments, videoconferencing, etc.). This section was adopted and modified from Akhtarkhavari (1994). It consisted of four items that were categorized based on the location of Saudi female students. Participants addressed these items by indicating their level of agreement toward each statement: 4= strongly agree, 3=agree, 2= disagree, and 1= strongly disagree. For instance, if the female chose strongly agree on this stand for number 4 on the Likert scale, it meant that she believed that it was completely acceptable for Saudi females to communicate with male instructor or
male classmates in online education either in the United States or in Saudi Arabia through one of the previously mentioned ways of online communication.

**Open-ended questions**

Part four of the survey was adopted and modified from Akhtarkhavari (1994) and consisted of eight open-ended questions. Questions from part 4 were also used in the interview with 10 participants. Those questions indicated the participants’ preferences and recommendations to the online educational system designers. Additionally, data from this part was used to validate the findings of the study.

**Pilot Study of Instruments**

Pilot testing of the survey and the interview protocol was done during September and October of 2015 with 20 students enrolled in Saudi Electronic University and Florida Institute of Technology in order to identify unexpected issues, flaws, and weaknesses before conducting the study as well as reduce the ambiguity of the statements and questions that were integrated in the instrument (Gay & Airasian, 2003). All participants were Saudi female students ranging in age from 19 to 39 years old. Eight participants lived in Saudi Arabia, and 12 participants lived in the United States. Participants represented a variety of majors and different regions in Saudi Arabia. The researcher approached participants who lived in the United States through the Saudi Students Union at a private university.
in the southeast and approached the participants who lived in Saudi Arabia through social media. After the researcher explained the purpose of the research study and its significance, permission was gained from the participants to pilot test the instruments and interview protocol for this study. Participants completed the survey questions in all four parts, and then focus group meetings were arranged with participants to complete the follow up interview.

**Instrument validity.** The survey questions were presented to an expert for view and assistance to determine the questions’ clarity. Two experts from Saudi Arabia who are fluent in both English and Arabic languages were asked to evaluate the questions to ensure their coherence and appropriateness to the study objectives. Minor changes were recommended regarding the clarity, language level, and organization of the items. After all questions were evaluated, all suggestions and recommendations were taken into consideration and incorporated.

**Instrument reliability.** The researcher administered the survey in the beginning to six Saudi female students, three of them living in Saudi Arabia and three female Saudi students living in the United States. The researcher formed a focus group for the participants who live the United States of America in order to have a better idea of the participants' reactions to the survey question, to answer any further questions, and to write down any suggestions or comments about the survey's questions. After that, other minor changes were taken into consideration
Reliability coefficients (Cronbach’s alpha) were .94 for the ATOES (Attitude toward Online Education Scale) and .83 for the CWS (Communication Willingness Scale). (See appendix B and C) (See Table 8)

Table 8

Reliability Statistics for the ATOES

<table>
<thead>
<tr>
<th>Survey language</th>
<th>Cronbach’s Alpha</th>
<th>N of Items</th>
<th>N of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic language</td>
<td>.95</td>
<td>30</td>
<td>108</td>
</tr>
<tr>
<td>English Language</td>
<td>.93</td>
<td>30</td>
<td>27</td>
</tr>
<tr>
<td>Both languages together</td>
<td>.94</td>
<td>30</td>
<td>135</td>
</tr>
</tbody>
</table>

Table 9 shows the reliability coefficients (Cronbach’s alpha) of the “Communication Willingness Scale”. The Arabic language of Communication Willingness Scale (CWS) is .84 and .80 for the English language version. As shown in Table 9, a total number of 131 participants responded to the CWS items.
Table 9

*Reliability Statistics for the CWS*

<table>
<thead>
<tr>
<th>Survey language</th>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
<th>N of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic language</td>
<td>.84</td>
<td>4</td>
<td>104</td>
</tr>
<tr>
<td>English Language</td>
<td>.80</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>Both languages together</td>
<td>.83</td>
<td>4</td>
<td>131</td>
</tr>
</tbody>
</table>

**Data procedure**

Formal requests to conduct this study were submitted to the Institutional Review Board (IRB) at Florida Institute of Technology and the Saudi Electronic University to conduct the study and distribute the survey among the Saudi female students. After obtaining the approvals, the researcher was able to distribute the electronic link of the consent form along with the online survey to the target population.

Survey Monkey was used to design and develop the electronic version of the survey. The survey also included a written description of the study purpose and how the data would be implemented. Participants were informed that their participation would be voluntary and their responses would not be identified personally. Participants received the hyperlink through their emails on the lists of the two organizations, Saudi Electronic University and Saudi students'
organizations in the United States. Based on the time that participants spent in pilot study, 10-15 minutes was the estimated time it took to answer the survey. A power analysis was done to ensure sufficient sample size for the current subject (Borg & Gall, 1989), and it was determined that a minimum of 126 participants were needed for this study.

**Data analysis**

Data were analyzed using JMP statistical software. Responses were added to form a single attitude score that could range from 30-120 to answer research questions 1A, 1B, 1C., 2A, 2B, 3A, and 3B. A descriptive statistical analysis including means, frequencies, and percentages was used to summarize the demographic characteristics and answer research questions one, two, and three. Furthermore, item analysis was included by computing the frequencies and percentages of the responses for each item of the "Attitude toward online education" part of the questionnaire.

**Research question 1.** The first research question and its three parts examined the impact of marital status, age, and location of residency on the Saudi female students’ attitudes toward online education.

Research question 1A examined the impact of age on participants’ attitudes toward online education. Data for this question was derived from part one and two
of the survey and then analyzed by the one-way ANOVA to determine the level of impact on the attitudes of the Saudi female students toward online education. Descriptive statistics were included to provide a simple summary of the mean, standard deviations, and the frequencies of the participants’ responses on the attitudes toward online education scale (ATOES) according to their ages.

Research question 1B examined the impact of marital status of Saudi female students on their attitudes toward online education. A one-way ANOVA was implemented to analyze the data regarding marital status and attitudes from part one and two of the survey. Additionally, descriptive statistics of the mean, standard deviation, and frequencies were reported.

Research question 1C examined the impact of location of residency on Saudi female students’ attitudes toward online education. Data regarding this question were derived from the first and second part of the survey. A t-test was conducted to determine the impact of participants’ locations of residency on attitudes toward online education. Descriptive statistics of the responses were also reported.

Research question 2. The second research question included two sub-questions that examined the impact of the marital status (i.e. single, married, divorced, and widowed) and location of residency (i.e. the United States or Saudi Arabia) on Saudi female students’ willingness to communicate with male
instructors in online educational courses. Results of these two sub-questions were derived from first (Demographic characteristics) and third part (Communication Willingness Scale) of the survey.

Research question 2A used an ANOVA analysis to examine the impact of the Saudi female students’ marital status on their willingness to communicate with male instructor in online educational course. Participants' responses could range from strongly disagree 1 to strongly agree 4. Higher scores stood for strongly agree that it is acceptable for the Saudi females to communicate with the male instructor in online educational courses. Descriptive statistics were also included.

Research question 2B examined the impact of the location of residency of Saudi female students on their willingness to communicate with male instructors in online educational course. An independent samples t-test was used to determine whether there was a significant difference in the participants’ willingness to communicate with male instructors in online educational courses. Responses could range from 1, which represented strongly disagree, to 4, which represented strongly agree. Descriptive statistics were also reported.

Research question 3. The third research question had two sub-questions that examined the impact of marital status (i.e. single, married, divorced, and widowed) and location of residency (i.e. the United States or Saudi Arabia) on willingness to communicate with male classmates in an online educational course.
Data regarding these sub questions were derived from first part of the survey (Demographic characteristics) and third part (Communication Willingness Scale) of the survey.

Research question 3A examined the impact of the marital status of Saudi female students on their willingness to communicate with male classmates in an online educational course. An ANOVA was used to determine whether there was a significant differences based on marital status. Responses to this question could range from strongly agree (4) to strongly disagree (1).

Research question 3B used an independent samples T test to examine whether there was a differences based on the participants’ locations of residency on their willingness to communicate with male classmates in an online education. Responses could range from 1 to 4, where 1 stood for strongly disagree and 4 stood for strongly agree. Descriptive statistics were also reported.

**Interview protocol**

Qualitative data were derived from the fourth part of the survey. A total of 20 participants were asked open-ended questions through an interview to share their experience and level of satisfaction with online education in Saudi Arabia and the United States. Participants were also asked to provide some recommendations for improving online education based on their experience in both countries. These questions were adopted from Akhtarkhavari (1994). The analysis of these data
helped to validate the findings from the survey and indicated deep and detailed explanations of the participants’ preferences and recommendations. Participants were able to express their feelings, opinions, and attitudes toward the communication in online education with male instructors and classmates. The researcher inductively examined the written and recorded responses then coded them. After all categorized answers were coded, and major patterns and trends of answers identified, they were given to two other researchers to validate and review them. The interview questions were as follows:

1. Do you feel that the knowledge and skills you received from online courses in the American university / Saudi Electronic University were worth the time, money, and effort that you spent at these institution? Please justify why?

2. Overall, were you satisfied with the online higher education you received in the United States of America/ Saudi Electronic University: very satisfied, satisfied, unsatisfied, or very unsatisfied, please justify why?

3. What can be done to improve the quality of the online courses that are provided by the higher education in the United States of America/ Saudi Electronic University?

4. To what extent do you think your study in the United States of America/ Saudi Arabia and experiencing online courses had an impact on your
concept of education? large impact, moderate impact, little impact, or no impact

If there is any impact, explain in what way.

Additional analysis

An additional analysis was done to examine how Saudi female students ranked their preferences in using online communicational tools when it comes to communicating with male classmates. Participants were provided with five options that they ranked from 1 to 5. These options were as follows: text-only chat (e.g. messenger), voice chat (e.g. microphone/speaker using MSN messenger), email (e.g. Hotmail, Yahoo, university email, etc.), forums (e.g. discussion board), and social media (Facebook, Myspace, Twitter, etc.). Furthermore, the impact of marital status on the participants’ preferences of online communication tools with male classmates in online educational settings was examined through ANOVA.

Summary

The purpose of the study was to investigate the impact of marital status, age, and location of residency on the attitudes of Saudi female students toward online education. Additionally, it investigated the effect of Saudi female students’ marital status on their willingness to communicate with male instructors in online educational courses. Furthermore, it aimed to determine whether marital status and
location of residency affect the willingness to communicate with male classmates in online educational courses. The participants of the study (N=135) lived in Saudi Arabia and the United States. A four-part questionnaire was modified from (Alaugab, 2007; Alanazy, 2011; Akhtarkhavari, 1994). The first part contained questions that collected the participants' demographic data. The second part included 30 positive statements about attitudes toward online education. The third part contained four questions regarding participants’ willingness to communicate. The subsequent part was open-ended questions that collected inductive data for the purpose of validating the findings of the study. Data were analyzed using ANOVA, t-test, and inductive data analysis. An additional analysis examined preferences for online communication tools.

Table 10

Summary of Research Questions, Instruments, and Data Analysis Tests

<table>
<thead>
<tr>
<th>Research question</th>
<th>Instrument</th>
<th>Analysis test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.A. Does age impact the attitudes of Saudi female students toward online education?</td>
<td>• Part 1, “Demographic Characteristics”</td>
<td>• Descriptive statistics like, Frequency/ percentage Mean/standard deviation</td>
</tr>
<tr>
<td></td>
<td>• Part 2, “Attitudes toward online education scale”</td>
<td>• Descriptive Item analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ANOVA</td>
</tr>
<tr>
<td>1.B Does marital status impact the attitudes of Saudi female students</td>
<td>• Part 1, “Demographic Characteristics”</td>
<td>• Descriptive statistics like, Frequency/ percentage Mean/standard deviation</td>
</tr>
<tr>
<td></td>
<td>• Part 2, “Attitudes toward online”</td>
<td>• Descriptive Item analysis</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>1.C Does location of residency impact the attitudes of Saudi female students toward online education?</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>2.A Does the marital status of the Saudi female students impact their willingness to communicate with male instructors through online educational courses?</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>2.B Does the location of residency of the Saudi female students impact their willingness to communicate with male instructors through online educational courses?</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>3.A Does the marital status of the Saudi female students impact their willingness to communicate with male instructors through online educational courses?</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>
male classmates in online educational courses?

3.B Does the location of residency of the Saudi female students impact their willingness to communicate with male classmates in online educational courses?

- Part 1, “Demographic Characteristics”
- Part 3, “Communication Willingness”
- Descriptive statistics like, Frequency/ percentage, Mean/standard deviation.
- T-Test
Chapter 4

Data Analysis

Introduction

Online education has become an important type of educational technology in higher educational institutions in Saudi Arabia. It also has become such a powerful tool that enabled Saudi females to continue their higher education.

The purpose of the study was to examine Saudi female students’ attitudes toward online education, their willingness to communicate with their male peers and instructors, and general recommendations provided by the participants that would help educators to determine the Saudi female students’ needs in online education in both the United States and Saudi Arabia. The current study examined the impact of marital status, location, and age of participants on the attitudes toward online education. In addition, it examined the impact of the marital status and location on participants’ willingness to communicate with male instructors and peers. This chapter includes the description of the survey results and the analysis of the study data. A mixed methods research design was implemented to help deeply analyze the findings.
Analysis of research questions

Research data collected from the four-part survey: demographic characteristics, attitudes towards online education scale, communication willingness, and open ended questions regarding the participants’ level of satisfaction on online education in the United States and Saudi Arabia were analyzed to define answers for the following research questions. In addition, ten interviews were done with some of the respondents.

Table 11 shows the number of participants who chose to do the survey in Arabic language (88.31%, n=272) versus the English language survey (11.69%, n=36). As shown on Table 11, most of the participants in the study preferred to respond in Arabic language. Of the 308 surveys completed, 173 were excluded due to not meeting the participation criteria outlined in Chapter 3; of the 135 remaining surveys, 118 were incomplete as participants either skipped the open-ended questions, skipped the contact information page, and/or stopped filling out the survey.
Table 11

*Frequencies and percentages of completed surveys according the language*

<table>
<thead>
<tr>
<th>Survey language</th>
<th>N</th>
<th>Percentage</th>
<th>Included</th>
<th>Excluded</th>
<th>Incomplete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic language</td>
<td>272</td>
<td>88.31%</td>
<td>108</td>
<td>164</td>
<td>101</td>
</tr>
<tr>
<td>English Language</td>
<td>36</td>
<td>11.69%</td>
<td>27</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>308</td>
<td>100%</td>
<td>135</td>
<td>173</td>
<td>118</td>
</tr>
</tbody>
</table>

**Research question one**

The first question investigated Saudi female students’ attitudes toward online education according to their age, marital status, and location of residency.

Table 12, represents the analysis of attitudes towards online education scale items including the single item mean and standard deviation. The mean scores that ranged from 2.5 to 2.99 were considered to be low positive attitudes toward online education; mean scores that were between 3.00 and 3.25, were considered to be a moderate positive attitude toward online education; and mean scores that are over 3.25 represented a high positive attitude toward online education.
<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am interested in using online instruction.</td>
<td>3.34</td>
<td>0.68</td>
</tr>
<tr>
<td>Online instruction will affect the quality of my education</td>
<td>2.97</td>
<td>0.87</td>
</tr>
<tr>
<td>Online instruction is accessible any time, from anywhere.</td>
<td>3.33</td>
<td>0.78</td>
</tr>
<tr>
<td>Instructors who taught me online courses seemed to be knowledgeable of the online pedagogy.</td>
<td>3.01</td>
<td>0.75</td>
</tr>
<tr>
<td>Students in online courses should be knowledgeable about computer technology.</td>
<td>3.32</td>
<td>0.71</td>
</tr>
<tr>
<td>My institution has a good infrastructure for implementing a successful online education.</td>
<td>2.94</td>
<td>0.99</td>
</tr>
<tr>
<td>The institution should support students for online courses.</td>
<td>3.37</td>
<td>0.78</td>
</tr>
<tr>
<td>Online instruction can be utilized in any level and major of higher education.</td>
<td>3.08</td>
<td>0.96</td>
</tr>
<tr>
<td>Implementing online courses can change the approach of teaching in Saudi Arabia from teacher-centered to student-centered.</td>
<td>3.21</td>
<td>0.79</td>
</tr>
<tr>
<td>The institution should be concerned about the needs of international students when adopting online courses.</td>
<td>3.34</td>
<td>0.71</td>
</tr>
<tr>
<td>The use of multimedia for online instruction will improve</td>
<td>3.55</td>
<td>0.62</td>
</tr>
</tbody>
</table>
Online instruction is a suitable solution for admission problems in the university.

Online courses can increase students’ abilities to undertake self-directed learning.

Online instruction enhances interaction among students

The Internet increases accessibility to course-related resources and information.

The instructor is more accessible; quick answers to questions; help available 24 hours.

Online instruction encourages the students to collaborate and share of ideas without being reluctant to do in face-to-face instruction.

Student can take more courses using online compared with traditional courses

Online courses will provide students in remote areas with the opportunity to continue their higher education

Online courses are appropriate for students with disabilities to continue their education.

Online instruction will work well with my family responsibilities
Online instruction is appropriate for Saudi females. 3.31 0.80

English language proficiency is a key to an effective participation in online courses. 3.34 0.81

Technology helps my educational productivity 3.53 0.68

I feel comfortable participating in online discussion 3.19 0.80

Online course enables me to engage with other students during class discussions. 3.13 0.79

I support the idea of integrating online courses through Saudi higher education. 3.28 0.83

I am confident that Saudi females are ready to enroll and successfully engaged in online education. 3.36 0.77

Online courses do not conflict with the Saudi Arabian females’ norms and cultures. 3.41 0.86

Online courses could be a good solution for the females’ transportation issues. 3.63 0.59

It is apparent from Table 12 that Saudi female students reported a high mean when it comes to the benefit of online education in regards to the remote area (M=3.62), and transportation issues (M=3.63). Additionally, this table is quite revealing that participants either agreed or strongly agreed that online education was suitable for Saudi female students with a large amount of responsibilities.
toward their family members ($M=3.43$). The results also revealed that Saudi female students were less positive when it came to the quality of online education ($M=2.97$). Results shown on Table 12 also indicated that Saudi female students had a low positive attitude in regards to the successful implementation of online education in their institutions ($M=2.94$). Saudi female students revealed that they either agreed or highly agreed to visibility of online education to the students with disability issues ($M=3.61$).

The mean and standard deviation of the total attitudes toward online education are reported in Table 13. The reported mean illustrated that Saudi female students obtained a highly positive attitude toward online education ($M=3.30$, $SD = 0.19$).

Table 13

*Means and Standard deviations of the overall Saudi females’ attitudes toward online education*

<table>
<thead>
<tr>
<th>Attitudes scale</th>
<th>$N$</th>
<th>Mean</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total attitude</td>
<td>30</td>
<td>3.30</td>
<td>0.19</td>
<td>2.92</td>
<td>3.63</td>
</tr>
</tbody>
</table>
The impact of age on attitude toward online education

Table 14 represents the results regarding the first research question on the impact of the participants’ age on their attitudes toward online education. The means were 97.06, 100.98, and 93.77 respectively for the 19-29, 30-39, and 40 or over age groups respectively. One-way ANOVA revealed that the age of participants did not have a significant impact ($p= 0.167$) on their attitudes (see Table 14).

Table 14

*Analysis of variance for the impact of age on the attitude toward online education*

<table>
<thead>
<tr>
<th>Age group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-29</td>
<td>67</td>
<td>97.06</td>
<td>14.40</td>
<td>0.167</td>
</tr>
<tr>
<td>30-39</td>
<td>59</td>
<td>100.98</td>
<td>10.96</td>
<td></td>
</tr>
<tr>
<td>Over 40</td>
<td>9</td>
<td>93.77</td>
<td>25.26</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>135</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The impact of marital status on attitude toward online education

Table 15 reported the results of part B of research question 1 that investigated impact of marital status on the attitudes of the Saudi female students toward online education. The one-way ANOVA revealed that there was a statistically significant impact on the attitudes by the marital status of the
participants ($p = .0193$). A follow-up Tukey test, interestingly, revealed that participants who were single were significantly different ($M = 93.55$, $SD = 18.12$, $p = .015$) compared to the other two groups; married ($M = 100.83$, $SD = 11.40$, $p = .999$), divorced ($M = 100.67$, $SD = 5.85$, $p = .461$) as shown on Table 15.

Table 15

*Analysis of Variance for the impact of marital status on the attitude toward online education*

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number</th>
<th>Mean</th>
<th>Std Dev</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>6</td>
<td>100.67</td>
<td>5.8538</td>
<td>0.0193*</td>
</tr>
<tr>
<td>Married</td>
<td>87</td>
<td>100.83</td>
<td>11.4040</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>42</td>
<td>93.55</td>
<td>18.1218</td>
<td></td>
</tr>
</tbody>
</table>

The impact of location of residency on attitude toward online education

Results regarding the impact of the Saudi female students’ locations on their attitudes toward online education are reported on Table 16. An independent-samples t-test was conducted to compare the mean differences in attitudes toward online education scores with respect to the participants’ location of residency. There was not a significant difference ($t = -1.182$, $p = .239$) between the attitudes of the participants who lived in Saudi Arabia ($M = 97.27$, $SD = 15.75$), and participants
who lived in the United States ($M = 100.06$, $SD = 11.60$). These results illustrated that the Saudi female students’ attitude would not be impacted by their locations of residency whether it was Saudi Arabia or the United States.

Table 16

*Independent samples t-test for the impact of location of residency*

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>t-test</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Arabia</td>
<td>73</td>
<td>97.27</td>
<td>15.75</td>
<td>-1.182</td>
<td>0.239</td>
</tr>
<tr>
<td>United States</td>
<td>62</td>
<td>100.06</td>
<td>11.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>135</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Research question two**

The second research question investigated the impact of marital status and location of residency on participants’ willingness to communicate with male instructor in online educational courses. Data were collected from part three of the survey (Appendix B & C). The mean scores that ranged from 2.5 to 2.99 were considered low willingness to communicate with male instructors. Mean scores between 3.00 and 3.25 were a moderate willingness to communicate, and scores over 3.25 represented high willingness to communicate with male instructors. The
total number of the participants who responded to the third part of the survey was 131.

Descriptive analysis of the mean and standard deviation of the total willingness to communicate was reported in Table 17. The reported mean revealed that Saudi female students were highly willing to communicate with their male instructor through online educational courses in both the United States and Saudi Arabia ($M= 3.42$, $SD = 0.65$).

Table 17

*Descriptive analysis of the mean and standard deviation of the total willingness to communicate*

<table>
<thead>
<tr>
<th>Communication Willingness Scale</th>
<th>N</th>
<th>N of Items</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CWS</td>
<td>131</td>
<td>2</td>
<td>3.42</td>
<td>.65</td>
<td>3.34</td>
<td>3.50</td>
</tr>
</tbody>
</table>

Table 18 shows that both means of the two items were high, which indicated that Saudi female students felt highly positive about communicating with male instructors. However, the mean of the group from the United States ($M= 3.53$, $SD = 0.60$) was higher than the mean of the Saudi Arabia group ($M=3.32$, $SD=0.70$).
Table 18

_Breakdown of means for each willingness to communicate item_

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is acceptable for female students to communicate with a male instructor in online classes in the United States</td>
<td>3.53</td>
<td>0.60</td>
</tr>
<tr>
<td>It is acceptable for female students to communicate with a male instructor in online classes in Saudi Arabia.</td>
<td>3.32</td>
<td>0.70</td>
</tr>
</tbody>
</table>

_The impact of marital status on willingness to communicate with male instructors_

Table 19 represents the one-way ANOVA that was done to examine the impact of marital status on willingness to communicate with male instructors through online educational courses. The results showed that marital status does not have a significant impact on the Saudi female students willingness to communicate with male instructors in the United States ($p = 0.775$). It also appeared that the mean of willingness to communicate of divorced Saudi female students ($M=3.75$, $SD=0.51$) was the highest compared to the other two marital status of married participants ($M=3.53$, $SD=0.54$) and single participants ($M=3.57$, $SD=0.72$). The means of participants in all three marital status showed that they either agreed or strongly agreed to the statement, “It is acceptable for female students to
communicate with a male instructor in online classes in the United State of America.”

Table 19

<table>
<thead>
<tr>
<th>Participants Marital Status</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>6</td>
<td>3.75</td>
<td>0.51</td>
<td>0.775</td>
</tr>
<tr>
<td>Married</td>
<td>85</td>
<td>3.54</td>
<td>0.54</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>39</td>
<td>3.57</td>
<td>0.72</td>
<td></td>
</tr>
</tbody>
</table>

Table 20 indicates the results of the one-way ANOVA revealed that there was no significant differences by marital status of the participants on their willingness to communicate with male instructors through online educational courses in Saudi Arabia ($p=0.092$). From Table 20, it is shown that the lowest mean was for the married participants ($\bar{M}=3.23, \text{SD}=0.73$). Both divorced and single participants means were higher than the mean of the married participants and they were close to each other as follows; divorced ($\bar{M}=3.50, \text{SD}=0.54$) and singles ($\bar{M}=3.51, \text{SD}=0.60$).
Table 20

Willingness to communicate with male instructors in Saudi Arabia by marital status

<table>
<thead>
<tr>
<th>Participants Marital Status</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>6</td>
<td>3.50</td>
<td>0.54</td>
<td>0.092</td>
</tr>
<tr>
<td>Married</td>
<td>86</td>
<td>3.23</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>39</td>
<td>3.51</td>
<td>0.60</td>
<td></td>
</tr>
</tbody>
</table>

The impact of location of residency on willingness to communicate with male instructors

Table 21 represents results of an independent-sample t-test that was done to compare the means of willingness to communicate with male instructors in the United States according to their locations of residency. There was not a significant difference ($t = 1.811$, $p=0.072$) between participants who lived in Saudi Arabia ($M= 3.44$, $SD= .63$) and participants who lived in the United States ($M= 3.62$, $SD= .55$). These results indicated that the Saudi female students’ willingness to communicate with male instructors in the United States would not be impacted by their locations of living whether it was Saudi Arabia or the United States. Additionally, the means of both samples indicated that Saudi female students are
highly in favor of communicating with their male instructor in online educational course regardless of their location of residency.

Table 21

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>t-test</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>62</td>
<td>3.25</td>
<td>.55</td>
<td>1.811</td>
<td>0.072</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>68</td>
<td>3.44</td>
<td>.63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 22 reports the data of an independent-sample t-test that was conducted to determine if willingness to communicate with male instructors in Saudi Arabia according to their locations of residency. There was not a significant difference ($t = -1.079$, $p=0.2824$) between participants who lived in Saudi Arabia ($M= 3.39$, $SD= .59$) and participants who lived in the United States ($M= 3.25$, $SD= .78$). These results indicated that the Saudi female students’ willingness to communicate with male instructors in Saudi Arabia is not different according to their locations of residency, whether it was Saudi Arabia or the United States. According to both samples means, Saudi female students were highly in favor of communicating with male instructors through online educational courses.
Table 22

*Willingness to communicate with male instructors in Saudi Arabia by location of residency*

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>t-test</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>62</td>
<td>3.25</td>
<td>.78</td>
<td>-1.079</td>
<td>0.2824</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>69</td>
<td>3.39</td>
<td>.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Research question three**

The third research question examined the impact of marital status and location of residency on participants’ willingness to communicate with male classmates in online educational courses. The mean scores ranging from 2.5 to 2.99 were considered low willingness to communicate with male classmates in online educational courses; mean scores between 3.00 and 3.25 were moderate willingness to communicate; and mean scores over 3.25 represented a high willingness to communicate with male classmates through online educational courses. The total number of the participants who responded to this part of the survey was 131.

Table 23 reports the mean and standard deviation of the total willingness to communicate score in terms of the communicating with male classmates. The reported means revealed that Saudi female students are highly willing to
communicate with their male classmates through online educational courses in both the United States and Saudi Arabia ($M=3.11$, $SD=.82$).

Table 23

*Mean and standard deviation of the total willingness to communicate with male classmates*

<table>
<thead>
<tr>
<th>Communication Willingness Scale</th>
<th>N</th>
<th>N of items</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CWS</td>
<td>131</td>
<td>2</td>
<td>3.11</td>
<td>.82</td>
<td>3.01</td>
<td>3.21</td>
</tr>
</tbody>
</table>

Table 24 represents the two items that asked participants if it was acceptable for Saudi female students to communicate with male classmates through online educational course in Saudi Arabia and in the United States. Data revealed that participants were highly accepting of communication between the Saudi female students and her male classmates in the United States ($M=3.30$, $SD=0.71$). However, they were less accepting of communication between the Saudi female students with her male classmates through online educational courses in Saudi Arabia ($M=2.93$, $SD=0.89$).
Table 24

*Item analysis of the Communication Willingness with male classmate Scale*

<table>
<thead>
<tr>
<th>Items</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is acceptable for female students to communicate with male classmates in online classes in the United State.</td>
<td>131</td>
<td>3.30</td>
<td>0.71</td>
</tr>
<tr>
<td>It is acceptable for female students to communicate with male classmates in online classes in Saudi Arabia.</td>
<td>131</td>
<td>2.93</td>
<td>0.89</td>
</tr>
</tbody>
</table>

The impact of marital status on willingness to communicate with male classmates

Table 25 reports the data that examined the impact of Saudi female students’ marital status on their willingness to communicate with their male classmates in online educational courses in the Saudi Arabia. Results showed that there wasn’t a significant difference by the marital status on participants’ willingness to communicate ($p=0.181$). Furthermore, results showed that divorced participants ($M=2.83$, $SD=0.75$) and married ($M=2.84$, $SD=0.94$) were the least accepting to communication with the male classmate in Saudi Arabia. Single participants had higher mean ($M=3.15$, $SD=0.77$) compared to the other two
groups; however, it was still considered a low willingness to communicate with male classmates.

Table 25

*Analysis of variance of marital status and willingness to communicate with male classmates in Saudi Arabia.*

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>6</td>
<td>2.83</td>
<td>0.75</td>
<td>0.181</td>
</tr>
<tr>
<td>Married</td>
<td>86</td>
<td>2.84</td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>39</td>
<td>3.15</td>
<td>0.77</td>
<td></td>
</tr>
</tbody>
</table>

Table 26 represents the results of the willingness to communicate with male classmates in online educational course in the United States. Data shows that there was not a significant difference by marital status of the Saudi female students on their willingness to communicate with male classmates in online educational courses in the United States \( p=0.786 \). Divorced participants were the least willing to communicate with male classmate in the United States \( M=3.16, \ SD=0.40 \). However, married \( M=3.29, \ SD=0.71 \) and single \( M=3.35, \ SD=0.74 \). Participants were highly willing to communicate with male classmates in online educational courses in the United States.
Table 26

*Analysis of variance of marital status and willingness to communicate with male classmates in the United States.*

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>6</td>
<td>3.16</td>
<td>0.40</td>
<td>0.786</td>
</tr>
<tr>
<td>Married</td>
<td>86</td>
<td>3.29</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>39</td>
<td>3.35</td>
<td>0.74</td>
<td></td>
</tr>
</tbody>
</table>

Table 27 reports the results of the one-way ANOVA that was conducted to examine the impact of participants’ marital status on their willingness to communicate with male classmates in online educational courses in general disregarding the location of the online courses. As it appears from the means in Table 27, single Saudi female students showed the most willingness to communicate with male classmates in online educational courses regardless of their location compared to the married and divorced participants ($M=3.25$, $SD=0.76$). However, divorced participants had the lowest mean ($M=3.00$, $SD=0.60$) which means that they were least willing to communicate with male classmates regardless of the location of online education courses. Married participants had a moderate willingness to communicate mean ($M=3.06$, $SD=0.86$) when it comes to communicating with male classmates in online educational courses.
The impact of location of residency on willingness to communicate with male classmates

Table 28 presents the data of an independent-samples t-test that was conducted to examine whether location of residency affects willingness to communicate with male classmates in the United States. Data on table 28 revealed that there was a significant difference ($t=2.564, p=.0115$) between participants who lived in Saudi Arabia ($M= 3.15, SD= .77$) and participants who lived in the United States ($M= 3.46, SD=0.59$). These results indicated that the location of residency had an impact on the willingness to communicate with male classmates in the United States. Participants who lived in the United States had higher mean, indicating they were more willing to communicate with their male classmates in online educational course in the United States. Table 28, however, showed that...
participants in Saudi Arabia were less accepting of communication with male classmates in online educational courses in the United States.

Table 28

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>t-test</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>62</td>
<td>3.46</td>
<td>.59</td>
<td>2.564</td>
<td>.0115*</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>69</td>
<td>3.15</td>
<td>.77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 29 represents results of an independent-sample t-test that was conducted to examine whether participants’ locations of residency impacts their willingness to communicate with male classmates in online educational courses in Saudi Arabia. Data in Table 29 showed that there was not a significant impact of the location when it comes to communicating with male classmate in Saudi Arabia ($t = 0.050, p = .9598$). This table also showed participants who lived in the United States ($M = 2.93, SD = 0.90$). These results indicated that the Saudi female students’ willingness to communicate with male classmates in the United States would not be impacted by their locations of living compared to participants in Saudi Arabia ($M = 2.92, SD = .89$). Additionally, the means of both samples indicated that Saudi
female students were less accepting of communication when compared to communicating with male classmate in the United States.

Table 29

*Willingness to communicate with male classmates in Saudi Arabia by location of residency*

<table>
<thead>
<tr>
<th>Location of residency</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>t-test</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>62</td>
<td>2.93</td>
<td>.90</td>
<td>0.050</td>
<td>.9598</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>69</td>
<td>2.92</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional analyses

**Saudi female students’ communication preferences with male classmates in online educational courses**

Table 30 reports the descriptive analysis of the ranking question regarding the Saudi female students’ preferences in communicating with male classmates through online educational courses. The number of participants who responded to the ranking question was 113. Saudi female students least preferred communicating through text chatting (\(M=2.42, \text{SD}=1.34\)). Communicating through email was ranked in fourth place, which means a low preference to the Saudi female students (\(M=2.47, \text{SD}=1.32\)). Communicating through forums was ranked in third place, with a moderate preference (\(M=3.01, \text{SD}=1.32\)). Social media was ranked in second
place ($M=3.53$, $SD=1.20$), and was a preferred communication tool. Voice chatting was ranked as the most preferred tool to communicate with the male classmates in online educational course ($M=3.58$, $SD=1.45$).

Table 30

*Communicational tool preferences in online educational course*

<table>
<thead>
<tr>
<th>Communication preference</th>
<th>Rank</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice chat (e.g. microphone/ speaker using MSN messenger)</td>
<td>1</td>
<td>113</td>
<td>3.58</td>
<td>1.45</td>
</tr>
<tr>
<td>Social media (Facebook, Myspace, twitter, etc.)</td>
<td>2</td>
<td>113</td>
<td>3.53</td>
<td>1.20</td>
</tr>
<tr>
<td>Forums (e.g. discussion board)</td>
<td>3</td>
<td>113</td>
<td>3.01</td>
<td>1.32</td>
</tr>
<tr>
<td>Email (e.g. Hotmail, Yahoo, university email, etc.)</td>
<td>4</td>
<td>113</td>
<td>2.47</td>
<td>1.32</td>
</tr>
<tr>
<td>Text-only chat (e.g. messenger)</td>
<td>5</td>
<td>113</td>
<td>2.42</td>
<td>1.34</td>
</tr>
</tbody>
</table>
The impact of Saudi female students’ marital status on the preference of online communication with male classmates

Table 31 represents communication preferences with male classmates by the participants’ marital status. As shown in this table, divorced Saudi female students ranked the voice chat in level one where they preferred it the most ($M=4.8$, $SD=0.44$), and the second highest mean was for communication through the Social media ($M=3.2$, $SD=1.30$). However, the mean of communication through forums was the lowest ($M=2.2$, $SD=0.83$). Communication through text chatting and emails were similar in their means ($M=2.4$, $SD=1.67$ and $M=2.4$, $SD=1.14$, respectively).

As indicated in this table, married participants did not prefer communicating with male classmates in online educational course through emails ($M=2.33$, $SD=1.33$). Text chatting also was the ranked as the less preferred communication tool for the married participants ($M=2.36$, $SD=1.29$). Forums were ranked third with a moderate preference ($M=3.11$, $SD=1.35$). Married participants ranked communication through voice chatting in second place ($M=3.59$, $SD=1.33$), and the most preferred communication tool for married participants was social media ($M=3.59$, $SD=1.20$).

The results of the impact of the Saudi female students’ marital status on their communication preference in Table 31 indicated that single participants
choose social media as the most preferred communication tool ($M=3.47$, $SD=1.20$). They ranked voice chat in second place ($M=3.25$, $SD=1.67$); then the communication through the forums was the third choice ($M=2.94$, $SD=1.28$). The least preferred communication tools were email ($M=2.77$, $SD=1.31$) and text-only chat ($M=2.55$, $SD=1.44$).

*Table 31*

*Communicational tool preferences according to the participants’ marital status*

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Online Communication tool</th>
<th>Rank</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>Voice chat (e.g. microphone/speaker using MSN messenger)</td>
<td>1</td>
<td>5</td>
<td>4.8</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>Social media (Facebook, Myspace, twitter, etc.)</td>
<td>2</td>
<td>5</td>
<td>3.2</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>Text-only chat (e.g. messenger)</td>
<td>3</td>
<td>5</td>
<td>2.4</td>
<td>1.67</td>
</tr>
<tr>
<td></td>
<td>Email (e.g. Hotmail, yahoo, university email, etc.)</td>
<td>4</td>
<td>5</td>
<td>2.4</td>
<td>1.14</td>
</tr>
<tr>
<td></td>
<td>Forums (e.g. discussion board)</td>
<td>5</td>
<td>5</td>
<td>2.2</td>
<td>0.83</td>
</tr>
<tr>
<td>Married</td>
<td>Social media (Facebook, Myspace, twitter, etc.)</td>
<td>1</td>
<td>72</td>
<td>3.59</td>
<td>1.20</td>
</tr>
<tr>
<td></td>
<td>Voice chat (e.g. microphone/speaker using MSN messenger)</td>
<td>2</td>
<td>72</td>
<td>3.59</td>
<td>1.33</td>
</tr>
</tbody>
</table>
Table 32 reports the impact of the experienced number of online educational courses and its impact on the Saudi female students’ attitudes toward online education. The results indicated that there was not a significant relationship between the two variables ($p=0.694$). The findings of the one-way ANOVA showed that the groups who experienced only one online course, two or three
online courses, or four or five online courses had low means compared to the other two groups who experienced six, seven or over seven online courses. The attitude mean of participants who experienced only one online course was ($M=97.84, SD=10.91$) the group of two or three online courses ($M=97.74, SD=13.97$) and the group of four or five online courses ($M=97.34, SD=16.01$). The other two groups had higher means compared to the first three groups where participants who experienced six or seven online courses ($M=101.81, SD=14.02$) and ($M=101.54, SD=13.74$) for those who experienced more than seven online courses.

Table 32

*Analysis of variance on the impact of the number of online courses the attitude*

<table>
<thead>
<tr>
<th>Number of online courses</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>$P$.value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only one course</td>
<td>18</td>
<td>97.84</td>
<td>10.91</td>
<td>0.694</td>
</tr>
<tr>
<td>Two or three courses</td>
<td>52</td>
<td>97.74</td>
<td>13.97</td>
<td></td>
</tr>
<tr>
<td>Four or five courses</td>
<td>32</td>
<td>97.34</td>
<td>16.01</td>
<td></td>
</tr>
<tr>
<td>Six or seven courses</td>
<td>22</td>
<td>101.81</td>
<td>14.02</td>
<td></td>
</tr>
<tr>
<td>Over seven courses</td>
<td>11</td>
<td>101.54</td>
<td>13.74</td>
<td></td>
</tr>
</tbody>
</table>
Saudi female students’ willingness to enroll in online educational courses in the future

Participants were asked if they were willing to enroll in online courses in the future in Saudi Arabia. A total of 65 participants living in Saudi Arabia, while 48 participants living in the United States responded to this question. Figure 3 revealed that 89% of the Saudi female students would like to do more online courses in the future while only 11% of the participants did not. Figure 4 shows the percentages of the Saudi female students who are willing to enroll in more online classes in the future in the United States. Participants who are willing to do more online courses were 77%, while 23% of them are not willing to enroll. These percentages indicate that participants were highly positive when it comes to online courses disregards the locations of residency. When comparing between the two groups according to their locations of residency, data revealed that the percentage of participants living in Saudi Arabia (n= 58, 89%) was higher than the percentage of the participants who live in the United States (n= 37, 77%). Furthermore, the percentage of participants who refused to enroll in online courses in the future in Saudi Arabia was low (n=7, 11%), compared to participants who live in the United States (n=11, 23%).
Figure 3: Saudi female students in Saudi Arabia who plan to enroll in online courses in future

Figure 4: Saudi female students in the United States who plan to enroll in online courses in future
Saudi female students’ satisfaction with online courses

Participants were asked to report their satisfaction level after their experience with online courses in the United States and Saudi Arabia. They were provided with a scale of four options (very satisfied=4, satisfied=3, unsatisfied=2, very unsatisfied=1). Figure 5 shows the mean of the satisfaction level of the Saudi females according to the online educational courses in both the United States and Saudi Arabia. A total of 56 participants responded to the question, 36 participants living in the United States and 20 living in the Saudi Arabia. Participants living in the United States and experiencing American online education reported a high satisfaction mean toward online educational courses \( (M=3.41, \text{SD}=.69) \). Participants who lived in Saudi Arabia and experienced the online educational courses there reported a moderate satisfaction mean \( (M=2.95, \text{SD}=.82) \).

![Figure 5: Satisfaction with online education according to location of residency](image-url)
Interview protocol

Thoughts and recommendations to enhance the online education of Saudi Arabia and the United States

Using a snowball strategy, 20 Saudi females were identified to participate in interviews. Of the eight participants who lived in Saudi Arabia, one of them was single and the rest were all married. Of the 12 participants who lived in the United States, all were married. The researcher analyzed data and established credibility through a second individual who reviewed the analyzed data and the minor modifications were taken in to consideration.

Saudi female students view on the worthiness of online education

Analysis of the responses to the first interview question revealed three major themes: online education quality, students’ benefits, and instructor quality. Participants were asked to answer the question by yes or no then were asked to justify their answers. One participant answered that no online educational courses were worth the money, time, and effort. She justified that she did not like it and she believed that face-to-face courses are more valuable, easier, less stressful, and enjoyable. Seven participants answered that online education they received in the Saudi Electronic University (SEU) in Saudi Arabia was worth the money, time, and
efforts that they spent. Participants justified their opinions under three themes as shown in the following figure 6:

*Figure 6*: Themes and factors that contribute to the quality of online education

*Quality of content.* Participants mentioned that online courses provide them with considerable amount of information that are related to the course content and they learn more than what they expected to learn, “I found that the content of the online materials are very current and valuable” (Badreiah. A, personal communication, November 12, 2016).

*Students benefit.* Participants were very proud and confident when they were counting and explaining what benefits they gained from online educational
courses at SEU. All seven participants agreed that they are now self-regulated learners and being more independent on their own for learning and achievements.

One participant stated that:

… I enrolled at Saudi Electronic University after I spent three semesters at traditional college that provided face-to-face classes. I found that I am less stressful, more responsible, and updated in terms of my knowledge of my major more than previous college, because I managed my time based on my responsibilities and priority…” (Haya. A, personal communication, October 2, 2016).

Additionally, the participant revealed that she does not need to ask her husband daily to get her to the school and leave her two kids with the house servant alone at home; furthermore, she is now more capable of managing her time for her responsibilities at home and school (H. A, personal communication, October 2, 2016). One participant mentioned that she became a better researcher due to her responsibility of searching for better answers in the open online sources; furthermore, she mentioned that she became better, stronger, and more confident person due to her participation on the online discussion boards. Other participants mentioned that they learned more technological skills due to the need of using some software and computer in general.
Quality of instruction. One of the participants mentioned that some of the instructors at the Saudi Electronic University should work harder to be updated in their knowledge and English language proficiency.

Twelve participants experienced an online educational course in the United States. One of the participants did not agree that online educational courses are not worth the money, time, and effort. She justified that not all instructors she experienced were capable of online education instruction. She believed that in order to gain the complete benefit of online education, it is very important to have a very skilled instructor who is capable of online instruction. She revealed that online educational instructors should understand the students’ differences, especially international students whose native language is not English. The other 11 participants agreed that online educational courses were worth the time, money, and effort. Two themes emerged from the analysis of the interview data: students benefit and online educational quality.

Students’ benefit. There were five major benefits and skills from this theme that students felt they gained after experiencing online education in the United States. First and the most mentioned benefit was the knowledge that they received was very high, varied but related to the subject, and recent. Second, they became more self-regulated learners where they knew their abilities and best ways help them to learn and do better in online courses. The third benefit was that they
become more independent and responsible for their learning. The fourth point mentioned was related to computer skills. Participants revealed that they faced their technology fear by using different programs and software. They also became more familiar with online educational technologies that they used through some online educational courses. The fifth point that participants mentioned was planning skills. Participants revealed that they became more organized. One of the participants stated: “I always make a timeline for the assignments and studying days for the quizzes and tests” (W. A, personal communication, October 19, 2016).

Another participant stated:

I became more organized and skilled in making a good plan for the whole semester using the instructor syllabus and work it out with my time and responsibilities for other courses, I realized after two semesters that it worked very fine and I achieved the desirable grades from the courses (W. R, personal communication, October 26, 2016).

Other participants stated, “I became more aware of the time-management; I do not rely on the instructor to answer my questions I search and read from other online sources.” (K. A, personal communication, August 14, 2016). Participants also revealed that due to the different backgrounds and cultures of the students in
online courses, they tend to see the problems from other point of views and they learned more about the different cultures.

One participant stated; “Because most of the lectures are recorded, I can go back over the lecture and listen to what I missed or did not understand” (W. A, personal communication, November 25, 2016). Other participant stated; “… online educational courses are the perfect educational option for the Saudi moms; they will be able to manage their responsibilities at home and their education” (D. A, personal communication, September 2, 2016).

**Quality of the content:** three features were mentioned frequently in the interview with the Saudi female participants: materials quality, flexibility, and recorded lectures. Nine of the participants reported that the online courses’ materials were very useful, of academic value, and recent, which forced the students to spend more effort and work hard to success. Seven of the participants mentioned that the flexibility of online courses allowed for time to be able to stay with their families. The other two participants revealed that because English language is not their native spoken language, they value the recorded lectures that online courses provided them where they can listen several times to the lecture and demonstrate the subject. Three participants valued the fast and detailed feedback from the instructors and that they really benefited from more than the face-to-face
courses where the instructors used to give a verbal feedback or just leave some very short written comments.

**Saudi female students’ satisfaction with online educational courses in Saudi Arabia and the United States**

*Online educational courses in Saudi Arabia.* One participant revealed that the type knowledge that were provided in online courses that she experienced were not satisfying her educational needs. On the other hand, one participant was satisfied, and she justified that the good thing about online education is saving the time and effort for the Saudi female to be able to practice her responsibilities toward her husband, children, and her social life. Four of the participants were very satisfied and agreed that the content of online courses is very strong, useful, developed, and recent. They also agreed that their English language improved in the four skills, speaking, writing, listening, and reading.

One of them stated:

> Even if I am very satisfied about the online education provided by the Saudi Electronic University, I experienced that few of the instructors’ knowledge about the subjects were very low and not updated that I needed a tutor to help me in understanding the material of the course. I also had hard time understanding some of the foreign teachers when speaking English, therefore, I had to rely
on the material and searching online for better understanding of the course content and do great on the final exams” (M. A, personal communication, August 19, 2016).

Online educational courses in the United States. Three participants were satisfied and justified their option with three reasons. First, the technical issues that happens sometimes happened, which affected students-students and students-teacher communication. Second was the low level of some online educational courses. Third, the course content was usually very strong but the level of the instructors’ knowledge about the subject appeared very low. Nine participants were very satisfied with online educational courses in the United States. They reported several reasons that made them very pleased. One participant stated, “I learned a lot of new and current information about subjects” (A. A, personal communication, September 17, 2016). Another participant stated, “I learned some of the discussion skills from the discussion board activities” (M. A, personal communication, August 20, 2016). The participant also stated, “I became more responsible due to my responsibility to study, understand, and master the subjects to do well on the assignments, projects, and tests” (M. A, personal communication, August 20, 2016). Another participant said, “I became more independent and confident, because I rely on myself all the time to understand the provided information and submit my work at the best of my ability” (S. A, personal communication,
September 23, 2016). Furthermore, one participant stated, “I am not shy to participate in the discussion board because they can't see my face, and I am very pleased that online discussion enabled me to discuss my opinions freely in a respectful way” (H. M, personal communication, July 19, 2016).

**Saudi students’ female recommendations to the Saudi Electronic University to improve the quality of the online courses**

Participants living in Saudi Arabia complained about the speed and connections of the Internet, which is a cause of frustration. Additionally, one participant preferred that Education First (EF) for English language proficiency courses be for females only to feel more comfortable. The majority of participants agreed that Saudi Electronic University is working hard to make their students satisfied and successful academically. Participants provided some recommendations that will help in enhancing the environments and products of online education and make it more useful for the current and future students. The recommendations are summarized as follows:

1. All lectures should be live and recorded as well.
2. Students should be able to interact with the instructor and get feedback.
3. Saudi Electronic University should recruit either instructors who are native English language speakers or Saudi Instructors who speaks English.
4. For the benefit of both students and Saudi Electronic University; Instructors should be either trained or previously experienced with online teaching and communication with students.

5. Saudi electronic university should ensure that they recruit instructors who are knowledgeable not only about the subject but also about the online technological pedagogies that will facilitate teaching and students’ learning.

6. To help achieve more success for the students at the Saudi Electronic University, they should provide students with a training course that teaches them about the required software and programs. This will remove students’ fear of technology use.

Participants who experienced online education in the United States provided recommendations and suggestions that will help improving the quality of online education and make fit to the international students. Recommendations are summarized as follows:

1. The assignments loads should be decreased.

2. American online education should pay close’ attention to international students and not compare them to the native English language speakers.

3. Students should have enrolled in online courses training session before they enroll in their actual online courses.

4. Instructors of online courses should include more multimedia and interaction activities.
5. Online courses should have videoconferencing for the students to meet for the group discussion, group assignments, and group projects.

6. The writing skills are very important in online educational courses; therefore, the instructor should give close attention to the international students and should be less strict on them.

7. Instructors should take online courses as serious as face-to-face course.

The impact of experiencing online education on the Saudi female students’ concepts of education

Two main themes emerged from the analysis of the data of participants who experienced online education in Saudi Arabia: students benefit and online education quality. In regards to the students’ benefits, one participant reported that the impact was moderate and justified that by stating, “Online education provided me with better opportunity to learn anywhere and anytime” (R. A, personal communication, November 15, 2016). Five of the participants reported that they were strongly influenced after the experience of online education, because they noticed that their thinking of the education values has changed positively. Four of the participants mentioned that they learned a lot, and they are enjoying learning from online educational courses even if they are more difficult than the face-to-face courses. One of the participants stated, “I have known that my knowledge about my major is high and current when I was discussing some issues in my major with a
group of students who are studying in face-to-face classes” (H. Abdullah, personal communication, July 5, 2016). Lastly, four of the participants mentioned that their ability to make their own plan for studying and strengthen their learning skills were enhanced after experiencing online educational courses. One of the participants stated, “I became not only a student, but also a researcher, and I believe that is what students should be” (W. A, personal communication, August 28, 2016).

In regards to online educational content quality, participants mentioned that “Online courses are better than what I thought” (D. A, personal communication, October 6, 2016) “They are enjoyable and attracting” (S. A, personal communication, September 23, 2016), and “They are very strong and hard, but they are doable with the hard work” (H. Abdullah, personal communication, July 5, 2016).

Of the 12 participants who experienced online educational courses in the United States, one revealed that it did not impact her at all in regards to her concept of education. She justified that she highly valued education before experiencing the online educational courses.

Another participant revealed that online educational courses had little impact on her concept of education stating:

I like the idea of online education; however, I will not enroll in any online educational courses in the meantime. I experienced an online course with the instructor who was very strict and not flexible, he
kept reminding me that I should do better to increase my grade, I struggled a lot but it did not work and end up getting “D”, so I had to retake the course again in face-to face class” (M. A, personal communication, June 22, 2016).

Another participant stated that:

…online educational courses had a moderate impact that I met very busy students in online courses who are taking care of their companies, jobs, and families and even though they are doing really good in online course. This encouraged me to work hard and not to find excuses (A. Mubarak, personal communication, August 4, 2016).

Nine participants revealed that online courses strongly influenced them. They mentioned several ways of how their concept of education changed. First, their responsibility of learning turned to be theirs instead of throwing the responsibility on the instructors. Second, research skills became very important to students in order to master the subjects. Third, student should not be only be a receiver, but should also be the inspector who looks behind the given facts and information. Fourth, communication with classmates is very important to exchange the knowledge and get the peer review and feedback. Fifth, being more confident and more independent due to the high level of the course content and the mastered technological skills were mentioned frequently among the nine participants. Sixth,
due to the open online sources that instructors and students in online courses recommend for reading, “…I tended to think out of the box and see the problems from different aspects” (N. A, personal communication, October 7, 2016). Seventh, “…knowing students from different cultures and from different educational levels broaden my knowledge about some of the world problems and how people react toward it” (A. A, personal communication, June 23, 2016). Eighth, one of the participants revealed that she now enjoys reading more than before and she became better in notetaking from the live discussion and the live lectures. Ninth, one participant stated that “online education opens the doors for the Saudi females who always hoped to continue their education, but faced some issues like; families’ responsibilities, transportation, or the very strict parents or husbands” (S. Ebraheem, personal communication, July 26, 2016). Tenth, a participant mentioned that online education strengthened her learning skills due to the difficult course content and grading from the instructor where she has to meet the very high requirements to achieve the desirable grade. Additionally, the participant stated, “I became courageous due to the oral discussion in online courses and I am not afraid to speak out respectfully” (N. A, personal communication, September 28, 2016).

**Summary**

This chapter reported results from a survey that was adopted and modified to help answer the research questions. A mixed methods approach was used to help
validate the quantitative results and add further details to the body of the research. Results were reported as descriptive data and narratively for the qualitative part of the study. Findings revealed that Saudi female students had positive attitudes toward online education disregarding the location of the online education. Marital status was found to have an impact on Saudi female attitudes toward online education. However, location of residency and age of participants did not have a significant impact on the attitudes of Saudi female students toward online education. Saudi female participant reported a high mean for their willingness to communicate with male instructor in online education. The location of the Saudi female students significantly impacted their willingness to communicate with male classmates in online educational courses; however, marital status did not.
Chapter 5

Discussion

This study examined Saudi females’ students’ attitudes toward online education according to their ages, marital status, and location of residency. It also examined the impact of marital status and location of residency on the Saudi female students’ willingness to communicate with male instructors and classmates in an online educational environment. Additional analyses were added to the body of research in order to further explore students’ preferences in online communication tools.

This chapter first discusses the results regarding the attitudes of the Saudi female students toward online education based on three factors: participants’ age, marital status, and locations of residences. Next, the impact of the participants’ marital status and location of residences on their willingness to communicate with male instructors and classmates through the communication tools in online educational courses are discussed. This chapter also discusses Saudi female students’ preferences in communicating with male classmates in online educational courses. This chapter closes with a discussion about the impact of the marital status on the preferences of online communication tools with male classmates through online educational courses.
The attitudes of Saudi female students toward online educational courses

The findings revealed that Saudi female students report a positive overall attitude toward online education \((M = 3.30, SD = .19)\). The results indicated that most of the participants either agree or strongly agree that they have a positive attitude toward online courses in the United States and Saudi Arabia. The finding of this study aligns with some prior studies (Wan Lee, Becker & Nobre, 2012; Li, 2006; Guta & Karolak, 2015; Rhema 2014; Egbo, Okoyeuzu, Ifeanacho, & Onwumere, 2011; Nistor, 2013; González, Guardiola, Rodríguez, & Alonso, 2012; El Gamal & El-aziz, 2011; Al-Doub, Goodwin, & Al-Hunaiyyan, 2008). Other studies on the Saudi students also supported the findings of this study that Saudi female students hold a positive attitude toward online educational courses (Alanazy, 2011; Alaugab, 2007; Al-Salem, 2005; AL-Arfaj, 2001; Ziyadah, 2012; Almogbel, 2002). Other results from the additional analysis of this study support the findings regarding the positive attitudes that 89% of the participants who lived in the Saudi Arabia and 77% of the participants who lived in the United States were willing to do more online courses in the future. This finding is aligned with prior findings of other studies on the relationship between the attitudes toward online education and the willingness to engage in online courses in the future. For example, researchers found that as the positive attitude increase, the willingness to do more online education possibility increases (Liaw & Huang, 2011; Rhema & Miliszewska, 2014). Furthermore, 88% of the participants who lived in Saudi Arabia and 90% of
those who lived in the United States were willing to recommend their friends and relatives enroll in online educational course in both countries. These percentages also support the finding of the Saudi female students’ attitudes toward online education in this study. Again, all the age groups had a positive attitude toward online education and they are not significantly different.

The impact of demographic characteristics on the attitudes of the Saudi female students toward online educational courses

All participants in this study are above 18 years old and they were divided in three groups (see chapter 3). All the age groups reported a positive attitude toward online education. The finding of this study revealed that age does not have a significant impact on the attitudes of the Saudi female students toward online education ($p= 0.167$). This finding aligns with the prior research that examined the impact of age on the students’ attitudes toward online educational courses (Rhema & Miliszewska, 2014; Alaugab, 2007; Alanazy, 2011). Saudi female students aged 40 or over reported the lowest mean among the two other participants groups whose ages ranged between 19-29 and 30-39. This finding conflicts with the results of other studies (Alanazy, 2011; Sahin, 2006; Fredericksen, et al., 2000) that found that the older are the participants, the higher is the positive attitude toward online education. The sample size of the participants whose ages 40 or over was small compared to the other age groups (19-29 and 30-39), which could have played a
role in lowering the attitude mean. Additionally, the low mean of the participants in their 40s and over can be a result of the time when Internet and computers appeared in the Saudi society, as they were introduced in Saudi Arabia by 1990 and accessed by the Saudi individuals late 1999 (Al Lily, 2011). Therefore, this group of participants introduced with the computers and Internet late in their lives, and their use of technology might be low compared to the younger groups of participants. Therefore, they are not as updated with current technology as the younger generation. Additionally, online education requires a high interaction between the student-student and student- instructor, and this can hinder participants in their forties or more from being comfortable in online education courses, because the Saudi culture limits the interaction between female and non-relative males. Again, all the age groups had positive attitudes toward online education, they are not significantly different, and age does not significantly impact the attitudes of Saudi female students toward online educational course.

The marital status of Saudi female students had an impact on their attitudes toward online educational courses ($p = .0193$). This study finding conflicts with (Alaugab, 2007) who found that there was not significant impact of marital status on the females’ attitudes toward online education. Single participants were significantly different from married and divorced participants ($p = .015$). Single participants had a low attitudes mean toward online education ($M = 93.55$). Other prior research on Saudi female students conflicted with this finding (Alanazy,
who found that single Saudi female students had more positive attitudes toward online education than married participants. From a cultural perspective, the high positive attitudes can be due to the married Saudi female students’ responsibilities toward their families (i.e., husband and children); therefore, they find online education is the most convenient way to pursue their higher education along with taking care of their family members. In contrast to that, single Saudi females have less responsibility toward their family members compared to the married and divorced with children females.

The finding of the research showed that the location of residency of the participants did not have an impact on the Saudi female attitudes toward online education. The attitudes means of both locations (Saudi Arabia and the United States) were not significantly different ($t = -1.182, p > .05$). This finding was surprising since it was hypothesized that the attitudes of Saudi female students toward online education will differ according to their locations of residencies. Additionally, due to the new adoption of online education in Saudi Arabia the first online university was founded by the end of October, 2011, while it was introduced in the United States decades ago in the form cooperative training courses and was offered in the universities in the mid of 1990s (Brazley, 2014). Therefore, it was expected that Saudi female students in Saudi Arabia might be significantly different in their attitudes compared to their peers in the United States where online education is more experienced.
The impact of location and marital status on Saudi female students’ willingness to communicate with male instructor in online educational courses

The impact of location of residency on Saudi female students willingness to communicate was found to be not significant ($t = 1.811, p= 0.072$). Saudi female students who lived in Saudi Arabia were highly willing to communicate with male instructors in Saudi Arabia and they were slightly higher in their willingness to communicate when the online courses are in the United. Surprisingly, participants who lived in the United States were found to be less willing to communicate with male instructors whether the instructor was located in the United States or in Saudi Arabia. This finding conflicts with the study was done by Akhtarkhavari (1994), that 85% of Saudi students of both genders who graduated from Saudi universities believed that it is not acceptable for Saudi students to be taught by an instructor from the opposite gender, while 72% of the Saudi students who graduated from American universities believed it acceptable to be taught by an opposite gender in both the United States and Saudi Arabia. Additionally, the finding of this current study conflicts with what Akhtarkhavari (1994), Al-Qataee (1984), and Pool (1965), found that the role of the gender identity of the Saudi students who live in the United States should be impacted by the American culture and shift to how the American individuals view the gender role in their society and understand the cross-cultural differences.
The finding of the analysis of variance showed that Saudi female students were not impacted by their marital status when it comes to communicating with male instructors in an online educational courses ($p=.775$). The data revealed that Saudi female students are highly willing to communicate with their male instructors regardless of their marital status. Participants either agreed or strongly agreed to the statements that asked them if it is acceptable to the Saudi female students to communicate with male instructor in the United States ($M=3.53$) and Saudi Arabia ($M=3.32$). This result is supported by Alarfaj (2001), that Saudi female students feel that communicating with male instructors through online educational courses is acceptable. Additionally, Saudi female students believed that it does not conflict with the Saudi culture (Alaugab, 2007). Divorced, married, and single participants found it very acceptable that Saudi female communicate with male instructors in online educational courses in Saudi Arabia and the United States. Divorced participants had a slightly higher mean that they seemed to be more open and accepting of the idea of communication with male instructors than other participants in the United States ($M=3.75$), while married participants were the lowest mean ($M=3.54$) among other groups. Again, there were not any significant differences among groups of different marital status regarding willingness to communicate with male instructors in online educational courses. The high mean of the divorced participants might be due to the aspect of the Saudi culture that plays an important role in the Saudi society that Saudi divorced females tend to be more
independent. They are also older in that four of the divorced participants were 30 years old or over, so they were more mature and feel that communication with unrelated males for academic purposes is acceptable. On the other hand, the low mean of the married participants may be due to that married individuals seemed to be more conservative when it comes to their social values (Surkyn & Lesthaeghe, 2004; Alanazy, 2011). The nature of Saudi culture assumes that the Saudi female avoids mixed-gender communications as much as possible (Alanazy, 2011). Therefore, married Saudi female students were less accepting the idea of communicating with a male instructor in online educational courses.

The impact of location and marital status on Saudi female students’ willingness to communicate with male classmates in online educational courses

The results revealed that there is no significant impact of Saudi female students’ marital status on their willingness to communicate with male classmates in online educational courses. Single Saudi female students showed the highest mean among other two marital statuses, which indicates that single Saudi females were less conservative when it comes to the Saudi culture and norms. This finding aligns with Alanazy (2011) who found that unmarried Saudi females have less responsibilities toward their families, and they do not have to be concerned about a spouse’s feelings and opinion as a married female does if it comes to communicating with male classmates. Married Saudi females showed a low mean
in willingness to communicate with male classmates in online educational courses. This may be due to the Saudi culture and belief that females should not be in contact with unrelated males and they should avoid it as much as possible. Married Saudi female students, according to Alanazy (2011) are more conservative and usually concerned about their husbands feeling and opinions. Additionally, married Saudi females would not make any private communication with a male unless it is known and approved by her husband. The idea of mixed gender online education is less accepted among the married Saudi females. Studying within a mixed gender might be seen as threat to the marriage relationship (Alanazy, 2011). Therefore, married Saudi females were found to be less accepting to communication with male classmates through online educational courses in order to avoid any negative consequence to her family and marriage. Macias (2016) supported the findings that Saudi females studying in the United States reported that interacting with male classmates in the classes was the first challenging thing they faced in the American education. Some of the Saudi female participants had to have her husband’s permission in order to feel comfortable in communicating with males in the class. From an Islamic point of view and entrenched in the psyche of Muslim women is anything leading to a familiarity and removal of barriers is something to be avoided. Muslim females in general regardless of their marital status are allowed to communicate with males if it is necessary. For instance, they
are free to communicate and deal with males for education, business, health, and other matters, but within the Islamic limits and boundaries.

The location of residency had a significant impact on Saudi female students’ willingness to communicate with male classmates in the United States. Saudi female students who lived in the United States were highly willing to communicate with their male classmates. This finding might be due to the environment of the American culture and its impact on how American females perceive communication between male and female students. Another reason that might contribute to the result, Saudi female students who live in the United States might feel more freedom and that they won't be negatively judged for communicating with male students in online courses due to the location of the male classmate. Saudi female students who lived in the Saudi Arabia were significantly less willing than Saudi female students who lived in the United States. This result might be due to the location impact, that Saudi female students are only exposed to the Saudi culture that dislikes the freedom of opposite gender communication. Additionally, Saudi females perceive the roles of the Saudi culture as an effort for their safety and security (Gannon & Pillai, 2013).
Saudi female students’ communication tool preferences with male classmate in online educational courses

Participant were asked to rank their preferences in communicating with male classmates in online courses. Saudi female students were found to mostly prefer communicating with their male peers through voice chat. This result is unexpected because Saudi Muslim females usually avoid direct communication with males, especially if it is through voice or face-to-face, though other research found this result that 43% of Saudi females preferred to use voice chat in communication with males in online educational courses, while 42% of them preferred it to be with females only (Alanazy, 2011). According to Alanazy (2011), the rules of Saudi culture and Islam require females to be cautious and carefully select their words when it comes to talking to unrelated males.

In the present study, Saudi female students ranked social media as the second preferred online communication tool, while they ranked communication through the use of forums as a moderate preferred online communication tool. E-mail was ranked as the least preferred communication tool and text chat-only was not a preferred tool of communication in online educational settings. Looking deep into the Saudi culture, Saudi females should use the least direct communication tool with males to avoid any familiarity.
The impact of Saudi female students’ marital status on the preference of online communication way with male classmates

The results indicated that divorced Saudi female students ranked the voice chat in number one the most preferred online communication tool, while social media was the second preferred online communication tool with male classmate in online educational courses. Lower in the rankings were text chat-only and emails. Saudi female students did not prefer communicating with male classmates in online educational setting through the forums. In the Saudi society, educated families give the divorced Saudi female more freedom and less pressure on her to follow social costums. Less educated families put more boundaries and deal with the divorced female in different way according to their level of education region (Alzahim, 2008).

Married participants did not prefer communicating with male classmates in online educational courses through emails, and single participants ranked it as the least preferred type. Additionally, text chat was the least preferred online communication tool for the married participants; however, it was not preferred at all by the single Saudi female students. Both married and single participants ranked communication through forum as a moderate preference, while voice chatting was preferred. Married and single Saudi female students similarly ranked social media as the most preferred online communication tool. According to Hamdan (2014), Saudi females and males have become less conservative in regards to exchanging
the knowledge on social media. This result conflicts with (Alanazy, 2011) where it was found that married and single participants highly ranked text chat-only, forums, and emails in online educational courses. Single Saudi participants ranked voice-chat higher than married Saudi participants did. According to Alanazy (2011), this might be due to the Saudi culture. It was noticeable that Saudi female students mostly preferred using asynchronous online communication tool, such as, voice chat, because it provides the students with a direct and flexible interaction and fast response (Hrastinski, 2008)

**The impact of the number of online educational courses experienced and overall attitudes toward online education**

According to data derived from the survey, the number of online educational courses participants had taken did not have any significant impact on the attitudes of the Saudi females toward online education. Participants who experienced more than seven online educational courses were higher in their attitudes mean than those who only experienced less than six courses, but the difference was not significant. These findings are supported by Platt, Amber & Yu (2014) that online educational courses were more favorable to the students who had more experience in online education than those who had not.
Saudi female students’ willingness to enroll in online educational courses in the future

The results showed that high percentages of the Saudi females are willing to enroll in online educational courses in the future. These high percentages support the finding that Saudi female students have a positive attitude toward online education. The percentage of Saudi female students in Saudi Arabia who are planning to do more online educational courses was high and it is even higher than their peers in the United States. Due to the Saudi culture, participants in Saudi Arabia may find online education is a suitable way for them. According to one of the participants in the interview, online educational courses are the best option to the Saudi females who are not able to continue their education due to some social reasons, such as, Saudi females’ responsibility toward family and transportation problems. Furthermore, most of the participants who experienced online educational courses in Saudi Arabia were highly satisfied with their experience of online education. These results all together strongly support the findings of this study that Saudi female students hold positive attitudes toward online educational course.

Online education worthiness

All the participants interviewed except two participants, one in the United States and one in Saudi Arabia, revealed that online educational courses in Saudi
Arabia were worth the money, time, and efforts that they spent on them. It is observed that females are the strongest advocates for online education (Bates, 2009). In the present study, participants justified their agreement due to the perceived educational benefits and the quality and features of the online educational course. A major point that participants agreed on is that online education is the most viable option for Saudi females who are not able to continue their education due to cultural reasons. Saudi female students believe in the value of online educational courses and this perceived usefulness affects their attitudes toward online education. Saudi female students found online education to be very appropriate to the Saudi females in particular due to the Saudi female role in the Saudi culture. As mentioned in Chapter 2, Saudi females in the Saudi society are responsible for taking care of their family members and they have a fundamental role in caring for their families (Hamdan, 2005). Additionally, because women do not drive in Saudi Arabia, Saudi female needs a male to drive her to and from school. Furthermore, some strict families do not allow their daughters or wives to continue their higher education. Some of them believe that it is not needed for Saudi females and that high school is enough.

The other aspect of the online education worthiness was the perceived quality of online educational course content. Participants revealed in the interview that they experienced very strong and current subjects in online education. They were also exposed to different types of technological tools in education, which led
them to learn more about technology. Additionally, some of these technologies facilitated their learning in online educational courses. These results are supported by the Technology Acceptance Model (TAM), that the positive attitudes and acceptance of technology for people relies on major factors, which are, perceived usefulness and perceived ease (Davis, 1989). From the participants’ responses, the perceived usefulness was appropriateness to the Saudi culture, level of provided knowledge and learned skills, and flexibility.

According to participants’ responses to the first interview question, they also believe that online education is worth the money, time, and effort because they have gained some skills. Major skills that they frequently mentioned were self-regulated learners, independent personalities, good writing skills, and discussion skills. Improving self-regulated learning skills in online education through the use of LMS tools is one of the online education features. Furthermore, self-regulated learning help improve the learning outcomes of learners in online education (Debbagh & Kitsantas, 2004; Kitsanta & Dabbagh, 2011). Feeling independent can be gained in online education due to the heavy responsibility on the learners in online education to learn and master the subject. Students in online educational courses are responsible to learn, understand, and then apply what they have learned on their assignments, projects, and tests. Online instruction is student-centered rather than teacher-centered as face-to-face courses. Taking on all these responsibilities with limited help from the instructor can contribute to building a
strong independent personality as the participants describe. Participants also revealed that students in online educational courses in both countries must have good English language skills; otherwise, the language will be a barrier to their success. Participants frequently mentioned that they became better writers due to communicating with international students, and part of the communication was in writing. Therefore, they worked hard to improve themselves so that other international classmates could clearly understand their points of view on the discussion boards. Additionally, they wished to write well on their weekly reports and assignments to obtain better grades. This point (i.e., English language proficiency) was also mentioned in a study that investigated the Saudi female experience as international students in the United States (Macias, 2016). The researcher revealed that the 11 participants in that study always were worried about their English language “… she worries about her grammar especially when speaking in front of the class. She stated that she does not want to make grammatical mistakes because it may weaken the presentation or argument she is making” (Macias, 2016). Some factors contribute to the gain of discussion skills in online education. These factors can be the grades, the drawn picture of student’s personality, and motivation to learn more from others. Saudi female students clarified often in the interview that they like the idea of having international students from both genders with them on the discussion boards. They justified that by mentioning that they tend to think out of the box and see how others think.
Exchanging knowledge among students in online education is mostly supported by the sources of knowledge rather than from the top of students’ heads. That feature leads them to be more open to listen to people who are different from them, then discuss their opinions respectfully (personal communication, October 11, 2016). Furthermore, participants’ responses showed that the cross-cultural experiences are needed among the students in higher education in general for better knowledge exchanging and better ways of communication and interacting. These interview data highly support the findings that Saudi female students possess positive attitudes toward online education.

**Saudi female students’ satisfaction with online educational courses**

Percentages and responses to the interview question showed that the majority of the Saudi female students were satisfied with the online education in Saudi Arabia and the United States, which supports the finding that satisfaction level of the Saudi female students who experienced the online education in the United States was very higher than those who experienced it in Saudi Arabia. Participants who were unsatisfied justified that the received knowledge in online courses did not meet their educational needs and expectations. However, satisfied Saudi female participants revealed in the interview that they are not regretful for enrolling in online education, because it saves their time and effort. They were able to do their house work and take care of their husbands and children easier than if
they were in face-to-face education. Additionally, the content of online educational courses was described as: very academic, joyful, recent, new, and challenging. Saudi female students seemed to look for the high quality of education so that even if it was challenging, they describe it as joyful and doable. These results indicate that Saudi Arabian higher education is successful in their aim of providing a high quality of education to their Saudi citizen. Furthermore, some of them were very selective in terms of the online instructors, insisting that they have experience, and/or training in online instruction and be knowledgeable and updated about the new educational technology that facilitates their learning. These demands according to the participants are very crucial and if any of them are missed, the quality of online course can be impacted negatively. Consistent with the idea that the relationship between the online instructors and students can affect the students’ feelings emotions toward online courses (Smidt, Bunk, Li, McAndrew, & Florence, 2016; Bolliger, 2004). Other research studies indicate that students will be positive toward online education when the instructor is highly communicative with them, provide fast and useful feedback, in addition to providing some tech support to them (Ali & Ahmad, 2001; Koroghlanian & Brinkerhoff, 2007).

Saudi female participants who experience online courses in the United States also were satisfied, though three participants did have some complaints. One of them revealed that she is always afraid that some technical problem will cause her to lose the internet connection. This type of fear can be very normal to any
individual uses technology. Another participant complained that sometimes the high level of course content and a low level of instructor knowledge can cause a confusion to the students. One of the participants clarified that she had to hire a tutor to help improve her knowledge. In this case, the retention level in online education might decrease due to the difficulties that students are faced with. The fear and discomfort that students might experience can lead to the lack of confidence as well as a lack of online communication (Carswell, Thomas, Petre, & Richards, 2000).

The nine participants remaining, who experienced online educational courses in the United States were highly satisfied and had no complaints. They frequently mentioned they learned a lot of new and recent information, and some technical skills, in addition to personal skills from the courses they enrolled at. The benefits they mentioned represent the perceived usefulness and ease (Davis, 1989).

**Saudi female students’ recommendations**

The two groups of participants from both countries had similar recommendations. Both recommended that some students need to be trained before enrolling in online education, that way they can avoid some of their fear of technology, especially since some of them have not had a personal computer or worked on computer programs. According to Smidt, et al, (2016), that the lack of technology experience can lead the students to lack confidence.
Recommendations that were provided by the Saudi female students to Saudi Electronic University and Saudi higher education in general were consistent with their complaints about some of their experiences in online education. Three of the recommendations show that Saudi female students are struggling and experiencing issues due to the quality of online instruction. They recommended that Saudi Electronic University recruit instructors who speak English language fluently or even native English speakers, instructors with very high and updated knowledge, and instructors with experience in online instruction and educational technology. The role of the instructor is as important as the role of the content quality. Online education students might experience anxiety due to the quality of the instruction, which leads to the low rate of retention (Hara & Kling, 2009; O’Regan, 2003; Ivankova & Stick, 2007 as cited in Smidt, et al., 2016).

Participants in the United States focused their recommendations to the American institutions on their needs as international students. They wish that the instructors in online educational courses would understand the difference between the English native speakers and international students when grading their work. According to their experience in some of the online courses, they recommend the instructors in online education take the courses as serious as face-to-face courses. This recommendation indicated that Saudi females value the education and they are strongly motivated to learn. In contrast, Saudi female students revealed that the load of assignments in online courses should be diminished. Saudi female students
in the United States depend on themselves to take care of their children and husbands, and they do not have the help of house servant as they used to have in Saudi Arabia. Therefore, it would be less stressful to have a lower assignment load in online courses. Participants believed that adding more multimedia, interaction activities, and video-conferencing would add to the value of online education. According to Cheng, Basu, & Goebel (2009), the use of multimedia in online education can help improve the performance of students and better present the educational subject. Additionally, including videoconferencing in online educational courses enhances the interaction level among the students who are adopting it (Curtis & Lawson, 2001).

The impact of online education on Saudi female students’ concept of education

The majority of Saudi female participants revealed that online education add to the value of education in general. Participants explained how they are positively influenced after experiencing online education. Participants mentioned many times that they became more independent, responsible, and academically confident. It seems that they tend to understand their role in learning had shifted to be their responsibility. Further, the excitement of experiencing new way of education might also impacted them positively. These feelings the Saudi female students experienced may be because they still are able to handle their responsibilities toward their families. As it was mentioned previously, Saudi
females seemed to be highly motivated to learn and continue their education despite all the cultural boundaries for some of them. Online education is the most viable option for many of them. The interview data strongly supported the findings of the willingness of Saudi female students to enroll in online education in the future.

**Limitations**

The present study experienced some limitations that can be avoided in future research. Limitations are summarized as follows:

- This study is limited to Saudi female students who experienced mixed gender online education in the girls’ section of the Saudi Electronic University (SEU) in Saudi Arabia. In addition, it is limited to Saudi female students in the United States who experienced online education. Generalization from the study should be limited to only the population described and cannot be applied to any other group.

- Due to the distance and time zone differences between the researcher and the participants who lived in Saudi Arabia, it was difficult for the researcher to conduct a sufficient number of interviews.
Recommendation for future studies

- Replicate the study on a larger sample of the Saudi female students in online education to have more insights about the attitudes toward the Saudi online education.

- This study should be replicated on both Saudi female and male students’ attitudes toward online education that is provided by the Saudi higher education in Saudi Arabia.

- Interview with a large number of participants is recommended to have sufficient and deep explanation from the participants in regards to their satisfaction and challenges they face in online educational courses.

- It is recommended that future studies have the researcher present in the location of participants or at least to be in the same time zone areas facilitate to communication with participants.

- Due to the Saudi culture, Saudi females might be highly skeptical in regards to unknown individuals conducting research even if they are females. Therefore, it is strongly recommended that the future researchers present their full names, affiliation, and communication information to be able to communicate with females more readily.
It is recommended to the future researcher who are going to conduct interviews in Saudi Arabia to use the snow ball strategy of recruiting participants.

**Implications**

The findings of this study provide some useful insights into the participants’ attitudes toward online education. These findings can contribute to the efforts of the Saudi Electronic University to improve their online educational courses and overcome the barriers and challenges that might face their students. Additionally, these findings might contribute to the efforts of the Saudi Electronic University and American universities to improve the positive attitudes of students toward online education. They also provide how they perceive the usefulness of online education in Saudi Arabia and the United States.

**Summary**

Results from the present study indicated that Saudi female have positive attitudes toward online education. Additionally, results indicate that Saudi female students tend to be more open to communication with the male classmates and instructors through online educational courses. Saudi females value the education and find online education as a perfect type of education that fits the need of Saudi females and does not conflict with the cultural boundaries and Islamic principles.
Saudi higher education Ministry seemed to have succeeded in providing the female citizens with a very high quality of online education. However, more focus is needed on the quality of instruction to better enhance the environment of online education in Saudi Arabia. Similarly, the United States higher education offered a very strong online instruction, and more effort should be made to help international students overcome the challenges they face. Future studies should include large number of the Saudi participants including both genders to get further opinions and inputs to enhance online education system.
References


Alanazy, S. M. (2011). Saudi students' attitudes, beliefs, and preferences toward coeducational online cooperative learning

Alaugab, A. M. (2007). Benefits, barriers, and attitudes of Saudi female faculty and students toward online learning in higher education.


Almogbel, A. N. (2002). Distance education in Saudi Arabia: Attitudes and perceived contributions of faculty, students, and administrators in technical colleges


Almuqayteeb, T. A. (2009). Attitudes of female faculty toward the use of computer technologies and the barriers that limit their use of technologies in girls' colleges in Saudi Arabia


Alshahrani, T. M. (2014). Online education experiences and attitudes of female Saudi students in the U.S


Bouras, C. S. (2009). Instructor and learner presence effects on student perceptions of satisfaction and learning in the university online classroom


Dorman, J. (2005). An investigation of learners' attitudes and preferences that relate to participation in Internet-based instruction at Coastal Carolina University (pp. 1-140).


Moor of higher education, (2015). Retrieved from:


doi:10.1080/08923640802039024


Sweet, R. (1986). “Student Dropout in Distance Education: An Application of Tinto's Model” in *Distance Education, 7* (2), 201-213.


Ziyadah, S. M. (2012). Saudi Female Attitudes toward Distance Learning in Higher Education. *ProQuest LLC.*
Appendix A

Saudi Electronic University Permission
Institutional Review Board (IRB) Approval

Notice of Expedited Review Status

From: Florida Tech Institutional Review Board
FWA00014339, Exp. 4/11/2017, IRB0001690

To: Sahar Almasoud

Date: December 9, 2015

IRB Number: 15-204

Study Title: The attitudes of the Saudi females toward online education

Dear Researcher:

Your research protocol was reviewed and approved by the IRB Chairperson. Per federal regulations, 45 CFR 46.110, your study has been determined to involve no more than minimal risk for human subjects. Federal regulations define minimal risk to mean that the probability and magnitude of harm are no more than would be expected in the daily life of a normal, healthy person.

Unless you have requested a waiver of consent, participants must sign a consent form, and the IRB requires you give each participant a copy of the consent form for their records. For online surveys, please advise participants to print out the consent screen for their files.

All data, which may include signed consent form documents, must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any logs to the identification of participants should be maintained on a password-protected computer if electronic information is used. Access to data is limited to authorized individuals listed as key study personnel.

Procedural changes or amendments must be reported to the IRB, and no changes may be made without IRB approval except to eliminate apparent immediate hazards. Please use the Request for Revision form located on the IRB website.

This study is approved for one year from the above date. If data collection continues past this date, a Continuing Review Form must be submitted.
Dear Sahar,

I give you permission to use the instrument with acknowledgement and copy of the results of your project. Examining the perceptions of Saudi females is a research that I always thought worth conducting. Based on anecdotal remarks and familiarity with the population, I will not be surprised if you find significant difference between the perceptions of the male and female populations. Further, your research is timely with the upcoming changes in policies regarding sending and funding Saudi students studying abroad. Good luck!

I look forward to finding more about your project. Please let me know if I can be of further help.

With best regards,

~Nesreen

Nesreen Akhtarhavari, Ph.D.
Associate Professor and Director of Arabic Studies
Department of Modern Languages
DePaul University
2220 N. Kenmore Avenue
SAC 331
Chicago, Illinois 60614

nakhtar@depaul.edu
Dear Sahar,
Sure, you have my permission to adopt the survey for your dissertation, with my best wishes.

Regards,

Salim M. Alanazy, Ph.D.
Dean of E-learning & Distance Education
Al-Jouf University
Skaka, Saudi Arabia
Phone: +966561000310
Fax: +96646247404-107
www.ju.edu.sa/deanships/6/d/
Hi Sahar,
I am so glad that you enjoyed reading my doctoral research, and of course you have permission to use my instrument for your PhD study.
Regards,
Dr. Al-augab
Appendix B

The Survey Instrument (English Version)

Dear participant,

You are invited to partake in a study investigating the attitudes of the Saudi female students toward online education. The purpose of the research is to determine the attitudes of both Saudi female students who live in the United States and those who live in the Saudi Arabia toward online education. The researcher is willing to find the extent to which marital status, age, and location of residency will have impact on their acceptance of online education. This study also will identify Saudi female students’ recommendations regarding online education in both countries (i.e. the United States of America and/or Kingdom of Saudi Arabia) for improving the quality of online education and to find the factors that motivate the Saudi female students in online education to continue and complete the courses or degrees.

In this study, you will be asked to response to questions regarding your beliefs, thoughts, and experiences with and toward online education. In addition, there are questions regarding your personal demographic information. At the end of the survey you will be asked to provide your contact information if you would like to participate in a phone interview for further detailed information and the chance to win 2 of two ways tickets from your city in Saudi Arabia to Holy Macca “for a participant and her mahram”. The time estimated to complete this survey is between 10-15 minutes.

All information you will provide will be securely stored and only accessible by individuals directly associated within the researcher Sahar Almasoud. Your survey responses will be strictly confidential and data from this research will be
reported only in the aggregate. Your information will be coded and will remain confidential.

If you have any further questions concerning this study, please feel free to contact us through email: salmasoud2011@my.fit.edu. You will be provided with the group results of the research if you request them, and you will be free to ask any questions. This study was approved by the FIT Institutional Review Board. For information about the rights of people who take part in research, please contact Florida Tech's Institutional Review Board at (321) 674-8104.
Part 1: Demographic Characteristic
Please mark an X next to the appropriate response

1) Age
   a) 19-29
   b) 30-39
   c) Over 40

2) From what region did you come from in the kingdom of Saudi Arabia?
   a) Central Region
   b) Northern Region
   c) Southern Region
   d) Eastern Region
   e) Western Region

3) Parents level of education
   a) Both parents have bachelor degree
   b) Both parents have at least master degree
   c) One of them have not continue to higher education
   d) One of them did not continue the high school

4) Marital status:
   a) Single
   b) Married
   c) Divorced
   d) Widowed

5) If married, the nationality of your spouse:
   a) Saudi
   b) American
   c) From mid-Gulf countries
   d) Other Arab nationalities

6) What is your field of study
   a) Business
   b) Art
   c) Education
   d) Engineering
   e) Political science
   f) Medicine
g) Law
h) Science
i) Computer science
j) Other, please specify

7) I have access to a computer at home:
   a) Yes
   b) No

8) I have access to the internet at home
   a) Yes
   b) No

9) What university you are at now?

10) How many online courses have you had so far?

---

Part 2: Attitude toward online courses

Put an (x) to indicate how much you agree with each of the following statement

<table>
<thead>
<tr>
<th>statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am interested in using online instruction.</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>2. Online instruction will affect the quality of my education</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>3. Online instruction is accessible any time, from anywhere.</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>4. Instructors who taught me online courses seemed to be knowledgeable of the online pedagogy.</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>5. Students in online courses should be knowledgeable about computer technology.</td>
<td>o</td>
<td>o</td>
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<td></td>
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<tr>
<td>6.</td>
<td>My institution has a good infrastructure for implementing a successful online education.</td>
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<tr>
<td>7.</td>
<td>The institution should support students for online courses</td>
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<tr>
<td>8.</td>
<td>Online instruction can be utilized in any level and major of higher education.</td>
<td></td>
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<tr>
<td>9.</td>
<td>Implementing online courses can change the approach of teaching in Saudi Arabia from teacher-centered to student-centered.</td>
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<tr>
<td>10.</td>
<td>The institution should be concerned about the needs of international students when adopting online courses.</td>
<td></td>
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<tr>
<td>11.</td>
<td>The use of multimedia for online instruction will improve students’ learning.</td>
<td></td>
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<tr>
<td>12.</td>
<td>Online instruction is a suitable solution for admission problems in the university.</td>
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<td></td>
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<tr>
<td>13.</td>
<td>Online courses can increase students’ abilities to undertake self-directed learning.</td>
<td></td>
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<tr>
<td>14.</td>
<td>Online instruction enhances interaction among students</td>
<td></td>
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<tr>
<td>15.</td>
<td>The Internet increases accessibility to course-related resources and information</td>
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<tr>
<td>16.</td>
<td>The instructor is more accessible; quick answers to questions; help available 24 hours.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>17.</td>
<td>Online instruction encourages the students to collaborate and share of ideas without being reluctant to do in face-to-face instruction.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>18.</td>
<td>Student can take more courses using online compared with traditional courses</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>19.</td>
<td>Online courses will provide students in remote areas with the opportunity to continue their higher education</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>20.</td>
<td>Online courses are appropriate for students with disabilities to continue their education.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>21.</td>
<td>Online instruction will work well with my family responsibilities</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>22.</td>
<td>Online instruction is appropriate for Saudi females.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>23.</td>
<td>English language proficiency is a key to an effective participation in online courses.</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>24.</td>
<td>Technology helps my educational productivity</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>25.</td>
<td>I feel comfortable participating in online</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>26. Online course enables me to engage with other students during class discussions.</td>
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<tr>
<td>27. I support the idea of integrating online courses through Saudi higher education.</td>
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<tr>
<td>28. I am confident that Saudi females are ready to enroll and successfully engaged in online education.</td>
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<tr>
<td>29. Online courses do not conflict with the Saudi Arabian females’ norms and cultures.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Online courses could be a good solution for the females’ transportations problem.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Part 3: Communication willingness**

1) **Please indicate the extent to which you agree or disagree with the following statements by putting (X) in the appropriate space**

a) It is acceptable for female students to communicate with a male instructor in online classes in the **United State of America**.

   - Strongly agree
   - Agree
   - Disagree
   - Strongly disagree

b) It is acceptable for female students to communicate with male students in online classes in the **United State of America**.

   - Strongly agree
   - Agree
   - Disagree
   - Strongly disagree
c) It is acceptable for female students to communicate with male instructor in online classes in the **Kingdome of Saudi Arabia**.
   - Strongly agree
   - Agree
   - Disagree
   - Strongly disagree

d) It is acceptable for female students to communicate with male students in online classes in the **Kingdome of Saudi Arabia**.
   - Strongly agree
   - Agree
   - Disagree
   - Strongly disagree

---

### Part 4: Open ended questions:

1) **When you enroll in an online course, please rank your preference to communicate with your male classmate. Be informed that (1 is highly preferred and 5 is the least preferred).**

   - ( ) Text- only chat (e.g. messenger)
   - ( ) Voice chat (e.g. microphone/ speaker using MSN messenger)
   - ( ) Email (e.g. Hotmail, yahoo, university email, etc.)
   - ( ) Forums (e.g. discussion board)
   - ( ) Social media (Facebook, Myspace, twitter, etc.)

2) **When you have the option to enroll in either mixed gender class or single gender class, which one you prefer?**
   a) Mixed-gender online course.
   b) Single gender online course.

3) **Are you planning to join the online program in the future?**
   a) Yes
   b) No
   c) Maybe
4) **Will you recommend to friends to enroll in online courses?**
   a) Yes
   b) No

**Interview questions**

1. Do you feel that the knowledge and skills you received from online courses in the American university/ Saudi Electronic University were worth the time, money, and effort that you spent at these institution? Please justify why?
2. Overall, were you satisfied with the online higher education you received in the United States of America/ Saudi Electronic University: very satisfied, satisfied, unsatisfied, or very unsatisfied, please justify why?
   - Very satisfied
   - Satisfied
   - Unsatisfied
   - Very unsatisfied
3. What can be done to improve the quality of the online courses that are provided by the higher education in the United States of America/ Saudi Electronic University?
4. To what extent do you think your study in the United States of America/ Saudi Arabia and experiencing online courses had an impact on your concept of education?
   - Large impact
   - Moderate impact
   - Little impact
   - No impact

If there is any impact, in what way?
Appendix C

The Survey Instrument (Arabic Version)

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first section: data and information of the students.</td>
<td></td>
</tr>
<tr>
<td>Age of requests on the basis of age:</td>
<td></td>
</tr>
<tr>
<td>29-39</td>
<td></td>
</tr>
<tr>
<td>39-49</td>
<td></td>
</tr>
<tr>
<td>49-59</td>
<td></td>
</tr>
<tr>
<td>The area of residence from the perspective of the family:</td>
<td></td>
</tr>
<tr>
<td>Central Area</td>
<td></td>
</tr>
<tr>
<td>North Area</td>
<td></td>
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<tr>
<td>South Area</td>
<td></td>
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<tr>
<td>West Area</td>
<td></td>
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<tr>
<td>East Area</td>
<td></td>
</tr>
<tr>
<td>Educational level of parents:</td>
<td></td>
</tr>
<tr>
<td>All have a bachelor degree</td>
<td></td>
</tr>
<tr>
<td>Some have bachelor degree, some have less than bachelor degree</td>
<td></td>
</tr>
<tr>
<td>None of them have bachelor degree</td>
<td></td>
</tr>
<tr>
<td>Educational level:</td>
<td></td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td></td>
</tr>
<tr>
<td>Master's degree</td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td></td>
</tr>
<tr>
<td>Marital status:</td>
<td></td>
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<tr>
<td>Married</td>
<td></td>
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<tr>
<td>Single</td>
<td></td>
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<tr>
<td>Widowed</td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Gender of the requests:</td>
<td></td>
</tr>
<tr>
<td>Saudi</td>
<td></td>
</tr>
<tr>
<td>Middle Eastern countries</td>
<td></td>
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<tr>
<td>Other countries</td>
<td></td>
</tr>
<tr>
<td>Academic field:</td>
<td></td>
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<tr>
<td>Education</td>
<td></td>
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<tr>
<td>Humanities</td>
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<tr>
<td>Sciences</td>
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<td>Engineering</td>
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<tr>
<td>Economics</td>
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<tr>
<td>Health Sciences</td>
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<tr>
<td>Mathematics</td>
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<tr>
<td>Social Science</td>
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<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>
لدى شبكية الإنترنت في المنزل استطيع تصفح الإنترنت من خلالها

ماهي الجامعة التي تدرس بها حالياً

كم عدد المواد التعليم عبر الإنترنت التي انضمت إليها حتى الوقت الحالي؟

القسم الثاني: تجاهات الفتاة السعودية نحو التعليم الإلكتروني

ضعي علامات (أ) لتحديد مدى موافقتك أو عدم موافقتك على العبارات التالية:

<table>
<thead>
<tr>
<th>العبارات</th>
<th>الرقم</th>
</tr>
</thead>
<tbody>
<tr>
<td>凝聚</td>
<td>1</td>
</tr>
<tr>
<td>凝聚</td>
<td>2</td>
</tr>
<tr>
<td>凝聚</td>
<td>3</td>
</tr>
<tr>
<td>凝聚</td>
<td>4</td>
</tr>
<tr>
<td>凝聚</td>
<td>5</td>
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<td>凝聚</td>
<td>6</td>
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<td>凝聚</td>
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<td>凝聚</td>
<td>8</td>
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<tr>
<td>凝聚</td>
<td>9</td>
</tr>
</tbody>
</table>
لا يمكنني قراءة النص العربي بشكل طبيعي. إذا كنت بحاجة إلى شيء ما آخر، فلنحيل ذلك.
<table>
<thead>
<tr>
<th>الانتاج العلمي</th>
<th>التكنولوجيا تعتمد على رفع مستوى</th>
</tr>
</thead>
<tbody>
<tr>
<td>التعلم عبر الإنترنت يتيح للمشارك</td>
<td></td>
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<tr>
<td>الطلاب الآخرين في التناول العلمي بحرية</td>
<td></td>
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<tr>
<td>يمكن أن يشجع جميع الجامعات السعودية على</td>
<td></td>
</tr>
<tr>
<td>مشاركة المواد التعليم عبر الإنترنت في جميع</td>
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<tr>
<td>التعلم عبر الإنترنت لا يتعرض مع عادات و</td>
<td></td>
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<tr>
<td>التعلم عبر الإنترنت قد يكون الحل المساعد</td>
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<tr>
<td>متاح للقتال السعودي</td>
<td></td>
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</table>

الجزء الثالث: قابلية التواصل مع الآخر

وضع علامة (لا موافقة) أو عدم موافقتك على العبارات التالية: 

- أنه من المقبول للنساء السعودية أن تتواصل مع عضو هيئة التدريس (الرجل) في موانع التعليم عبر الإنترنت في الولايات المتحدة الأمريكية: 
  - موافق
  - لا موافق

- أنه من المقبول للنساء السعودية أن تتواصل مع الطالب (الرجل) في موانع التعليم عبر الإنترنت في المملكة العربية السعودية: 
  - موافق
  - لا موافق
لا يوجد نص يمكن قراءته بشكل طبيعي من الصورة المقدمة.
3. برأيك، ماذا يمكن عمله لتحسين عملية التعليم عبر الإنترنت في الجامعات والمواقع التعليمية في الولايات المتحدة الأمريكية والمملكة العربية السعودية؟

4. إلى أي مدى تعتقد أن دراستك في الولايات المتحدة الأمريكية والمملكة العربية السعودية واجتيازك لعدد من المواد التعليم عبر الإنترنت أثر على مفهومك للتعليم؟
   - تأثير قوي جداً
   - تأثير متوسط
   - تأثير بسيط جداً
   - لا يوجد أي تأثير

في حال وجود أي تأثير، الرجاء التوضيح.